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Vadim A. Mel'nik

Key to the fungi of the genus *Ascochyta* Lib. (Coelomycetes)

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Preface to the translated edition

Ascochyta is one of the largest genera of imperfect fungi with currently over 1400 names (as of the year 2000). Its species are anamorphs of the genera *Didymella*, *Mycosphaerella*, and *Leptosphaeria* (ascomycetes) and occur on a wide range of hosts, including numerous cultivated plants. Many species of *Ascochyta* cause plant diseases of economic relevance. Mel'nik's (1977) "Key to the fungi of the genus *Ascochyta* Lib.", published in Russian more than 20 years ago, represents the only comprehensive treatment of this genus and has not lost its importance.

Additional treatments of particular groups of *Ascochyta* spp. have since been published by Punithalingam (1979, 1981, 1988) and Buchanan (1987). Boerema & Bollen (1975) examined in detail the conidiogenesis in *Ascochyta* and *Phoma* and discussed the differentiation between the two genera. Since 1973 Boerema, Gruyter and coworkers published contributions towards a monograph of *Phoma* (especially Boerema, 1993, 1997; Boerema & Gruyter, 1998; Boerema & al., 1994, 1995, 1996, 1999; Gruyter & Noordeloos, 1992; Gruyter & al., 1993, 1998; Noordeloos & al., 1993), including reassessments of various *Ascochyta* and *Stagonosporopsis* spp. treated in Mel'nik's monograph. Nevertheless, Mel'nik's work remains an important basis for further research in *Ascochyta* and for general identification purposes. Therefore, it was planned to translate this *Ascochyta* monograph into English. This project was financed by the "Volkswagenstiftung", Hannover, Germany. We are much obliged to this organisation for their generous support. V.A. Mel'nik gratefully acknowledges further support from the UK Darwin Initiative during preparation of this book.

The translation and publication of this edition was performed with a mind to remain true to the contents of the original publication, but not necessarily true to the exact wording (which is always difficult when scientific matters are concerned). Some minor misprints and omissions that occurred in the original Russian publication could be corrected, references have been checked, and most references with reprint page numbers (marked by "extr." for "extractum") have been converted to published page numbers. Further, taxonomic authors were standardised according to Kirk & Ansell (1992), with some exceptions regarding Russian or Soviet authors where that list is considered to be in need of revision. The main index was prepared entirely new, and an additional host plant index and a host family cross-reference have been prepared. No new taxonomic material was added, however.

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Introduction

The genus *Ascochyta* Lib. is one of the largest genera of the *Sphaeropsidaceae* and indeed in the whole class *Deuteromycetes*. Species of this genus occur on numerous cultivated and wild plants. They are parasites that are able to continue their activities beyond the death of the host plants by decomposing their tissues. Hence, they play an important role in the circulation of organic matter. In spite of the great significance of *Ascochyta* species in nature and in connection with human activities, up to now these fungi haven been insufficiently studied, above all with regard to their taxonomy. The genus *Ascochyta* was described more than 140 years ago. Today, the list of species that have been referred to *Ascochyta* comprises more than 1 100 names, and nobody has tried to monograph this genus. Already the generic identification of *Ascochyta* is difficult, since the generic circumscription is not well-defined and many other genera of the *Sphaeropsidaceae* are rather similar. Furthermore, the nomenclature of the species is very complicated and often unclear, due to the presence of very numerous homonyms (more than 250 names which represent 25% of the whole list of *Ascochyta* names), invalid names, and the lack of well-defined criteria for the delimitation of species. Hence, it is evident that a revision and monograph of *Ascochyta* is urgently necessary.

The present taxonomic studies of *Ascochyta* spp. were carried out between 1966 and 1973. Approximately 3 500 specimens, received from 26 herbaria of the Soviet Union and 42 herbaria of foreign countries, including numerous type collections (holo- and isotypes of almost 50% of the species) have been examined. The list cited below comprises names of scientific institutions that provided specimens for the present examinations. Acronyms of herbaria that provided type collections are based on "Index Herbariorum" (Lanjow & Stafleu, 1964). The names of herbaria which are not included in this index are abbreviated by arbitrary "acronyms" marked in italics. The names of other institutions which provided general non-type collections are cited, but without any acronyms.

USSR – Komarov Botanical Institute (LE), Institute of Botany of the Academy of Sciences of Armenian SSR (ERE), Institute of Botany of the Academy of Sciences of Georgian SSR (TBI), Institute of Botany of the Academy of Sciences of Azerbajdzhan SSSR (BAK), Institute of Botany of the Academy of Sciences of Kazakh SSR (AA), Institute of Botany of the Academy of Sciences of Turkmen SSR (ASH), Institute of Botany of the Academy of Sciences of Ukrainian SSR (KW), Institute of Botany of the Academy of Sciences of Uzbek SSR, Institute of Zoology and Botany of the Academy of Sciences of Estonian SSR (TAA), All-Union Institute of Plant Protection (LEP), Erevan State University (*EGU*), Kabardino-Balkaria State University, Leningrad State University (*LGU*), Moscow State University (MW), Voronezh State University (VOR), Biological-Pedological Institute of Far East Scientific Centre of Siberian Branch of the Academy of Sciences of the USSR, Central Botanical Garden of the Academy of Sciences of Belorussian SSR, Polar-Alpine Botanical Garden of Kola Branch of the Academy of Sciences of the USSR, Georgian Institute of Plant Protection (*GruzIZR*); Leningrad Quarantine Laboratory, Estonian Agricultural Academy, Leningrad Agricultural Institute (*LSKhI*), Omsk Agricultural Institute (*OSKhI*), Baltic Filial of the All-Union Institute of Plant Protection (*Pribalt. filial VIZR*), Sukhumi Branch of All-Union Institute of Thea and Subtropical Crops (*Sukhumi Branch VNIIChSK*).

Australia – Royal Botanic Gardens and National Herbarium, South Yarra (MEL); **Austria** – Naturhistorisches Museum, Wien (W); **Argentina** – Institute de Botanica "Spegazzini", Universidad Nacional, La Plata (LPS); **Belgium** – Jardin Botanique National de Belgique (BR); **Brazil** – Institute Agronômico, Campinas (IACM); Institute de Micologia, Universidade Federal de Pernambuco, Recife (URM); **Bulgaria** – Botanical Institute of Bulgarian Academy of Sciences, Sofia (SOM); **Canada** – Department of Botany, University of Toronto (TRT); **Czechoslovakia** Botanicky Ústav University Karlovy, Praha (PRC); Národni Múzeum v Praze, Praha (PR); Botanické oddélení Moravského musea v Brně, Brno (BRNM); Slovenské Národné Múzeum, Bratislava (BRA); **DDR** – Sektion Biologie, Friedrich-Schiller-Universität, Jena (JE); **Denmark** – Botanical Museum, The University of Copenhagen (C); **Finland** – Kasvitieteen Laitos, Helsingin Yliopiston, Helsinki (H); **France** – Laboratoire de Cryptogamie, Muséum National d'Histore Naturelle, Paris (PC); **Hungary** – Növényvédelmi Kutató Intézet, Budapest (*Inst. of Plant Protection, Budapest*), Természettudományi Múzeum Novénytár (BP); **India –** Division of Mycology and Plant Pathology, Indian Agricultural

Research Institute, New Delhi (HCIO); **Italy** – Istituto ed Orto Botanico dell'Università, Padova (PAD); Istituto ed Orto Botanico dell'Università, Pavia (PAV); Istituto ed Orto Botanico dell'Università, Torino (TO); **Mexico** – Colegio de Postgraduados, Escuela Nacional de Agricultura, Chapingo (Agricultural School, Mexico); **Norway** – Botanisk Museum, Universitetet i Oslo (O); Norwegian Plant Protection Institute; **Poland** – Institut Botaniczny Uniwersytetu Wratislawskiego, Wroclaw (WRSL); **Portugal** – Estação Agronómica Nacional, Oeiras (LISE); Institute Botânico "Dr. Júlio Henriques", Universidade de Coimbra, Coimbra (COI); Laboratório de Patologia Vegetal "Veríssimo de Almeida", Lisboa (LISVA); **Romania** – Institutul de Biologie "Traian Săvulescu", Bucureşti (BUCA); Laboratorul si Muzeul Botanic, Facultatea de Stiinte Naturale-Geografie, Universitatea "Al. I. Cuza", Iasi (I); **Sweden** – Botaniska Avdelningen, Naturhistoriska Riksmuseet, Stockholm (S); **UK** – Commonwealth Mycological Institute, Kew (IMI); Royal Botanic Gardens, Kew (K); **USA** – Department of Botany, University of California, Berkeley (UC); Department of Botany, University of Wisconsin, Madison (WIS); The New York Botanical Garden (NY); The New York State Museum, The University of the State of New York, Albany (NYS); Plant Pathology Herbarium, Cornell University, Ithaca (CUP); **West Berlin** – Botanischer Garten und Museum, Berlin-Dahlem (B); Institut für Mikrobiologie, Berlin-Dahlem; **Yugoslavia** – Faculty of Agronomy, University of Belgrade.

Descriptions of *Ascochyta* species are scattered in many books and periodicals, some of which were absent in libraries of the Soviet Union. Colleagues from many institutions of the world were very helpful by providing original descriptions of various species: Prof. A. Chaves Batista, Prof. Luiz Siqueira Carneiro (Brazil), Dr. D. Malloch (Canada), Prof. K. Cejp, Dr. F. Kotlaba (Czechoslovakia), Dr. T. Ahti, Dr. T. Koponen (Finland), Dr. S. Toth (Hungary), Prof. A. M. Corte, Prof. G. Goidanich, Prof. Dr. O. Verona (Italy), Dr. T. Seki, Dr. S. Akai (Japan), Prof. G. Malençon (Morocco); Dr. H. B. Gjaerum (Norway), Prof. S. Ahmad (Pakistan), Dr. O. Constantinescu (Romania), Dr. F. C. Deighton (UK), Dr. K. P. Dumont, Dr. J. L. Crane (USA).

The author is much obliged to the curators of the herbaria cited and to all colleagues that provided descriptions of *Ascochyta* spp. Colleagues of the Komarov Botanical Institute, above all of the Laboratory of Mycology, were very helpful. I would like to thank all of them very much. Furthermore, I am much obliged to V. M. Gorlenko, D. N. Teterevnikova-Babayan, and V. T. Ul'janishcev for checking the manuscript and for helpful discussions. Sincere thanks are due to B. A. Girstun who prepared almost all drawings of this book.

1. History of exploration

The genus *Ascochyta*, described by Libert (1830), belongs in the Deuteromycetes, order Sphaeropsidales, family Sphaeropsidaceae. Libert described in her *"Planta cryptogamicae, quas in Arduenna collegit"* 38 *Ascochyta* spp., including *A. pisi* Lib., the type species. The original circumscription of this genus is, however, rather obscure since only three of these species belong in *Ascochyta* in the present sense, *viz. A. pisi*, *A. cytisi* Lib., and *A. viciae* Lib. Many additional *Ascochyta* species were described by Lasch, Klotzsch, Fuckel, and Rabenhorst, although most of these species have to be referred to other genera of imperfect fungi or even to genera of the ascomycetes. Various species of *Ascochyta* were introduced by Saccardo. Up to the end of the 19th century, the list of *Ascochyta* spp. included about 400 names. Gradually *Ascochyta* became one of the largest genera of imperfect fungi. It is hardly possible to name the true number of species of this genus; even an estimation is difficult. An analysis of Saccardo (1884-1931), "Petrak's Lists 1920-1939" (Anonymous, 1956, 1957), "A Supplement to Petrak's Lists, 1920-1939" (Anonymous, 1969), and "Index of Fungi 1950-1974" as well as many periodicals of the world showed that there are about 1 100 names of *Ascochyta* spp. The following numbers of species have been described in various periods:

Table 1. Number of *Ascochyta* species described within a period of years.

1830-1886	208	1911-1920	118	1951-1960	62
1887-1890	72	1921-1930	140	1961-1970	72
1891-1900	112	1931-1940	60	1971-1974	56
1901-1910	149	1941-1950	30		

Most of these fungi were described from Europe and North America, since in these areas most mycofloristic examinations had been carried out. The host plants pertain to more than 150 families. Most species were described on hosts of the following families:

Table 2. Plant families from which most species of *Ascochyta* have been described.

Caprifoliaceae	16	Gramineae	53	Ranunculaceae	21
Chenopodiaceae	15	Labiatae	27	Rosaceae	31
Compositae	72	Leguminosae	70	Solanaceae	19
Cruciferae	22	Liliaceae	22	Umbelliferae	20

Many species from South Europe (Spain, Italy, Portugal) were described by Saccardo, from Czechoslovak by Kabát and Bubák, Cejp, and Pickbauer, from Central Europe by Diedicke, Allescher, Sydow, and Petrak, from Austria and Czechoslovak by Petrak, from France by Roumeguere and Fautrey, from The Netherlands by Oudemans, from Romania by Tr. Săvulescu, Negru, and Sandu-Ville, from Hungary by Hollós and Moesz, from Italy and Argentina by Spegazzini, from Italy by Bresadola, from Spain by Gonz. Fragoso and Unamuno, from North America (Canada, USA) by Ellis, Everhart, Peck, Davis, Sprague, and Greene, from Brazil by Batista, from West Pakistan by S. Ahmad, from Japan by Sawada, Hara, and Takimoto.

Compatriots described 163 *Ascochyta* spp., *i. e.* A. A. Ablakatova, I. N. Abramov, T. M. Akhundov, I. E. Brezhnev, A. S. Bondartsev, V. N. Bondartseva-Monteverde, Z. M. Byzova, N. I. Vasil'jevskij, M. P. Vasyagina, N. N. Voronikhin, P. N. Golovin, L. S. Gutner, N. G. Deeva, T. L. Dobrozrakova, T. V. Enkina, A. A. Jaczewski, B. K. Kalymbetov, L. I. Kandinskaya, M. K. Khokhryakov, E. Z. Koval', L. A. Lebedeva, A. I. Lobik, V. A. Mel'nik, N. A. Naumov, E. S. Nelen, G. S. Nevodovskij, E. D. Novoselova, N. F. Pisareva, N. L. Polozova, A. A. Potebnia, M. N. Rodigin, B. V. Rothers, S. A. Simonyan, J. Smarods, M. G. Taslakhch'yan, D. N. Teterevnikova-Babayan, N. P. Trusova, S. R. Schwartsman, I. I. Soshiashvili, I. Ya. Žerbele, *etc*. Various *Ascochyta* spp. from our territory were described by foreign scientists (*e. g.*, Hennings, Moesz, Petrak, Rupprecht, Sydow, Thümen).

Ascochyta spp. have been poorly examined. Comprehensive data are only known from Central Europe (Allescher, 1901; Diedicke, 1915; Migula, 1921), France (Viennot-Bourgin, 1949), Great Britain (Grove, 1935; Moore, 1959), Romania (Săvulescu & Sandu-Ville, 1933, 1936; Bontea, 1953), Austria (Tobisch, 1931, 1934), Spain (Gonz. Fragoso, 1919, 1923; Unamuno, 1933), Canada (Bisby & al., 1938), USA (Davis, 1919, 1926, 1942; Greene, 1949a, b, c, 1964a, b; Sprague, 1948; Sprague & Johnson, 1950; Anonymous, 1960), Canada and USA (Seymour, 1929; Sprague, 1950), Sri Lanka (Petch & Bisby, 1950). In our country, *Ascochyta* spp. were studied in the Baltic republics by I. Ya. Žerbele (1963), in Armenia by M. G. Taslakhch'yan (1967a, b), in Voronezh Oblast' by L. V. Grishina (1971). These investigations, which covered only a small part of the USSR, are the only serious treatments of species of this genus. There are, however, many mycofloristic papers from different regions of the USSR that include some data on *Ascochyta* spp., but it is impossible to give a full account, only some of these papers with numerous records of *Ascochyta* spp. are cited here. Various species of the genus are known from the Murmansk Oblast' (Shavrova, 1968), Karelia (Lebedeva, 1933), the northern part of the European part of the USSR (Rothers, 1927), the Leningrad Oblast' (Naumov, 1927; Mel'nik, 1965a, b, 1966a, b, c, 1967, 1968a, b; Polozova, 1969a, b; Kandinskaya, 1971; Stepanova, 1971), Estonia (Kivi, 1960; Põldmaa, 1967), Latvia (Smarods, 1931-1956, 1955; Rupprecht, 1959; Škipsna, 1962; Žerbele, 1963; Mikheeva, 1968), Lithuania (Brundza, 1961; Brundza & Lekavicius, 1961; Strukczinskas, 1966, 1974), Belarus (Gorlenko, 1966), Ukraine (Wodziczko, 1911; Jaczewski, 1911-1912; Wroblewski, 1913, 1915, 1916; Dobrovolskij, 1914; Zelle, 1925; Nevodovskij, 1927; Panasenko, 1938; Zerova, 1952, 1953; Morochkovskij, 1953; Vinogradskaya, 1958; Vasil'eva, 1960; Bukhalo, 1961a, b, 1962; Gutsevich, 1963, Morochkovskij & al., 1971, Moldavia (Kataev & Popushoj, 1957; Martsikh, 1965), Rostov Oblast' (Krasov, 1960), Krasnodar and Stavropol' Kraj (Nagornyi, 1913; Lobik, 1928a, b), Azerbajdzhan (Shipinova, 1954; Mekhtieva, 1956), Armenia (Melik-Khachatryan, 1959, 1960, 1964; Simonyan, 1960, 1962, 1965, 1969, 1973; Osipyan, 1961, 1965, 1968; Khachatryan, 1963; Teterevnikova-Babayan & Simonyan, 1964; Teterevnikova-Babayan & Pogosyan, 1965; Taslakhch'yan, 1967a, b; Simonyan & Mel'nik, 1970; Arutyunyan, 1971), Georgia (Siemaszko, 1915, 1922; Kanchaveli & Melia, 1949, 1956; Eristavi & Targamadze, 1953; Kirimelashvili, 1954, 1956; Mkervali, 1962; Murvanishvili, 1965; Gvaramadze, 1967; Imerlishvili, 1968), Caucasus (Voronov, 1915; in this work many publications of N. N. Voronichin and others authors on Caucasian micromycetes are summarised), Central-Czernozem region [central area of European part of Russia with czernozem soils] (Potebnia, 1910a, b; Bondartsev & Lebedeva, 1914; Bondartsev, 1921; Gorlenko, 1932; Brezhnev, 1939, 1950, 1961, 1967, 1968, 1972; Nikolaeva, 1953, 1968; Tomilin, 1957a, b; Rtishcheva, 1966, 1968a, b; Grishina, 1970, 1971; Nikolaeva & Grishina, 1968, 1970), Moscow Oblast' (Klaptsova, 1941; Fan Tyk Hyen, 1965), Tula Oblast' (Trusova, 1915), territory of the middle and lower flow of Volga River (Karakulin & Lobik, 1915; Szembel, 1915; Rodigin, 1939; Bikmukhametova & Sibiryak, 1963), North Ural Mountains (Shumilenko, 1960), Kazakhstan (Byzova & al., 1967), republics of Central Asia (Zaprometov, 1926, 1928; Golovin, 1950; Anan'eva, 1957; Pospelov & al., 1957; Pospelov, 1960; Koshkelova, 1962; Panfilova & Gaponenko, 1963; Gamalitskaya, 1965; Gaponenko, 1965; Frolov, 1966; Koshkelova & al., 1970; Koshkelova & Frolov, 1973), Siberia (Nozdrenko, 1960; Tomilin, 1963; Enkina, 1970, 1971), Far East of Russia (Ablakatova, 1960, 1961; Ablakatova, & Koval', 1961; Koval', 1960; Nelen, 1964, 1966).

There is only a small number of taxonomic publications on *Ascochyta*. Diedicke (1912) discussed the position of *Ascochyta* within the imperfect fungi. Sprague & Johnson (1950) examined graminicolous *Ascochyta* spp. of the USA and discussed the position of this genus within the Deuteromycetes as well as its infrageneric classification. These authors provided a first key for the identification of 12 *Ascochyta* spp. based on feature of the conidial shape, length, and width. Žerbele (1959) dealt in his work on Baltic *Ascochyta* spp. with some taxonomic problems of this genus.

There are numerous publications dealing with the physiology and biology of *Ascochyta* spp.; most of them referred to economically important parasites on legumes, cucurbits, and other important host plants. Studies on the biochemistry of *Ascochyta* spp. are rare. Most of them dealt with pathogens of legumes (peas, beans, alfalfa, *etc.*). Genetic, karyological, and cytological studies are almost lacking.

2. Taxonomy

The genus *Ascochyta* was described by Libert (1830), who considered the conidia of this genus as minute asci and the content of the cells as small spherical conidia. Link (1833), Corda (1842), Rabenhorst (1844), and Bonorden (1851) followed this generic interpretation. Léveille (1849) was the first author to consider the "asci" (*sensu* Libert) as conidia and described them to be oval, linear, one-celled or septate. Saccardo (1878) emended the generic circumscription two times and finally proposed the following description of *Ascochyta* (Saccardo, 1884, p. 384): *"Perithecia in partibus plerumque decoloratis foliorum vel ramulorum innata, membranacea, poro centrali pertusa, globoso-lenticularia. Sporulae ovoideae vel oblongae, 1-septatae, hyalinae vel chlorinae. – Nonnullae species ad auctoribus sub Ascochytae titulo venditatae, quoad fructificationem vero indescriptae, utpote quae ad Septoriae vel Phyllostictae formas facile pertinentes, hic penitus omittuntur"*. This interpretation was accepted in Saccardo's "Sylloge fungorum" (1884-1931) and others works (Lindau, 1900; Allescher, 1901; Davis, 1919; Clements & Shear, 1931).

Beside *Ascochyta*, the genus *Diplodina* was introduced by Westendorp (1857). According to Allescher (1901), these genera are only separated in their substrates (*Ascochyta* – on leaves, *Diplodina* – on other parts of host plants). However, Diedicke (1912) described differences between these genera in the structure of the pycnidial wall (thin and soft in *Ascochyta*, "*Phoma*"-like in *Diplodina*), and these interpretations have been widely used in literature.

Some other mycologists questioned these interpretations and emphasised that the delimitation of similar species based on the these characteristics are insufficient (Potebnia, 1907; Petrak, 1925; Archer, 1926; Dennis, 1946; Sprague & Johnson, 1950), and these statements have been confirmed by observations of some other mycologists (Baker & al., 1949, 1961; Žerbele, 1963; Dzhalagoniya, 1965; Brezhnev, 1967; Savile, 1968; Mel'nik, 1969, *etc.*). In these examinations, particular species were found on different parts of the host plant, while the structure of the pycnidial wall changed simultaneously. All species of *Diplodina*, which are not distinct from *Ascochyta* spp., except for differences in substrate characteristics and the structure of the peridial wall, have to be referred to the latter genus. Furthermore, the type species of *Diplodina* – *D. salicis* Westend. – is quite distinct from the other species which have been referred to this genus. According to Boerema & al. (1965), *Diplodina salicis* is identical with *Discella carbonacea* (Fr.) Berk. & Broome (type species of the genus *Discella*).

It can be clearly stated that there is no reason for a discrimination of *Ascochyta* spp. and morphologically similar *Diplodina* spp.

Tassi (1902) discussed the relationships between *Ascochyta* and *Diplodina* spp. He referred species with hyaline, two-celled conidia, up to 15 µm in length to *Ascochyta* and placed caulicolous fungi with similar conidia in *Diplodinula* Tassi. Species with larger conidia, longer than 15 µm, were assigned to the new genus *Diplodaria* Tassi. In the latter genus, differences in the substrate preference were undoubtedly not taken into consideration (Sprague & Johnson, 1950). However, Saccardo (1906) did not agree with Tassi's concept, but divided *Diplodina* into subgenera, *viz.* subgen. *Eu-Diplodina*, with *Diplodinula* as synonym, and subgen. *Diplodaria*. Species of subgen. *Eu-Diplodina* were characterised as micro-conidial fungi (conidia up to 15 µm long) and species of subgen. *Diplodaria* as macro-conidial fungi (conidia more than 15 µm long). It has already been discussed that the habit of the fungi concerned and the conidial size are not suitable for a differentiation of genera. Hence, we regard *Diplodinula* as well as *Diplodaria* as synonyms of *Ascochyta*. Agreeing with Tassi, Petrak (1925) described the genus *Macrodiplodina* with *M. sesleriae* (C. Massal.) Petr. (= *Diplodina sesleriae* C. Massal.) as type species, which is characterised by having conidia of up to 50 µm in length and 14 µm in width. An examination of authentic specimens of this species showed that there are no differences on generic rank to typical *Ascochyta* spp.

Tassi (1902) introduced the genus *Ascochytella* Tassi for *Ascochyta*-like taxa (fam. Sphaeropsidaceae) with brown, two-celled conidia. Beside *Diplodinula* spp., *Ascochytella* Tassi included the following species of *Ascochyta*: *A. aquilegiae* (Roum. & Pat.) Sacc., *A. camelliae* Pass., *A. ligustrina* Pass., *A. sambuci* Sacc., *A. unedonis* Sacc., *A. vicina* Sacc.

However, Saccardo did not recognise *Ascochytella* as a good genus, but later (Saccardo, 1906, 1913), he considered *Ascochytella* as a subgenus (section?) of *Ascochyta* which he divided into subgen. *Eu-Ascochyta* (with hyaline conidia) and *Ascochytella* Tassi (ut gen.) (with lightly coloured conidia), respectively.

Somewhat later, Potebnia (1907) proposed to regard *Ascochytula* as a subgenus of *Ascochyta* and included species with slightly coloured conidia. Diedicke (1912) accepted *Ascochyta*, *Ascochytella* as well as *Ascochytula*. According to Diedicke (1912), *Ascochytella* was characterised by having pseudopycnidial fruitbodies and pale brown, fusiform conidia. The genus *Ascochytula* was based on subgenus *Ascochytula* Potebnia, with *Phoma*-like fruitbodies and pale brown conidia with rounded ends. Later, Diedicke referred to *Ascochytella* species with pseudopycnidial fruitbodies and light brown, fusiform conidia, and to *Ascochytula* fungi with completely developed, thick-walled parenchymatic fruitbodies and oblong or cylindrical light brown conidia with rounded ends. This delimitation was accepted by Migula (1921) and Höhnel (1923).

It is evident that the basic differentiation between *Ascochytella* and *Ascochytula* is only to be seen in the structure of the pycnidial wall. The taxonomic value of this feature for a delimitation of two morphologically similar genera is very doubtful. As already discussed, the differences in the structure of the pycnidial wall for the separation of *Ascochyta* and *Diplodina* are not acceptable since they depend on the particular substrates. These reasons are fully conclusive for *Ascochytella* as well as *Ascochytula*.

Trotter (according to Saccardo, 1931) did neither recognise *Ascochytella* nor *Ascochytula*, but reduced to subgenera (sections?) of *Ascochyta*, so that Trotter followed Diedicke's (1912) interpretation of *Ascochyta*.

Grove (1935) noted that there is no reason for a separation of *Ascochytella* and *Ascochytula* based on a thin (pseudoparenchymatic) pycnidial wall in the latter genus, but he recognised *Ascochytella* as a separate genus beside *Ascochyta*.

Sprague & Johnson (1950) also discussed the relationships between *Ascochyta* and *Ascochytella*–*Ascochytula* in their studies on grass and cereal ascochytoses of the USA, regarded the latter two genera as synonyms, and treated *Ascochytella* as a section of *Ascochyta*. This treatment agrees with that of Saccardo (1906, 1913). Sprague & Johnson (1950) emphasised that this interpretation fully agrees with the concept of *Ascochyta* in Saccardo (1884) which was accepted by Grove (1935). Sprague & Johnson (1950) supported the validity of this point of view with collections of *Ascochyta pisi* Lib., the type species of this genus, found on *Vicia* by Sprague, which were characterised by having pale brown conidia.

According to Diedicke (1912), the conidial shape represents the second characteristic important for the division of these genera. *Ascochytella* species form fusiform conidia with acute ends and *Ascochytula* species form conidia with rounded ends. An analysis of specimens referred to *Ascochytella* and *Ascochytula* (*sensu* Diedicke) showed that conidia of particular species may be fusiform with acute ends as well as cylindrical to oblong-ellipsoid with rounded ends. It is not uncommon to find a continuum of conidial shapes. Hence, the character mentioned above cannot be used for a differentiation of *Ascochytella* and *Ascochytula*. The two genera have to be merged with *Ascochytella* as correct, valid name.

Trotter, in Saccardo (1931), did neither recognise *Ascochytella* nor *Ascochytula*, but reduced these genera to subgenera (sections?) of *Ascochyta*, *i. e.* he followed Diedicke's (1912) interpretation of *Ascochyta*. Grove (1935) stated that any postulated differences between *Ascochytella* and *Ascochytula*, based on the structure of the pycnidial wall, are not tenable, but he recognised *Ascochytella* as a separate genus.

The relations between *Ascochytella* and *Ascochytula* have also been discussed by Sprague & Johnson (1950) in the treatment of ascochytoses of cereals and grasses of the USA. They considered the two genera synonyms and treated *Ascochytella* as a section of *Ascochyta*, which was a system that agreed with that of Saccardo (1906, 1913). Sprague & Johnson (1950) emphasised that their interpretation fully agreed with the concept of *Ascochyta* introduced by Saccardo (1884) and accepted by Grove (1935). According to Sprague & Johnson (1950), this treatment was strongly supported by the observation that even in *A. pisi*, the type species of *Ascochyta*, collected by Sprague on *Vicia* sp., the conidia were pale brown.

It is, however, necessary to decide the following question. Should *Ascochytella* be treated as a subgenus of *Ascochyta* or as a separate genus? It is necessary to return to the arguments of Sprague and Johnson (1950) that the inclusion of *Ascochytella* as a subgenus of *Ascochyta* is not in contradiction with the original concept of *Ascochyta* accepted by Saccardo (1884). These authors also stated that they found a collection of "*A. pisi*" on *Vicia* sp. with pale brown conidia. However, this statement was undoubtedly based on a misidentified specimen. *A. pisi* is undoubtedly one of the most studied species of *Ascochyta*, but pigmented (or even only faintly tinged) conidia have never been recorded. It seems that Sprague dealt with *Diplodia viciae* Szembel, described by this Russian scientist on *Vicia* leaves from the former Saratov Province. Its morphological features, except the colour of the conidia, are, indeed, very close to those of *A. pisi*. *Diplodia viciae* has been transferred to *Ascochytella* and later to *Pseudodiplodia*. Hence, Sprague's (Sprague & Johnson, 1950) arguments for the inclusion of species with pigmented conidia in *Ascochyta* are not acceptable. On the other hand, among fungi referred to *Ascochyta* there are many species with pale, faintly tinged conidia. The following notes are, however, necessary. In original diagnoses of many species, the conidia have often been described to be "slightly greenish", "slightly smoky" or "almost colourless". Examinations of type specimens of such species showed, however, that the conidia of many of them were hyaline. The conidia in *Ascochyta ricinella* Sacc. & Scalia, including type material, are, for instance, quite colourless, although in the original description they were characterised to be slightly greenish. *Ascochyta kashmiriana* Padwick & Mehr is an analogous example. The slightly greenish cell content was undoubtedly caused by refractive oil drops. It was observed that oil drops gradually disappear with age, so that in herbarium specimens such cell inclusions may only be rarely found. On the other hand, we found fresh material of *Ascochyta daturae* Sacc. differing in the content of oil drops in conidia, although these specimens were collected simultaneously and at the same locality, *viz.* in the nursery of the Komarov Botanical Institute (Leningrad, Russia). These data show that the interpretation of the conidial colour has to be considered cautiously. Therefore, we propose to include in *Ascochyta* species with hyaline and subhyaline (faintly tinged) conidia. Species with analogous morphology but pigmented conidia should be placed in *Pseudodiplodia* or other genera of the *Phaeodidymae (Sphaeropsidales)*. It is clear that this approach is a matter of definition. Among imperfect fungi, as in other fungal groups, too, there are many pairs of species that, according to the original diagnoses, only differ from each other in the conidial pigmentation, *e. g.*, *Septoria – Phaeoseptoria*, *Cercosporella – Cercospora*, *Phoma – Coniothyrium*, *Phyllosticta – Phyllostictella*, *Macrophoma – Sphaeropsis*, *Camarosporium – Camarographium*, *Phleospora – Phaeophleospora*, *Leptothyrella – Diplopeltis*, *Robillarda – Phaeorobillarda*, *Marssonia – Phaeomarssonia*, *Mycosphaerella – Phaeosphaerella*. In all of these genera, there are some species which are intermediate with regard to the conidial pigmentation. The taxonomic status of such species has often been controversially discussed by different specialists. Jaczewski (1927, p. 62) stated that in these cases, as generally in nature, there are often gradual transitions between different basic types which often cause doubt of the generic affinity of the taxa concerned. Until other, more reliable methods for the estimation of conidial pigmentations will be developed or other, more practicable (morphological, biological, physiological, biochemical, *etc.*) characteristics for the delimitation of allied taxonomic groups will be found, taxonomists have to cope with these complex problems.

But we have to return to the discussion of the delimitation between *Ascochytella* and *Ascochyta*. According to Petrak (1953), *Ascochytella* is a synonym of *Pseudodiplodia* which was previously considered a genus of the *Nectrioidaceae*. Based on the examination of the type species of this genus, it could be shown that *Pseudodiplodia* has to be referred to the Sphaeropsidaceae. In this context, Petrak (1953) transferred some species of *Ascochytella*, *Ascochyta*, *Diplodia*, and *Diplodina* to *Pseudodiplodia*. However, it is important to note that *Pseudodiplodia* belongs to a large group of genera within the *Sphaeropsidales-Phaeodidymae* which, according to Zambettakis (1954), are only little differentiated. These differences can only be found by specific examinations, since the original diagnoses are usually too brief and insufficient for a final treatment. Therefore, we refer these taxa in the taxonomic part of this book only to this group of genera ["species e Sphaeropsidales (Phaeodidymae)"].

Beside the genera already discussed, *Stagonosporopsis*, introduced by Diedicke (1912), is also close to *Ascochyta*. This genus is characterised by having conidia with one, two or occasionally three septa. Jaczewski (1917) treated *Stagonosporopsis* as a subgenus of *Ascochyta*, whereas Petrak (1925) reduced this genus to synonymy with *Ascochyta*, and Sprague & Johnson (1950) agreed with the latter author. Žerbele

(1959) stated that both genera are very closely allied, but separate genera. Davis (1919) recognised *Stagonosporopsis* as a separate genus as well.

We follow Jaczewski's (1917) view point and treat *Stagonosporopsis* as a subgenus of *Ascochyta*. An analysis of all *Ascochyta* specimens examined showed that the number of conidia with two septa is generally not very large and 3-septate conidia are very rare. Therefore, it is not justified to refer taxa with such conidia to a separate genus; it is better to place them in a separate subgenus of *Ascochyta*.

Mel'nik (1971) published a first taxonomic treatment of *Ascochyta* in which species with a single as well as two or rarely three septa were assigned to subgenus *Stagonosporopsis*. Later, the holotype (BR) and an isotype (LE) of *A. pisi* Lib. were examined, and it turned out that both specimens contained some conidia with two or even three septa beside "normal" two-celled ones. Hence, the features of the latter species coincide with those of "subgenus *Stagonosporopsis*". Mel'nik (1973) discussed this problem and its influence on the nomenclature of *Ascochyta* incl. *Stagonosporopsis*.

Furthermore, it is necessary to discuss the status of *Apiocarpella* Syd. (syn.: *Apiosporella* Speg., 1910, non Höhn., 1906). In the original diagnosis, Spegazzini (1910) discussed the similarity of the genus *Apiosporella* with *Ascochyta* and described hyaline, asymmetrical conidia with a larger upper and smaller lower cell. Clements & Shear (1931), referring to Petrak (1925), considered *Apiocarpella* a synonym of *Ascochyta*. It is, however, necessary to note that *Apiocarpella* has not been mentioned in Petrak's (1925) paper. Wehmeyer (1946), Greene (1948), and Sprague & Johnson (1950) treated *Apiocarpella* together with *Ascochyta*. We have had the opportunity to examine type material of *Apiocarpella macrospora* (Speg.) Syd. (LPS). The pycnidia agreed well with those of common fruitbodies of *Ascochyta* species and contained broadly fusiform, two-celled, hyaline conidia. All of them were characterised by having a displaced septum in the lower half. Among species referred to *Ascochyta*, there are a few taxa with similarly displaced septa, *e. g.*, *A. anisomera* Kabát & Bubák, *A. vassjaginae* Melnik, and *A. thermopsidis* Solheim. On the other hand, *A. forsythiae* (Sacc.) Höhn., *A. savulescui* Rădul. & Negru, *A. necans* (Ellis & Everh.) Davis, *A. bohemica* Kabát & Bubák, *A. daphnes* Höhn. and some additional species have conidia with a single central as well as sometimes displaced septum. The examination of holotype material of *Stagonospora marssonia* Siemaszko (LE) showed that the conidia, contrary to the data given in the original description, consistently formed a single median to somewhat displaced septum. There are many similar examples. Mel'nik (1971) proposed to refer to subgenus *Apiocarpella* (Syd.) Melnik species with consistently eccentric as well as central to eccentric septa. However, the revision of the whole genus *Ascochyta* indicated that species with consistently eccentric septa should rather be maintained in a separate genus, *viz. Apiocarpella*. Furthermore, the conidial septum in species of the latter genus is always conspicuously and usually strongly eccentric. Taxa with a variable placement of the septum, ranging from median to eccentric, are excluded from *Apiocarpella* and assigned in the present work to *Ascochyta* subgenus *Libertia.* The septa in these species are usually only slightly eccentric.

Based on the present data and discussions, the following circumscription and synonymy of *Ascochyta* and its infrageneric units can be given:

Ascochyta Lib., Pl. Crypt. Ard.: no. 12 (1830).

Syn.: *Diplodina* auct., non Westend., Bull. Acad. Roy. Sci. Belgique ser. 2, **7**, 2, 1857: 562. – *Diplodinula* Tassi, Bull. Lab. Orto Bot. Univ. Siena **5**, 1902: 1-76. – *Diplodaria* Tassi, Bull. Lab. Orto Bot. Univ. Siena **5**, 1902: 1-76. – *Stagonosporopsis* Died., Ann. Mycol. **10**, 1912: 142. – *Macrodiplodina* Petr., Sydowia **15**, 1961: 190.

Pycnidia on leaves, fruits, stems, and another parts of host plants, predominantly on living hosts, immersed or semi-immersed, sometimes almost superficial or superficial, scattered or aggregated, varying from lentiform, globose-depressed to globose or globose-conical, with a circular pore, sometimes with ostioles of different shapes. Pycnidial wall (peridium) variable in colour, pseudoparenchymatic, depending on substrate conditions – delicate, membranaceous, almost transparent or thick, sometimes almost carbonaceous, consisting of thick-walled cells; lower part of pycnidia sometimes without any walls. Conidia variable, predominantly cylindrical, oblong-ovate, oblong-ellipsoidal, ovate, ellipsoidal, fusiform, subclavate, with rounded, sometimes slightly attenuated or acute ends, straight or slightly bent to flexuous, usually with a single median septum, sometimes initially one-celled, later with a single median or displaced septum, occasionally with two, rarely with three septa, not constricted to slightly or strongly constricted, with or without oil drops, hyaline to subhyaline (faintly tinged). Conidiophores usually absent; narrow cylindrical or conical conidiophores are only known in a few species.

Perfect stages of *Ascochyta* belonging in ***Didymella***.

Subgenus *Ascochyta*. – *Ascochyta* Lib. subgen. *Eu-Ascochyta* Jacz., Opredelitel' gribov **2**, 1917: 71 p. p. – *Stagonosporopsis* Died., Ann. Mycol. **10**, 1912: 142. – *Ascochyta* Lib. subgen. *Stagonosporopsis* (Died.) Jacz., Opredelitel' gribov **2**, 1917: 70 p. p. – *Ascochyta* Lib. subgen. *Ascochyta*: Mel'nik, Mikol. i Fitopat. **5**, 1, 1971: 21 p. p.

Conidia with a single consistently central septum, few conidia with two septa, very rarely with three septa.

Type: *A. pisi* Lib. (BR!).

Subgenus *Libertia* Melnik, Nov. Sist. Niz. Rast. 1973: 168. – *Ascochyta* Lib. subgen. *Eu-Ascochyta* Jacz., Opredelitel' gribov **2**, 1917: 71 p. p., excl. *A. pisi* Lib. – *Ascochyta* Lib. subgen. *Ascochyta*: Mel'nik, Mikol. i Fitopat. **5**, 1, 1971: 21 p. p., excl. *A. pisi* Lib. – *Ascochyta* Lib. subgen. *Apiocarpella* (Syd.) Melnik, Mikol. i Fitopat. **5**, 1, 1971: 21 p. p.

Conidia always with a single central or sometimes displaced septum.

Type: *A. orientalis* Bondartsev (LE!).

3. Morphology

3.1 Pycnidia

The fruitbodies of *Ascochyta* spp. are pycnidia (in papers of authors up to the middle of the 18^{th} century, fruitbodies of *Ascochyta* as well as other members of the Sphaeropsidales were classified as "perithecia"). They are globose, globose-conical, globose-depressed, lentiform to slightly compressed in the middle. Within a single species, pycnidia may range from globose, globose-depressed to lentiform, but in most cases they are more or less circular in outline. In species growing on leaves of Gramineae, Sparganiaceae, and Cyperaceae, pycnidia are, however, often oval in outline, so that the longitudinal axis is spread along the veins of the leaves. Similar pycnidia are occasionally found on hosts of other families as well.

As a rule, pycnidia are more or less regularly scattered on leaf spots caused by the particular species (in phytoparasitic species) or spread over the entire surface (in saprobic species). Sometimes the pycnidia are arranged in more or less regular concentric circles. Species growing on cereals and grasses are often characterised by having pycnidia between veins of leaves. The number of pycnidia on different spots of a single species may vary from a few to hundred or more. The abundance of pycnidia seems to depend on physiological data of the substrates that supply the fungus with nutritives. Ondřej (1968), who studied the causal agents of ascochytoses of legumes in Czechoslovakia, showed that the number of pycnidia in culture depends on the composition of the medium. Our own observations on the development of various species in nature did not reveal any correlation between the quantity of pycnidia and the size of the spots. If pycnidia are abundant, they are sometimes confluent and remind one of stromata. Pycnidia are often densely aggregated, so that the spots appear to be rough. For this reason, the ascochytosis of sorghum in the USA was called the "rough spot of sorghum" (Sprague & Johnson, 1950).

Pycnidia are usually immersed in the substrate, mostly more than half of pycnidial fruitbody is covered by the epidermis, so that only the upper part remains uncovered. However, pycnidia are sometimes fully immersed in the host tissue, but even in these cases, the apex of the pycnidium with the pore is protruding. The placement of pycnidia in the substrate mostly depends on the structure of the particular tissue. Greene (1949b) mentioned that *Stagonospora sparganii* (Fuckel) Sacc., as other fungi of the Sphaeropsidales on aquatic plants, is characterised by having fully immersed pycnidia, since this species has lacunes, which are typical for aquatic plants, in which it develops its fruitbodies. A similar information on the pycnidial location in *A. typhoidearum* (Desm.) Cunnell has been given by Cunnell (1959). Analogous situations have been observed in *Ascochyta* spp. on hosts belonging to the Cyperaceae and Gramineae. In soft tissues (petals, delicate tissues of fruits, leaves, *etc.*), pycnidia are often superficial, only immersed in the substrate with the base. The placement of pycnidia in the host tissue changes with time. If pycnidia develop in a thick epidermis, they grow, rise, and become semi-immersed. Pycnidia of species on dry herbaceous stems may be entirely superficial due to the degradation of the upper layer of dead cells.

In most cases, pycnidia on leaves and petals are usually epiphyllous. Examinations of type specimens showed that pycnidia, contrary to the descriptions of the original authors, were not found hypophyllously. It can be supposed that these misinterpretations have been caused by the fact that pycnidia on thin leaves and petioles are often visible from both sides. However, detailed observations easily show the position of the pore, which indicates the true location of the pycnidium. But sometimes pycnidia may be amphigenous, for instance in *A. githaginis* Hollós.

The pycnidial size is apparently not connected with the conidial size. For example *A. sesleriae* C. Massal., which has the largest conidia in *Ascochyta* [30-40 (50) × 8-10 (14) µm] has pycnidia of up to 280 µm diam., whereas *A. caricina* Melnik with somewhat smaller conidia (20-28 × 3-4 µm) has pycnidia of 75-100 µm diam. *A. herreana* Henn. possesses conidia of 9-15 × 5 µm and small pycnidia, only 80-90 µm diam. Finally, *A. greenei* Melnik, which has the smallest conidia in *Ascochyta* [(6) 8-10 × 1.5-2 µm], is characterised by large pycnidia (250-300 µm diam.). The variation of the pycnidial size in different specimens of a single species may be very significant. In most species, the largest pycnidia may be twice as large as the smallest ones; in some species even three times larger. Pycnidia of *A. mercurialis* Bres. are, for instance, 80-200 µm diam., in *A. fraserae* Ellis & Everh. they are 140-200 (300) µm diam., in *A. marginata* Davis 100-200 µm diam., in *A. phyllidis* Jørst. 100-260 µm diam., *etc.* Most species of *Ascochyta* form conidia between 100 and 160 µm diam.

3.2 Peridium

The peridium (wall) of pycnidia consists of pseudoparenchymatic tissue. Its thickness is mostly determinated by the kind of substrate in which the pycnidium develops. In soft tissues of leaves, petals, fruits, and other parts of plants, the peridium consists of 1-2 layers of thin-walled cells. Pycnidia in some species do not have any wall structures in the basal part. In more solid substrates, pycnidia usually possess peridia with 3-4 or more layers of thick-walled cells. Peridial cells are isodiametric and usually 8-10 × 12-15 µm. The pycnidial colour usually depends of the colour of the peridium and may be carbonaceous black or dark brown (on many grasses and in firm substrates) to pale (light olivaceous, yellowish brown, straw-coloured, honey-coloured, light brown, rust-red, flesh-red, *etc.*). The intensity of the pigmentation depends on the degree of maturation of the pycnidia. The peridia of young pycnidia of *A. pisi* are straw-coloured to light olivaceous yellow, but in mature fruitbodies they are yellowish brown or even rust-brown. In some cases, the outer layer of cells may be very delicate and thin and almost indistinguishable from the other layers of the peridial tissue.

3.3 Pore and ostiole

The pycnidial pore in *Ascochyta* ssp. is usually more or less regular, and its diameter does not exceed 20-25 µm (average – 15-20 µm). As a rule, the peridial tissue around the pore consists of small thick-walled cells which look like a ring around the pore. This ring is, above all, very distinct in faintly pigmented pycnidia with delicate, thin-walled peridia. In the original diagnoses of some *Ascochyta* spp., the pores have been described as being indistinct, but based on examinations of type specimens it turned out that true pores are always present, although they are sometimes inconspicuous, since they are covered by the epidermis or the typical pigmented ring around the pore is lacking.

Ostioles of pycnidia are usually papillate or cylindrical. They are usually very common in pycnidia which develop in thick plant tissues, but usually absent in semi-immersed and superficial pycnidia. However, it is possible that pycnidia in a single specimen may form ostioles or not.

3.4 Conidia

The conidial shape in *Ascochyta* spp. is variable. Comparisons of results, based on re-examinations of type collections, with data from original descriptions, are often difficult. Conidial shapes have often been interpreted in different ways. The conidia of numerous species have often been described as being oblong, elongated or linear, but these descriptions are almost meaningless since they may refer to almost all shapes with a length/width ratio of more than 3 : 1. According to "A glossary of mycology" (Snell & Dick, 1971), cylindrical structures have a diameter uniform throughout, whereas oblong structures are characterised by a length which is about two times larger than the width, the lateral walls are parallel, and the ends are more or less rounded. A comparison of these characterisations shows that the "parallel sides" represent the only difference between these terms. However, in nature the differentiation between "cylindrical" and "oblong" (*sensu* Snell & Dick, 1971) is very difficult or even impossible, above all with regard to conidia. Examinations of numerous type specimens showed that "oblong" conidia (according to original diagnoses) may be ellipsoid, oblong-ellipsoid, oval, cylindrical, *etc.* Based on these results we decided to exclude species with "oblong, elongated, linear", and similar conidia, if it was impossible to examine types or other authentic collections.

Based on the examination of numerous *Ascochyta* spp. it can be concluded that the conidia in most taxa are cylindrical, oblong-ellipsoid, ellipsoid or broadly fusiform. Some other species have clavate, fusiform, or ovate conidia.

Table 3. Size of conidia of some *Ascochyta* species (in µm).

Species	**Length**	×	**Width**
Small conidia			
A. coffeae Henn.	4-6	×	2.5-3
A. cinchonae Melnik	3.6-6.4	×	2-3
A. evonymi Pass.	5-6	×	2-2.5
A. alpina Rostr.	6-8 (9)	×	1.5-2 (2.2)
A. bambusicola Cif. & Gonz. Frag.	3.5-4.5	×	1.2-1.5
A. plumeriae Henn.	5-6	×	3
Large conidia			
A. acori Oudem.	26-47	×	8-13
A. marssonia (Siemaszko) Melnik	15-30	×	10-13.3 (15)
A. savulescui Rădul. & Negru	18-26	×	7-10
A. sesleriae C. Massal.	30-40 (50)	×	8-10 (14)
A. ducis-aprutii Mattir.	(24) 30-42	×	7-9 (11.5)
A. rumicicola Vasyag.	(15) 20-30 (36)	×	8-14.2 (15.5)
A. siemaszkoi Melnik	15-35	×	7-9
A. elephas Kabát & Bubák	12-28	×	5-9
A. haloxyli (Syd.) Jacz.	12-30	×	4.5-8

The conidial ontogeny in *A. pisi*, the type species of *Ascochyta*, was studied by Brewer & Boerema (1965). On the basis of electron microscopical examinations they found that the development of conidia is initiated by the appearance of long, thin-walled protrusions of conidiogenous cells. These outgrowths are seceded from the conidiogenous cells by a developing basal septum. When the separating wall of the conidium becomes thickened, one or two septa are formed simultaneously.

The conidiogenous locus is indeterminate, so that a number of successively produced conidia may leave annular scars on the apex of the conidiogenous cells. Arx (1967) classified *Ascochyta* conidia as aleurospores but based on modern terminology (Kendrick, 1971) they are holoblastic.

We have examined numerous species and came to the conclusion that one-celled conidia, which are often found in pycnidia, are immature. As shown by Brewer & Boerema (1965), septa only appear after the secession of the conidia from the conidiogenous cells. Some authors, *e. g.*, Grove (1935), supposed that many species of *Phyllosticta* are only immature stages of *Ascochyta*. However, according to van der Aa (1973) conidia of true *Phyllosticta* spp. form a mucilaginous sheath or even an apical appendage. Both are lacking in *Ascochyta*.

In mature material, conidial septa are always conspicuously visible. In immature conidia, septa are only observable after staining.

Conidia may be constricted at the septa. In particular pycnidia, conidia may range from being strongly constricted, slightly constricted to non-constricted.

Small conidia of *A. alpina* Rostr. have very thick septa which imitate the existence of two separate cells. Furthermore, some of the conidia may disarticulate into two cells. However, it can be noted that the absence of a septum in the conidium is not sufficient to conclude that this fungus does not belong to *Ascochyta*. In experiments on the biology of some *Ascochyta* spp., we have observed that fructifications with one-celled conidia may belong in the life cycle of this genus. In pycnidia of *A. githaginis* Hollós, micro-conidia (2 × 0.5-0.75 µm) are formed beside "normal" conidia [11-18 (20) × 2.5-3 (3.5)]. The presence of micro-conidia in fructifications of imperfect fungi is also known in some species of the Melanconiales (Vasil'evskij & Karakulin, 1950), but the biological significance of this phenomenon is not yet clear.

The conidial size is variable. Some data of very small as well as very large conidia are given in Table 3 above.

A. acori Oudem. possesses the largest conidia (26-47 × 8-13 µm) and *A. bambusicola* Cif. & Gonz. Frag. the smallest ones (3.5-4.5 × 1.2-1.5 µm). Most species have conidia of about 6-15 µm in length and 2-4 µm in width.

There are numerous species with similar conidial dimensions, *e. g.*, more or less cylindrical and oblong-ellipsoid conidia up to 12 (13) µm in length and (3.5) 4 µm in width are found in *A. pellucida* Bubák, *A. marginata* Davis, *A. aristolochiae* Sacc., *A. asclepiadearum* Traverso, *A. basellae* Henn., *A. alni* Siemaszko, *A. boraginis* I. E. Brezhnev, *A. adenophorae* Melnik, *A. tenerrima* Sacc. & Roum., *A. spinaciae* Bond.-Mont., *A. doronici* Allesch., *A. calystegiae* Sacc., *A. cheiranthi* Bres., *A. lamiorum* Sacc., *A. malvicola* Sacc., *A. volubilis* Sacc. & Malbr., *A. daturae* Sacc., *A. hemipteleae* Melnik, *A. urticae* A. L. Sm. & Ramsb., *A. valerianae* A. L. Sm. & Ramsb., *A. verbenae* Siemaszko, and *A. violae-hirtae* Bubák Consistently or predominantly cylindrical conidia up to 10 µm in length and 3 (3.5) µm in width are characteristical for *A. wisconsina* Davis, *A. cotyledonis* H. Zimm., *A. geraniicola* Siemaszko, *A. grandimaculans* Kabát & Bubák, *A. procenkoi* Melnik, *A. resedae* Bond.-Mont., *A. potentillarum* Sacc., *A. phyllidis* Jørst., *A. phellodendri* Kabát & Bubák, *A. verbascina* Thüm., *A. cyphomandrae* Petch, and *A. erevanica* Babayan & Simonyan. Many other species may be referred to other groupings of *Ascochyta* spp. with similar conidial sizes. It can be noted that in general conidial length is much more variable than conidial width. As demonstrated by observations and measurements of numerous conidia from many specimens, the conidial size mostly depends on the location of the fruitbodies. Conidia in pycnidia from dry parts of plants are usually somewhat smaller that those from living organs. Differences in the conidial size of *Ascochyta* and *Diplodina* spp., described from the same host plant, may be explained by this phenomenon. Based on examinations of thousands of specimens from many herbaria of the world, we have tried to find correlations between the geographical origin of specimens and their morphology, above all with regard to the conidial size. Therefore, we mainly studied large numbers of species with world-wide distribution, *viz. A. doronici* Allesch., *A. lamiorum* Sacc., *A. pisi* Lib., and *A. bresadolae* Sacc. & Syd. Specimens of these taxa are present in almost all of the 67 herbaria of the USSR and many other herbaria abroad. However, it turned out that there are no significant morphological differences between various specimens of the species concerned, including shape and size of the conidia.

Conidia of *Ascochyta* spp. are usually hyaline, but some species produce faintly tinged conidia. The intensity of the coloration is, however, very weak and often only traceable in comparison with taxa which have genuinely colourless conidia. Faintly tinged conidia have often been described in original diagnoses, but could then not be confirmed by re-examinations of type collections. Fresh conidia often possess refractive oil drops in the protoplasm so that the conidia appear to be "coloured". However, large guttules disappear later, and the conidia "become" hyaline. This seems to be the explanation for the description of "greenish" conidia in the original descriptions of *A. ricinella* and *A. kashmiriana*. Oil drops have often been described in conidia of *Ascochyta* spp., but as mentioned above they easily disappear with age. The names *A. biguttulata* E. Y. Daniels and *A. quadriguttulata* Kabát & Bubák indicate, for instance, the presence of oil drops in conidia. However, even if they are still present in conidia, their number usually does not coincide with the data given in the original diagnoses. In the course of examinations of *Ascochyta* spp. of the nursery of the Komarov Botanical Institute (Leningrad, Russia) in summer and autumn of 1971, we collected every two weeks specimens of *Ascochyta* on particular hosts and noted that fresh conidia had granular protoplasm and oil drops. 20-25 days later, the granulation gradually disappeared, above all in species with small conidia. In *Ascochyta* spp. with large conidia, the protoplasm of almost all taxa possessed persistent oil drops which, however, finally shrivelled. In various diagnoses of *Ascochyta* spp., above all in those of Kabát and Bubák, papillate conidiogenous cells have been described. The type specimens of these species did not have any separate conidiophores, but the conidia developed on papillate conidiogenous cells. Separate conidiophores have only been observed in *A. polygoni-setosi* (Bubák) Melnik as cylindrical outgrowths (20 × 4 µm) of the basal pycnidial cells.

A discussion of the taxonomic value of the morphological features seems to be required. Shape and size of the pycnidia, the size of the pores, and the presence of an ostiole as well as the peridial structure and colour are not very important for taxonomic purposes, which has been confirmed by the present examinations. The variability of these features is too large to be useful for identification purposes. Features of the conidia are much more important. The conidial shape is more or less consistent and does not depend on conditions of the substrates (living or necrotic, soft or firm tissues). The conidial size is also significant. Conidia vary in size, but only to a certain extent. Length is more variable than width.

In the original descriptions of *Ascochyta* spp., characteristics of the leaf spots caused by these fungi have often been described, which should be discussed in detail. Shape, size, and colour of leaf spots are variable. The spots may be circular, oval or oblong in outline (on plants belonging to the Cyperaceae, Gramineae, and Juncaceae they are often spread along the longitudinal axis of the leaf), or angular, limited by veins, lobate or irregular in shape. Spots may be solitary or numerous, evenly scattered or aggregated; they may be confluent, covering large segments of leaf blades or other plant organs; they may be spread over the entire leaf blade or confined to the margins. The size of the spots varies from 1-2 mm diam. to very large patches which sometimes cover the entire leaves, fruits, stems, *etc.* The colour of the spots is also very variable, but they are mainly yellowish, greyish, brownish or have different whitish shades. The margin of the spots is usually distinct and differs in colour, probably caused by metabolites in the peripheral parts of the spots (where the tissue is still alive) which induce intensive productions of pigments that may stain the tissue. In any case, the coloration of leaf spots is not specific for *Ascochyta* spp. Therefore, leaf spots of *Ascochyta* spp. have often been described as being similar to those of other leaf-spotting fungi, *e. g.*, of *Septoria*, *Phyllosticta*, *Gloeosporium*, *Colletotrichum* spp., *etc.* Leaf spots of species of these genera are generally very uniform. This seems to be the reason for Jørstad's (1965, 1967) treatment of *Septoria* spp. on Gramineae and dicots in which he did not use any features of the leaf spots, but only morphological criteria. According to Bondartseva-Monteverde & Vasil'evskij (1940, p. 351), "differences in leaf spot characteristics on different host species are not indicative of different causal agents"; vice versa, the similarity of leaf spots cannot be considered as evidence for the identity of causal agents. It can be summarised that, out of all features discussed, the shape and size of the conidia represent the main structures for taxonomic purposes. However, it is possible that new scientific approaches, carried out by means of light and electron microscopy, may reveal additional morphological characteristics for taxonomic purposes.

4. Criteria for the delimitation of species

Morphological characters are the main criteria for the modern taxonomy of *Ascochyta* spp. In various fungal groups, the geographical distribution can be used as an additional taxonomic criterion. However, this feature is usually of limited value, since the geographical distribution of fungi is mostly little known. Therefore, this criterion has not been used for the taxonomy of *Ascochyta* spp. With regard to shape, size, and colour of pycnidia, the structure of the peridial wall, shape and size of the pore, presence of absence of an ostiole and its form, shape and size of the conidia, number and position of septa, quantity and placement of pycnidia in the substratum, quantity of conidia in a pycnidium, characters of the leaf spots caused by these fungi, only the shape and size of the conidia are taxonomically relevant. All other characters are extremely variable or do not have any peculiarities and cannot be used for taxonomic purposes.

Webster & Hedwitt (1972), who studied 25 species of *Diplodina* and allied genera, also concluded that only the morphology, ornamentation, and size of conidia are taxonomically relevant. In fundamental works on *Septoria* from Norway, Jørstad (1965, 1967) emphasised a strong taxonomic significance of size, shape, and septation of conidia. Based on an analysis of the taxonomic value of various characters, which were used for the taxonomy of *Septoria*, Teterevnikova-Babayan (1973, p. 339) stated that "the common habitus of the stylospores, their shape, straight or curved, the shape of the conidial ends, especially the thickness of the stylospores and, less importantly, their length are the most important feature in *Septoria*." She noted that these conclusions may be more or less applicable to other genera of the Sphaeropsidales allied to *Septoria*. Shape and size of conidia are, of course, variable as well. Studies on the variability of organisms which are representatives of a particular phenotypic samples, phenomes *sensu* Mayr (1971), play an important role for the determination of their taxonomic positions. Most authors of new taxa dealt with very few specimens and, of course, had no means to take into consideration the variability of the particular features that reflect the phenotypical variability influenced by different factors, including the substrate, *i. e.* the host plant. This phenomenon, *i. e.* the variability of particular characters and the corresponding incorrect evaluation of the taxonomic status of some taxa, has been pointed out by many scientists, particularly by Talbot (1971). He stated that taxonomists dealing with two extreme, marginal forms of a single, morphologically very variable species are usually inclined to accept them as separate species if they do not know intermediate collections of this species. However, this phenomenon may be compensated by the examination of a large number of specimens, if possible from different geographical areas.

We have examined type collections of *Ascochyta* spp. from many herbaria of the world. In most cases, it could be confirmed that the placement of the species concerned in *Ascochyta* was correct, although a considerable number of species did not correspond with the generic diagnosis. Hence, these fungi have to be excluded from *Ascochyta*.

The variability of features (shape and size of conidia) used for taxonomic purposes on species level is, however, not too large. Examinations of types and some other specimens usually showed that the conidial shape and size in the type collections fully reflect the characteristics of the species concerned. We have studied the variability of the morphology of various *Ascochyta* spp. based on specimens from different regions of the world, *viz. A. pisi* Lib., *A. doronici* Allesch., *A. lamiorum* Sacc., and *A. bresadolae* Sacc. & Syd. Their morphological features were more or less consistent. This phenomenon seems to be unusual, since ecological differences, *e. g.*, in *A. pisi* from Australia and the Leningrad Oblast' (Russia), could have an impact upon the fungal morphology. This is, however, wrong. Differences were not larger than those between specimens from Latvia and Lithuania. It seems that the different ecological conditions in Australia and the Leningrad Oblast' in Russia do not directly influence the fungus, perhaps because the hyphae and pycnidia are immersed in and protected by the substrate. Influences of ecological conditions overlap each other. It is necessary to explain influences of different ecological conditions on hyphomycetes more profoundly.

Based on the present examinations it could be shown that various species distinctly differ in morphology from other members of *Ascochyta*. On the other hand, there are various taxa that morphologically largely or fully agree with each other; being only distinguished by having different hosts. The existence of biological specialisation in various fungal groups is highly evident, *e. g.*, in powdery mildews, rusts, smuts, and other groups of fungi. A wide host range was, for instance, found in *Cytospora* (Gvritishvili, 1971), despite the fact that these fungi have previously been considered strongly specialised.

What about the situation in *Ascochyta*? Up to about 1930, most authors of new species did not compare new taxa with diagnoses of other species of the genus. Later they usually compared new species with *Ascochyta* spp. described on host plants of the same host genus (family). The type species of *Ascochyta, A. pisi* Lib., was recorded on species of *Pisum*, *Phaseolus*, and *Cicer*, *i. e.* on host plants of a single family, the Leguminosae (Saccardo, 1884); *A. hesperideacearum* Penz. was described from *Limonia australis* and *Citrus limon* belonging to the Rutaceae; *A. treleasei* Berl. & Voglino on *Silphium integrifolium* and *Vernona noveboracensis*, Compositae. Therefore, Naumov (1925), who described *A. solani-tuberosi* Naumov, compared this fungus only with *Ascochyta* spp. described "on potatoes and allied Solanaceae". Padmanabhan (1947) also compared *A. melongenae* Padman. only with *Ascochyta* spp. known on host plants of the Solanaceae. Ciferri (1957), who dealt with the taxonomic position of *A. hortorum* (Speg.) C. O. Sm., discussed this name as synonym of *Ascochyta* spp. described on solanaceous hosts.

Numerous *Ascochyta* spp. were recorded on hosts of different genera of the same family, *e. g.*, in Davis (1919, 1942), Grove (1935), and in numerous publications of Petrak. The papers of Sprague & Johnson (1950) and Sprague (1950), confined to numerous host genera of the Gramineae, are well-known. Some mycologists from Romania have, undoubtedly, the same view point with regard to the specialisation of *Ascochyta* spp. They recently issued a collection on *Forsythia × intermedia* (Herb. Mycol. Rom., no. 1985) under *A. syringae* Bres., which is quite a correct treatment since the well-known *A. forsythiae* (Sacc.) Höhn. is morphologically distinct.

Scientists attempting to determine the specialisation of *Ascochyta* spp. using inoculation experiments usually limited the experiment to plants of a single genus or rarely of a single family. In experiments with the pycnidial stage of *Didymella lycopersici* Kleb., which certainly pertains in *Ascochyta*, Liesau (1933) inoculated only hosts of the Solanaceae. In host range experiments with the causal agent of ascochytoses of peas and other legumes, Bondartseva-Monteverde & Vasil'evskij (1937, 1940) limited the inoculations to host plants of the family concerned. Jarius (1896), Rostrup (1896), van Hook (1906), Atkinson (1912), Stone (1912), Chupp (1925), Eriksson (1926), Sprague (1929), Ratschlag (1930), and other authors published works on the specialisation of causal agents of various ascochytoses in which they restricted their experiments to legumes.

Chiu & Walker (1949b) studied the physiology and pathogenicity of *A. cucumeris* Fautrey & Roum. and showed that this fungus is capable to attack various host plants from different genera of the Cucurbitaceae.

Baker & al. (1949) tested the specialisation of *A. chrysanthemi* F. Stevens (on garden chrysanthemum only). Laskaris (1950) described *Diplodina delphinii* Laskaris, which belongs to *Ascochyta*, but limited this study to hosts of *Delphinium*. In experiments on the specialisation of *A. bohemica* Kabát & Bubák, Sauthoff (1962) used only host plant from the Campanulaceae. Shavrova (1968) carried out experiments on the specialisation of *A. aquilegiae* (Rabenh.) Höhn., including only hosts of the Ranunculaceae. In experiments on the specialisation of *Ascochyta* spp. on legumes, Grishina (1971) used exclusively hosts from the Fabaceae. Kandinskaya (1971) and Stepanova (1971) studied the causal agents of *Scopolia* ascochytoses and confined inoculations to host plants of the Solanaceae. Furthermore, Kandinskaya (1971) published tests on the specialisation of ascochytoses of hosts belonging to the Malvaceae in which she only used hosts of the latter family. Listopadova & Uspenskaya (1971) examined the pathogenicity of ascochytoses of cucurbits, restricting the tests to host plants from the Cucurbitaceae. They showed that this fungus may infect a certain number of vegetables as well as wild plants of the Cucurbitaceae. On the other hand, there are some other investigations in which the strong specialisation of *Ascochyta* spp. has been called into question, *e. g.*, in the interesting works of Bondartseva-Monteverde & Vasil'evskij (1940). In this study, the authors clearly showed that some *Ascochyta* spp. are capable to infect host of various genera of the Fabaceae. Furthermore, it was demonstrated that *A. phaseolorum* Sacc. may infect *Phaseolus vulgaris, Lens esculenta, Medicago sativa, Melilotus officinalis* (Leguminosae) as well as *Lapsana communis* (Compositae).

Ellis (1950) noted that a strain of *A. abelmoschi* Harter from *Hibiscus esculentus* (Malvaceae) was pathogenic to *Phaseolus vulgaris* and *Ph. lunatus* (Leguminosae) and isolates from the latter plants vice versa to *Hibiscus esculentus*. On the base of the similarity of symptoms of the diseases and the size of the conidia, Ellis (1950) came to the conclusion that the causal agents of the diseases on *H. esculentus* and *Phaseolus* spp. may belong to a single species.

Crossan (1958) published on the specialisation of *Ascochyta* spp. He compared the morphology, physiology, and pathogenicity of various fungi identified as *A. abelmoschi*, *A. althaeina* Sacc. & Bizz., *A. capsici* Bond.-Mont., *A. gossypii* Syd., *A. lycopersici* Brunaud, *A. nicotianae* Pass., and *A. phaseolorum* Sacc. collected on 10 hosts from North Carolina (USA). Inoculations caused similar symptoms in all induced infections, despite the different inoculum sources, so that Crossan concluded that all *Ascochyta* species listed above actually represent a single species, with *A. phaseolorum* being the oldest valid name.

Žerbele (1963) pointed out that *A. fagopyri* Bres. was able to infect some unusual hosts, *viz. Polygonum convolvulus* and *Vicia sativa*, and that *A. phaseolorum* may attack *Trifolium pratense* and *Vicia sativa*.

Alcorn (1968) carried out experiments with *A. phaseolorum* from Australia where this fungus, according to his data, is known from 48 host species of 14 plant families and additional 12 hosts were susceptible to *A. phaseolorum* in inoculation experiments. Alcorn noted that, as contrasted with the results of Crossan (1958), some fungi used in his experiments were not capable to infect those hosts which had been successfully infected by Crossan. Kandinskaya (1971) successfully inoculated *Heracleum sosnowskyi* (Umbelliferae) by a strain of *Ascochyta* from *Rhaponticum carthamoides* (Compositae).

These examples show that *Ascochyta* spp. are able to infect a wide range of host plants. But what about the status of fungi with similar morphology and different host range?

In the Code of Botanical Nomenclature (Deighton & al., 1962; Anonymous, 1972) it is indicated that parasitic fungi, which differ in physiology but not in morphology, may be treated as formae speciales of particular species differing from each other in their adaptations to various hosts. Jaczewski (1927) emphasised to treat biologically specialised, but morphologically uniform taxa as biological or special forms (formae speciales).

Data on formae speciales of rusts, powdery mildews, and downy mildews are fairly well-known, but with regard to *Ascochyta* spp. comparable, reliable data are almost lacking. Žerbele (1963) experimentally proved the identity of *A. daturae* Sacc. and *A. solani-tuberosi* Naumov and noted that these fungi my be regarded "as synonyms or formae speciales". Kandinskaya (1971) came to the conclusion that "there is only a single *Ascochyta* sp. on the hosts of the Malvaceae examined, which is the result of the evolution of isolated special forms". According to Savile (1968), *Diplodina pedicularis* (Fuckel) Lind is composed of particular forms confined to different localities within the distribution area of certain host plants, although he did not refer to formae speciales. However, he stressed that this fungus is characterised by having races which are adopted to certain hosts.

In the literature, a discussion can be found whether the category "forma specialis" is only applicable to obligate or to facultative parasitic fungi as well. Various opinions have been expressed by Malcolmson & Gray (1969), Skalicky (1968), Boerema (1969), and Hudson (1970). Taking all data discussed above into consideration, it has to be recognised that formae speciales do exist in *Ascochyta*. But what are the factors causing specialisations within these fungi? It has been pointed out by various scientists that in inoculation experiments, not only in *Ascochyta* spp., it is much easier to infect hosts which belong to the same genus or family as the source of the inoculum. These inoculation experiments were always successful; pycnidia usually developed on infected host plants, but not on material with conspicuous symptoms placed in moist chambers. It can be supposed that, during its evolution, *Ascochyta* spp. adopted their parasitism to certain host plants with more or less similar biochemical features. Kaiser (1973) inoculated some legumes (*Cicer arietinum, Phaseolus vulgaris, Ph. aureus, Vicia faba, Vigna sinensis, Lens esculenta, Pisum sativum*) as well as some species of the Cucurbitaceae (*Cucumis sativus*), Chenopodiaceae (*Chenopodium amaranthicolor*), Amaranthaceae (*Gomphrena globosa*), and Solanaceae (*Nicotiana glutinosa*) by conidia from four isolates of

A. rabiei (Pass.) Labr. isolated from *Cicer arietinum*, but only a few legumes were successfully infected, *viz. Cicer arietinum*, *Phaseolus vulgaris*, and *Vigna sinensis*.

Specialisations are also evident in various other genera of the imperfect fungi. Vasil'evskij & Karakulin (1937, 1950) described this phenomenon for many species of *Ramularia*, *Ragnhildiana*, *Cercospora*, *Ovularia*, *Gloeosporium*, *Phleospora*, *Marssonina*, *Septogloeum*, *Entomosporium*, *Coryneum*, *Pestalotia*, *Kabatiella*, and *Cylindrosporium*. Arx (1957) pointed out that parasitic imperfect fungi of the genera *Microstoma* and *Kabatiella* are found on hosts of different genera of a single family. Jørstad (1965, 1967) in his treatment of *Septoria* spp. from Norway compared various species of this genus described on hosts of a single family (sometimes even of a single genus) and placed them in a single species of *Septoria*, provided that they were morphologically indistinguishable. The specialisation within the limits of particular host genera as an additional criterion for the taxonomy of *Septoria* spp. was recommended by Teterevnikova-Babayan (1973). She emphasised that, with certain adaptations, this principle of classification may also be used together with morphological criteria for the taxonomy of other sphaeropsidaceous genera allied to *Septoria*. Van der Aa (1973), who carefully studied a large group of *Phyllosticta* spp., came to the conclusion that fungi of this genus were characterised by adaptations to single host species or host genera.

We suppose that the specialisations of *Ascochyta* spp. are rather low and only limited by particular host plant families. Since formae speciales and physiological races are infraspecific categories which are not governed by the ICBN, these taxonomic units are not treated in the present monograph of *Ascochyta* that is confined to the level of species. Thus, we have used the similarity of morphological characteristics (shape, length, and width of conidia) and the adaptation to certain host families and host species as main criteria for the differentiation of species in *Ascochyta*.

5. Economic importance

Fungi of the genus *Ascochyta* are facultative parasites that cause diseases of many cultivated plants and wild plants. A few species are known only from dead parts of their host plants. Nevertheless we consider these species to be parasites, since we suppose that they may occur on living plants as well.

Table 4. Total number of accepted *Ascochyta* species per host plant family.

Host plant family	*Ascochyta* species	Host plant family	*Ascochyta* species	Host plant family	*Ascochyta* species
Aceraceae	4	Euphorbiaceae	5	Polygalaceae	1
Actinidiaceae	1	Fagaceae	2	Polygonaceae	12
Alismataceae	2	Gentianaceae	2	Primulaceae	2
Amaranthaceae	1	Geraniaceae	1	Pteridaceae	1
Anacardiaceae	2	Gramineae	18	Ranunculaceae	8
Apocynaceae	3	Hippocastanaceae	1	Resedaceae	1
Araceae	5	Hydrocharitaceae	2	Rhamnaceae	3
Araliaceae	3	Hydrophyllaceae	2	Rosaceae	6
Aristolochiaceae	3	Iridaceae	2	Rubiaceae	4
Asclepiadaceae	1	Juglandaceae	2	Rutaceae	7
Balsaminaceae	1	Juncaceae	4	Salicaceae	4
Basellaceae	1	Labiatae	6	Santalaceae	1
Begoniaceae	1	Lardizabalaceae	1	Sapindaceae	1
Berberidaceae	3	Leguminosae	22	Sapotaceae	1
Betulaceae	2	Liliaceae	12	Saxifragaceae	2
Boraginaceae	1	Linaceae	1	Scrophulariaceae	6
Bryophyta	1	Loasaceae	1	Selaginellaceae	1
Burseraceae	1	Loganiaceae	1	Simaroubaceae	1
Buxaceae	1	Magnoliaceae	2	Solanaceae	7
Calycanthaceae	1	Malvaceae	3	Sparganiaceae	1
Campanulaceae	4	Menyanthaceae	1	Staphyleaceae	1
Caprifoliaceae	7	Moraceae	7	Tamaricaceae	1
Caricaceae	1	Myrtaceae	1	Theaceae	1
Caryophyllaceae	5	Nyctaginaceae	1	Thymelaeaceae	1
Celastraceae	2	Oleaceae	8	Tiliaceae	1
Chenopodiaceae	8	Onagraceae	3	Typhaceae	1
Compositae	10	Paeoniaceae	1	Ulmaceae	2
Convolvulaceae	3	Palmae	1	Umbelliferae	11
Crassulaceae	2	Papaveraceae	5	Urticaceae	3
Cruciferae	7	Pedaliaceae	1	Vacciniaceae	2
Cucurbitaceae	2	Pinaceae	1	Valerianaceae	2
Cyperaceae	5	Pittosporaceae	1	Verbenaceae	2
Dioscoreaceae	2	Plantaginaceae	1	Violaceae	3
Dipsacaceae	1	Plumbaginaceae	3	Zygophyllaceae	2
Equisetaceae	1	Polemoniaceae	2		

Data on the distribution of *Ascochyta* species on host plants within various plant families are given in Table 4 above. The uneven distribution of *Ascochyta* species within host plant families is probably explained by differences in the amount of species of the families concerned. Some families including numerous useful plants (food, forage, medical, ornamental plants, *etc.*), attracted special attention, and were therefore frequently examined. The large number of *Ascochyta* species (eight or more) described on hosts belonging to the Compositae, Gramineae, Leguminosae, Liliaceae, Oleaceae, Polygonaceae, Ranunculaceae, and Umbelliferae supports this statement.

In the following Table 5, causal organisms of ascochytoses of field crops, vegetables, horticultural, industrial, medical, and ornamental herbs, shrubs, and trees are enumerated. When a fungus has been recorded on two or more host species of a single host genus, only the names of the genera concerned are cited.

Table 5. Economically important *Ascochyta* species arranged by host plant family.

Host plant family	Causal organisms of economically important ascochytoses
Aceraceae	*A. negundinis*, *A. pallida*, *A. tehonii*, *A. velata* – on species of *Acer*
Actinidiaceae	*A. actinidiae* – on species of *Actinidia*
Araliaceae	*A. marginata* – on *Acanthopanax sessiliflora* and *Panax ginseng*
Aristolochiaceae	*A. aristolochiae*, *A. aristolochiicola*, *A. versicolor* – on species of *Aristolochia*
Balsaminaceae	*A. impatientis* – on species of *Balsaminum* and *Impatiens*
Begoniaceae	*A. begoniae* – on species of *Begonia*
Berberidaceae	*A. australis*, *A. berberidis* – on species of *Berberis*
Betulaceae	*A. coryli* – on *Corylus avellana*; *A. alni* – on species of *Alnus*
Buxaceae	*A. limbalis* – on *Buxus sempervirens*
Campanulaceae	*A. adenophorae* – on *Adenophora latifolia*; *A. bohemica*, *A. carpathica* – on species of *Campanula*
Caprifoliaceae	*A. ferdinandi*, *A. symphoricarpophila*, *A. tenerrima*, *A. wisconsina* – on species of *Lonicera*, *Sambucus*, *Symphoricarpus*, *Viburnum*
Caricaceae	*A. caricae-papayae* – on *Carica papaya*
Caryophyllaceae	*A. silenes* – on species of *Silene*; *A. stellariae* – on species of *Stellaria* and *Dianthus*
Celastraceae	*A. evonymi*, *A. oudemansii* – on *Evonymus europaeus*
Chenopodiaceae	*A. betae*, *A. chochryakovii* – on *Beta vulgaris*; *A. boni-henrici*, *A. spinaciicola* – on *Spinacia oleracea*; *A. haloxyli* – on species of *Haloxylon*
Compositae	*A. chrysanthemi* – on species of *Chrysanthemum*; *A. compositarum* – on species of *Aster* and *Helianthus strumosus*; *A. doronici* – on species of *Artemisia*, *Calendula*, *Centaurea*, *Cynara*, *Matricaria*, *Pyrethrum*, *Rudbeckia*, *Taraxacum*, *Zinnia* and many other genera; *A. tussilaginis* – on *Chrysanthemum morifolium* and *Tussilago farfara*
Convolvulaceae	*A. convolvuli* – on species of *Convolvulus*, *Ipomoea batatas*; *A. calystegiae* – on *Ipomoea batatas*
Crassulaceae	*A. telephii* – on species of *Sedum*
Cruciferae	*A. cheiranthi* – on species of *Brassica*, *Cheiranthus*, *Crambe*; *A. matthiolae* – on *Armoracia rusticana* and *Matthiola incana*
Cucurbitaceae	*A. cucumeris* – on many (perhaps all?) species
Dioscoreaceae	*A. dioscoreae* – on *Dioscorea* sp.
Euphorbiaceae	*A. heveae* – on *Aleurites fordii* and *Hevea brasiliensis*; *A. heveana* – on *Hevea brasiliensis*; *A. ricini* – on *Ricinus communis*
Fagaceae	*A. fagi* – on *Fagus orientalis*; *A. quercus* – on species of *Quercus*
Geraniaceae	*A. geraniicola* – on *Geranium sylvaticum*
Gramineae	*A. agrostidis*, *A. desmazieri*, *A. ducis-aprutii*, *A. ischaemi*, *A. maydis*, *A. melicae*, *A. phleina*, *A. sesleriae*, *A. sorghi*, *A. sorghina*, *A. zeicola*, *A. zeina* – on many host species of many genera
Hippocastanaceae	*A. grandimaculans* – on *Aesculus hippocastanum*

Host plant family	Causal organisms of economically important ascochytoses
Iridaceae	*A. gladioli* – on species of *Gladiolus*
Juglandaceae	*A. juglandis* Boltsh. – on *Juglans regia*, *J. manchurica*, *Pterocarya sorbifolia*; *A. caryae* – on *Carya ovata*
Labiatae	*A. betonicae* – on *Betonica officinalis*; *A. lamiorum* – on *Lallemantia iberica* f. *sulfurea*, *Ocimum basilicum* and species of other genera; *A. leonuri* – on species of *Mentha*
Leguminosae	*A. boltshauseri* – on *Lens esculenta*, species of *Onobrychis*, *Phaseolus*, *Trifolium*, *Vicia*; *A. caraganae* – on *Caragana arborescens*; *A. cytisi* – on species of *Cytisus* and other genera; *A. phaseolorum* – on many hosts of different genera; *A. pinodes* – on species of *Pisum*; *A. pisi* – on species of *Pisum* and other genera; *A. rabiei* – on *Cicer arietinum*; *A. sojae* – on *Glycine max*; *A. viciae* – on species of *Vicia* and very numerous species of other genera; *A. vignae* – on *Vigna catjang*
Liliaceae	*A. allii*, *A. lobikii* – on species of *Allium*; *A. juelii* – on *Colchicum autumnalis*; *A. majalis* – on *Convallaria majalis*
Linaceae	*A. lini* – on *Linum usitatissimum*
Magnoliaceae	*A. liriodendri* – on *Liriodendron tulipifera*; *A. procenkoi* – *Schizandra chinensis*
Malvaceae	*A. abelmoschi* – on species of *Abelmoschus*; *A. malvicola* – on species of *Alcea*, *Althaea*, *Gossypium*, *Hibiscus*, *Lavatera*, *Malva*, *Sida*
Moraceae	*A. caricae*, *A. ficus* – on species of *Ficus*; *A. humuliphila* – on *Humulus lupulus*; *A. miyakei*, *A. moricola* – *Morus alba*
Oleaceae	*A. forsythiae* – on species of *Forsythia*; *A. fraxinicola*, *A. fraxinifolia*, *A. metulispora* – on species of *Fraxinus*; *A. ligustri* on *Ligustrum vulgare*; *A. orientalis* – on *Syringa vulgaris*; *A. syringae* – on *Syringa vulgaris* and species of *Fraxinus*
Paeoniaceae	*A. paeoniae* – on species of *Paeonia*
Palmae	*A. trachycarpi* – on *Trachycarpus martianus*
Papaveraceae	*A. glaucii* – on *Glaucium officinalis*; *A. papaveris* – on *Papaver nudicaulis*
Pedaliaceae	*A. sesami* – on *Sesamum orientale*
Pinaceae	*A. laricina* – on *Larix europaea*
Plantaginaceae	*A. plantaginicola* – on species of *Plantago*
Polemoniaceae	*A. phlogis* – on species of *Phlox*; *A. polemonii* – on species of *Polemonium*
Polygonaceae	*A. bresadolae* – on *Fagopyrum esculentum* and other species of this genus; *A. rhei* – on *Rheum officinalis* and other species of this genus; *A. foliicola* – on *Rumex acetosella*
Ranunculaceae	*A. actaeae* – on *Delphinium elatum*; *A. aquilegiae* – on *Aquilegia* and *Delphinium*; *A. dolomitica*, *A. vitalbicola* – on species of *Clematis*
Resedaceae	*A. resedae* – on *Reseda odorata*
Rhamnaceae	*A. natsume* – on *Zizyphus jujuba*; *A. paliuri* – on species of *Rhamnus*
Rosaceae	*A. idaei* – on *Prunus padus*, *Rubus idaeus*, and species of *Spiraea*; *A. spiraeae* – on species of *Spiraea*
Rubiaceae	*A. cinchonae* – on *Cinchona* sp.; *A. coffeae*, *A. tarda* – on *Coffea arabica*
Rutaceae	*A. bombycina* – on *Limonia australis*; *A. cinerea*, *A. corticola*, *A. hesperidearum* – on species of *Citrus*
Salicaceae	*A. salicicola*, *A. salicina*, *A. vitellinae* – on species of *Salix*; *A. translucens* – on species of *Salix* and *Populus*
Santalaceae	*A. santali* – on *Santalum album*
Saxifragaceae	*A. bondarceviana* – on species of *Grossularia* and *Ribes*; *A. philadelphi* – on species of *Deutzia*, *Hydrangea*, *Ribes*, *Grossularia*

Host plant family	Causal organisms of economically important ascochytoses
	reclinata, *Philadelphus*
Scrophulariaceae	*A. euphrasiae* – on *Antirrhinum majus* and species of *Digitalis*
Solanaceae	*A. daturae* – on *Atropa*, *Datura*, *Lycium*, *Lycopersicum*, *Nicotiana*, *Physalis*, *Scopolia*, *Solanum* and hosts of other genera; *A. daturicola* – on *Datura arborea*; *A. physalina* – on *Physalis alkekengi*; *A. petuniae* – on species of *Petunia* and *Solanum nigrum*
Tamaricaceae	*A. tamaricis* – on species of *Tamarix*
Theaceae	*A. theae* – on *Thea sinensis*
Tiliaceae	*A. corchori* – on *Corchorus capsularis*
Umbelliferae	*A. grovei* – on species of *Heracleum*
Urticaceae	*A. boehmeriae* – on species of *Boehmeria*
Valerianaceae	*A. valerianae* – on species of *Patrinia* and *Valeriana*
Verbenaceae	*A. verbenae* – on *Verbena officinalis*
Violaceae	*A. violae*, *A. violae-hirtae*, *A. violicola* – on species of *Viola*

This list is, however, not complete. The fungi attack many additional host species from additional host genera which are listed in the taxonomic part ("Descriptions of species") under the names of the particular species. The harmfulness of the diseases caused by *Ascochyta* spp. is mainly connected with a reduction of the photosynthetic activity of attacked plants due to a loss of assimilating tissue by its dying caused by the fungal impact. Sometimes the root system is damaged which may cause a dying of the whole plant. Infections of fruits often cause reduced qualities of fruits and seeds. Many seeds remain immature and are diminished in size. Plants grown from such seeds have often a reduced viability and are often easily infected by pathogens. Ornamental plants are often disfigured; *e. g.*, the market value of chrysanthemum is often strongly reduced. By the way, "ray blight of chrysanthemum" is an object of quarantine. Most economic losses have been caused by ascochytoses on hosts belonging to the Solanaceae, Cucurbitaceae, and Leguminosae, above all on host plants of the latter family. In the Russian literature, many publications on ascochytoses of legumes are found, mainly by Bondartseva-Monteverde & Vasil'evskij (1937, 1940). Furthermore, they were studies in Latvia by Mikheeva (1968), in Moldavia by Balashova (1964), in the central regions of the "chernozem zone" of the European part of the USSR by Konstantinova (1965), in Armenia by Khachatryan (1963), in Azerbajdzhan by Garadagi (1967), in Uzbekistan by Musaev (1967), *etc.* Some other papers have been published by Stone (1912), Gonz. Fragoso (1919), Jones (1927), Linford & Sprague (1927), Rosella (1929), Sprague (1929), Ratschlag (1930), Beaumount (1950), Brewer & McNeill (1953), Skolko & al. (1954), Bertini (1955), Brewer (1960), Ondřej (1968, 1971a, b), *etc.*

In the papers cited, detailed treatments of the taxonomy of the pathogens, their biology, physiology, the pathogenicity of different strains, *etc.*, have been published. Some of these papers deal with the control of ascochytoses.

Ascochytoses of cucurbits are economically significant. In the literature of the USSR, there are many papers on these diseases, *e. g.*, Kirimelashvili (1954, 1956), Demidova (1965), Oganova (1965), Korshunova & Deeva (1966), Uspenskaya & al. (1967), Tupenevich & Shapiro (1968), Listopadova & Uspenskaya (1970a, b; 1971), Elbakyan & Shekunova (1972), Uspenskaya & Mel'nik (1973). Many papers refer to ascochytoses (above all cucumber) in greenhouses which usually suffer strongly under these diseases. Chiu & Walker (1949a, b) reviewed the results of previous authors (Grossenbacher, 1909; Massee, 1900; Potebnia, 1910b; Weber, 1929; Walker & Weber, 1931; Wiant, 1945) and added their own data. The publications of Chiu & Walker may be considered as classical studies of the biology, physiology, and pathogenicity of these diseases. A later study was published by Schenck (1968).

Ascochytoses are also very harmful to plants of the Solanaceae, but these diseases are only insufficiently examined. A well-known work was published by Liesau (1933). Recently a paper on the acochytosis of tomatoes in Poland has been published by Truszkowska (1967). In the literature of the USSR, publications on these diseases are almost absent.

Several papers on ascochytoses of ornamental plants are known. A series of publications deals with *A. chrysanthemi* F. Stevens on chrysanthemum (Baker & al., 1949, 1961; Sauthoff, 1963; Zacha, 1968). Ascochytoses of *Campanula* spp. were examined by Sauthoff (1962) and those of *Campanula* and *Delphinium* by Mel'nik (1973).

Ascochytoses of fruit trees have so far been insufficiently studied. The only available information can be found in Gikashvili (1947) on the ascochytosis of citrus in Georgia and papers on this disease published by Brien (1931) and Fawcett (1936).

Ascochytoses of medical plants require much more attention since they cause considerable losses of plant resources in the pharmaceutical industry. There are only a few publications of Ablakatova (1960, 1961), Ablakatova & Koval' (1961), Enkina (1970, 1971), Kandinskaya (1971), Stepanova (1971), *etc.* Data on ascochytoses of industrial crops are almost lacking.

In spite of the absence of modern surveys of ascochytoses of several groups of plants (food, forage, medical crops, *etc.*), there is no doubt that economic losses are very important. Some of these diseases have a world-wide distribution, *e.g.*, the ascochytosis of peas (Anonymous, 1965) or cucurbits (Anonymous, 1970). Various other circumglobal diseases are similarly widespread and cause ascochytoses of many important crops. For the control of these diseases fungicides have been applied, albeit with limited success. It is likely that selections of resistant races could be more successful. There are already some successful breeding projects dealing with resistant legumes (peas, beans, lucerne, sainfoin, chicken peas, *etc.*) and cucurbits (mainly cucumber).

Some remarks about *Ascochyta* spp. as producers of biologically active substances are necessary. For a long time, *Ascochyta* spp. have not been examined with regard to their biochemical activities. Within the previous two to three decades some papers have, however, been published. Uspenskaya & Murav'yeva (1969) published very interesting results dealing with amino acid compositions of many phytopathogenic fungi of different taxonomic groups. Furthermore, data on biologically active substances in *Ascochyta* spp. are very interesting. Almost 20 year ago, Bertini (1955) found in cultural liquids of *A. pisi* some substances which were toxic to microbial organisms, *viz.* bacteria, asporogenous and sporogenous yeast. Bertini (1956), Oku & Naganishi (1963, 1966, 1967), Verona & Treggi (1966), Nakanishi & Oku (1969), and Verona (1970) found similar substances in various other *Ascochyta* spp., *e.g.*, in fungi which were identified as *A. pinodes* L. K. Jones and *A. fabae* Speg. An extracted antibiotic substance was called ascochitin; the following empirical structural formula was given: "$C_{15}H_{16}O_5$".

Ascochitin suppressed the development of the phytopathogenic fungus *Pyricularia oryzae* Cavara and *Cochliobolus miyabeanus* (S. Ito & Kurib.) Drechsler. Data of antifungal activities of *Ascochyta* spp. published by Blunt & Baker (1968) are very interesting. These authors extracted several fungi, including two species of *Ascochyta* (taxonomic identity unclear), from cultivated and forest soils in Hawaii and found antifungal substances which were active against several human mycoses, *viz. Candida albicans* (C. P. Robin) Berk., *Sporotrichum schenkii* Matr., and *Aspergillus fumigatus* Fresen. According to Schadler & Bateman (1974), Japanese scientists observed that *A. viciae* produced two other antibiotics, *viz.* ascochlorine and ascofuranone. Many additional producers of biologically active substances could undoubtedly be found in a comprehensive study of *Ascochyta* species.

6. Table for the identification of species

1. Conidia with a single consistently median septum,
   some conidia occasionally with two or three septa .... **Subgenus Ascochyta** (p. 30)
2. Conidia with a single septum of variable position,
   ranging from median to somewhat eccentric ....**Subgenus Libertia** (p. 32)

6.1 Subgenus *Ascochyta*

Aristolochiaceae

Conidia cylindrical and oblong-ellipsoidal, (10) 12-23 (25) × 4-6 µm .... 1. ***A. versicolor*** Bubák (p. 44)

Caryophyllaceae

Conidia cylindrical, sometimes subclavate, 11-18 (20) × 2.5-3 (3.5) µm;
microconidia bacilliform, one-celled, 2 × 0.5-0.8 µm (Fig. 1, p. 45) ....2. ***A. githaginis*** Hollós (p. 44)

Chenopodiaceae

1. Conidia cylindrical
   A. Conidial width 3-4 µm
      a. Conidial length 9-21 µm .... 4. ***A. chochrjakovii*** Melnik (p. 44)
      b. Conidial length 15-26 µm .... 3. ***A. atriplicis*** Died. (p. 44)
   B. Conidial width 4.5-8 µm, length 12-30 µm (Fig. 2, p. 45) ....5. ***A. haloxyli*** (Syd.) Jacz. (p. 45)
2. Conidia oblong-ellipsoidal to cylindrical, 9-23.2 × 4.2-7.4 µm .... 6. ***A. spinaciicola*** Melnik (p. 45)

Compositae

Conidia cylindrical and oblong-ellipsoidal
   A. 8-23 × 3-5 (6.5) µm (Fig. 3, p. 46) .... 7. ***A. chrysanthemi*** F. Stevens (p. 45)
   B. 15-35 × 7-9 µm .... 8. ***A. siemaszkoi*** Melnik (p. 46)

Convolvulaceae

Conidia cylindrical, 10-16 × 3.5-4.4 µm .... 9. ***A. convolvuli*** Fautrey (p. 46)

Cruciferae

Conidia cylindrical, 10-19 × 3.3-5 µm .... 10. ***A. crambicola*** Melnik (p. 46)

Cucurbitaceae

Conidia cylindrical, some subclavate or oblong-ellipsoidal,
(8) 11-20 (24) × 2.5-4 (5) µm (Fig. 4, p. 48) .... 11. ***A. cucumeris*** Fautrey & Roum. (p. 47)

Cyperaceae

Conidia oblong-ellipsoidal and cylindrical, 13-17 (20) × 4.5 µm ....12. ***A. kurdistanica*** Bubák (p. 47)

Equisetaceae

Conidia oblong-ellipsoidal, oval,
(8) 10-16 × (2.5) 3-4 (4.5) µm (Fig. 5, p. 48) .... 13. ***A. equiseti*** (Desm.) Grove (p. 47)

Euphorbiaceae

1. Conidia ovate and oblong-ellipsoidal, 8-16 × 5-6 µm .... 14. ***A. ricini*** (Rodigin) Melnik (p. 48)
2. Conidia cylindrical, oblong-ellipsoidal and subfusiform,
   13-24 × 4-6 µm (Fig. 6, p. 48) ....15. ***A. securinegae*** Enkina (p. 48)

Juncaceae

Conidia oblong-fusiform, 12-15 × 4-5 µm .... 16. ***A. junci*** (Oudem.) Melnik (p. 48)

Labiatae

Conidia cylindrical
- A. (9) 11-23 × 3-5 (7) µm (Fig. 7, p. 49) .... 18. ***A. lagochili*** Byzova (p. 49)
- B. 12-28 × 5-9 µm .... 17. ***A. elephas*** Bubák & Kabát (p. 48)

Leguminosae

1. Conidia cylindrical
   - A. 15-25 × 3.5-4.5 µm (Fig. 10, p. 51) .... 24. ***A. viciae-villosae*** Ondřej (p. 51)
   - B. 25-30 × 4.2-6 µm .... 22. ***A. sphaerophysae*** Barbarin (p. 50)
2. Conidia cylindrical and oblong-ellipsoidal
   - A. (12) 15-22 (25) × (3.5) 4-6 (7) µm (Fig. 8, p. 49) .... 19. ***A. boltshauseri*** Sacc. (p. 49)
   - B. 8-21 × 3.5-5 µm .... 20. ***A. pinodes*** L. K. Jones (p. 50)
3. Conidia cylindrical, oblong-ellipsoidal, subclavate, ovate, 10-19 × 2.5-4.5 (5) µm (Fig. 9, p. 51) .... 21. ***A. pisi*** Lib. (p. 50)
4. Conidia oblong-ellipsoidal, 14-30.4 × 3.8-7.9 µm .... 23. ***A. spraguei*** Melnik (p. 50)
5. Conidia oblong-ellipsoidal and broadly fusiform, 20-25 × 5.2-6.9 µm .... 25. ***A. vignae*** M. I. Nikol. (p. 51)

Liliaceae

Conidia cylindrical, 16-26 (30) × 4-6 µm .... 26. ***A. majalis*** C. Massal. (p. 51)

Malvaceae

Conidia oblong-ellipsoidal, 16-29 × 5-7 µm .... 27. ***A. abutilonica*** Massenot (p. 52)

Moraceae

Conidia ellipsoidal, cylindrical and subclavate, 7-12 (15) × 3-5 µm ....28. ***A. caricae*** Rabenh. (p. 52)

Paeoniaceae

Conidia oblong-ellipsoidal and cylindrical, 4.5-15 × 2-4 µm .... 29. ***A. paeoniae*** Bond.-Mont. (p. 52)

Plumbaginaceae

Conidia cylindrical, 12-28 × 4-6 µm .... 30. ***A. plumbaginis*** Sacc. (p. 52)

Polemoniaceae

Conidia cylindrical, (6.6) 12-16 (20) × 2.5-4 (5) µm (Fig. 11, p. 53) .... 31. ***A. polemonii*** Cavara (p. 52)

Polygonaceae

Conidia cylindrical, oblong-ellipsoidal and subclavate
- A. 7-17 (20) × 3-4.5 µm .... 33. ***A. rhei*** Ellis & Everh. (p. 53)
- B. 10-18 (22) × 3-6 µm (Fig. 12, p. 53) .... 32. ***A. bresadolae*** Sacc. & Syd. (p. 53)
- C. (15) 20-30 (36) × (6) 8-14.2 (15.5) µm .... 34. ***A. rumicicola*** Vasyag. (p. 53)

Ranunculaceae

Conidia cylindrical and oblong-ellipsoidal
- A. 10-20 × (3) 4-6 µm .... 36. ***A. aquilegiae*** (Rabenh.) Höhn. (p. 54)
- B. 12-28 × 5-7 µm .... 35. ***A. actaeae*** (Bres.) Davis (p. 54)

Saxifragaceae

Conidia cylindrical and ellipsoidal, 9-20 × 4.5-5.5 µm .... 37. ***A. bondarceviana*** Melnik (p. 54)

Selaginellaceae

Conidia narrowly ellipsoidal to subfusiform and subcylindrical,
12-14 × 3-4 µm .... 38. ***A. selaginellae*** M. L. Farr (p. 55)

Solanaceae

Conidia cylindrical, (14) 17-27 × 5-7 µm (Fig. 13, p. 55) .... 39. ***A. physalina*** Sacc. (p. 55)

Sparganiaceae

Conidia fusiform and broadly fusiform, 12-34 × 4-7 µm .... 40. ***A. quadriguttulata*** Kabát & Bubák (p. 55)

Typhaceae

Conidia fusiform, (12) 18-37 × 4-7 µm .... 41. ***A. typhoidearum*** (Desm.) Höhn. (p. 56)

Umbelliferae

1. Conidia cylindrical, some subclavate, (9) 13-20 (24) × 4-5 (6.6) µm .... 42. ***A. grovei*** Pisareva (p. 56)
2. Conidia cylindrical, 15-25 (30) × 6-7 (8) µm .... 43. ***A. levistici*** (Lebedeva) Melnik (p. 56)

Urticaceae

Conidia cylindrical, oblong-ellipsoidal and ovate, 6-15 × 2.5-4.5 µm .... 44. ***A. boehmeriae*** Woron. (p. 56)

6.2 Subgenus *Libertia*

Aceraceae

1. Conidia cylindrical and oblong-ellipsoidal
   A. 6-9 × 2.5-3 (4) µm .... 46. ***A. pallida*** Kabát & Bubák (p. 57)
   B. (7.3) 8.5-10 (14.6) × 2.5-3.6 (4) µm .... 47. ***A. tehonii*** Melnik (p. 57)
2. Conidia ellipsoidal and oblong-ellipsoidal, (10) 12-16 × 3-4.5 µm .... 45. ***A. negundinis*** Bres. (p. 57)
3. Conidia oblong-ellipsoidal and oval, sometimes subcylindrical,
   12-16 × 5-6 µm (Fig. 14, p. 59) .... 48. ***A. velata*** Kabát & Bubák (p. 57)

Actinidiaceae

Conidia cylindrical, some subclavate, 7-10 (12) × 3-4 µm ....49. ***A. actinidiae*** Tobisch (p. 58)

Alismataceae

1. Conidia obovate, ellipsoidal and clavate, (5) 7-12 × 2-4 µm .... 50. ***A. boydii*** Grove (p. 58)
2. Conidia cylindrical, 9-12 × 3 µm .... 51. ***A. ignobilis*** Oudem. (p. 58)

Amaranthaceae

Conidia cylindrical and subclavate, sometimes ellipsoidal,
8-12 × 3-4 µm .... 52. ***A. celosiae*** (Thüm.) Petr. (p. 58)

Anacardiaceae

1. Conidia cylindrical, 6-8 × 2.5-3 µm .... 54. ***A. mangiferae*** Bat. (p. 59)
2. Conidia cylindrical and oblong-ellipsoidal,
   16-24 × 3-4 µm .... 53. ***A. comocladiae*** Gonz. Frag. & Cif. (p. 58)

Apocynaceae

1. Conidia narrowly fusiform, 11-14 × 2-2.5 µm .... 57. ***A. vincae*** (Thüm.) Grove (p. 59)
2. Conidia ellipsoidal and oval, 5-6 × 3 µm .... 56. ***A. plumeriae*** Henn. (p. 59)
3. Conidia ellipsoidal and oblong-oval, 7-10 × 2.5-3 µm .... 55. ***A. alstoniae*** Henn. (p. 59)

Araceae

1. Conidia cylindrical, some oblong-ellipsoidal and subclavate, 6-13 × 2-4 µm .... 61. ***A. pellucida*** Bubák (p. 60)
2. Conidia fusiform
   A. 4-11 × 2-4 µm .... 62. ***A. philodendri*** Bat. (p. 60)
   B. 9-18 × 2-2.5 µm .... 59. ***A. arigena*** Bubák (p. 60)
3. Conidia oblong-ellipsoidal, fusiform and obclavate, 11-23 × 2-3 µm .... 60. ***A. minima*** (P. Karst. & Har.) Arx (p. 60)
4. Conidia oblong-ellipsoidal and cylindrical, 26-47 × 8-13 µm (Fig. 15, p. 59) ..... 58. ***A. acori*** Oudem. (p. 59)

Araliaceae

1. Conidia cylindrical, 6-9 × 2.5-3 µm .... 65. ***A. stilbocarpae*** Syd. (p. 61)
2. Conidia cylindrical, some oblong-ellipsoidal, 6-12 × (2) 3-4 µm (Fig. 16, p. 63) .... 64. ***A. marginata*** Davis (p. 61)
3. Conidia ovate, 6.6-10 × 3.5-4 µm .... 63. ***A. ambrosiana*** Unamuno (p. 60)

Aristolochiaceae

1. Conidia cylindrical, 10-13 × 2-2.5 µm .... 67. ***A. aristolochiicola*** Hollós (p. 61)
2. Conidia cylindrical, some oblong-ellipsoidal, 6-12 × 2.4-3.5 (4) µm (Fig. 17, p. 63) .... 66. ***A. aristolochiae*** Sacc. (p. 61)

Asclepiadaceae

Conidia cylindrical, some oblong-ellipsoidal, 6-12 × (2.5) 3-4 µm .... 68. ***A. asclepiadearum*** Traverso (p. 61)

Balsaminaceae

Conidia cylindrical, (6) 8-12 × 3-3.8 µm .... 69. ***A. impatientis*** Bres. (p. 62)

Basellaceae

Conidia cylindrical, some subclavate or oblong-ellipsoidal, (6) 7-12 × 3-4 µm ..... 70. ***A. basellae*** Henn. (p. 62)

Begoniaceae

Conidia ellipsoidal, 8-14 × 3-5 µm .... 71. ***A. begoniae*** (Tassi) Voglino (p. 62)

Berberidaceae

1. Conidia ellipsoidal, 8-10 × 3-5 µm .... 73. ***A. australis*** Speg. (p. 62)
2. Conidia oval and pyriform, 8-13 × 3.5-5 µm (Fig. 18, p. 63) .... 74. ***A. berberidis*** Rădul., Negru & Docea (p. 63)
3. Conidia ellipsoidal, oblong-ellipsoidal, ovate, pyriform, some cylindrical, 12-24 × 4.5-9 µm .... 72. ***A. achlyicola*** Ellis & Everh. (p. 62)

Betulaceae

Conidia oblong-ellipsoidal, ellipsoidal and cylindrical
   1. 6-11 × (2.5) 3-4 µm .... 75. ***A. alni*** Siemaszko (p. 63)
   2. 10 × 2.5 µm .... 76. ***A. coryli*** Sacc. & Speg. (p. 63)

Boraginaceae

Conidia cylindrical and oblong-ellipsoidal, some subclavate, 7-12 (14) × 2.5-4 µm .... 77. ***A. boraginis*** I. E. Brezhnev (p. 63)

Burseraceae

Conidia oblong-ellipsoidal, 9-19 × 4.5-7.5 µm (Fig. 19, p. 64) .... 78. ***A. commiphorae*** T. S. Ramakr. & Sundaram (p. 64)

Bryophyta

Conidia oblong-ellipsoidal, 9-15 × 2-4 µm (Fig. 20, p. 64) .... 79. ***A. bryophyla*** (Racov.) Melnik (p. 64)

Buxaceae

Conidia cylindrical, 15 × 2 µm .... 80. ***A. limbalis*** Sacc. (p. 64)

Calycanthaceae

Conidia cylindrical and oblong-ellipsoidal, 6-15 × 3-4.5 µm .... 81. ***A. calycanthi*** Sacc. & Speg. (p. 65)

Campanulaceae

1. Conidia cylindrical
   A. 7-13 × 3-4 µm (Fig. 21, p. 65) .... 82. ***A. adenophorae*** Melnik (p. 65)
   B. 9.4-20 × 4.5-7.3 µm .... 85. ***A. codonopsis*** Schvartsman (p. 66)
   C. 10-22.8 × 3.8-5.8 µm (Fig. 22, p. 65) .... 83. ***A. bohemica*** Kabát & Bubák (p. 65)
2. Conidia cylindrical and ellipsoidal, 6-9 × 2.5-3 µm .... 84. ***A. carpathica*** (Allesch. & Syd.) Grove (p. 66)

Caprifoliaceae

1. Conidia ellipsoidal, 6-9 × 3-4 µm .... 89. ***A. symphoricarpophila*** Fairm. (p. 66)
2. Conidia fusiform and lanceolate, 10-11 × 2-2.5 µm .... 87. ***A. lantanae*** Sacc. (p. 66)
3. Conidia fusiform, 8-13 × 2.5-3 µm .... 90. ***A. tatarica*** Allesch. (p. 67)
4. Conidia oblong-ovate, 10-11 × 3-4 µm .... 88. ***A. symphoriae*** Briard & Har. (p. 66)
5. Conidia cylindrical
   A. 5.2-10 × 2.5-3.5 µm .... 92. ***A. wisconsina*** Davis (p. 67)
   B. 15-22 × 4.5-5.5 µm .... 86. ***A. ferdinandi*** Bubák & Malkoff (p. 66)
6. Conidia cylindrical, some subclavate and oblong-ellipsoidal,
   6-13 (14) × 2.5-4 (4.5) µm (Fig. 23, p. 68) .... 91. ***A. tenerrima*** Sacc. & Roum. (p. 67)

Caricaceae

Conidia ellipsoidal and ovate, 7-12 × 3-4 µm .... 93. ***A. caricae-papayae*** Tarr (p. 67)

Caryophyllaceae

1. Conidia cylindrical
   A. 6-8 (9) × 1.5-2 (2.2) µm (Fig. 24, p. 68) .... 94. ***A. alpina*** Rostr. (p. 68)
   B. 10-15 × 2.5-4 µm ....95. ***A. silenes*** Ellis & Everh. (p. 68)
   C. 13-18 × 4 µm .... 97. ***A. viscariae*** Henn. (p. 68)
2. Conidia broadly fusiform, 12-23 × 4.5-6 µm (Fig. 25, p. 68) .... 96. ***A. stellariae*** Fautrey (p. 68)

Celastraceae

1. Conidia lanceolate, 5-6 × 2-2.5 µm .... 98. ***A. evonymi*** Pass. (p. 69)
2. Conidia cylindrical, 11-16 × 2-3 µm, or
   ellipsoidal and obovate, 9 × 4.5 µm .... 99. ***A. oudemansii*** Sacc. & Syd. (p. 69)

Chenopodiaceae

1. Conidia cylindrical, 9-14 × 3.5-4 µm .... 102. ***A. salicorniae-patulae*** (Trotter) Melnik (p. 69)
2. Conidia cylindrical and oblong-ellipsoidal
   A. 6-12 (13.5) × 2-4 µm .... 103. ***A. boni-henrici*** Ranoj. (p. 70)
   B. 14-20 × 4-6.5 µm .... 101. ***A. chenopodiicola*** Pisareva (p. 69)
3. Conidia fusiform, 9-12 × 2.5-3 µm (Fig. 26, p. 70) .... 100. ***A. betae*** Prill. & Delacr. (p. 69)

Compositae

1. Conidia cylindrical
   A. (6) 8-10 × 1.5-2 µm .... 106. ***A. greenei*** Melnik (p. 71)

B. 10-16 × 3.5-5 µm (Fig. 27, p. 70) .... 104. ***A. compositarum*** Davis (p. 70)
C. 25-33 × 7-8.5 µm .... 109. ***A. schelliana*** Thüm. (p. 72)
2. Conidia cylindrical, some oblong-ellipsoidal and subclavate
A. (6) 7-12 (13) × 2-4 µm (Fig. 28, p. 72) .... 105. ***A. doronici*** Allesch. (p. 70)
B. 8-15 (18) × 3-4 (4.5) µm .... 111. ***A. tussilaginis*** Oudem. (p. 73)
3. Conidia cylindrical, cylindrical-fusiform, some subellipsoidal,
7-15 × 2.5-6 µm (Fig. 29, p. 72) .... 107. ***A. ligulariae*** Kalymb. (p. 72)
4. Conidia ellipsoidal, 10-12 × 4-4.5 µm .... 108. ***A. lorentzii*** Speg. (p. 72)
5. Conidia ellipsoidal, oblong-ellipsoidal, ovate, rarely subcylindrical,
(6) 8-10 × (2) 3-4 (5) µm (Fig. 30, p. 76) .... 110. ***A. sonchi*** (Sacc.) Grove (p. 72)

Convolvulaceae
1. Conidia cylindrical, 13-18 × 2.5-3 µm .... 113. ***A. kleinii*** Bubák (p. 73)
2. Conidia cylindrical, some oblong-ellipsoidal and suboval,
6-13 × 2.5-4 µm .... 112. ***A. calystegiae*** Sacc. (p. 73)

Crassulaceae
1. Conidia cylindrical, 6-10.5 × 3-3.5 µm .... 114. ***A. cotyledonis*** H. Zimm. (p. 73)
2. Conidia cylindrical, some subfusiform,
(7) 8-13 × 3-4 (5) µm (Fig. 31, p. 76) .... 115. ***A. telephii*** Vestergr. (p. 74)

Cruciferae
1. Conidia cylindrical, oblong-ellipsoidal and ellipsoidal
A. Conidial width 3-4.5 (5) µm
a. Conidial length 7.5-13 (15) µm .... 121. ***A. pachyphragmae*** Lobik (p. 75)
b. Conidial length 11-15 (16) µm .... 119. ***A. lepidii*** Hollós (p. 75)
c. Conidial length 16-18 (21) µm .... 120. ***A. matthiolae*** Oudem. (p. 75)
B. Conidial width 2.5-4, conidia length (6) 7-12 µm .... 117. ***A. cheiranthi*** Bres. (p. 74)
2. Conidia oblong-ellipsoidal or subfusiform
A. 9-12 (15) × 2.5-3 µm .... 118. ***A. dentariae*** I. E. Brezhnev (p. 74)
B. 19-24 × 3 µm .... 116. ***A. cakiles*** H. Ruppr. (p. 74)

Cucurbitaceae
Conidia cylindrical, 20-22 × 4 µm .... 122. ***A. elaterii*** Sacc. (p. 75)

Cyperaceae
1. Conidia cylindrical and narrowly fusiform
A. (9.7) 12-15 × (2.5) 3-4.5 µm (Fig. 32, p. 76) .... 123. ***A. caricicola*** Melnik (p. 75)
B. 20-28 × 3-4 µm (Fig. 33, p. 77) .... 124. ***A. caricina*** Melnik (p. 76)
2. Conidia ellipsoidal, 9-12 × 2.5-4 µm .... 125. ***A. decipiens*** Trail (p. 76)
3. Conidia fusiform, 15-16 × 5 µm .... 126. ***A. socialis*** Sacc. (p. 76)

Dioscoreaceae
Conidia oblong-ellipsoidal
A. 8-10 × 3-3.5 µm .... 128. ***A. tami*** Hollós (p. 76)
B. 7-12 × 4-5 µm .... 127. ***A. dioscoreae*** Syd. (p. 76)

Dipsacaceae
Conidia cylindrical, oblong-ellipsoidal, some subclavate,
6-10 (12) × 2.5-4 µm .... 129. ***A. dipsaci*** Bubák (p. 77)

Euphorbiaceae

1. Conidia cylindrical, 8.6-13.5 × (3) 4-4.5 µm (Fig. 34, p. 77) .... 130. ***A. heveae*** Petch (p. 77)
2. Conidia cylindrical, some oblong-ellipsoidal and subclavate,
   6-12 × 3-4 µm .... 132. ***A. mercurialis*** Bres. (p. 78)
3. Conidia cylindrical, oval-cylindrical and oval,
   4-12 × 2-3.5 µm (Fig. 35, p. 78) .... 131. ***A. heveana*** Saccas (p. 77)

Fagaceae

1. Conidia cylindrical and oblong-ellipsoidal,
   7-14 × 3-4.5 µm (Fig. 37, p. 80) .... 134. ***A. quercus*** Sacc. & Speg. (p. 78)
2. Conidia broadly fusiform, (13) 15-18 × 5-6 µm (Fig. 36, p. 78) .... 133. ***A. fagi*** Woron. (p. 78)

Gentianaceae

1. Conidia oblong-ellipsoidal, 10-18 × 2-3 µm ....135. ***A. chlorae*** Sacc. & Speg. (p. 78)
2. Conidia cylindrical and oblong-ellipsoidal, 12-21 (26) × 3-5 µm .... 136. ***A. fraserae*** Ellis & Everh. (p. 79)

Geraniaceae

Conidia cylindrical, 8-10 × 3-3.5 µm .... 137. ***A. geraniicola*** Siemaszko (p. 79)

Gramineae

1. Conidia cylindrical
   A. 11-16 (18) × 1.5-2.2 µm .... 149. ***A. phleina*** R. Sprague (p. 82)
   B. 13-20 × 2-3 µm (Fig. 39, p. 81) .... 144. ***A. desmazieri*** Cavara (p. 80)
   C. (24) 30-42 × 7-9 (11.5) µm (Fig. 40, p. 81) ....145. ***A. ducis-aprutii*** Mattir. (p. 81)
2. Conidia cylindrical and subellipsoidal,
   11-17 × 2.5-3 µm (Fig. 38, p. 80) .... 142. ***A. calamagrostidis*** Brunaud (p. 80)
3. Conidia cylindrical, oblong-ellipsoidal and fusiform
   A. 24-33 × 5-7 µm (Fig. 42, p. 82) .... 148. ***A. melicae*** (Died.) Melnik (p. 82)
   B. 30-40 (50) × 8-10 (14) µm .... 150. ***A. sesleriae*** C. Massal. (p. 82)
4. Conidia cylindrical, clavate, oval, ovate, oblong-ellipsoidal,
   12-20 × 6-8 (9) µm (Fig. 43, p. 84) .... 152. ***A. sorghina*** Sacc. (p. 83)
5. Conidia broadly fusiform,
   15-22 × 4.5-6 µm .... 141. ***A. brachypodii*** (Syd.) R. Sprague & Aar. G. Johnson (p. 80)
6. Conidia oval and oblong-oval, 17-20 × 4-5 µm .... 153. ***A. tragi*** Cruchet (p. 83)
7. Conidia fusiform, 9-12 × 1.8-2.5 µm .... 138. ***A. agrostidis*** Polozova (p. 79)
8. Conidia ovate, 3.5-4.5 × 1.2-1.5 µm ....140. ***A. bambusicola*** Cif. & Gonz. Frag. (p. 79)
9. Conidia ellipsoidal, 12-18 × 3.5-4 µm .... 143. ***A. cynodontis*** Unamuno (p. 80)
10. Conidia oblong-ellipsoidal or subcylindric
    A. 15-22 (24) × 6-8 µm .... 139. ***A. antarctica*** Henn. (p. 79)
    B. 18 × 7.5 µm .... 155. ***A. zeina*** Sacc. (p. 84)
11. Conidia oblong-ellipsoidal and fusiform
    A. Conidial width 2-3 µm
       a. Conidial length 6-10 µm .... 154. ***A. zeicola*** Ellis & Everh. (p. 83)
       b. Conidial length 10-14 µm ....151. ***A. sorghi*** Sacc. (p. 83)
    B. Conidial width 3-4 µm
       a. Conidial length 10-14 (16) µm .... 146. ***A. ischaemi*** Sacc. (p. 81)
       b. Conidial length 11-18 µm (Fig. 41, p. 82) .... 147. ***A. maydis*** G. L. Stout (p. 82)

Hippocastanaceae

Conidia cylindrical, some ellipsoidal, 4-10 × 2.5-3.2 µm .... 156. ***A. grandimaculans*** Kabát & Bubák (p. 84)

Hydrocharitaceae

1. Conidia cylindrical, 8.8-11 (15) × 3-4 µm .... 158. ***A. kirulisii*** H. Ruppr. (p. 84)
2. Conidia cylindrical and oblong-ellipsoidal,
   8.4-10.8 × 2-3 µm (Fig. 44, p. 84) .... 157. ***A. akselae*** Melnik (p. 84)

Hydrophyllaceae

Conidia cylindrical
- A. 12-13 × 2.2-2.4 µm (Fig. 45, p. 85) .... 159. ***A. hydrophylli*** R. Sprague & F. D. Bailey (p. 85)
- B. 10-15 × 3.5-4 µm .... 160. ***A. hydrophylli-virginiani*** H. C. Greene (p. 85)

Juglandaceae

Conidia cylindrical
- A. (6.5) 7-8.5 (10) × (2.8) 3-4 (4.5) µm (Fig. 46, p. 85) .... 161. ***A. caryae*** H. C. Greene (p. 85)
- B. 8-15 × (3) 4-5 µm .... 162. ***A. juglandis*** Boltsh. (p. 85)

Juncaceae

1. Conidia cylindrical
   - A. 10-15 (18) × 2.5-3 µm .... 165. ***A. teretiuscula*** Sacc. & Roum. (p. 86)
   - B. 14-16 × 2.8-3.2 µm .... 164. ***A. paucisporula*** R. Sprague (p. 86)
2. Conidia cylindrical, some subellipsoidal,
   14-18 × 3.3-4.7 µm (Fig. 47, p. 86) .... 163. ***A. luzulicola*** R. Sprague (p. 85)

Iridaceae

1. Conidia cylindrical, 12-15 × 2.5-3 µm .... 166. ***A. gladioli*** Traverso & Spessa (p. 86)
2. Conidia fusiform and oblong-ellipsoidal, 15-20 × 4-5 µm (Fig. 48, p. 86) .... 167. ***A. iridis*** Oudem. (p. 86)

Labiatae

1. Conidia cylindrical, 8-15 (17) × (2.5) 3-4.5 (5) µm (Fig. 49, p. 89) .... 170. ***A. leonuri*** Ellis & Dearn. (p. 87)
2. Conidia cylindrical, some oblong-ellipsoidal and subclavate,
   (6) 7-12 × (2.5) 3-4 µm .... 169. ***A. lamiorum*** Sacc. (p. 87)
3. Conidia ellipsoidal, 8-10 × 3-5 µm .... 171. ***A. melissae*** É. J. Marchal & Sternon (p. 88)
4. Conidia oblong-ellipsoidal, (5) 7-10 × 2.5-3.5 µm .... 168. ***A. betonicae*** Siemaszko (p. 87)

Lardizabalaceae

Conidia cylindrical, 9-12 × 2.5-4 µm .... 172. ***A. akebiae*** Syd. (p. 88)

Leguminosae

1. Conidia cylindrical
   - A. 8-10 × 2.5 µm .... 179. ***A. lathyri*** Trail (p. 90)
   - B. 10-16 × 2.5-3 µm (Fig. 50, p. 89) .... 173. ***A. caraganae*** (Vestergr.) Melnik (p. 88)
2. Conidia cylindrical, some oblong-ellipsoidal
   - A. 6-12 × 2.5-4 µm (Fig. 52, p. 91) .... 181. ***A. phaseolorum*** Sacc. (p. 90)
   - B. 6.2-15 (18) × 2.2-4 µm .... 178. ***A. goebeliae*** Byzova & Pisareva (p. 90)
   - C. 9-15 × (3) 4-5 µm .... 175. ***A. coluteae*** Lambotte & Fautrey (p. 88)
   - D. 12-17 × 3-5 µm (Fig. 53, p. 91) .... 186. ***A. viciae*** Lib. (p. 91)
3. Conidia cylindrical, oblong-ellipsoidal and subclavate,
   (6) 9-15 × 2.5-4.5 µm (Fig. 51, p. 89) .... 176. ***A. cytisi*** Lib. (p. 89)
4. Conidia cylindrical, broadly ellipsoidal, ovate and oval,
   8-15 (18) × 4-6 µm .... 182. ***A. rabiei*** (Pass.) Labr. (p. 91)
5. Conidia oblong-ellipsoidal or subcylindrical, 8.8-15.4 × 2-4 µm .... 177. ***A. emeri*** Sacc. (p. 89)
6. Conidia oblong-ellipsoidal or subfusiform
   - A. 9-11 × 2.5-3.5 µm .... 180. ***A. oxytropidis*** J. Schröt. (p. 90)

B. 12-18 × 4-4.5 µm .... 184. ***A. sojae*** Miura (p. 91)
7. Conidia oblong-ellipsoidal and ovate, 6-9 × 3-3.5 µm .... 174. ***A. cassiae*** Henn. (p. 88)
8. Conidia oblong-ellipsoidal, 10-15 × 5-6 µm .... 183. ***A. robiniae*** Sacc. & Speg. (p. 91)
9. Conidia ellipsoidal, 6-7 × 3 µm .... 187. ***A. woronowiana*** Siemaszko (p. 92)
10. Conidia fusiform, 9-15 × 2-3 µm .... 185. ***A. trifolii-alpestris*** Dominik (p. 91)

Liliaceae
1. Conidia cylindrical
A. 11-15 × 3.5-4 µm .... 196. ***A. londonensis*** Bubák & Dearn. (p. 93)
B. 7.2-15.5 × 3-5 µm (Fig. 55, p. 94) .... 197. ***A. tulipae*** Byzova (p. 94)
2. Conidia cylindrical and oblong-ellipsoidal, 5-9 × 3-3.5 µm .... 193. ***A. hortensis*** Kabát & Bubák (p. 93)
3. Conidia cylindrical and fusiform, 15-22 × 2-3 µm .... 191. ***A. fuscopapillata*** Bubák & Dearn. (p. 93)
4. Conidia cylindrical and subclavate, 14-20 × 3.5-5 µm (Fig. 56, p. 95) .... 198. ***A. veratri*** Cavara (p. 94)
5. Conidia oblong-ellipsoidal, 12-15 × 2.5-3 µm .... 188. ***A. allii*** Hollós (p. 92)
6. Conidia oblong-ellipsoidal and subfusiform, 12-14 × 3-3.5 µm .... 189. ***A. aphyllanthis*** Henn. (p. 92)
7. Conidia ellipsoidal and oval, 9-15 × 5 µm .... 192. ***A. herreana*** Henn. & Staritz (p. 93)
8. Conidia ellipsoidal, some cylindrical, 8-16 × 2-3.5 µm .... 194. ***A. juelii*** Bubák (p. 93)
9. Conidia broadly fusiform, 13-15 (16) × 4-5.2 µm (Fig. 54, p. 94) .... 195. ***A. lobikii*** Melnik (p. 93)
10. Conidia oblong-fusiform, 14-18 × 4-5 µm .... 190. ***A. erythronii*** Sacc. & Speg. (p. 92)

Linaceae
Conidia clavate, some ovate, oblong-ellipsoidal and cylindrical,
7-12 (15) × 3.5-4.5 µm .... 199. ***A. lini*** Rostr. (p. 94)

Loasaceae
Conidia ellipsoidal, 6-8 × 3-3.5 µm .... 200. ***A. cajophorae*** Henn. (p. 94)

Loganiaceae
Conidia oblong-ellipsoidal, 8-16 × 3-4.2 µm .... 201. ***A. davidii*** Tasl. (p. 95)

Magnoliaceae
1. Conidia cylindrical, 6-10 × 2.5-3 µm (Fig. 57, p. 95) .... 203. ***A. procenkoi*** Melnik (p. 95)
2. Conidia fusiform, 15-18 × 6 µm .... 202. ***A. liriodendri*** Woron. (p. 95)

Malvaceae
1. Conidia cylindrical and oblong-ellipsoidal, 4-14 × 2-4.5 µm .... 204. ***A. abelmoschi*** Harter (p. 95)
2. Conidia cylindrical, some oblong-ellipsoidal or subclavate,
(5) 7-10 (13) × 2-4 µm .... 205. ***A. malvicola*** Sacc. (p. 96)

Menyanthaceae
Conidia cylindrical, 12-19 × (2) 2.5-3.5 µm .... 206. ***A. menyanthicola*** Melnik (p. 96)

Moraceae
1. Conidia fusiform, 10 × 3 µm .... 211. ***A. moricola*** Berl. (p. 97)
2. Conidia oblong-ellipsoidal, 11-14 × 2-2.5 µm .... 207. ***A. ficus*** Traverso & Spessa (p. 97)
3. Conidia ellipsoidal and cylindrical, 9-11 × 3.5-4 µm .... 209. ***A. miyakei*** Tanaka (p. 97)
4. Conidia cylindrical, oblong-ellipsoidal and ovate
A. 7.5-10 × 1.5-2.5 µm .... 212. ***A. prasadii*** D. D. Shukla & V. N. Pathak (p. 98)
B. 7-15 × 3-5 µm .... 208. ***A. humuliphila*** Melnik (p. 97)
5. Conidia cylindrical, some oblong-ellipsoidal, (6.5) 8-11 × 2-3 µm .... 210. ***A. mori*** Maire (p. 97)

Myrtaceae

Conidia oblong-ellipsoidal, 8-9 × 2.5-3 µm .... 213. ***A. myrticola*** Maire & Sacc. (p. 98)

Nyctaginaceae

Conidia cylindrical, some subclavate or oval,
10-18 × 3.5-5 µm (Fig. 58, p. 99) .... 214. ***A. oxybaphi*** Trel. (p. 98)

Oleaceae

1. Conidia cylindrical, 16-23 × 5-7 µm (Fig. 61, p. 100) .... 220. ***A. orientalis*** Bondartsev (p. 99)
2. Conidia cylindrical and oblong-ellipsoidal
   A. 6-10 × 2.4-3 µm (Fig. 60, p. 99) .... 219. ***A. metulispora*** Berk. & Broome (p. 99)
   B. 7-12 × 3-4 µm (Fig. 59, p. 99) .... 215. ***A. forsythiae*** (Sacc.) Höhn. (p. 98)
   C. 8-15 × 3-5 µm .... 222. ***A. syringae*** Bres. (p. 100)
3. Conidia ellipsoidal, fusiform and ovate
   A. 6-10 × (1.5) 2-3 µm .... 218. ***A. ligustri*** Sacc. & Speg. (p. 99)
   B. 15-18 × 5-6 µm .... 216. ***A. fraxinicola*** Brunaud (p. 98)
4. Conidia ellipsoidal, some oblong-ellipsoidal and oval,
   6-8 × 3-4 µm .... 217. ***A. fraxinifolia*** Siemaszko (p. 99)
5. Conidia ovate-fusiform, 10-11 × 2-2.5 µm .... 221. ***A. orni*** Sacc. & Speg. (p. 100)

Onagraceae

1. Conidia cylindrical
   A. 6.8-10 × 3-3.5 (3.8) µm .... 224. ***A. epilobii*** Oudem. (p. 100)
   B. 9-15 × 3.5-6 µm (Fig. 63, p. 101) .... 225. ***A. godetiae*** Riedl (p. 101)
2. Conidia cylindrical, oblong-ellipsoidal and subclavate,
   8-9 × 2.5-3 µm (Fig. 62, p. 101) .... 223. ***A. circaeae*** Bubák & Picb. (p. 100)

Palmae

Conidia cylindrical, oval and oblong-ellipsoidal,
8.3-13 × 2.5-3 (3.5) µm (Fig. 64, p. 102) .... 226. ***A. trachycarpi*** Melnik (p. 101)

Papaveraceae

1. Conidia cylindrical and oblong-ellipsoidal
   A. 9-15 (17) × 2.5-4 µm (Fig. 67, p. 103) .... 230. ***A. glaucii*** (Cooke & Massee) Died. (p. 102)
   B. 7-12 × 2.5-3.5 µm (Fig. 66, p. 103) .... 228. ***A. dicentrae*** Oudem. (p. 102)
   C. 14-18 × 4-5.5 µm .... 229. ***A. fumariae*** Hollós (p. 102)
2. Conidia broadly fusiform or subellipsoidal, 9 × 3.5 µm .... 231. ***A. papaveris*** Oudem. (p. 102)
3. Conidia oblong-ellipsoidal and subcylindrical,
   10-22 × 3-5 µm (Fig. 65, p. 102) .... 227. ***A. chelidoniicola*** Melnik (p. 101)

Pedaliaceae

Conidia fusiform, 10 × 3 µm .... 232. ***A. sesami*** Miura (p. 103)

Pinaceae

Conidia oblong-ellipsoidal, 10-12 × 2-3 µm .... 233. ***A. laricina*** Voglino (p. 103)

Pittosporaceae

Conidia cylindrical and fusiform, 10-13 × 2-3 µm .... 234. ***A. tobirae*** Hara (p. 103)

Plantaginaceae

Conidia cylindrical and subellipsoidal,
6-12 × 2.5-4.5 µm (Fig. 68, p. 103) .... 235. ***A. plantaginicola*** Melnik (p. 103)

Plumbaginaceae

1. Conidia cylindrical, 12-15 (19) × 2-2.5 µm .... 237. ***A. tenerifensis*** Jørst. (p. 104)
2. Conidia oblong-ellipsoidal and ovate, 5-8 × 2-3 µm .... 236. ***A. plumbaginicola*** Henn. (p. 104)

Polemoniaceae

Conidia cylindrical and oblong-ellipsoidal,
(6) 9-14 × 3-4 µm (Fig. 69, p. 105) .... 238. ***A. phlogis*** Voglino (p. 104)

Polygalaceae

Conidia lanceolate, both ends rounded, 10-12 × 2-3 µm .... 239. ***A. oxyspora*** Tassi (p. 104)

Polygonaceae

1. Conidia cylindrical
   A. 8-12 (14) × 3-4.5 µm .... 240. ***A. atraphaxidis*** (Kravtzev) Melnik (p. 104)
   B. 13-17 (20) × 2.5-3.5 (4) µm .... 245. ***A. polygoni-setosi*** (Bubák) Melnik (p. 105)
2. Conidia ellipsoidal
   A. 11-18 × 4.5-5 µm .... 247. ***A. rheicola*** Sawada (p. 106)
   B. 15-30 × 10-13.3 (15) µm (Fig. 71, p. 106) .... 244. ***A. marssonia*** (Siemaszko) Melnik (p. 105)
3. Conidia cylindrical and oblong-ellipsoidal,
   6-12 × 2.5-4 (4.5) µm .... 248. ***A. volubilis*** Sacc. & Malbr. (p. 106)
4. Conidia ellipsoidal
   A. 8.5-10 × 3-4.5 µm .... 242. ***A. fagopyri*** Thüm. & Bolle (p. 105)
   B. 12-15 × 5-5.5 µm .... 246. ***A. reynoutriae*** Sawada (p. 106)
5. Conidia fusiform, 9-12 × 2.5-3 µm .... 243. ***A. foliicola*** (Gonz. Frag.) Melnik (p. 105)
6. Conidia naviculate-fusiform, 8-14 × 3-4 µm (Fig. 70, p. 105) .... 241. ***A. biguttulata*** E. Y. Daniels (p. 105)

Primulaceae

Conidia cylindrical
   A. 5-8.5 × 2-2.5 µm .... 250. ***A. primulae*** Trail (p. 107)
   B. 10-15 (18) × (3.5) 4-6 µm (Fig. 72, p. 106) .... 249. ***A. georgica*** Melnik (p. 107)

Pteridaceae

Conidia oblong-ellipsoidal, some subclavate,
13-20 (30) × 4-6 µm (Fig. 73, p. 108) .... 251. ***A. necans*** (Ellis & Everh.) Davis (p. 107)

Ranunculaceae

1. Conidia cylindrical
   A. 8-15 (16) × 3-4.5 µm (Fig. 75, p. 108) .... 254. ***A. infuscans*** Ellis & Everh. (p. 108)
   B. (10) 13-20 (22) × 3-5 µm (Fig. 74, p. 108) .... 253. ***A. dolomitica*** Kabát & Bubák (p. 108)
   C. 15-18 × 5-6 µm .... 257. ***A. vitalbicola*** Maire (p. 109)
2. Conidia cylindrical, some oblong-ellipsoidal, (6.5) 8-10 × 2.5-4 µm .... 255. ***A. patogonica*** Speg. (p. 108)
3. Conidia ellipsoidal, ovate and cylindrical, 10-15 (18) × 4.5-6.3 µm .... 252. ***A. aconitana*** Melnik (p. 107)
4. Conidia ellipsoidal and oblong-ellipsoidal,
   18-26 × 7-10 µm (Fig. 76, p. 109) .... 256. ***A. savulescui*** Rădul. & Negru (p. 108)

Resedaceae

Conidia cylindrical, 6-10 × 3-3.5 µm (Fig. 77, p. 110) .... 258. ***A. resedae*** Bond.-Mont. (p. 109)

Rhamnaceae

1. Conidia cylindrical, 7-12 × 3-4 µm .... 261. ***A. paliuri*** Sacc. (p. 110)
2. Conidia cylindrical and ellipsoidal, 9-14 × 4.5-4.7 µm .... 259. ***A. hoveniae*** Sawada (p. 109)
3. Conidia ellipsoidal-ovate, 6-10 × 3-4 µm .... 260. ***A. natsume*** Hara (p. 109)

Rosaceae

1. Conidia cylindrical
   A. 5-10 (11) × 2.5-3.5 (4.5) µm (Fig. 79, p. 111) .... 267. ***A. spiraeae*** Kabát & Bubák (p. 111)
   B. 13-15 × 2-3 µm .... 263. ***A. crystallina*** McAlpine (p. 110)
2. Conidia cylindrical and oblong-ellipsoidal
   A. 6-10 × 2.7-3 µm .... 265. ***A. potentillarum*** Sacc. (p. 111)
   B. 7-12 (14) × 2.5-4.5 µm (Fig. 78, p. 110) .... 264. ***A. idaei*** Oudem. (p. 110)
3. Conidia fusiform
   A. 10-11 × 2.5-3 µm .... 266. ***A. rubi*** Sacc. (p. 111)
   B. 10-14 × 3 µm .... 262. ***A. cruris-galli*** Brunaud (p. 110)

Rubiaceae

1. Conidia cylindrical, 9-14 × 2-3 µm .... 271. ***A. tarda*** R. B. Stewart (p. 112)
2. Conidia cylindrical, some clavate, 3.6-6.4 × 2-3 µm .... 268. ***A. cinchonae*** Melnik (p. 111)
3. Conidia cylindrical, some oval or ovate, 4-10 × 2-3 µm (Fig. 81, p. 112) ...... 270. ***A. phyllidis*** Jørst. (p. 112)
4. Conidia ellipsoidal and oval, 4-6 × 2.5-3 µm (Fig. 80, p. 111) .... 269. ***A. coffeae*** Henn. (p. 111)

Rutaceae

1. Conidia cylindrical
   A. 6-10 × 3.5 µm .... 277. ***A. phellodendri*** Kabát & Bubák (p. 113)
   B. 8-9.5 × 3-4.5 µm .... 272. ***A. bombycina*** Penz. & Sacc. (p. 112)
2. Conidia cylindrical, some oblong-ellipsoidal,
   7-12 (14) × 2.7-3.5 (4.5) µm (Fig. 84, p. 113) .... 276. ***A. nobilis*** Kabát & Bubák (p. 113)
3. Conidia oblong-ellipsoidal, 11-14 × 4-4.5 µm (Fig. 82, p. 112) .... 273. ***A. cinerea*** McAlpine (p. 112)
4. Conidia ellipsoidal, 7-9 (12) × 2-3 µm (Fig. 83, p. 113) .... 274. ***A. corticola*** McAlpine (p. 113)
5. Conidia oblong-fusiform
   A. 11-12 × 2.5 µm .... 278. ***A. skimmiae*** S. Ahmad (p. 113)
   B. 11-15 × 3-4 µm .... 275. ***A. hesperidearum*** Penz. (p. 113)

Salicaceae

1. Conidia cylindrical, 16-18 × 3.5 µm .... 280. ***A. salicina*** Sacc., E. Bommer & M. Rousseau (p. 114)
2. Conidia oblong-ellipsoidal,
   subcylindrical or almost fusiform, 6-11 × 2-4 µm .... 281. ***A. translucens*** Kabát & Bubák (p. 114)
3. Conidia fusiform, 12-15 × 4-4.5 µm .... 282. ***A. vitellinae*** Pass. (p. 114)
4. Conidia lanceolate, 8-10 × 2.5 µm .... 279. ***A. salicicola*** Pass. (p. 114)

Santalaceae

Conidia cylindrical, ovate, ellipsoidal,
(6) 7-10.5 × 3-4 µm (Fig. 85, p. 115) .... 283. ***A. santali*** Thirum. & Naras. (p. 114)

Sapindaceae

Conidia cylindrical, 10-15 × 2.5-3 µm .... 284. ***A. heterodendri*** Hansf. (p. 114)

Sapotaceae

Conidia cylindrical, 18-20 × 2.5 µm (Fig. 86, p. 115) .... 285. ***A. guaranitica*** Speg. (p. 115)

Saxifragaceae

Conidia cylindrical, some oblong-ellipsoidal or subclavate,
6-11 (13) × 2.5-3.5 (4) µm .... 286. ***A. philadelphi*** Sacc. & Speg. (p. 115)

Scrophulariaceae

1. Conidia cylindrical
   A. 6-10 × 2.2-3 µm (Fig. 90, p. 117) .... 292. ***A. verbascina*** Thüm. (p. 117)
   B. 7-12 (13.5) × 3-4 µm .... 287. ***A. euphrasiae*** Oudem. (p. 115)
   C. 11-20 × 2.5-3.5 µm (Fig. 87, p. 116) .... 288. ***A. garretiana*** Syd. & P. Syd. (p. 116)
2. Conidia cylindrical, some oblong-ellipsoidal,
   (10) 12-24 (26) × (2.7) 3-4.5 (6) µm (Fig. 88, p. 116) .... 289. ***A. pedicularis*** (Rostr.) Arx (p. 116)
3. Conidia oblong-ovate or subcylindrical,
   15-19 × 5-6 µm (Fig. 89, p. 117) .... 290. ***A. verbasci*** Sacc. & Speg. (p. 116)
4. Conidia fusiform, 23-25 × 3.5-4.5 µm .... 292. ***A. veronicae*** Rostr. (p. 117)

Simaroubaceae

Conidia cylindrical and oblong-ellipsoidal,
7-12 (13.5) × 2.8-4.2 µm .... 293. ***A. ailanthi*** Boud. & Fautrey (p. 117)

Solanaceae

1. Conidia cylindrical
   A. 8-10 × 3-3.5 µm .... 294. ***A. cyphomandrae*** Petch (p. 118)
   B. 16-27 × 4-6 µm .... 296. ***A. daturicola*** Bres. (p. 118)
2. Conidia cylindrical, some oblong-ellipsoidal and subclavate,
   6-12 × 2.5-4 (4.5) µm (Fig. 91, p. 119) .... 295. ***A. daturae*** Sacc. (p. 118)
3. Conidia ellipsoidal or subcylindrical, 10-13 × 3.5-5 µm .... 298. ***A. melongenae*** Padman. (p. 118)
4. Conidia oblong-ellipsoidal, oblong-ovate, some cylindrical,
   5-8 × 2-4 µm .... 299. ***A. petuniae*** Speg. (p. 119)
5. Conidia oblong-ellipsoidal, 8-10 × 3-4 µm .... 297. ***A. grabowskiae*** Tassi (p. 118)

Staphyleaceae

Conidia oblong-ellipsoidal and cylindrical,
6-10 × 2.5-3 (4) µm (Fig. 92, p. 119) .... 300. ***A. staphyleae*** Syd. (p. 119)

Tamaricaceae

Conidia cylindrical, some ellipsoidal, 7-14 × 3-5 µm (Fig. 93, p. 120) .... 301. ***A. tamaricis*** Golovin (p. 119)

Theaceae

Conidia ellipsoidal, cylindrical and subovate, 7-10 × 3.5-4.5 µm .... 302. ***A. theae*** Hara (p. 119)

Thymelaeaceae

Conidia cylindrical, some oblong-ellipsoidal,
7-12 × 3-3.5 µm (Fig. 94, p. 120) .... 303. ***A. daphnes*** Höhn. (p. 120)

Tiliaceae

Conidia cylindrical, oblong-ellipsoidal and ovate, 7-11 × 2.5-4 µm .... 304. ***A. corchori*** Hara (p. 120)

Ulmaceae

1. Conidia cylindrical and subclavate,
   (9) 12-15 (17) × 4-5 µm (Fig. 95, p. 122) .... 305. ***A. celtidis*** Hollós (p. 120)
2. Conidia cylindrical, ellipsoidal, some ovate,
   (6) 7.5-10.5 × (2.5) 3-4.5 µm .... 306. ***A. hemipteleae*** Melnik (p. 120)

Umbelliferae

1. Conidia cylindrical
   A. 7-12 × 3-3.5 µm .... 309. ***A. libanotidis*** Lebedeva (p. 121)
   B. 11-16 × 3.5-4 µm .... 307. ***A. biforae*** Bond.-Mont. (p. 121)
   C. 10-20 × 3.5-4.5 µm .... 308. ***A. chaerophylli*** Bres. (p. 121)
   D. 16.8-19.2 × 4.8-7.2 µm .... 311. ***A. ludwigii*** H. Ruppr. (p. 121)
   E. 19.8-23.4 × 6.5-7.5 µm .... 310. ***A. lomatii*** W. B. Cooke (p. 121)
   F. 15-28 (32) × 5-8 (10) µm (Fig. 96, p. 122) .... 313. ***A. podagrariae*** Bres. (p. 122)
   G. 20-30 × 4-6 µm .... 314. ***A. saniculae*** Davis (p. 122)
2. Conidia cylindrical, some subclavate, 12-25 × 5-7 µm .... 315. ***A. vindobonensis*** Petr. (p. 122)
3. Conidia oblong-ellipsoidal, oblong-ovate, some subcylindrical,
   7-11 × 3-4 µm .... 312. ***A. phomoides*** Sacc. (p. 121)

Urticaceae

1. Conidia cylindrical and oblong-ellipsoidal, 7-12 × 2-4 µm .... 317. ***A. urticae*** A. L. Sm. & Ramsb. (p. 123)
2. Conidia oval, ovate, ellipsoidal, some oblong-ellipsoidal,
   (5) 6-8 (9) × 2-3 µm .... 316. ***A. parietariae*** Roum. & Fautrey (p. 123)

Vacciniaceae

1. Conidia cylindrical, 11-14 × 2.5 µm .... 318. ***A. myrtilli*** Oudem. (p. 123)
2. Conidia ellipsoidal and ovate, 11-13 × 7-8 µm .... 319. ***A. oxycocci*** Henn. (p. 123)

Valerianaceae

1. Conidia cylindrical, 6.6-9.9 × 3-3.6 µm (Fig. 97, p. 124) ... 320. ***A. erevanica*** Babayan & Simonyan (p. 123)
2. Conidia cylindrical, some oblong-ellipsoidal,
   7-12 × 2-4 µm (Fig. 98, p. 124) .... 321. ***A. valerianae*** A. L. Sm. & Ramsb. (p. 124)

Verbenaceae

1. Conidia ellipsoidal, oblong-ellipsoidal, ovate, rarely cylindrical,
   6-10 × 1.5-3 µm .... 322. ***A. nyctanthis*** Sahni (p. 124)
2. Conidia cylindrical, 7-13 × 3-3.5 (4.5) µm .... 323. ***A. verbenae*** Siemaszko (p. 124)

Violaceae

1. Conidia cylindrical and oblong-ellipsoidal, 8-12 (13) × 2.5-3.5 µm ...... 325. ***A. violae-hirtae*** Bubák (p. 125)
2. Conidia fusiform, 15-18 × 3.5-4 µm .... 324. ***A. violae*** Sacc. & Speg. (p. 124)
3. Conidia ellipsoidal, some almost allantoid, 7-8 × 2.5 µm .... 326. ***A. violicola*** McAlpine (p. 125)

Zygophyllaceae

1. Conidia cylindrical, 7-12 × 3 µm, mostly 10 × 3 µm .... 328. ***A. tribuli*** Bond.-Mont. (p. 125)
2. Conidia oval and oblong-ellipsoidal, 7.5-10.5 × 3-4 µm .... 327. ***A. pegani*** S. Ahmad (p. 125)

7. Descriptions of species

7.1 Subgenus *Ascochyta*

Aristolochiaceae

1. ***Ascochyta versicolor*** Bubák, Oesterr. Bot. Z. **54**, 1905: 182.

Pycnidia epiphyllous, evenly scattered, sometimes 2-3 pycnidia aggregated, pale to dark brown, lentiform, 150-200 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, slightly clavate, both ends rounded, straight, sometimes slightly flexuous, slightly constricted, (10) 12-23 (25) × 4-6 µm.

On living leaves of *Aristolochia clematitis*.

Distribution: Europe (Austria; Romania; USSR – Krasnodar Kraj, Voronezh Oblast').

According to Grishina (1970), in the Voronezh Oblast' the fungus started to grow in the second half of June; infections appeared as small spots, and pycnidia were observed in the first part of July. In late July and August, the fungus reaches the maximum of its development and strongly affected the leaf blades. In early spring, Grishina found perithecia of ***Didymella*** on wintered stems, which were possibly the perfect state of *A. versicolor*.

Caryophyllaceae

2. ***Ascochyta githaginis*** Hollós, Math. Természett. Közlem. **35**, 1, 1926: 14 (holotype BP!). Fig. 1, p. 45.

Pycnidia amphigenous, evenly scattered, sometimes somewhat aggregated, immersed, dark brown to almost black, lentiform or globose-depressed, centre often depressed, 120-200 µm diam., with a circular pore, 15-20 µm diam., sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia dimorphic, cylindrical, sometimes slightly clavate, both ends rounded, sometimes one end somewhat acute, straight, sometimes slightly bent, 1-septate, sometimes 2-3-septate, somewhat constricted, 11-18 (20) × 2.5-3 (3.5) µm; other conidia are cylindrical-bacilliform, continuous, 2 × 0.5-0.75 µm.

On living leaves of *Agrostemma githago*.

Distribution: Europe (Hungary).

Chenopodiaceae

3. ***Ascochyta atriplicis*** Died., Ann. Mycol. **2**, 1904: 180 (holotype JE!).

Pycnidia epiphyllous, scattered, sometimes in concentric rings, immersed, pale to dark brown, lentiform or globose-depressed, 120-150 µm diam., with a circular pore, 15 µm diam., surrounded by small dark cells, with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, sometimes slightly clavate, both ends rounded, straight or sometimes somewhat flexuous, not or only slightly constricted, 15-26 × 3.5-4.5 µm.

On leaves of *Atriplex* spp. and *Chenopodium* spp.

Distribution: circumglobal.

4. ***Ascochyta chochrjakovii*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *Stagonosporopsis betae* Khokhr., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **7**, 1951: 146, non *Ascochyta betae* Prill. & Delacr., Bull. Soc. Mycol. France **7**, 1891: 24.

Pycnidia epiphyllous, scattered, immersed, pale brown, globose or globose-depressed, up to 160 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or somewhat flexuous, not constricted, 9-21 × 3-4 µm.

On living leaves and seeds of *Beta vulgaris*.

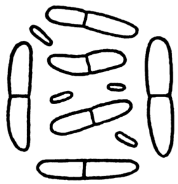

Fig. 1. Conidia of
Ascochyta githaginis (× 1000).

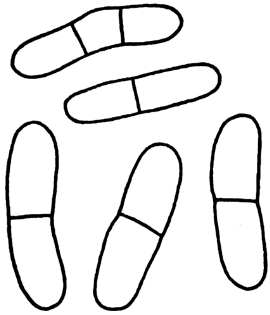

Fig. 2. Conidia of
Ascochyta haloxyli (× 1000).

Distribution: Europe (USSR – Kirov Oblast'), Asia (USSR – Primorskij Kraj).

5. ***Ascochyta haloxyli*** (Syd.) Jacz., Opredelitel' gribov **2**, 1917: 71. – *Stagonosporopsis haloxyli* Syd., Vestn. Tiflissk. Bot. Sada **26**, 1913: 6. Fig. 2, p. 45.

Pycnidia scattered or aggregated, slightly erumpent, brownish, globose-depressed, up to 200 (240) µm diam., with a circular pore, 20-30 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or flexuous, not or only slightly constricted, 12-30 × 4.5-8 µm.

On twigs of *Haloxylon ammodendron*, *H. aphyllum*, *Haloxylon* sp.

Distribution: Asia (USSR – Georgia, Kazakhstan).

6. ***Ascochyta spinaciicola*** Melnik, Nov. Sist. Niz. Rast. 1975: 205. – *Stagonosporopsis spinaciae* Melnik, Nov. Sist. Niz. Rast. 1968: 174 (holotype LE!), non *A. spinaciae* Bond.-Mont., Bolezni Rast. **12**, 1923: 71.

Pycnidia epiphyllous, evenly scattered, immersed, 120-120 µm diam., with a circular pore, 30-50 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia from oblong-ellipsoidal to cylindrical, both ends rounded, straight or flexuous, constricted or not constricted, 9-23.2 × 4.2-7.4 µm.

On dried leaves of *Spinacia oleracea*.

Distribution: Asia (USSR – Georgia).

Compositae

7. ***Ascochyta chrysanthemi*** F. Stevens, Bot. Gaz. (Crawfordsville) **44**, 1907: 246 (isotypi CUP! *LGU!*). – *A. alfrediae* Vasyag., Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 283 (holotype AA!). Fig. 3, p. 46.

Pycnidia on various parts of the host plant, on leaves epiphyllous, scattered, sometimes aggregated, immersed, from amber-yellow to brown or dark brown, globose-depressed, 55-200 (270) µm diam., average 130 µm diam., with a circular pore, surrounded by small dark cells, and papillate ostiole. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, straight, sometimes slightly curved and narrowed to one end, not or only slightly constricted, 8-23 × 3-5 (6) µm.

On living leaves of *Alfredia cernua*, *Chrysanthemum* sp.

Distribution: Europe (Germany; USSR – Moldavia; UK), Asia (USSR – Kazakhstan), N. America (USA).

According to Baker & al. (1949), ***Mycosphaerella ligulicola*** K. F. Baker, Dimock & L. H. Davis [= ***Didymella ligulicola*** (K. F. Baker, Dimock & L. H. Davis) Arx] is the perfect state of this fungus. Symptoms of the chrysanthemum disease, caused by this fungus, are described in details by Baker & al. (1949, 1961), Sauthoff (1963), and Zacha (1968).

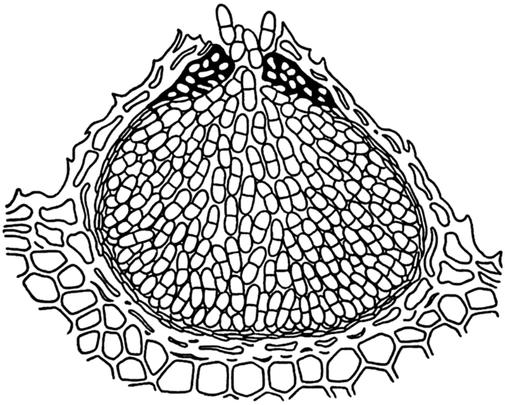

Fig. 3. Pycnidum and conidia of ***Ascochyta chrysanthemi*** (after Baker & al., 1961).

8. ***Ascochyta siemaszkoi*** Melnik, Nov. Sist. Niz. Rast. 1975: 205. – *Stagonospora mulgedii* Siemaszko, Izv. Kavkazsk. Muzeya **12**, 1919: 5 (extr.) (holotype LE! received from *Sukhumi Branch of VNIIChSK*), non *A. mulgedii* Cejp & Zavřel, Zprávy Vlastiv. Ústavu v Olomouci **141**, 1969: 13.

Pycnidia epiphyllous, scanty, immersed, pale brown or ochraceous, globose-depressed, 160-180 µm diam., with a circular pore, 30-35 µm diam., surrounded by small dark cells. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight or sometimes slightly flexuous, constricted or not constricted, 15-35 × 7-9 µm.

On living leaves of *Prenanthes cacaliifolia* (= *Mulgedium cacaliifolium*).

Distribution: Asia (USSR – Georgia).

Convolvulaceae

9. ***Ascochyta convolvuli*** Fautrey, Rev. Mycol. (Toulouse) **17**, 1895: 167 (isotype LEP!). – *Diplodina convolvuli* (Fautrey) Allesch. in Rabenh. Krypt. Fl. **6**, 1901: 683. – *A. bataticola* Khokhr. & Dyur., Vrediteli i bolezni batat **I**, 1933: 226.

Pycnidia scattered, immersed, black or dark brown, globose-depressed, up to 200 µm diam., with circular a pore up to 30 µm diam. Pycnidial wall thick. Conidia cylindrical, both ends rounded, straight or sometimes somewhat flexuous, slightly constricted, 10-16 × 3.5-4.5 µm.

On living leaves and dry stems of *Convolvulus arvensis*, *Ipomoea batatas*.

Distribution: Europe (USSR; France).

Cruciferae

10. ***Ascochyta crambicola*** Melnik, Nov. Sist. Niz. Rast. 1967: 271. – *A. crambes* Byzova, Bot. Mat. Gerb. Inst. Bot. AN KazSSR **2**, 1964: 90, non *A. crambes* Novos., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4** (10-12), 1938: 39.

Pycnidia epiphyllous, olivaceous brown, globose, 100-150 µm diam., with a circular pore, surrounded by small dark cells. Conidia cylindrical, both ends rounded, straight, rarely slightly flexuous, 10-19 × 3.3-5 µm.

On leaves of *Crambe kotschyana*.

Distribution: Asia (USSR – Kazakhstan).

Cucurbitaceae

11. ***Ascochyta cucumeris*** Fautrey & Roum., Rev. Mycol. (Toulouse) **13**, 1891: 79 (isotypi K! LEP! NY!); Sacc., Syll. Fung. **10**, 1892: 304, ut *A. cucumis* Fautrey & Roum. – *A. bryoniae* Kabát & Bubák, Sitz. K. Böhm. Ges. Wiss. **12**, 1903: 3 (extr.). – *A. citrullina* C.O. Sm., Delaware Coll. Agric. Exp. Sta. Bull. **70**, 1905: 1-16. – *Diplodina citrullina* (C.O. Sm.) Grossenb., New York Agric. Exp. Sta. Techn. Bull. **9**, 1909: 226. – *A. melonis* Potebnia, Ann. Mycol. **8**, 1910: 63. – *A. bryoniae* H.Zimm. in Petr., Fl. Boh. et Morav.: no. 954, nom. nud. (isotypi LE! LEP!). – *A. sicyi* Novos., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4** (10-12), 1938: 39. – *Diplodina cucurbitae* Nevod. ex Dejeva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 320 (holotype AA!). Fig. 4, p. 48.

Pycnidia epiphyllous and on other parts of the host plant, scattered or aggregated, immersed, semi-immersed or superficial, pale brown to greyish brown, globose-depressed, 100-200 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin on leaves, on other parts of the host plant thicker. Conidia cylindrical, some slightly clavate or oblong-ellipsoidal, not or slightly constricted, (8) 11-20 (24) × 2.5-4 (5) µm.

On living and dry parts of various host plants of the *Cucurbitaceae*.

Distribution: circumglobal.

Perfect state: ***Didymella bryoniae*** (Pass.) Rehm. This fungus and the disease caused by it were studied in details by Chiu & Walker (1949a, b). Numerous publications on the ascochytosis of cucurbits have been controversial. In the publication of Uspenskaya & Mel'nik (1973), the taxonomy and synonymy of the causal organism has been discussed in detail.

Cyperaceae

12. ***Ascochyta kurdistanica*** Bubák, Ann. K. K. Naturhist. Hofmus. **28**, 1914: 206 (holotype B!).

Pycnidia between leaf veins, immersed, yellow, globose or irregularly globose-depressed, 90-130 µm diam. Pycnidial wall thin. Conidia oblong-ellipsoidal or cylindrical, both ends rounded, not constricted, 13-17 (20) × 4.5 µm.

On leaves of *Bolboschoenus maritimus* (= *Scirpus maritimus*).

Distribution: Asia (Iran).

Equisetaceae

13. ***Ascochyta equiseti*** (Desm.) Grove, J. Bot. **56**, 1918: 315. – *Sphaeria equiseti* Desm., Pl. Crypt. Fr.: no. 183 (isotype LE!). – *Sphaeropsis epitricha* Berk. & Broome, Ann. Nat. Hist., 2 ser., **5**, 1850: 375. – *Phoma epitricha* (Berk. & Broome) Sacc., Syll. Fung. **3**, 1884: 168. – *Diplodina equiseti* Sacc., Ann. Mycol. **3**, 1905: 233 (isotypi LE! TRT!). – *Stagonosporopsis equiseti* Morochk., Ukr. Bot. Zhurn. **21-22**, 1939: 324. – *A. equiseti* (Desm.) H.C. Greene, Amer. Midl. Naturalist **44**, 3, 1951: 629. Fig. 5, p. 48.

Pycnidia broadly scattered or arranged in line, immersed, dark brown or black, oval or almost globose, 200-800 µm diam., with a small circular pore and papillate ostiole. Pycnidial wall thin. Conidia oblong-ellipsoidal, oval, both ends rounded, sometimes one end somewhat tapered, straight, not or slightly constricted, (8) 10-16 × (2.5) 3-4 (4.5) µm.

On dead and dying leaves and stems of *Equisetum* spp.

Distribution: Europe (France; Germany; Italy; UK; USSR – Estonia, Latvia, Leningrad Oblast', Ukraine), N. America (USA).

Fig. 4. Conidia of *Ascochyta cucumeris* (× 1000).

Fig. 5. Conidia of *Ascochyta equiseti* (× 1000).

Fig. 6. Conidia of ***Ascochyta securinegae*** (× 1000).

Euphorbiaceae

14. ***Ascochyta ricini*** (Rodigin) Melnik, Nov. Sist. Niz. Rast. 1975: 205. – *Stagonosporopsis ricini* Rodigin, Tr. Bashkirsk. Selskokhoz. Inst. **3**, 1942: 99-101.

Conidia ovoid or oblong-ellipsoidal, straight or slightly flexuous, 8-16 × 5-6 µm.

On living leaves of *Ricinus communis*.

Distribution: Europe (USSR – Saratov Oblast').

15. ***Ascochyta securinegae*** Enkina, Nov. Sist. Niz. Rast. 1966: 204 (holotype LE!). Fig. 6, p. 48.

Pycnidia epiphyllous, scattered, immersed, pale brown, globose and globose-depressed, up to 180 µm diam., with a circular pore 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal and somewhat clavate, both ends rounded, straight or flexuous, 13-24 × 4-6 µm.

On living leaves of *Securinega suffruticosa*.

Distribution: Asia (USSR – Novosibirsk Oblast').

Juncaceae

16. ***Ascochyta junci*** (Oudem.) Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *Diplodina junci* Oudem., Contr. Fl. Mycol. Pays-Bas **20**, 1904: 1109. – *D. jahniana* Petr., Fl. Boh. et Morav.: no. 1134, nom. nud. (isotype PR!).

Pycnidia widely scattered, sometimes aggregated in groups of 2-3 pycnidia, immersed, black, globose or globose-depressed, 120-200 (-240) µm diam., with an irregularly rounded pore, up to 30 µm diam. Pycnidial wall thick. Conidia oblong-fusiform, with obtuse ends, not or only slightly constricted, 12-15 × 4-5 µm.

On inflorescence stalks and bracts of *Juncus squarrosus*.

Distribution: Europe (The Netherlands).

Labiatae

17. ***Ascochyta elephas*** Bubák & Kabát, Hedwigia **43**, 1904: 418 (isotypi LE! LEP! *GruzIZR!*).

Pycnidia epiphyllous, scattered, immersed, pale olivaceous-brown, lentiform, 100-200 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends broadly rounded, straight or flexuous, not or only slightly constricted, 12-28 × 5-9 µm.

On living leaves of *Galeobdolon luteum*.

Distribution: Europe (Czechoslovakia).

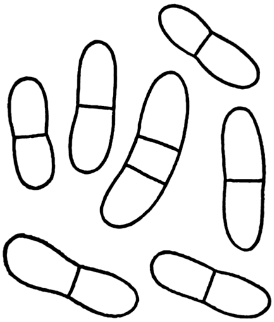

Fig. 7. Conidia of *Ascochyta lagochili* (× 1000).

Fig. 8. Conidia of *Ascochyta boltshauseri* (× 1000).

18. ***Ascochyta lagochili*** Byzova, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 267 (holotype AA!). – *A. lophanthi* Davis var. *osmophila* Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 700. – *A. betonicicola* Simonyan & Melnik, Biol. Zhurn. Armenii **23**, 8, 1970: 92 (holotype *ERE!*). Fig. 7, p. 49.

Pycnidia epiphyllous, scattered to more or less densely aggregated, immersed, pale to dark brown, globose-depressed or lentiform, 100-200 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends broadly rounded, straight to sometimes slightly flexuous, not or only slightly constricted, (9) 11-23 × 3-5 (7) µm.

On living leaves of *Agastache foeniculum*, *Betonica officinalis*, *Lagochilus platyacanthus*.

Distribution: Asia (USSR – Armenia, Kazakhstan), N. America (USA).

Leguminosae

19. ***Ascochyta boltshauseri*** Sacc., Z. Pflanzenkrankh. **1**, 1891: 136. – *Stagonospora hortensis* Sacc. & Malbr., Michelia **2**, 1881: 629. – ? *A. pisi* Lib. f. *foliicola* Sacc. & Marchal, Rev. Mycol. (Toulouse) **7**, 1885: 140-149. – *Phleospora trifolii* Cavara var. *recedens* C. Massal., Contr. Mic. Ver. 1889: 96. – *A. fabae* Speg., Fungi Arg. novi vel critici 1899: 321. – *A. viciae-lathyroides* Syd., Hedwigia **39**, 1900: 3 (isotypi LE! LEP!). – *A. cladrastidis* Kabát & Bubák, Hedwigia **52**, 1912: 346 (isotypi LE! LEP! *GruzIZR!*). – *Stagonosporopsis boltshauseri* (Sacc.) Died., Ann. Mycol. **10**, 1912: 141. – *A. punctata* Naumov, Byull. Prikl. Bot. **6**, 1913: 204 (holotype LE!). – *A. trifolii* Bondartsev & Trusova, Bolezni Rast. **7**, 1914: 215. – *A. trifolii* Siemaszko, Act. Soc. Sci. Vars. **7**, 1914: 8 (extr.). – *A. orobicola* Trusova, Mat. po Mikol. i Fitopat. Rossii **4**, 1915: 54 (holotype LE!). – *Stagonosporopsis hortensis* (Sacc. & Malbr.) Petr., Ann. Mycol. **19**, 1921: 21. – *Diplodina alhagi* Lobik, Mat. po florist. i faunist. obsledovaniyam Terskogo okruga (Pyatigorsk) 1927: 42, ut *D. alhaginis* Lobik – *Stagonosporopsis trifolii* (Cavara) Khokhr., Tr. po Zasch. Rast. **5**, 1, 1932: 127. – ? *A. pisi* Lib. var. *foliicola* (Sacc. & Marchal) Wollenw. & Hochapfel, Z. Parasitenk. (Berlin) **8**, 1936: 605. – *Stagonospora recedens* (C. Massal.) F.R. Jones & Weimer, J. Agric. Res. **57**, 11, 1938: 807. – *A. onobrychidis* Bond.-Mont., Tr. Bot. Inst. AN SSSR, ser. 2, **4**, 1940: 353. – *A. lentis* Vasiljevsky, Tr. Bot. Inst. AN SSSR, ser. 2, **4**, 1940: 356 (holotype LE!). – *A. hortensis* (Sacc. & Malbr.) Jørst., Meld. Stat. Plantepat. Inst. **1**, 1945: 74., non *A. hortensis* Kabát & Bubák, Hedwigia **44**, 1905: 353. – *A. coronillae* M.I. Nikol., Nov. Sist. Niz. Rast. 1970: 253 (holotype LE!). – *A. alhagi* (Lobik) Melnik, Nov. Sist. Niz. Rast. 1971: 212. Fig. 8, p. 49.

Pycnidia predominantly epiphyllous, scattered or aggregated, immersed or semi-immersed, yellowish, ochraceous to pale or dark brown, globose-depressed or lentiform, up to 200 (250) µm diam., with circular a pore up to 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-cylindrical, both ends rounded, straight or sometimes slightly flexuous, constricted or only slightly constricted, (12) 15-22 (25) × (3.5) 4-6 (7) µm.

On living leaves and other parts of *Alhagi* sp., *Phaseolus* sp., *Trifolium* sp., *Cladrastis tinctoria*, *Coronilla varia*, *Lens esculenta*, *Onobrychis sativa*, *Orobus vernus*, *Vicia faba*, *V. sativa*, and other Leguminosae.

Distribution: circumglobal.

20. ***Ascochyta pinodes*** L.K. Jones, New York State Agric. Exp. Sta. (Geneva) Bull. **547**, 1927: 4. – *A. pinodes* (Berk. & Bloxam) Davis, Trans. Wisconsin Acad. Sci. **24**, 1929: 289.

Pycnidia predominantly epiphyllous, but also on the other parts of the host plant, scattered or aggregated, immersed, from pale to dark brown, lentiform or subglobose, 60-100 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded or blunt, predominantly not constricted, 8-21 × 3.5-5 µm.

On living and dry leaves and other parts of plants of *Pisum* spp.

Distribution: circumglobal.

The biology of this fungus and its systematic status were discussed by Bondartseva-Monteverde & Vasil'evskij (1937, 1940). The perfect state of this species is ***Didymella pinodes*** (Berk. & Bloxam) Petr.

21. ***Ascochyta pisi*** Lib., Pl. Crypt. Ard.: no. 12 (1830) (holotype BR! isotype LE!). – *A. orobi* Sacc., Michelia **2**, 1878: 161 (isotype K!). – *A. pisi* Lib. f. *caulium* Fautrey, Rev. Mycol. (Toulouse) **10**, 1889: 134, non valide publ., nom. nud. (isotype LEP!). – *A. pisi* Lib. f. *fructuum* Fautrey, Rev. Mycol. (Toulouse) **16**, 1894: 5 (isotype LEP!). – *A. pisi* Lib. var. *lupini* Sacc. in Barthol., F. columb.: no. 4506 (1916) (isotype NYS!). – *Diplodina macrophomoides* Sousa da Câmara, Anais Inst. Super. Agron. Lisboa **3**, 1930: 111 (holotype LISVA!). – *A. orobi* Sacc. var. *macrocarpa* Rayss, Bull. Soc. Mycol. France **62**, 1946: 34. Fig. 9, p. 51.

Pycnidia epiphyllous and also on the other parts of the host plant, usually extremely numerous, scattered to densely aggregated, sometimes confluent, several pycnidia closely aggregated, immersed, rusty yellow, pale yellow, yellowish, honey-coloured, ochraceous yellow to brown or dark brown, globose-depressed or globose-conical, often lentiform, up to 200 (250) µm diam., with a circular pore, 20-30 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, somewhat clavate, some conidia ovoid or irregularly shaped, both ends rounded, sometimes slightly attenuated, not or slightly constricted, 10-19 × 2.5-4.5 (5) µm.

On living leaves and other parts of host plants of *Lathyrus latifolius*, *Orobus* sp., *Pisum sativum* and many other members of Leguminosae.

Distribution: circumglobal.

22. ***Ascochyta sphaerophysae*** Barbarin in Jaczewski, Opredelitel' gribov (Petrograd) **2**, 1917: 71 (holotype LEP!).

Pycnidia amphigenous, evenly scattered or somewhat aggregated and then often 2-3 pycnidia confluent, immersed or semi-immersed, rusty ochraceous, globose or subglobose, 120-200 µm diam., with an inconspicuous pore. Pycnidial wall thin. Conidia cylindrical, both ends rounded, sometimes slightly irregular, straight or slightly flexuous, not constricted, 25-30 × 4.2-6 µm.

On living leaves of *Sphaerophysa salsula*.

Distribution: Asia (USSR – Uzbekistan).

23. ***Ascochyta spraguei*** Melnik stat. nov. – *A. pisi* Lib. var. *fabae* R. Sprague in Yu, Phytopathology **37**, 4, 1947: 213, non *A. fabae* Speg., Fungi Arg. novi vel critici 1899: 321.

Pycnidia on leaves, stems, and pods, on leaves often in concentric rings or scattered, superficial, from red-brown to pale brown, globose-depressed, 95-270 × 110-301 µm, average 272 × 178 µm, with a pore. Conidia oblong-ellipsoidal, straight or sometimes flexuous, 14-30.4 × 3.8-7.9 µm, average 17.9 × 5.9 µm.

On living leaves and others parts of *Vicia faba*.

Fig. 9. Conidia of *Ascochyta pisi* (× 1000).

Fig. 10. Conidia of *Ascochyta viciae-villosae* (× 1000).

Distribution: Asia (China).

The biology, pathogenicity, and disease, caused by this fungus, has been studied. by Yu (1947). According to his data, this fungus is strongly specialised and confined in China to *Vicia faba*. [Note added during translation: In the original Russian publication, the name was printed as *A. spragueii* Melnik, which should be corrected to *A. spraguei*.]

24. ***Ascochyta viciae-villosae*** Ondřej, Biológia (Bratislava) **23**, 10, 1968: 815. Fig. 10, p. 51.

Pycnidia amphigenous, densely aggregated, brown, globose or globose-depressed, 110-240 µm diam., with a round pore, up to 20 µm diam. Pycnidial wall thin. Conidia cylindrical, straight or slightly flexuous, both ends rounded, slightly constricted, 15-25 × 3.5-4.5 µm.

On living leaves of *Vicia pannonica* and *V. villosa*.

Distribution: Europe (Czechoslovakia).

25. ***Ascochyta vignae*** M. I. Nikol., Nov. Sist. Niz. Rast. 1970: 254 (holotype LE!).

Pycnidia epiphyllous, scattered, immersed, dark brown, globose-depressed, 100-225 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia oblong-ellipsoidal or broadly fusiform, both ends narrowed, sometimes one end attenuated, not or slightly constricted, 20-25 × 5.2-6.9 µm.

On living leaves of *Vigna catjang*.

Distribution: Europe (USSR – Voronezh Oblast').

Liliaceae

26. ***Ascochyta majalis*** C. Massal., Atti Reale Ist. Veneto **59**, 2, 1900: 684.

Pycnidia amphigenous, scattered, immersed, pale brown, globose-depressed, lentiform, 140-180 µm diam., with a small inconspicuous pore. Pycnidial wall very thin. Conidia cylindrical, both ends broadly rounded, straight, sometimes irregular and then flexuous, not or slightly constricted, 16-26 (30) × 4-5 µm.

On living leaves of *Convallaria majalis*.

Distribution: Europe (Austria; Hungary; Italy; Romania; USSR – Latvia, Leningrad Oblast', Ukraine; Sweden), N. America (USA).

Jenkins (1942) reported this disease in lily-of-the-valley plantations in Pennsylvania, USA.

Malvaceae

27. ***Ascochyta abutilonica*** Massenot, Rev. Pathol. Vég. Entomol. Agric. France **30**, 1951: 206.

Pycnidia epiphyllous, scattered, semi-immersed, globose, 100-140 µm diam., with a pore. Pycnidial wall thin. Conidia oblong-ellipsoidal, straight, both ends rounded, constricted, 16-29 × 5-7 µm.

On living leaves of *Abutilon striatum*.

Distribution: Europe (France).

Moraceae

28. ***Ascochyta caricae*** Rabenh., Bot. Zeitung **12**, 1851: 445. – *A. fragosoi* Unamuno, Asoc. Esp. Progr. Ci. Congr. Oporto VI, Ci. Nat. 30 Junio 1921, 1921: 90. – *A. syconophila* Curzi, Atti Ist. Univ. Pavia, ser. III, 1927: 296.

Pycnidia predominantly epiphyllous, scattered, immersed, pale yellow to brown, lentiform, slightly depressed in the centre, sometimes globose, (100) 150-200 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia ellipsoidal, cylindrical and somewhat clavate, both ends rounded, straight to sometimes bent, not constricted, 7-12 (15) × 3-5 µm.

On living leaves of *Ficus carica* and *F. hyrcanica*.

Distribution: Europe (Czechoslovakia; France; Italy; Spain; Yugoslavia), Asia (USSR – Armenia, Azerbajdzhan, Georgia).

Paeoniaceae

29. ***Ascochyta paeoniae*** Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 10-12, 1945: 159 (holotype LE!). – *A. paeoniae* Massenot, Rev. Pathol. Vég. Entomol. Agric. France **30**, 1951: 208.

Pycnidia epiphyllous, scattered, immersed, brownish, subglobose or almost lentiform, sometimes depressed in the centre, 100-250 µm diam., with circular a pore, up to 20 µm diam., often with a small papillate ostiole. Pycnidial wall thin. Conidia oblong-ellipsoidal or cylindrical, both ends rounded, straight or bent, not or slightly constricted, 4.5-15 × 2-4 µm.

On living leaves of *Paeonia officinalis* and *Paeonia* sp.

Distribution: Europe (USSR – Leningrad Oblast'; France).

Plumbaginaceae

30. ***Ascochyta plumbaginis*** Sacc. in Syd., Mycoth. marchica: no. 1885 (1887) (holotype PAD!). – *Stagonosporopsis plumbaginis* (Sacc.) Died., Ann. Mycol. **10**, 1912: 142.

Pycnidia epiphyllous, inconspicuous, scattered, immersed, pale brown, globose-depressed, 100-120 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends broadly rounded, straight or sometimes slightly flexuous, not constricted, 12-28 × 4-6 µm.

On living leaves of *Plumbago europaea*.

Distribution: Europe (Germany).

Polemoniaceae

31. ***Ascochyta polemonii*** Cavara, Rev. Mycol. (Toulouse) **21**, 1899: 104 (isotypi K! LE!). – *A. polemonii* Rostr., Bot. Tidsskr. **26**, 1905: 311 (holotype C!). Fig. 11, p. 53.

Pycnidia epiphyllous and on another parts of the host plants, aggregated, immersed, dark brown, globose-conical, protruding with apical part, 65-100 µm diam., with a circular pore, up to 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, some conidia slightly curved, not or slightly constricted, (6.6) 12-16 (20) × 2.5-4 (5) µm.

On living leaves and other parts of *Polemonium acutiflorum*, *P. caeruleum*, *P. campanulatum*.

Distribution: Europe (Austria; Bulgaria; Czechoslovakia; Denmark; Italy; USSR – Estonia, Latvia, Leningrad Oblast', Moscow Oblast'; Finland), Asia (USSR – Kazakhstan), N. America (USA).

Fig. 11. Conidia of ***Ascochyta polemonii*** (× 1000).

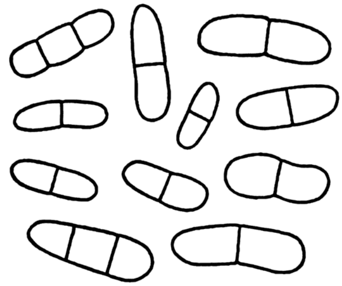

Fig. 12. Conidia of ***Ascochyta bresadolae*** (× 1000).

Polygonaceae

32. ***Ascochyta bresadolae*** Sacc. & Syd., Syll. Fung. **14**, 1899: 948. – *A. fagopyri* Bres., Hedwigia **31**, 1892: 40 (isotypi LEP! WRSL!), non *A. fagopyri* Thüm. & Bolle, Soc. Adriat. Sci. Nat. 1885: 13. – *A. fagopyri* Bres. var. *italica* Traverso, Ann. Mycol. **1**, 1903: 313. – *A. fagopyri* Bres. var. *tulensis* Bondartsev, Bolezni Rast. **6**, 1912: 13 (holotype LE!). – *A. italica* (Traverso) Ishiy., Trans. Sapporo Nat. Hist. Soc. **14**, 4, 1936: 297. Fig. 12, p. 53.

Pycnidia epiphyllous, scattered, immersed, from pale to dark brown, globose or slightly depressed, 80-200 (250) µm diam., with a circular pore, 25-30 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal and slightly clavate, both ends rounded, constricted or not constricted, 10-18 (22) × 3-6 µm.

On living leaves of *Fagopyrum sagittatum*.

Distribution: Europe (Germany; Italy; USSR – generally distributed), Asia (Japan).

33. ***Ascochyta rhei*** Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1893: 160. – *Phyllosticta rhei* Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1891: 77. – *Ph. halstediana* Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 144.

Pycnidia epiphyllous, numerous, in concentric rings, immersed, from pale to dingy brown, globose or globose-depressed, 90-180 µm diam., with an inconspicuous pore, up to 30 µm diam., surrounded by small dark cells. Pycnidial wall very thin. Conidia cylindrical, oblong-ellipsoidal and slightly clavate, both ends rounded, straight or bent, not constricted, 7-17 (20) × 3-4.5 µm.

On living leaves of *Rheum* sp.

Distribution: Europe (USSR – Krasnodar Kraj, Voronezh Oblast'), N. America (USA).

34. ***Ascochyta rumicicola*** Vasyag., Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 225 (holotype AA!), ut *A. rumicola* Vasyag.

Pycnidia epiphyllous, scattered, immersed, from pale brown to brown, globose-depressed, up to 205 µm diam., with a circular pore, up to 35-40 µm diam., surrounded by small dark cells. Pycnidial wall from very delicate to rather thick. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight or sometimes slightly flexuous, slightly constricted, (15) 20-30 (36) × (6) 8-14.2 (15.5) µm.

On living leaves of *Rumex tianschanicus*.

Distribution: Europe (USSR – Leningrad Oblast'), Asia (USSR – Kazakhstan).

According to Stepanova (1971), this fungus occurred in Leningrad Oblast' beside its usual host also on *Podophyllum* spp. (Berberidaceae).

Ranunculaceae

35. ***Ascochyta actaeae*** Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 656. – *Marssonia actaeae* Bres., Hedwigia **32**, 1893: 33. – *Actinonema actaeae* Allesch., Ber. Bayer. Bot. Ges. **5**, 1897: 7. – *Marssonina actaeae* (Bres.) Magnus, Hedwigia **45**, 1906: 88. – *Stagonosporopsis actaeae* (Allesch.) Died., Ann. Mycol. **10**, 1912: 397. – *St. delphinii* Lebedeva, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **1**, 8, 1922: 156. – *St. hydrastidis* Bond.-Mont., Bolezni Rast. **12**, 1923: 8.

Pycnidia epiphyllous, scattered, immersed or semi-immersed, pale brown, globose or globose-depressed, 120-180 µm diam., with a small circular pore. Pycnidial wall very thin, delicate. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, not constricted, 12-28 × 5-7 µm.

On living leaves of *Actaea spicata*, *Delphinium elatum*, and *Hydrastis* sp.

Distribution: Europe (Germany; UK; USSR – Estonia, Kursk Oblast', Latvia, Leningrad Oblast', Voronezh Oblast'), N. America (USA).

36. ***Ascochyta aquilegiae*** (Rabenh.) Höhn., Ann. Mycol. **3**, 1905: 406. – *Depazea aquilegiae* Rabenh. in Klotzsch, Herb. Mycol.: no. 1651 (1852). – *A. laskarisii* Melnik, Nov. Sist. Niz. Rast. 1971: 211. – *Diplodina delphinii* Laskaris, Phytopathology **40**, 1950: 620 (holotype NY!), non *A. delphinii* Melnik, Nov. Sist. Niz. Rast. 1968: 173. – ? *Diplodina delphinii* Golovin, Tr. Sredneaz. Univ., Nov. Ser., Vyp. 14, Biol. Nauki **5**, 1950: 34.

Pycnidia epiphyllous and on other parts of the host plant, more or less aggregated, immersed, from light to dark brown, globose-depressed, 120-270 µm diam., with a small circular pore and sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight or flexuous, 10-20 × (3) 4-6 µm.

On living leaves and other parts of *Aquilegia* spp., *Delphinium* spp., and *Trollius chinensis*.

Distribution: Europe (Austria; Czechoslovakia; France; Germany; Hungary; Italy; USSR – Belarus, Leningrad Oblast', Murmansk Oblast'), Asia (USSR – Armenia), N. America (USA).

This fungus and the caused disease of delphinium has been studied in details by Laskaris (1950). L. A. Shavrova (1968) investigated the host range of the fungus in the Murmansk Oblast'.

Saxifragaceae

37. ***Ascochyta bondarceviana*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. ribis* Bondartsev, Izv. St. Petersburg Bot. Sada **12**, 1912: 101 (holotype LE!), non *A. ribis* Lib., Pl. Crypt. Ard.: no. 53 (1830).

Pycnidia epiphyllous, scattered, immersed, pale brown, lentiform, up to 160 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or ellipsoidal, both ends rounded, straight or slightly flexuous, not constricted or constricted, 9-20 × 4.5-5.5 µm.

On living leaves of *Grossularia acicularis*, *Ribes nigrum*, *R. rubrum*.

Distribution: Europe (USSR – Kursk Oblast'), Asia (USSR – Kazakhstan).

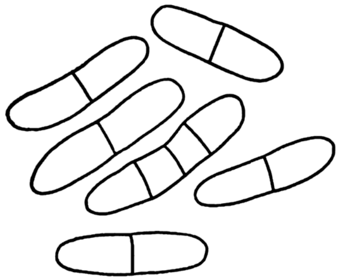

Fig. 13. Conidia of ***Ascochyta physalina*** (× 1000).

Selaginellaceae

38. ***Ascochyta selaginellae*** M. L. Farr in Farr & Horner, Nova Hedwigia **15**, 1, 1968: 261 (holotype NY! isotype LE!).

Pycnidia usually in groups of 1-2, immersed or semi-immersed, pale brown, subglobose or lentiform, 80-105 µm diam., 65-80 µm high, with a small papillate ostiole, up to 10 µm high, and a circular pore, 8-12 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia from narrowly ellipsoidal to subfusiform or subcylindrical, separate conidia with a yellowish tinge, 12-14 × 3-4 µm.

On sporophylls and sporangia of *Selaginella helvetica*.

Distribution: Europe (Italy).

Solanaceae

39. ***Ascochyta physalina*** Sacc., Michelia **1**, 1877: 93 (isotypi BUCA! K!). – *A. hyoscyami* Pat., Cat. rais pl. cell. Tunisie 1897: 349. – *Diplodina hyoscyamicola* Bubák & Kabát, Hedwigia **52**, 1912: 349 (isotypi LE! LEP!). – *A. hyoscyami* Pat. var. *rossica* Siemaszko, Bull. angew. Bot. **6**, 1913: 713 (holotype LEP!). – *Stagonospora physalina* (Sacc.) Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1**, 14, 1923: 34. – *A. kashmiriana* Padwick & Mehr, Mycol. Pap. **7**, 1943: 5 (holotype HCIO!). – *Stagonospora hyoscyami* Domashova, Mikoflora khrebta Terskej Ala-Too 1960: 188. Fig. 13, p. 55.

Pycnidia epiphyllous and on other parts of the host plant, more or less scattered, immersed, pale brown and brown, globose-depressed or lentiform, 100-200 µm diam., with a circular pore, up to 25-30 µm diam., surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia cylindrical, both ends rounded, straight or flexuous, slightly constricted, (14) 17-27 × 5-7 µm.

On living leaves and other parts of *Hyoscyamus niger* and *Physalis alkekengi*.

Distribution: Europe (Austria; Czechoslovakia; Germany; USSR – generally distributed), Asia (India), Africa (Tunisia).

Sparganiaceae

40. ***Ascochyta quadriguttulata*** Kabát & Bubák, Hedwigia **50**, 1910: 40.

Pycnidia epiphyllous, immersed, ochraceous-brown, lentiform, 120-180 µm diam., with a round pore. Pycnidial wall thin. Conidia fusiform or broadly fusiform, both ends attenuated and rounded, straight, constricted or not constricted, 12-34 × 4-7 µm.

On living leaves of *Sparganium ramosum*.

Distribution: Europe (Czechoslovakia; USSR – Estonia).

Typhaceae

41. ***Ascochyta typhoidearum*** (Desm.) Höhn., Sitzungsb. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl. **111**, 1, 1902: 995. – *Hendersonia typhoidearum* Desm., Ann. Sci. Nat. Bot., ser. 3, **11**, 1849: 344. – *Darluca typhoidearum* (Desm.) Berk. & Broome in Berkeley, Outl. Brit. Fung. 1860: 318, p. p. – ? *Stagonospora typhoidearum* (Desm.) Sacc. f. *santonensis* Brunaud, Bull. Soc. Sci. Nat. Ouest France 1894: 36. – *A. typhoidearum* (Desm.) Cunnell, Trans. Brit. Mycol. Soc. **42**, 1959: 467.

Pycnidia on the entire surface of stems and epiphyllous, scattered, immersed, dark brown or almost black, globose, slightly depressed or irregularly rounded in outline, 110-225 µm diam., with a circular pore, 15-27 µm diam., and papillate ostiole. Pycnidial wall thick. Conidia fusiform, both ends acutate, basal end sometimes very acute, slightly constricted, (12) 18-37 × 4-7 µm.

On leaves and stems of *Typha angustifolia*, *T. latifolia*, *Typha* sp.

Distribution: Europe (Austria; Czechoslovakia; Denmark; France; Germany; Poland; UK; USSR – Estonia, Latvia, Orel Oblast').

The complex synonymy of this species has been discussed in detail by Cunnell (1959).

Umbelliferae

42. ***Ascochyta grovei*** Pisareva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 261, ut *A. grovii* Pisareva – *A. heraclei* Bres., Hedwigia **38**, 1900: 326 (isotypi LEP! WRSL!), non *A. heraclei* Lib., Pl. Crypt. Ard.: no. 51 (1830). – *Stagonospora heraclei* A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **5**, 1915: 161. – *A. heraclei* (A. L. Sm. & Ramsb.) Grove, British stem- and leaf-fungi **1**, 1935: 304.

Pycnidia epiphyllous and on stems, scattered, immersed to almost superficial, from pale brown on leaves to dark brown on stems, lentiform, 80-160 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, sometimes slightly clavate, both ends rounded, slightly constricted, (9) 13-20 (24) × 4-5 (6.6) µm.

On living leaves and dry stems of *Heracleum mantegazzianum*, *H. sibiricum*, *H. sosnowskyi*, *H. sphondylium*.

Distribution: Europe (Czechoslovakia; Germany; Norway, Switzerland; UK; USSR – Kursk Oblast', Latvia, Leningrad Oblast'), Asia (USSR – Kazakhstan).

43. ***Ascochyta levistici*** (Lebedeva) Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *Stagonospora levistici* Lebedeva, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **1**, 8, 1922: 126 (holotype LE! isotype MW!). – *A. heraclei* Bres. var. *heraclei-ternati* Picb., Ann. Mycol. **35**, 1937: 143 (holotype BRNM!). – *A. angelicae* Vakhrush., Nov. Sist. Niz. Rast. 1974: 174 (holotype LE!).

Pycnidia predominantly epiphyllous, scattered or aggregated, sometimes 2-3 pycnidia confluent, semi-immersed, honey-yellow, brownish, globose-depressed or lentiform, up to 200 (240) µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia cylindrical, both ends rounded, sometimes slightly narrowed in the middle and then biscuit-shaped, straight, sometimes slightly flexuous, not or slightly constricted, 15-25 (30) × 6-7 (8) µm.

On living leaves of *Angelica dahurica*, *Levisticum officinale*, *Heracleum ternatum*.

Distribution: Europe (Bulgaria; USSR – Leningrad Oblast').

Urticaceae

44. ***Ascochyta boehmeriae*** Woron., Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **3**, 2, 1924: 32 (holotype *GruzIZR!*). – *A. boehmeriae* T. Watan., Bull. Utsunomiya Agric. Coll., ser. A, Forestry **2**, 2, 1935: 39. – *A. boehmeriae* Maire, Bull. Soc. Hist. Nat. Afrique Nord **36**, 1945: 42.

Pycnidia amphigenous and on stems, scattered, immersed, from light to dark brown, globose-depressed or lentiform, 80-200 µm diam., with a circular pore, 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or ovate, both ends rounded, straight, not or slightly constricted, 6-15 × 2.5-4.5 µm.

On living leaves of *Boehmeria* spp.

Distribution: Europe (Italy), Asia (Japan; USSR – Georgia).

7.2 Subgenus *Libertia*

Aceraceae

45. ***Ascochyta negundinis*** Bres., Stud. Trent. VII, Ser. 2, **1**, 1926: 21 (isotypi H! K! LE! UC!). – *A. aceris* Hollós, Bot. Közlem. **25**, 1928: 126 (isotype H!).

Pycnidia more or less densely aggregated, immersed, reddish brown or almost black, globose-depressed or lentiform, 130-135 × 120-130 µm, with a circular pore, up to 25-30 µm diam. Pycnidial wall thin. Conidia ellipsoidal or oblong-ovate, with broad apex and narrowed base, straight, not constricted, 10 (12)-16 × 3-4.5 µm.

On winged seeds of *Acer negundo*.

Distribution: Europe (Hungary; Italy).

46. ***Ascochyta pallida*** Kabát & Bubák, Hedwigia **47**, 1908: 357 (isotypi LE! LEP! *GruzIZR*!).

Pycnidia epiphyllous, mostly scattered, sometimes aggregated, immersed, pale brown, globose-depressed, 100-190 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight, sometimes slightly bent, not constricted, 6-9 × 2.5-3 (4) µm.

On living leaves of *Acer platanoides*.

Distribution: Europe (Czechoslovakia), Asia (USSR – Armenia).

47. ***Ascochyta tehonii*** Melnik, Nov. Sist. Niz. Rast. 1975: 205. – *A. negundinis* Tehon, Mycologia **29**, 1937: 443 (holotype NY!), non *A. negundinis* Bres., Stud. Trent. VII, Ser. 2, **1**, 1926: 21.

Pycnidia predominantly epiphyllous, numerous, light brown, globose-depressed or lentiform, 150-210 µm diam., with a small papillate ostiole and a circular pore, up to 15-20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia oblong-ellipsoidal or cylindrical, both ends slightly narrowed, rounded, straight, not constricted, 7.3-14.6 × 2.5-4 µm, often 8.5-10 × 2.9-3.6 µm.

On living leaves of *Acer negundo*.

Distribution: N. America (USA).

48. ***Ascochyta velata*** Kabát & Bubák, Hedwigia **56**, 1915: 293 (isotypi LE! LEP! *GruzIZR!*). Fig. 14, p. 59.

Pycnidia scattered, immersed, in the plant tissue pale to dark brown, in fungal stromata dark brown or almost black, globose-depressed or lentiform, 120-200 µm diam., with a circular pore, 20 µm diam., in light pycnidia surrounded by small dark cells. Pycnidial wall thin. Conidia oblong-ellipsoidal or oval, some subcylindrical, both ends broadly rounded, straight, not constricted, 12-16 × 5-6 µm.

On stromata of *Rhytisma acerimum* Lév. and on leaf spots of *Acer* spp., caused by this fungus.

Distribution: Europe (Austria; Czechoslovakia).

Actinidiaceae

49. ***Ascochyta actinidiae*** Tobisch, Oesterr. Bot. Z. **83**, 1934: 129.

Pycnidia epiphyllous, aggregated, immersed, brown, globose or globose-depressed, 80-150 µm diam. Pycnidial wall thin, almost transparent. Conidia cylindrical, some conidia subclavate, both ends rounded, straight or slightly bent, not or slightly constricted, 7-10 (12) × 3-4 µm.

On living leaves of *Actinidia polygama*.

Distribution: Europe (Austria).

Alismataceae

50. ***Ascochyta boydii*** Grove, J. Bot. **56**, 1918: 315 (holotype K!).

Pycnidia epiphyllous, numerous, scattered, sometimes confluent, immersed, pale brown, globose-depressed, 50-180 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia obovate, ellipsoidal, or clavate, both ends rounded, sometimes with an acutate base, straight, not or slightly constricted, (5) 7-12 × 2-4 µm.

On living leaves of *Alisma plantago-aquatica*.

Distribution: Europe (UK; USSR – Leningrad Oblast'), Asia (USSR – Armenia).

51. ***Ascochyta ignobilis*** Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 261. – *Diplodina ignobilis* (Oudem.) Sacc. & Syd. in Sacc., Syll. Fung. **16**, 1902: 940.

Pycnidia immersed, black, globose-depressed, 125-170 µm diam., with a circular pore. Conidia cylindrical, both ends rounded, 9-12 × 3 µm.

On stems of *Alisma plantago-aquatica*.

Distribution: Europe (The Netherlands).

Amaranthaceae

52. ***Ascochyta celosiae*** (Thüm.) Petr., Ann. Mycol. **25**, 1927: 371. – *Phyllosticta celosiae* Thüm., Contr. Fl. Mycol. Lusit., Ser. 3, 1880: 45; Sacc., Syll. Fung. **3**, 1884: 54. – *Diplodina amaranthi* Fautrey, Rev. Mycol. (Toulouse) **12**, 1890: 124. – *A. amaranthi* Allesch. in Allesch. & Schnabl, F. bavar.: no. 663 (1900) (isotype LEP!). – *Diplodinula amaranthi* (Fautrey) Tassi, Bull. Lab. Orto Bot. Univ. Siena **5**, 1902: 44. – *A. celosiae* Nelen, Nov. Sist. Niz. Rast. 1966: 221 (holotype LE!).

Pycnidia epiphyllous and on stems, scattered, immersed, yellowish-, reddish- or dark brown, globose-depressed, up to 125 µm diam., with a circular pore, 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or slightly clavate, sometimes ellipsoidal, both ends rounded, not constricted, 8-12 × 3-4 µm.

On living leaves and stems of *Amaranthus caudatus*, *A. retroflexus*, *Celosia cristata*, *Celosia* sp.

Distribution: Europe (Austria; France; Germany; Portugal; USSR – Orel Oblast', Ryazan Oblast'), Asia (USSR – Primorskij Kraj).

Anacardiaceae

53. ***Ascochyta comocladiae*** Gonz. Frag. & Cif., Publ. Estac. Agron. Moca, Ser. B, Bot. **13**, 1928: 12.

Pycnidia densely scattered, black, globose or irregularly shaped, 90-120 µm diam., immersed, with a slightly protruding ostiole. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, 16-24 × 3-4 µm.

On living leaves of *Comocladia* sp.

Distribution: Europe (Spain).

Fig. 14. Conidia of *Ascochyta velata* (× 1000).

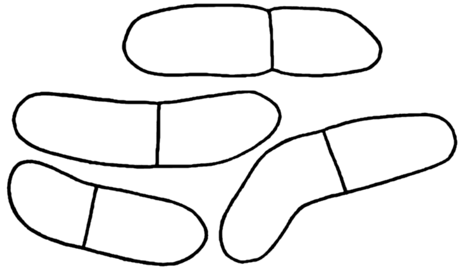

Fig. 15. Conidia of *Ascochyta acori* (× 1000).

54. ***Ascochyta mangiferae*** Bat., Bol. Agric. Pernambuco **19**, 1952: 166 (holotype URM!).

Pycnidia epiphyllous, numerous to solitary, scattered, immersed, dark brown, globose-depressed, up to 200 µm diam., with a circular pore, 25-30 µm diam. Conidia short cylindrical, both ends rounded, straight, not constricted, 6-8 × 2.5-3 µm.

On living leaves of *Mangifera indica*.

Distribution: South America (Brazil).

Apocynaceae

55. ***Ascochyta alstoniae*** Henn., Hedwigia **41**, 1902: 307.

Pycnidia epiphyllous, scattered, immersed, black-brown, lentiform, 80-100 µm diam., with a circular pore. Pycnidial wall thin. Conidia ellipsoidal or oblong-ovate, both ends obtuse, slightly constricted, 7-10 × 2.5-3 µm.

On leaves of *Alstonia scholaris*.

Distribution: South America (Brazil).

56. ***Ascochyta plumeriae*** Henn., Hedwigia **48**, 1908: 14.

Pycnidia epiphyllous, scattered or aggregated, black, lentiform, 60-70 µm diam., with a pore. Conidia ellipsoidal or oval, 5-6 × 3 µm.

On leaves of *Plumeria* sp. (cf. *Pl. warmingii*).

Distribution: South America (Brazil).

57. ***Ascochyta vincae*** (Thüm.) Grove, J. Bot. **54**, 1916: 191. – *Phyllosticta vincae* Thüm., Contr. Fl. Mycol. Lusit., Ser. 2, 1879: 48.

Pycnidia predominantly epiphyllous, not numerous, often in the centre of the spots, immersed, but slightly protruding, black. Conidia narrowly fusiform,, more often narrowed to basal end, straight or flexuous, sometimes slightly irregular, not constricted, 11-14 × 2-2.5 µm.

On leaves of *Vinca major*.

Distribution: Europe (France; Germany; Portugal; UK), Africa (Algeria).

Araceae

58. ***Ascochyta acori*** Oudem., Hedwigia **37**, 1898: 177. – *Marssonia extremorum* Syd., Ann. Mycol. **2**, 1904: 192 (isotype LE!). – *Marssonina extremorum* (Syd.) Died., Krypt. Fl. M. Brand. **9**, 1912: 826. Fig. 15, p. 59.

Pycnidia amphigenous, scattered, immersed, from dark brown to almost black, globose or sometimes elliptical, elongated along the middle rib of leave, 130-340 × 90-240 µm, with a circular pore. Pycnidial wall rather thick. Conidia oblong-ellipsoidal or cylindrical, both ends rounded, straight, sometimes flexuous, septum often eccentric, slightly constricted, 26-47 × 8-13 µm.

On living and dry leaves of *Acorus calamus*.

Distribution: Europe (Germany; The Netherlands; UK; USSR – Latvia, Ukraine).

Cunnell (1959) studied this fungus in detail.

59. ***Ascochyta arigena*** Bubák, Bot. Közlem. **14**, 1915: 66. – *A. arophila* Bubák, Bull. Herb. Boissier, ser. 2, **6**, 1906: 476, non *A. arophila* Sacc., Grevillea **21**, 1893: 67.

Pycnidia dark brown, widely opened. Conidia fusiform, both ends narrowed, straight or flexuous, 9-18 × 2-2.5 µm.

On living leaves of *Arum italicum*.

Distribution: Europe (Yugoslavia).

60. ***Ascochyta minima*** (P. Karst. & Har.) Arx, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. **51**, 3, 1957: 105. – *Gloeosporium minimum* P. Karst. & Har., J. Bot. (Marot) **4**, 1890: 360.

Pycnidia fairly densely distributed, immersed, globose, 60-90 µm diam., with an ostiole protruding through the epidermis and an irregularly circular pore. Pycnidial wall 4-10 µm thick. Conidia oblong-ellipsoidal, fusiform or obclavate, 11-23 × 2-3 µm.

On living leaves of *Anthurium* spp.

Distribution: Europe (France).

61. ***Ascochyta pellucida*** Bubák, Ann. Mycol. **4**, 1906: 112. – *A. ari* Died., Krypt. Fl. M. Brand. **9**, 1912: 376. – *A. aricola* A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **4**, 1, 1913: 175.

Pycnidia epiphyllous, sometimes amphigenous, densely aggregated, and often confluent, immersed, light brown or almost transparent, globose-depressed or lentiform, 100-200 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia mostly cylindrical, rarely oblong-ellipsoidal or subclavate, both ends rounded, straight or sometimes slightly bent, 6-13 × 2-4 µm.

On withering and dry leaves of *Arum maculatum*, *Calla palustris*.

Distribution: Europe (Czechoslovakia; Germany; Portugal; UK; USSR – Latvia).

62. ***Ascochyta philodendri*** Bat., Anais Soc. Biol. Pernambuco **12**, 1, 1954: 40.

Pycnidia immersed, brown, globose, 68.5-93.5 µm diam. Pycnidial wall thin. Conidia oblong-fusiform, slightly constricted, 4-11.5 × 2-4 µm.

On living leaves of *Philodendron imbe*.

Distribution: South America (Brazil).

Araliaceae

63. ***Ascochyta ambrosiana*** Unamuno, Bol. R. Soc. Esp. Hist. Nat. **28**, 1928: 501.

Pycnidia epiphyllous, numerous, evenly scattered, semi-immersed, dark brown, globose-depressed, 90-124 × 73-116 µm, with a subcircular pore, 12-14 µm diam. Pycnidial wall thin. Conidia ovate, not constricted, 6.6-10 × 3.5-4 µm.

On living leaves of *Hedera helix*.

Distribution: Europe (Spain).

64. ***Ascochyta marginata*** Davis, Trans. Wisconsin Acad. Sci. **18**, 1918: 263 (holotype WIS!). – *A. starcii* Syd. in Smarods, Schedae to Fungi latvici exsiccati, fasc. **5**, 230, 1932: 75 (holotype *Pribalt. filial VIZR*!; isotypi BRNM! JE! K! LE! LEP! PR! *ESKhA*!). – *A. panacis* Melnik, Nov. Sist. Niz. Rast. 1972: 154 (holotype LE!). Fig. 16, p. 63.

Pycnidia epiphyllous and on dry petioles, scattered, immersed, light brown to rusty, globose-depressed or sometimes lentiform, 100-200 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight, not or slightly constricted, 6-12 × (2) 3-4 µm.

On living leaves and dry petioles of *Acanthopanax sessiliflorum*, *Aralia nudicaulis* and *Panax ginseng*.

Distribution: Europe (USSR – Latvia), Asia (USSR – Primorskij Kraj), N. America (USA).

65. ***Ascochyta stilbocarpae*** Syd., Ann. Mycol. **22**, 1924: 311.[correction vs. book, which had 331]

Pycnidia epiphyllous, scattered, slightly erumpent, globose-depressed, 110-150 µm diam., with circular a pore, 20 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends rounded, sometimes conidia with one acutate end, straight or slightly bent, 6-9 × 2.5-3 µm.

On living leaves of *Stilbocarpa polaris*.

Distribution: New Zealand.

Aristolochiaceae

66. ***Ascochyta aristolochiae*** Sacc., Michelia **2**, 1878: 165. – *A. siphonis* Allesch. in Allesch. & Schnabl, F. bavar.: no. 666 (1900) (isotype LEP!). – *A. asari* Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 10-12, 1945: 158 (holotype LE!). – *A. hupkei* H. Ruppr., Sydowia **11**, 1957: 121 (holotype JE!). Fig. 17, p. 63.

Pycnidia epiphyllous, scattered, semi-immersed, from light to dark brown or almost black, globose-depressed and lentiform, sometimes somewhat compressed in the middle, 70-200 (250) µm diam., with or without a small papillate ostiole, with a circular pore, 16-30 µm diam. Pycnidial wall very thin, delicate. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight or slightly bent, not or slightly constricted, 6-12 × 2.4-3.5 (4) µm.

On living leaves of *Aristolochia clematitis*, *A. sipho*, *Asarum canadense*, *A. europaeum*.

Distribution: Europe (Germany; Italy; USSR – Lipetsk Oblast', Moscow Oblast', Tambov Oblast', Voronezh Oblast'), N. America (USA).

67. ***Ascochyta aristolochiicola*** Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **5**, 1907: 459.

Pycnidia aggregated, subepidermal, black, lentiform, 100-150 µm diam., with pore. Conidia cylindrical, both ends slightly attenuated and rounded, straight, not constricted, 10-13 × 2-2.5 µm.

On fallen fruits of *Aristolochia clematitis*.

Distribution: Europe (Hungary).

Asclepiadaceae

68. ***Ascochyta asclepiadearum*** Traverso, Ann. Mycol. **1**, 1903: 312. – *A. asclepiadearum* Traverso var. *macrospora* C. Massal., Malpighia **20**, 1906: 9. – *A. periplocae* Kabát & Bubák, Hedwigia **46**, 1907: 292 (holotypi LE! LEP! *GruzIZR!*). – *Diplodina periplocae* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **5**, 1907: 461. – *A. periplocae* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **7**, 1909: 53.

Pycnidia predominantly epiphyllous, also on dry bracts, scattered, sometimes 2-3 pycnidia confluent, immersed, honey-coloured, transparent or light brown, sometimes even brown, globose-depressed or lentiform, (80) 100-200 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight or bent, not constricted, 6-12 × (2.5) 3-4 µm.

On living leaves and dry floral envelopes of *Periploca graeca*, *Vincetoxicum officinale* and *V. sibiricum*.

Distribution: Europe (Austria; Czechoslovakia; Germany; Hungary; Italy; Sweden; USSR – Latvia), Asia (USSR – Kazakhstan, Turkmenia).

Balsaminaceae

69. ***Ascochyta impatientis*** Bres., Hedwigia **39**, 1900: 326 (isotype WRSL!). – *Diplodina impatientis* Kabát & Bubák, Hedwigia **52**, 1912: 350. – *D. richteriana* Staritz, Hedwigia **53**, 1913: 161 (holotype BRNM!).

Pycnidia epiphyllous and on stems, immersed, pale brown, subglobose, 100-200 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or bent, not constricted, (6) 8-12 × 3-3.8 µm.

On living leaves and dry stems of *Balsaminum hortensis*, *Impatiens noli-tangere*, *I. parviflora*, *I. sultani*.

Distribution: Europe (Czechoslovakia; Germany; USSR – Estonia, Latvia, Leningrad Oblast'), Asia (USSR – Armenia, Kirghizia).

Basellaceae

70. ***Ascochyta basellae*** Henn., Hedwigia **41**, 1902: 114 (holotype BR!).

Pycnidia epiphyllous, almost superficial, strongly erumpent, yellowish brown, globose, 120-180 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia mostly cylindrical, some slightly clavate or oblong-ellipsoidal, both ends rounded, straight, not constricted, (6) 7-12 × 3-4 µm.

On leaves of *Basella rubra*?

Distribution: South America (Brazil).

Begoniaceae

71. ***Ascochyta begoniae*** (Tassi) Voglino, Ann. R. Accad. Agric. Torino **55**, (1912) 1913: 219. – *Phoma begoniae* Tassi, Bull. Lab. Orto Bot. Univ. Siena **4**, 1901: 8.

Pycnidia scattered, slightly erumpent, black, minute. Conidia ellipsoidal, 8-14 × 3-5 µm.

On leaves of *Begonia credneri*, *B. evansiana*, *B. sempervirens*.

Distribution: Europe (Italy).

Berberidaceae

72. ***Ascochyta achlyicola*** Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1895: 364 (holotype NY!).

Pycnidia epiphyllous, scattered, immersed, honey-coloured to light or dark brown, globose-depressed, up to 200 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia ellipsoidal, oblong-ellipsoidal, ovate, pyriform, some cylindrical, both ends rounded, not or slightly constricted, 12-24 × 4.5-9 µm.

On living leaves of *Achlys triphylla*.

Distribution: N. America (USA).

73. ***Ascochyta australis*** Speg., F. Arg. Pug. 2: no. 122.

Pycnidia immersed, lentiform, 90-100 µm diam., with a wide pore. Conidia ellipsoidal, slightly constricted, 8-10 × 3-3.5 µm.

On leaves of *Berberis glauca*.

Distribution: South America (Argentina).

74. ***Ascochyta berberidis*** Rădul., Negru & Docea, Stud. Cercet. Biol., ser. Bot. **16**, 5, 1964: 434. Fig. 18, p. 63.

Pycnidia epiphyllous, immersed, brown, globose-depressed or lentiform, 65-85 µm diam. Conidia oval or pyriform, straight, not constricted, 8-13 × 3.5-5 µm.

On living leaves of *Berberis vulgaris*.

Distribution: Europe (Romania).

Fig. 16. Conidia of ***Ascochyta marginata*** (× 1000).

Fig. 17. Conidia of ***Ascochyta aristolochiae*** (× 1000).

Fig. 18. Conidia of ***Ascochyta berberidis*** (after Rădulescu & al., 1964).

Betulaceae

75. ***Ascochyta alni*** Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1**, 14, 1923: 32.

Pycnidia epiphyllous, scattered, immersed, yellowish brown, globose-depressed or lentiform, 120-200 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia oblong-ellipsoidal, ellipsoidal, or cylindrical, both ends slightly attenuated, straight, not constricted, 6-11 × (2.5) 3-4 µm.

On living leaves of *Alnus glutinosa* and *A. incana*.

Distribution: Europe (USSR – Leningrad Oblast'), Asia (USSR – Armenia).

76. ***Ascochyta coryli*** Sacc. & Speg., Michelia **2**, 1878: 162.

Pycnidia brown, lentiform, 200 µm diam., with a pore. Conidia oblong-ellipsoidal or cylindrical, straight or slightly bent, not constricted, 10 × 2.5 µm.

On leaves of *Corylus avellana*.

Distribution: Europe (Italy).

Boraginaceae

77. ***Ascochyta boraginis*** I. E. Brezhnev, Uch. Zap. Leningr. Univ. **28**, ser. Biol. Nauki, **7**, 1939: 177 (holotype *LGU!*). – *A. madisonensis* H. C. Greene, Trans. Wisconsin Acad. Sci. **47** (1958) 1959: 114 (holotype WIS!).

Pycnidia epiphyllous, scattered, sometimes in almost concentric circles, immersed, honey-coloured, flesh-red or pale brown, globose-depressed, 125-170 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia cylindrical or oblong-ellipsoidal, some slightly clavate, both ends rounded, straight or slightly bent, slightly constricted, 7-12 (14) × 2.5-4 µm.

On living leaves of *Borago officinalis* and *Mertensia virginica*.

Distribution: Europe (USSR – Leningrad Oblast'), N. America (USA).

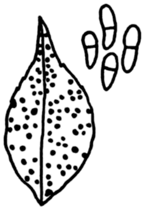

Fig. 19. Infected leaf of *Commiphora caudata* and conidia of ***Ascochyta commiphorae*** (after Ramakrishnan & Sundaram, 1955).

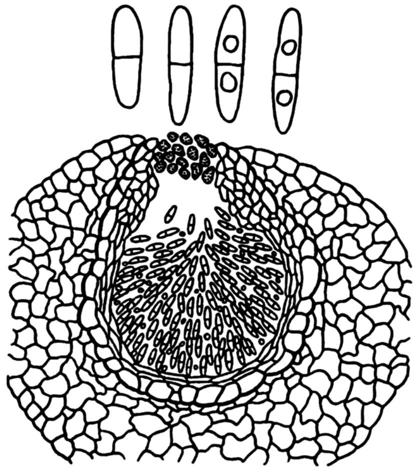

Fig. 20. Pycnidia and conidia of ***Ascochyta bryophyla*** (after Racovitza, 1959; as *Diplodina bryophila* Racov.).

Burseraceae

78. ***Ascochyta commiphorae*** T. S. Ramakr. & Sundaram, Indian Phytopathol. **7**, 2, (1954) 1955: 146. Fig. 19, p. 64.

Pycnidia epiphyllous, immersed, black, lentiform, with a pore. Conidia oblong-ellipsoidal, straight or slightly flexuous, 9-19 × 4.5-7.5 µm.

On living leaves of *Commiphora caudata*.

Distribution: Asia (India).

Bryophyta

79. ***Ascochyta bryophyla*** (Racov.) Melnik, Nov. Sist. Niz. Rast. 1972: 153. – *Diplodina bryophila* Racov., Mem. Mus. Nat. Hist. Nat., ser. Bot. **10**, 1959: 261. Fig. 20, p. 64.

Pycnidia immersed, brown or dark brown, almost carbonaceous, mostly ellipsoidal or globose, 90-240 (840) × 70-140 µm, with a circular pore, 24 µm diam., and papillate ostiole. Pycnidial wall thick. Conidia oblong-ellipsoidal, straight, not constricted, 9-15 × 2-4 µm.

On dead sporogons of *Dicranum scoparium*, *Grimmia pulvinata*, *Syntrichia alpina*, *Tortula muralis* var. *aestiva*.

Distribution: Europe (France).

Buxaceae

80. ***Ascochyta limbalis*** Sacc., Michelia **2**, 1878: 161.

Pycnidia epiphyllous, lentiform, with a pore. Conidia cylindrical, both ends blunt, slightly constricted, 15 × 2 µm.

On living leaves of *Buxus sempervirens*.

Distribution: Europe (Italy; Portugal).

Fig. 21. Conidia of *Ascochyta adenophorae* (× 1000).

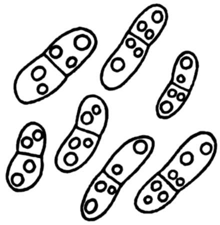

Fig. 22. Conidia of *Ascochyta bohemica* (× 1000).

Calycanthaceae

81. ***Ascochyta calycanthi*** Sacc. & Speg., Michelia **2**, 1878: 162. – *A. calycanthi* Sacc. & Speg. f. *occidentalis* Tassi, Bull. Lab. Orto Bot. Univ. Siena **3**, 1900: 153.

Pycnidia predominantly epiphyllous, scattered or aggregated, dark brown or almost black, lentiform, up to 200 µm diam., with a circular pore, 25-30 µm diam. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight, constricted or not constricted, 6-15 × 3-4.5 µm.

On living leaves of *Calycanthus floridus* and *C. occidentale*.

Distribution: Europe (Italy; USSR – Latvia).

Campanulaceae

82. ***Ascochyta adenophorae*** Melnik, Nov. Sist. Niz. Rast. 1970: 242 (holotype LE!). Fig. 21, p. 65.

Pycnidia epiphyllous, scattered, sometimes confluent, immersed, olivaceous yellow, globose, 100-110 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, not constricted, 7-13 × 3-4 µm.

On living leaves of *Adenophora lilifolia*.

Distribution: Europe (USSR – Moscow Oblast').

83. ***Ascochyta bohemica*** Kabát & Bubák, Hedwigia **44**, 1905: 352 (isotypi LE! LEP! *GruzIZR!*). – *Stagonospora bohemica* (Kabát & Bubák) Tobisch, Oesterr. Bot. Z. **83**, 1934: 142. Fig. 22, p. 65.

Pycnidia epiphyllous and on petals and stems, scattered, sometimes 2-3 pycnidia confluent, immersed, initially yellowish olivaceous, later light ochraceous or brownish, globose-depressed and lentiform, 77-254 µm diam., average 125 µm diam., with circular pore up to 25-30 µm diam., surrounded by small dark cells, and with papillate ostiole. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, sometimes slightly flexuous, septum sometimes slightly eccentric, not or slightly constricted, 10-22.8 × 3.8-5.8 µm, average 16.4 × 4.6 µm; with some one-celled cylindrical conidia, 3.5-(10) 22 × 1.5-6 µm.

On living leaves, petals, and stems of *Campanula* spp.

Distribution: Europe (Czechoslovakia; Germany; UK; USSR – Belarus, Latvia, Lithuania, Leningrad Oblast', Moscow Oblast', Ukraine), Asia (USSR – Kazakhstan), South America (Argentina), N. America (USA).

84. ***Ascochyta carpathica*** (Allesch. & Syd.) Grove, J. Bot. **60**, 1922: 46 (Febr.). – *Phyllosticta carpathica* Allesch. & Syd., Hedwigia **36**, 1897: 157. – *A. carpathica* (Allesch. & Syd.) Grove f. *caulicola* Grove, J. Bot. **60**, 1922: 46 (holotype K! isotype JE!). – *A. carpathica* (Allesch. & Syd.) Keissl., Ann. Naturhist. Hofmus. Wien **35**, 1922: 21 (May). – ? *A. campanulae* Garb., Bull. Soc. Mycol. France **39**, 1923: 248.

Pycnidia epiphyllous and on stems, scattered, immersed, brownish, lentiform, 100-140 µm diam., with a minute, circular pore. Pycnidial wall thin. Conidia cylindrical or ellipsoidal, not constricted, 6-9 × 2.5-3 µm.

On living and dry leaves of *Campanula* spp.

Distribution: Europe (Germany; Romania; UK; USSR – Latvia, Lithuania, Ukraine).

85. ***Ascochyta codonopsis*** Schvartsman, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 275 (isotype LE!).

Pycnidia epiphyllous, scattered, immersed, light brown, globose, 78-155 µm diam., with a circular pore, 20-25 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, sometimes flexuous, slightly constricted, 9.4-20 × 4.5-7.3 µm.

On living leaves of *Codonopsis clematidea*.

Distribution: Asia (USSR – Kazakhstan).

Caprifoliaceae

86. ***Ascochyta ferdinandi*** Bubák & Malkoff, Ann. Mycol. **6**, 1908: 24. – *Gloeosporium ebuli* Allesch. in Allesch. & Schnabl, F. bavar.: no. 684 (1900) (isotype LEP!), non *A. ebuli* Fuckel, Symb. Mycol. 1869: 386.

Pycnidia epiphyllous, scattered, semi-immersed, globose or slightly depressed, 80-120 µm diam., with a circular pore, up to 20 µm diam., and small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, not or sometimes slightly constricted, 15-22 × 4.5-5.5 µm.

On living leaves of *Sambucus ebulus*.

Distribution: Europe (Bulgaria; Czechoslovakia), Asia (USSR – Georgia).

87. ***Ascochyta lantanae*** Sacc., Michelia **2**, 1878: 162. – *A. sambucella* Pass., Diagn. F. N. IV (1887-1891): 11. – *Diplodina sambucella* (Pass.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 696.

Pycnidia epiphyllous and on twigs, scattered or almost aggregated, black, with a pore. Pycnidial wall thin. Conidia fusiform or lanceolate, both ends acute, not constricted, 10-11 × 2-2.5 µm.

On living leaves and branches of *Sambucus nigra*, *Viburnum lantana*.

Distribution: Europe (Italy).

88. ***Ascochyta symphoriae*** Briard & Har., Rev. Mycol. (Toulouse) **12**, 1890: 178. – *Diplodina symphoriae* (Briard & Har.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 699.

Pycnidia scattered, immersed, brown, 500 µm diam. Conidia oblong-ovate, both ends blunt, 10-13 × 3-4 µm.

On branches of *Symphoricarpus racemosus*.

Distribution: N. America (USA).

89. ***Ascochyta symphoricarpophila*** Fairm., Ann. Mycol. **8**, 1910: 323.

Pycnidia epiphyllous, black, small. Conidia ellipsoidal, both ends rounded, not constricted, 6-9 × 3-4 µm.

On living leaves of *Symphoricarpus racemosus*.

Distribution: N. America (USA).

90. ***Ascochyta tatarica*** Allesch., Ber. Bayer. Bot. Ges. **4**, 1896: 34. – *Diplodina tatarica* (Allesch.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 690.

Pycnidia scattered, immersed, brownish black, globose-depressed or sublentiform. Conidia fusiform, both ends blunt, slightly constricted, 8-13 × 2.5-3 µm.

On dry branches of *Lonicera tatarica*.

Distribution: Europe (Germany).

91. ***Ascochyta tenerrima*** Sacc. & Roum., Michelia **2**, 1881: 622. – *Phyllosticta vulgaris* Desm., Ann. Sci. Nat. Bot., ser. 3, **11**, 1849: 350. – *Ph. symphoricarpi* Westend., Not. VII, 1851-1866: 7, non *A. symphoricarpi* Pass., Diagn. F. N. IV (1887-1891): 11. – *A. peryclymeni* Thüm., Contr. Fl. Mycol. Lusit., 1880 (1881): 49 (extr.) (no. 606). – *Phyllosticta viburni* Roum., F. gall.: no. 2036 (1882). – *A. viburni* (Roum.) Sacc., Syll. Fung. **3**, 1884: 387. – *Marssonia sambuci* Rostr., Bot. Tidsskr. **22**, 1899: 270. – *A. vulgaris* Kabát & Bubák, Oesterr. Bot. Z. **54**, 1904: 23 (isotypi LE! LEP! *GruzIZR!*). – *A. viburni* (Roum.) Sacc. var. *lantanigena* Kabát & Bubák, Oesterr. Bot. Z. **53**, 1904: 184. – *Marssonina sambuci* (Rostr.) Magnus, Hedwigia **45**, 1906: 88. – *A. symphoriae* Kabát & Bubák, Hedwigia **47**, 1908: 359 (isotypi LE! LEP! *GruzIZR!*). – *A. sambucella* Bubák & K. Krieg., Ann. Mycol. **10**, 1912: 48 (isotypi CUP! LEP! WRSL!). – *A. rostrupii* Died., Krypt. Fl. M. Brand. **9**, 1912: 395. – *A. vulgaris* Kabát & Bubák var. *symphoricarpi* (Westend.) Grove, J. Bot. **60**, 1922: 48. – *A. vulgaris* Kabát & Bubák var. *lonicerae* Grove, British stem- and leaf-fungi **1**, 1935: 305 (non valide publ., descr. angl.). Fig. 23, p. 68.

Pycnidia predominantly epiphyllous, numerous to solitary, scattered or aggregated, immersed, yellowish, light brown or brown, globose-depressed or lentiform, sometimes somewhat compressed in the middle, up to 200 µm diam., with a circular pore, up to 20-30 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some subclavate or oblong-ellipsoidal, straight or sometimes slightly bent, both ends rounded, not or slightly constricted, 6-13 (14) × 2.5-4 (4.5) µm.

On living leaves of *Lonicera* spp., *Sambucus* spp., *Symphoricarpus* spp., *Viburnum* spp.

Distribution: Europe (generally distributed), N. America (USA).

92. ***Ascochyta wisconsina*** Davis, Trans. Wisconsin Acad. Sci. **18**, 1918: 101 (holotype WIS! isotypi LE! UC!).

Pycnidia epiphyllous, scattered, immersed, slightly erumpent, brown, globose or sublentiform, 85-110 µm diam., with a minute, circular pore. Pycnidial wall very thin, delicate. Conidia cylindrical (smaller conidia oval), both ends rounded, straight, not constricted, 5.2-10 × 2.5-3.5 µm.

On living leaves of *Sambucus canadensis*, *S. nigra*, *S. racemosa*.

Distribution: Europe (Czechoslovakia; USSR – Orel Oblast', Udmurtia, Ukraine), N. America (USA).

Caricaceae

93. ***Ascochyta caricae-papayae*** Tarr, The fungi and plant diseases of the Sudan 1995: 53. – *A. caricae* Pat., Bull. Soc. Mycol. France **7**, 1891: 178, non *A. caricae* Rabenh., Bot. Zeitung **12**, 1851: 455.

Pycnidia on petioles and fruits, at first immersed, later erumpent, globose or almost globose, on fruits 85-218 × 65-192 µm, an average 130 × 114 µm, on petioles 100-150 µm diam., with a short papillate ostiole and circular pore. Pycnidial wall more thicker in upper part of the pycnidium. Conidia ellipsoidal, ovate, not constricted or slightly constricted, 7-12 × 3-4 µm.

On petioles and fruits of *Carica papaya*.

Distribution: Asia (India), N. America (USA), South America (Brazil), Africa (Kenya; Sudan; Republic of South Africa), Australia.

The biology of the fungus, the development of the disease caused, and control measures against this disease have been studied in detail by Chowdhury (1950).

Fig. 23. Conidia of ***Ascochyta tenerrima*** (× 1000).

Fig. 24. Conidia of ***Ascochyta alpina*** (× 1000).

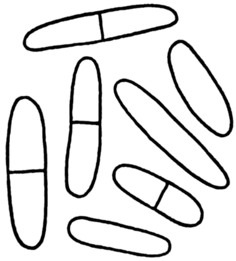

Fig. 25. Conidia of ***Ascochyta stellariae*** (× 1000).

Caryophyllaceae

94. ***Ascochyta alpina*** Rostr., Forh. Vidensk.-Selskab. Kristiania **9**, 1891: 11 (holotype O!). Fig. 24, p. 68.

Pycnidia amphigenous, numerous, semi-immersed, almost black, globose, up to 120 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thick. Conidia cylindrical, both ends obtuse, somewhat truncate, sometimes disarticulating into two cells, 6-8 (9) × 1.5-2 (2.2) µm.

On dried leaves of *Cerastium alpinum* and *C. cerastioides*.

Distribution: Europe (Norway).

95. ***Ascochyta silenes*** Ellis & Everh., J. Mycol. **5**, 1889: 148 (holotype NY!). – *A. silenes* Ellis & Everh. f. *cerastii* Sacc., Malpighia **17**, 1903: 312.

Pycnidia amphigenous on leaves and stems, scattered, semi-immersed, brownish, dark brown or almost black, on leaves globose or globose-depressed, up to 180 µm diam., with circular pore up to 20 µm diam., on stems lenticular or almost plane, often elongated along stems, up to 200 × 150 µm diam., with a pore, 25-30 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or slightly flexuous, not or sometimes very weakly constricted, 10-15 × 2.5-4 µm, on stems often 7.5-12 × 2-3 µm.

On living leaves and stems of *Cerastium arvense*, *Silene antirrhina*, *S. nutans* and *S. wallichiana*.

Distribution: Europe (Italy; USSR – Leningrad Oblast'), Asia (USSR – Altai Kraj, Kazakhstan), N. America (USA).

96. ***Ascochyta stellariae*** Fautrey, Rev. Mycol. (Toulouse) **18**, 1896: 68 (isotype LEP!). Fig. 25, p. 68.

Pycnidia epiphyllous, evenly scattered, immersed, pale brown, globose-depressed, up to 180 µm diam., with a circular pore, 25-30 µm diam., surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia broadly fusiform or cylindrical, both ends attenuated, but broadly rounded, straight, not constricted, 12-23 × 4.5-6 µm.

On withering leaves of *Stellaria graminea*.

Distribution: Europe (France).

97. ***Ascochyta viscariae*** Henn., Pilzfl. Christianias 1904: 30.

Pycnidia scattered, immersed, black, globose-depressed, 100-160 µm diam., with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, both ends obtuse, slightly constricted, 13-18 × 4 µm.

On dry stems of *Viscaria viscosa*.

Distribution: Europe (Norway; USSR – Kirov Oblast').

Celastraceae

98. ***Ascochyta evonymi*** Pass., Diagn. F. N. IV (1887-1891): 11, non *A. evonymi* Oudem., Hedwigia **33**, 1894: 33.

Pycnidia epiphyllous, scattered, black, with a papillate ostiole. Conidia lanceolate, not constricted, 5-6 × 2-2.5 µm.

On leaves of *Evonymus europaeus*.

Distribution: Europe (Italy).

99. ***Ascochyta oudemansii*** Sacc. & Syd., Syll. Fung. **14**, 1899: 947. – *A. evonymi* Oudem., Hedwigia **33**, 1894: 33, non *A. evonymi* Pass., Diagn. F. N. IV (1887-1891): 11. – *Diplodina evonymi* (Oudem.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 686.

Pycnidia erumpent, brown, almost globose, 300-500 µm diam. Pycnidial wall thin. Conidia cylindrical, straight or slightly flexuous, 11-16 × 2-3 µm or ellipsoidal and obovate, often irregular, 9 × 4.5 µm.

On twigs of *Evonymus europaeus*.

Distribution: Europe (The Netherlands).

Chenopodiaceae

100. ***Ascochyta betae*** Prill. & Delacr., Bull. Soc. Mycol. France **7**, 1891: 24. Fig. 26, p. 70.

Pycnidia dark olivaceous, spherical, 120-130 µm diam., with a circular pore, 15 µm diam., and papillate ostiole. Conidia ovate, fusiform, both ends blunt, straight, not or slightly constricted, 9-12 × 2.5-3 µm.

On living leaves of *Beta vulgaris*.

Distribution: Europe (France; USSR – Orel Oblast').

101. ***Ascochyta chenopodiicola*** Pisareva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 229. – *Diplodina chenopodii* P. Karst., Hedwigia **24**, 1885: 73 (holotype H!). – *A. chenopodii* (P. Karst.) Died., Ann. Mycol. **10**, 1912: 138, non *A. chenopodii* Rostr., Bot. Tidsskr. **26**, 1905: 311. – *A. nebulosa* Sacc. & Berl. var. *foliicola* Gonz. Frag., Deuteromyc. Esp. 1917: 20 (extr.). – *A. atriplicis* Beeli, Bull. Soc. Roy. Bot. Belgique **56**, 1924: 67, non *A. atriplicis* Died., Ann. Mycol. **2**, 1904: 380. – *A. chenopodii* Rostr. var. *emaculata* Grove, British stem- and leaf-fungi **1**, 1935: 300, non valide publ., descr. angl.

Pycnidia epiphyllous and on stems, scattered, immersed, yellowish brown to dark brown, globose-depressed, 100-200 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, sometimes biscuit-shaped, not or sometimes slightly constricted, sometimes with a dilute yellowish tinge, 14-20 × 4-6.5 µm.

On living leaves and dry stems of *Atriplex* spp. and *Chenopodium* spp.

Distribution: Europe (generally distributed).

102. ***Ascochyta salicorniae-patulae*** (Trotter) Melnik, Nov. Sist. Niz. Rast. 1975: 205. – *A. salicorniae* Magnus var. *salicorniae-patulae* Trotter, Ann. Mycol. **3**, 1905: 30.

Pycnidia brown, globose, 160-200 µm diam. Conidia cylindrical, both ends rounded, 1-septate, sometimes with a somewhat narrowed lower cell, not or slightly constricted, 9-14 × 3.5-4 µm.

On stems of *Salicornia patula* (= *S. procumbens*).

Distribution: Europe (Germany).

Fig. 26. Conidia of
Ascochyta betae (× 1000).

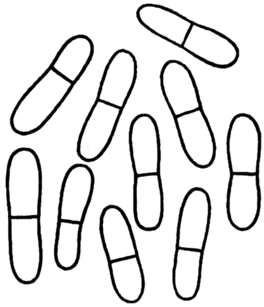

Fig. 27. Conidia of
Ascochyta compositarum (× 1000).

103. ***Ascochyta boni-henrici*** Ranoj., Ann. Mycol. **12**, 1914: 406. – *A. spinaciae* Bond.-Mont., Bolezni Rast. **12**, 1923: 71 (holotype LE!).

Pycnidia epiphyllous, numerous, more or less aggregated, immersed, from pale to dark brown, globose-depressed, 100-210 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight, not constricted, 6-12 (13.5) × 2-4 µm.

On living leaves of *Atriplex* sp., *Chenopodium ambrosioides*, *Ch. bonus-henricus*, *Ch. foliosum*, *Ch. polyspermum*, *Spinacia oleracea*.

Distribution: Europe (USSR – Orel Oblast', Voronezh Oblast'; Yugoslavia).

Compositae

104. ***Ascochyta compositarum*** Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 659 (holotype UC!). – *A. compositarum* Davis var. *parva* Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 700 (holotype UC!). Fig. 27, p. 70.

Pycnidia epiphyllous, scattered, semi-immersed, pale brown, up to 180 µm diam., with circular pore up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, sometimes almost foot-shaped, sometimes with an eccentric septum, slightly constricted, 10-16 × 3.5-5 µm.

On living leaves of *Aster drummondii*, *Eupatorium urticaefolium*, *Helianthus strumosus*.

Distribution: N. America (USA).

105. ***Ascochyta doronici*** Allesch., Hedwigia **36**, 1897: 162 (isotype LEP!). – *Phyllosticta cynarae* Westend., Bull. Acad. R. Belg., Cl. Sci., Sér. 2, 2: 568. 1857; also in Kickx, Flore Cryptogamique des Flandres 1: 414. 1867; Sacc., Syll. Fung., **3**, 1884: 45. – *Ph. lappae* Sacc., Michelia **1**, 1878: 151. – *Ph. rudbeckiae* Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1895: 430. – *A. doronici-caucasici* K. S. Ivanov, Tr. Petersb. Obsch. Estestvoispyt. **30**, 3, 1900: 11. – *A. zinnae* Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 670 (isotypi LEP!). – *A. cryptostemmatis* McAlpine, Proc. Linn. Soc. New South Wales 1903: 95. – *A. adenostylis* Kabát & Bubák, Ber. Naturwiss.-Med. Vereins Innsbruck **30**, 1905-1906: 9 (extr.). – *Diplodina dahliae* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **4**, 1906: 343. – *Phyllosticta taraxaci* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **5**, 1907: 456. – *A. cynarae* Maffei, Atti Ist. Bot. Univ. Pavia, ser. 2, **12**, 1907: 10 (extr.). – *A. lappae* Kabát & Bubák, Hedwigia **47**, 1908: 357 (isotypi LE! LEP! *GruzIZR!*). – *A. cichorii* Died., Krypt. Fl. M. Brand. **9**, 1912: 379. – *A. cynarae* Died., Krypt. Fl. M. Brand. **9**, 1912: 381. – *A. cynarae* (Westend.) H. Zimm., Verh. Naturf. Vereins Brünn **52**, 1913: 100. – *A. gerberae* Maffei, Rivista Patol. Veget. **6**, 1913: 258. – *A. lappae* (Sacc.) Jaap, Ann. Mycol. **12**, 1914: 26. – *A. homogynes* Ranoj., Ann. Mycol. **12**, 1914: 406. – *Gloeosporium lappae* Dearn. & House, New York State Mus. Bull. **197**, 1918: 30. – *A. lappae* (Sacc.) Petr., Ann. Mycol. **18**, 1920: 119. – *A. taraxaci* (Hollós) Grove, J. Bot. **60**, 1922: 48. – *A. artemisiae* Bond.-Mont., Bolezni Rast.

12, 1923: 72 (holotype LE!). – *Diplodina lappae* Picb., Práce Morav. Přír. Společn. **1**, 5, 1924: 296 (holotype BRNM!). – *A. senecionicola* Petr., Ann. Mycol. **22**, 1924: 167 (holotype IMI! isotype PR!). – *A. petasidis* Petr., Ann. Mycol. **23**, 1925: 126 (isotypi LEP! PR!). – *A. cichorii* Died. f. *lampsanae* Jacz. & Fokin, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **4**, 3, 1926: 40 (Note: "*lampsanae*" refers to the genus *Lampsana,* an accepted spelling of *Lapsana* at the time of publication). – *A. lappae* Hollós, Math. Természett. Közlem. **35**, 1, 1926: 15. – *A. albo-maculata* Dobrozr., Bolezni Rast. **16**, 1927: 201 (holotype LE!). – *A. dahliicola* (Brunaud) Petr., Ann. Mycol. **25**, 1927: 203, excl. basionymo (isotype LEP!). – *Diplodina cynarae* Kill. & Maire, Bull. Soc. Hist. Nat. Afrique Nord **19**, 1928: 22. – *A. sternbergensis* Petr., Ann. Mycol. **27**, 1929: 393 (holotype IMI! isotype PR!). – *Diplodina lappae* Morochk., Ukr. Bot. Zhurn. **21-22**, 1939: 323. – *D. matricariae* Moesz & Smarods, Magyar Bot. Lapok **31**, 1932: 40. – *A. carthami* Khokhr., Tr. Vsesoyuzn. Inst. Maslitchn. Kul'tur (VNIIMK) **1**, 1934: 35 (holotype LEP!). – *A. matricariae* (Moesz & Smarods) Grove, British stem- and leaf-fungi **1**, 1935: 40. – *A. latvica* Syd., Ann. Mycol. **33**, 1935: 380 (holotype LE!). – *A. calendulae* Syd., Ann. Mycol. **33**, 1935: 381. – *A. hortorum* (Speg.) C. O. Sm. var. *compositarum* Malençon, Rev. Mycol. (Paris) **1**, 1936: 165-175. – *A. coreopsidis* Moesz & Smarods, Bot. Közlem. **34**, 1937: 3 (isotype LE!). – *A. bubakiana* Picb., Ann. Mycol. **35**, 1937: 142 (holotype BRNM!). – *A. chariedis* Novos., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4**, 10-12, 1938: 38. – *A. helianthi* I. N. Abramov, Bolezni sel'skokhoz. rast. Dal'nego Vostoka 1938: 255, non valide publ., descr. ross. – *A. rudbeckiae* Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4**, 10-12, 1938: 42. – *A. taraxaci* I. E. Brezhnev, Uch. Zap. Leningr. Univ. **28**, ser. Biol., 7, 1939: 178. – *A. hieraciicola* Moesz & Smarods, Bot. Közlem. **38**, 1941: 71 (isotypi LE! *Pribalt. filial VIZR!*). – *A. moeszii* Smarods, Bot. Közlem. **39**, 1942: 190. – *A. echinopis* Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 1945: 161 (holotype LE!). – *A. rudbeckiae* (Ellis & Everh.) H. C. Greene, Amer. Midl. Naturalist **41**, 3, 1949: 753. – *A. rhagadioli* Khokhr., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **7**, 1951: 146 (holotype LEP!). – *A. baumgartneri* Petr., Sydowia **9**, 1955: 578. – *A. rudbeckiae* (Ellis & Everh.) H. C. Greene f. *diplodina* H. Ruppr., Sydowia **11**, 1957: 425, non valide publ., descr. germ. – *A. kuhniae* H. C. Greene, Trans. Wisconsin Acad. Sci. **53**, 1964: 195. – *A. agerati* Nelen, Nov. Sist. Niz. Rast. 1966: 220 (holotype LE). – *A. xanthiicola* Nelen, Nov. Sist. Niz. Rast. 1966: 220 (holotype LE!). – *A. balsamita* Tasl., Mikol. i Fitopat. **1**, 1, 1967: 112 (holotype EGU!). – *A. mulgedii* Cejp & Zavřel, Zprávy Vlastiv. Ústavu v Olomouci **141**, 1969: 13 (holotype PRC!). – *A. adenocaulonis* Melnik, Nov. Sist. Niz. Rast. 1970: 243 (holotype LE! isotype MW!). Fig. 28, p. 72.

Pycnidia on leaves (predominantly on the upper side), fruits, seeds and stems, scattered or sometimes aggregated and often confluent, at first immersed, later erumpent, pale to dark brown and almost black (especially on stems), globose-depressed or lentiform, up to 200 µm diam., with a circular pore, up to 30-35 µm diam., surrounded by small dark cells, above all very conspicuous on light brown pycnidia; on stems pycnidia sometimes with a small papillate ostiole. Pycnidial wall more or less thin. Conidia cylindrical or oblong-ellipsoidal, some almost ellipsoidal, both ends rounded, sometimes with one slightly attenuated end, straight or sometimes slightly bent, not or somewhat constricted, (6) 7-12 (13) × 2-4 µm.

On leaves, stems, fruits, and seeds predominantly on living plants of *Adenocaulon*, *Adenostylis*, *Ageratum*, *Artemisia*, *Calendula*, *Carthamus*, *Centaurea*, *Charies*, *Cichorium*, *Coreopsis*, *Cynara*, *Crypostemma*, *Dahlia*, *Doronicum*, *Echinops*, *Gerbera*, *Helianthus*, *Hieracium*, *Homogyne*, *Hypochoeris*, *Kuhnia*, *Lapsana*, *Lappa*, *Matricaria*, *Mulgedium*, *Petasites*, *Pyrethrum*, *Rhagadiolus*, *Rudbeckia*, *Senecio*, *Stokesia*, *Taraxacum*, *Xanthium*, *Zinnia*.

Distribution: circumglobal.

106. ***Ascochyta greenei*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. solidaginis* H. C. Greene, Trans. Wisconsin Acad. Sci. **49**, 1960: 105, non *A. solidaginis* (Schwein. ex Fr.) Starbäck, Bih. Kongl. Svenska Vet.-Akad. Handl. **19**, 3, 1893: 84, nec *A. solidaginis* (Thüm.) Keissl., Beih. Bot. Centralbl. **29**, 2, 1912: 422.

Pycnidia epiphyllous, scattered, brown, almost globose, 250-300 µm diam. Conidia cylindrical, (6) 8-10 × 1.5-2 µm.

On living leaves of *Solidago altissima*.

Distribution: N. America (USA).

Fig. 28. Conidia of *Ascochyta doronici* (× 1000).

Fig. 29. Conidia of *Ascochyta ligulariae* (× 1000).

107. ***Ascochyta ligulariae*** Kalymb., Tr. Inst. Bot. AN KazSSR **13**, 1962: 274 (holotype AA!). Fig. 29, p. 72.

Pycnidia epiphyllous, numerous, scattered or aggregated, immersed, brown or dark brown, globose or globose-depressed, 70-150 µm diam., with an irregularly circular pore. Pycnidial wall very thin, delicate. Conidia cylindrical, cylindrical-fusiform, sometimes almost ellipsoidal, both ends rounded, straight or bent, sometimes irregular, constricted, 7-15 × 2.5-6 µm.

On living leaves of *Ligularia heterophylla*, *L. macrophylla*, *L. persica*.

Distribution: Asia (USSR – Kazakhstan, Kirghizia).

This species reaches high altitudes; in Kazakhstan it was found at 1700 m alt., in Kirghizia at 2000 m alt.

108. ***Ascochyta lorentzii*** Speg., Fungi Arg. Pug. **3**: no. 124.

Pycnidia not numerous, immersed, olivaceous brown, lentiform, 90-100 µm diam., with a small pore. Pycnidial wall thin. Conidia ellipsoidal, with slightly blunt ends, not or only slightly constricted, 10-12 × 4-4.5 µm.

On living leaves of *Cnicothamnus lorentzii*.

Distribution: South America (Argentina).

109. ***Ascochyta schelliana*** Thüm., Nuovo Giorn. Bot. Ital. **12**, 1880: 199.

Pycnidia amphigenous and on stems, numerous, aggregated, immersed, black, globose-depressed, large. Conidia cylindrical, both ends rounded, 25-33 × 7-8.5 µm.

On withering leaves and stems of *Chartolepis glastifolia* (= *Centaurea glastifolia*).

Distribution: Europe (Italy).

110. ***Ascochyta sonchi*** (Sacc.) Grove, J. Bot. **40**, 1922: 48. – *Phyllosticta sonchi* Sacc., Michelia **1**, 1878: 141. – *A. millefolii* Oudem., Contr. Fl. Mycol. Pays-Bas **14**, 1892: 44. – *Diplodina millefolii* (Oudem.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 676. – *A. cirsii* Died., Krypt. Fl. M. Brand. **9**, 1912: 379. – *Diplodina cirsii* Grove, J. Bot. **56**, 1918: 317. – *A. inulae* (Allesch. & Syd.) Petr., Ann. Mycol. **19**, 1921: 23, excl. basionymo. – *A. inulicola* Petr., Ann. Mycol. **19**, 1921: 23. – *A. zavrelii-ignatii* Picb., Verh. Naturf. Vereins Brünn **68**, 1937: 41 (holotype BRNM!). – *A. ligulariae* Sawada, Rep. Gov. Res. Inst. Formosa **85**, 1943: 71, non valide publ., descr. jap. – *A. petrakii* Sandu & Mititiuc, Sydowia **20**, (1966) 1968: 171 (holotype I!). Fig. 30, p. 76.

Pycnidia epiphyllous, scattered or aggregated, somewhat erumpent, sometimes immersed, pale to dark brown and almost black, globose-depressed, up to 200 (250) µm diam., with a circular pore, 20-25 µm diam., sometimes with a small papillate ostiole. Pycnidial wall thin, on stems somewhat thicker. Conidia ellipsoidal, oblong-ellipsoidal, ovate, more rarely almost cylindrical, both ends rounded, straight, sometimes slightly bent, not or slightly constricted, (6) 8-10 × (2) 3-4 (5) µm.

On living leaves and dry stems of *Achillea millefolium*, *Cirsium arvense*, *C. heterophyllum*, *Galinsoga parviflora*, *Inula britannica*, *I. conyza*, *Ligularia tussilaginea* var. *formosana*, *Onopordon acanthium*, *Sonchus oleraceus*.

Distribution: Europe (generally distributed), Asia (USSR – Primorskij Kraj; Japan).

111. ***Ascochyta tussilaginis*** Oudem., Hedwigia **37**, 1898: 178. – *Darluca tussilaginis* (Oudem.) Oudem., Cat. Rais. Champ. Pays-Bas 1905: 442. – *A. scorzonerae* Rostr., Bot. Tidsskr. **26**, 1905: 312. – *Diplodina sonchi* Henn., Hedwigia **45**, 1906: 32. – *Gloeosporium sonchi* Rostr., Bot. Tidsskr. **26**, 1905: 312. – *A. sonchi* Lobik, Bolezni Rast. **17**, (1928) 1929: 174. – *A. sonchi* (Henn.) Syd., Ann. Mycol. **27**, 1929: 121. – *Diplodina sonchicola* Ade in Petr., Bot. Jahrb. Syst. **62**, 3, 1929: 151 (isotype PR!). – *A. sonchi* (Rostr.) Arx, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. **51**, 3, 1957: 136. – *A. carthami* Nevod. ex Pisareva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 285. – *Diplodina scorzonerae* Byzova, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 326.

Pycnidia predominantly epiphyllous and on stems, scattered or somewhat aggregated, on stems more evenly scattered, semi-immersed, pale to dark brown, on stems almost black, globose or globose-depressed, 70-150 µm diam., on stems oval, elongated along the stem axis, with a circular pore, on stems often with a small papillate ostiole. Conidia cylindrical, some oblong-ellipsoidal or slightly clavate, both ends rounded, straight or sometimes somewhat flexuous, not or slightly constricted, 8-15 (18) × 3-4 (4.5) µm.

On living leaves and dry stems of *Carthamus tinctorius*, *Scorzonera hispanica*, *S. humilis*, *S. inconspicua*, *Scorzonera* sp., *Sonchus arvensis*, *S. asperus*, *S. leptocephalus*, *S. oleraceus*, *S. palustris*, *Tussilago farfara*.

Distribution: Europe (Austria; Czechoslovakia; Denmark; Germany; Spain; The Netherlands; UK; USSR – Latvia, Leningrad Oblast', Moscow Oblast', Orel Oblast', Perm Oblast'), Asia (USSR – Kazakhstan).

Convolvulaceae

112. ***Ascochyta calystegiae*** Sacc., Michelia **1**, 1878: 165. – *A. carpogena* Sacc., Michelia **2**, 1880: 109.

Pycnidia epiphyllous and on the entire surface of stems, evenly scattered, immersed, yellowish-brown or brown, predominantly lentiform, 120-210 µm diam., with a circular pore, 15-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some ellipsoidal or slightly oval, not constricted or constricted, 6-13 × 2.5-4 µm.

On dry stems, petioles, fruits, and living leaves of *Convolvulus arvensis*, *C. sepium*, *Ipomoea batatas*, *I. purpurea* (= *Pharbis hispida*).

Distribution: Europe (Czechoslovakia; France; Germany; Italy; UK; USSR – Estonia, Latvia, Leningrad Oblast', Voronezh Oblast'), Asia (USSR – Armenia).

113. ***Ascochyta kleinii*** Bubák, Növenyt. Közlem. **4**, 1907: 31 (extr.).

Pycnidia immersed, yellow-ochraceous, globose-depressed, 100-200 µm diam., with a small papillate ostiole and a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, 13-18 × 2.5-3 µm.

On living leaves of *Calystegia* (*Convolvulus*) *sepium*.

Distribution: Europe (Hungary).

Crassulaceae

114. ***Ascochyta cotyledonis*** H. Zimm., Verh. Naturf. Vereins Brünn **47**, 1908-1909: 36 (holotype PR!).

Pycnidia predominantly epiphyllous, numerous, in more or less regular concentric circles, immersed, rusty, globose, 200-250 µm diam., with a rounded pore, 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, not or weakly constricted, 6-10.5 × 3-3.5 µm.

On living leaves of *Cotyledon gibbiflora*.

Distribution: Europe (Czechoslovakia).

115. ***Ascochyta telephii*** Vestergr., Förh. Kongl. Svenska Vetensk.-Akad. Öfvers. **1**, 1897: 41. – *A. sedi-purpurei* Rothers, Zashchita Rast. **6**, 1929: 263 (ut *Ascochyta (Stagonosporopsis) sedi-purpurei* Rothers), (holotype LE! isotype LEP!). Fig. 31, p. 76.

Pycnidia predominantly epiphyllous, scattered, immersed, from yellowish-brown to dark brown, almost black, globose, (75) 100-200 µm diam., with a circular pore, 25 µm diam. Pycnidial wall thin. Conidia cylindrical, some slightly clavate, both ends rounded, straight of slightly bent, not constricted, (7) 8-13 × 3-4 (5) µm.

On living leaves of *Sedum aizoon*, *S. maximum*, *S. purpureum*, *S. telephium*.

Distribution: Europe (Czechoslovakia; Norway; Sweden; USSR – Arkhangelsk Oblast', Latvia).

Cruciferae

116. ***Ascochyta cakiles*** H. Ruppr., Sydowia **13**, 1959: 15.

Pycnidia immersed, yellowish brown, globose or globose-depressed, 100-170 µm diam., with a pore, up to 24 µm diam. Conidia oblong-ellipsoidal or subfusiform, both ends blunt, straight, sometimes flexuous, 19-24 × 3 µm.

On dry stems and fruits of *Cakile maritima*.

Distribution: Europe (USSR – Latvia).

117. ***Ascochyta cheiranthi*** Bres., Hedwigia **39**, 1900: 326. – *A. hesperidis* Died., Krypt. Fl. M. Brand. **9**, 1912: 385. – *A. oleracea* J.W. Ellis, Trans. Brit. Mycol. Soc. **5**, 1916: 229 (holotype K!). – *A. brassicae-rapae* Bond.-Mont., Bolezni Rast. **12**, 1923: 71 (holotype LE!). – *A. crambes* Novos., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4**, 10-12, 1938: 39, non *A. crambes* Byzova, Bot. Mat. Gerb. Inst. Bot. AN KazSSR **2**, 1964: 90. – *A. rorippae* Dejeva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 239 (holotype AA!).

Pycnidia predominantly epiphyllous, also on seeds and dry stems, scattered, sometimes aggregated, semi-immersed or immersed, yellow, honey-coloured, rusty, brown, globose-depressed or lentiform, 100-200 µm diam., with a circular pore, up to 20-25 µm diam., surrounded by small dark cells, on stems sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or ellipsoidal, both ends rounded, sometimes both ends somewhat blunt, straight or slightly bent, not or very weakly constricted, (6) 7-12 × 2.5-4 µm.

On living leaves, seeds, and dry stems of *Brassica campestris*, *B. oleracea*, *B. rapa*, *Cheiranthus cheiri*, *Crambe tatarica*, *Hesperis matrionalis*, *Rorippa palustris*.

Distribution: Europe (Germany; UK; USSR – Leningrad Oblast', Orel Oblast'), Asia (USSR – Kazakhstan).

118. ***Ascochyta dentariae*** I. E. Brezhnev, Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **7**, 1951: 186 (holotype *LGU!*).

Pycnidia epiphyllous, also hypophyllous, evenly scattered, immersed, pale brown to dark brown, globose or globose-depressed, 120-160 µm diam., with a circular pore. Pycnidial wall thin. Conidia oblong-ellipsoidal or almost fusiform, with somewhat attenuated, rounded ends, straight, sometimes slightly bent, somewhat constricted, 9-12 (15) × 2.5-3 µm.

On living leaves of *Dentaria quinquefolia*.

Distribution: Europe (USSR – Belgorod Oblast').

119. ***Ascochyta lepidii*** Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **6**, 1908: 531. – *A. sinapis* Rodigin, Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **11**, 1956: 165. – *A. brassicae-campestris* Sawada, Bull. Gov. Forest Exp. Sta. **105**, 1958: 51, non valide publ.

Pycnidia predominantly epiphyllous, scattered or aggregated, immersed, dark brown or almost black, globose or lentiform, 70-160 µm diam., with a circular pore. Conidia cylindrical, oblong-ellipsoidal, or ellipsoidal, both ends rounded, not constricted, 11-15 (16) × 3-4 (5) µm.

On living leaves of *Brassica campestris* var. *peckinensis*, *Lepidium ruderalis*, *Sinapis alba*.

Distribution: Europe (Hungary; USSR – Bashkiria, Voronezh Oblast'), Asia (Japan).

120. ***Ascochyta matthiolae*** Oudem., Contr. Fl. Mycol. Pays-Bas **16**, 1898: 69. – *A. rusticana* Kabát & Bubák, Hedwigia **50**, 1910: 41 (isotypi LE! LEP! *GruzIZR!*).

Pycnidia epiphyllous, scattered or sometimes aggregated, semi-immersed or immersed, pale to dark brown or almost black, globose-depressed or lentiform, 80-200 (270) µm diam., with a circular pore, 30 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or ellipsoidal, both ends rounded, straight, sometimes slightly flexuous, not or slightly constricted, 16-18 (21) × 3-4.5 µm.

On living leaves of *Armoracia rusticana* and *Matthiola incana*.

Distribution: Europe (Czechoslovakia; The Netherlands).

121. ***Ascochyta pachyphragmae*** Lobik, Bolezni Rast. **17**, 1928: 174 (holotype LE!). – *A. lunariae* Syd., Ann. Mycol. **33**, 1935: 279 (isotypi K! LE!).

Pycnidia predominantly epiphyllous, scattered or aggregated, immersed, pale brown, globose or globose-depressed, 80-120 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall very thin, delicate. Conidia cylindrical, oblong-ellipsoidal, sometimes ellipsoidal, both ends rounded, straight or sometimes slightly flexuous, not constricted, 7.5-13 (15) × 3-4.5 (5) µm.

On living leaves of *Lunaria rediviva* and *Pachyphragma macrophylla*.

Distribution: Europe (Germany; USSR – Krasnodar Kraj).

Cucurbitaceae

122. ***Ascochyta elaterii*** Sacc., Michelia **1**, 1878: 166.

Pycnidia aggregated, immersed, at first yellowish, later darkened, globose-depressed or lentiform, 100-110 µm diam., with pore. Conidia cylindrical, both ends rounded, straight or sometimes slightly flexuous, not or slightly constricted, 20-22 × 4 µm.

On leaves of *Momordica elaterium*.

Distribution: Europe (Italy).

Cyperaceae

123. ***Ascochyta caricicola*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. caricis* Lambotte & Fautrey, Rev. Mycol. (Toulouse) **19**, 1897: 141, non *A. caricis* Fuckel, Symb. Mycol. 1869: 386, nec *A. caricis* W. B. Cooke & C. G. Shaw, Mycologia **44**, 1952: 799. – *A. sodalis* Grove, British stem- and leaf-fungi **1**, 1935: 322. – *A. caricis-arenariae* Melnik, Nov. Sist. Niz. Rast. 1967: 272. Fig. 32, p. 76.

Pycnidia epiphyllous, aggregated, immersed, dark brown, globose or globose-depressed, 100-180 µm diam., with an obscure pore, up to 20 µm diam. Pycnidial wall thin. Conidia cylindrical or narrow-fusiform, ends slightly attenuated, not constricted, (9.7) 12-15 × (2.5) 3-4.5 µm.

On living and dry leaves of *Carex* spp.

Distribution: Europe (Denmark; France; UK; USSR – Estonia, Ukraine), Asia (USSR – Krasnoyarsk Kraj).

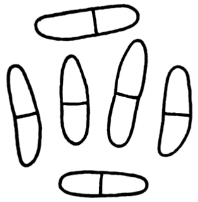

Fig. 30. Conidia of ***Ascochyta sonchi*** (× 1000).

Fig. 31. Conidia of ***Ascochyta telephii*** (× 1000).

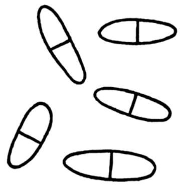

Fig. 32. Conidia of ***Ascochyta caricicola*** (× 1000).

124. ***Ascochyta caricina*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. caricis* W. B. Cooke & C. G. Shaw, Mycologia **44**, 1952: 799, non *A. caricis* Fuckel, Symb. Mycol. 1869: 386, nec *A. caricis* Lambotte & Fautrey, Rev. Mycol. (Toulouse) **19**, 1897: 141. Fig. 33, p. 77.

Pycnidia spread along leaf veins, immersed, dark brown, globose or globose-depressed, 75-100 µm diam., with an indistinct pore. Pycnidial wall thin. Conidia cylindrical, with attenuated rounded ends or narrowly fusiform, straight or slightly bent, not constricted, 20-28 × 3-4 µm.

On leaves of *Carex* spp.

Distribution: N. America (USA).

125. ***Ascochyta decipiens*** Trail, Scott. Naturalist (Perth) **4**, 1889: 71. – *Diplodina decipiens* (Trail) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 688. – *A. graminicola* Sacc. var. *tokioensis* Tassi, Bull. Lab. Orto Bot. Univ. Siena **3**, 1900: 55.

Pycnidia immersed, dark brown, globose-depressed, about 120 µm diam. Pycnidial wall thin. Conidia ellipsoidal, not constricted, 9-12 × 2.5-4 µm.

On leaves and culms of *Fimbrystilis tokioensis* and *Heleocharis palustris*.

Distribution: Europe (UK), Asia (Japan).

126. ***Ascochyta socialis*** Sacc., Michelia **2**, 1880: 108.

Pycnidia aggregated, immersed, lentiform, 100 µm diam. Conidia fusiform, constricted, 15-16 × 5 µm.

On decaying leaves, belonging to the *Cyperaceae* (*Carex*?), in a river.

Distribution: Europe (France).

Dioscoreaceae

127. ***Ascochyta dioscoreae*** Syd., Ann. Mycol. **14**, 1916: 195.

Pycnidia epiphyllous, scattered, immersed, pale brown, about 250 µm diam., with a circular pore, up to 75 µm diam. Conidia oblong-ellipsoidal, both ends broadly rounded, 7-12 × 4-5 µm.

On leaves of *Dioscorea* sp.

Distribution: Asia (India).

128. ***Ascochyta tami*** Hollós, Math. Természett. Közlem. **35**, 1, 1926: 16.

Pycnidia scattered, immersed, brown, lentiform, 125-175 µm diam., with a pore. Conidia oblong-ellipsoidal, not or slightly constricted, 8-10 × 3-3.5 µm.

On living leaves of *Tamus communis*.

Distribution: Europe (Hungary).

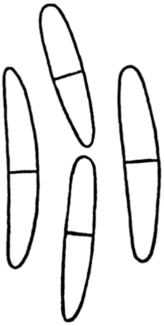

Fig. 33. Conidia of *Ascochyta caricina* (× 1000).

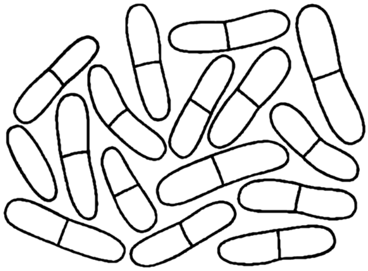

Fig. 34. Conidia of *Ascochyta heveae* (after Saccas, 1953).

Dipsacaceae

129. ***Ascochyta dipsaci*** Bubák, Ann. K. K. Naturhist. Hofmus. **23**, 1909: 104. – *Phyllosticta dipsaci* Briard & Fautrey, Rev. Mycol. (Toulouse) **15**, 1893: 22. – *A. scabiosae* Petr., Ann. Mycol. **25**, 1927: 230 (isotypi LEP! PR!). – *A. dipsaci* Bubák f. *diplodina* H. Ruppr., Sydowia **11**, 1958: 424, non valide publ., descr. germ.

Pycnidia epiphyllous, more or less evenly scattered, immersed, pale brown or yellowish brown, globose-depressed, up to 180 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells, on stems pycnidia with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, some slightly clavate, both ends rounded, straight or sometimes slightly bent, not or slightly constricted, 6-10 (12) × 2.5-4 µm.

On living leaves and stems of *Dipsacus* spp. and *Scabiosa caucasica*.

Distribution: Europe (Austria; Czechoslovakia; France; USSR – Latvia), Asia (USSR – Armenia, Georgia).

Euphorbiaceae

130. ***Ascochyta heveae*** Petch, Ann. Roy. Bot. Gard. (Peradeniya) **6**, 3, 1917: 236 (holotype K!). – *A. aleuritidis* Saccas & Drouillon, Agron. Trop. (Nogent-sur-Marne) **6**, 5-6, 1951: 242. – *A. aleuritidis* Khokhr., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **7**, 1951: 146. Fig. 34, p. 77.

Pycnidia epiphyllous, scattered, immersed, dark brown or almost black, globose-depressed, 60-100 µm diam., with a small circular pore. Pycnidial wall thin. Conidia cylindrical, sometimes compressed in the middle, both ends rounded, sometimes blunt, straight or sometimes slightly flexuous, not constricted, 8.6-13.5 × (3) 4-4.5 µm.

On living leaves of *Aleurites fordii* (= *A. caudata*) and *Hevea brasiliensis*.

Distribution: Asia (Sri Lanka; USSR – Georgia), Equatorial Africa.

131. ***Ascochyta heveana*** Saccas, Agron. Trop. (Nogent-sur-Marne) **8**, 2, 1953: 182. Fig. 35, p. 78.

Pycnidia amphigenous, scattered, in concentric rings, immersed, brownish, globose, 100-150 µm diam., with a circular pore, 18-23 µm diam., surrounded by small dark cells, and with a short papillate ostiole. Conidia cylindrical, oval-cylindric or oval, with blunt ends, straight or slightly flexuous, with a central or eccentric septum, 4-12 × 2-3.5 µm, average 7 × 2.8 µm.

On living leaves of *Hevea brasiliensis*.

Distribution: Equatorial Africa.

Fig. 35. Conidia of ***Ascochyta heveana*** (after Saccas, 1953).

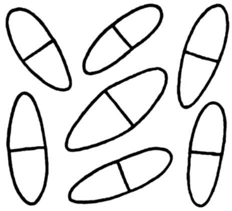

Fig. 36. Conidia of ***Ascochyta fagi*** (× 1000).

132. ***Ascochyta mercurialis*** Bres., Hedwigia **39**, 1900: 326 (isotype WRSL!). – *A. ricinella* Sacc. & Scalia, Fl. Mycol. Lus. **12**, 1903: 10 (holotype PAD!). – *A. mercurialis* Bres. var. *autumnalis* Kabát & Bubák, Hedwigia **50**, 1910: 40. – *A. tragiae* Speg., Anales Mus. Nac. Hist. Nat. Buenos Aires **20**, 1910: 365.

Pycnidia predominantly epiphyllous, also on stems, scattered, sometimes aggregated, often 2-3 pycnidia confluent, immersed, pale to dark brown, globose, globose-depressed or lentiform, (80) 90-200 µm diam., with a circular pore, up to 20-25 µm diam., surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin, on stems somewhat thicker. Conidia predominantly cylindrical, some oblong-ellipsoidal and somewhat clavate, both ends rounded, straight or slightly bent, not constricted, 6-12 × 3-4 µm.

On living leaves and dry stems of *Mercurialis annua*, *M. perennis*, *Ricinus communis*, *Tragia geraniifolia*.

Distribution: Europe (Czechoslovakia; Germany; Hungary; Portugal; USSR – Krasnodar Kraj, Latvia, Ukraine, Voronezh Oblast'), South America (Argentina).

Fagaceae

133. ***Ascochyta fagi*** Woron., Vestn. Tiflissk. Bot. Sada **28**, 1913: 22 (holotype *GruzIZR!* isotypi LE! LEP! *OSKhI!*). Fig. 36, p. 78.

Pycnidia amphigenous, not numerous, immersed, dark brown, globose and globose-depressed, up to 100 µm diam., with a circular pore. Pycnidial wall thin. Conidia broadly fusiform, both ends tapered, straight, not or slightly constricted, (13) 15-18 × 5-6 µm.

On living leaves of *Fagus orientalis*.

Distribution: Asia (USSR – Georgia).

134. ***Ascochyta quercus*** Sacc. & Speg., Michelia **1**, 1878: 162. Fig. 37, p. 80.

Pycnidia epiphyllous, scattered, immersed, pale to dark brown, lentiform, 120-150 µm diam., with a circular pore 15-25 µm diam. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends broadly rounded, straight, not constricted, 7-14 × 3-4.5 µm.

On living leaves of *Quercus* spp.

Distribution: Europe (Hungary; Italy; USSR – Kursk Oblast', Stavropol Kraj; Ukraine, Voronezh Oblast'), Asia (USSR – Armenia, Georgia).

Gentianaceae

135. ***Ascochyta chlorae*** Sacc. & Speg., Michelia **1**, 1878: 163.

Pycnidia scattered, pale dirty-brown, globose-lentiform, 100-200 µm diam., with a small pore. Conidia oblong-ellipsoidal, both ends somewhat acutate, slightly constricted, 10-18 × 2-3 µm.

On leaves of *Chlora serotina* (= *Ch. perfoliata*).

Distribution: Europe (Italy).

136. ***Ascochyta fraserae*** Ellis & Everh., Bull. Torrey Bot. Club **24**, 1897: 289. – *A. fraserae* Sacc., Nuovo Giorn. Bot. Ital. **27**, 1920: 82. – *A. frasericola* Melnik, Nov. Sist. Niz. Rast. 1971: 211 (ut *A. fraseriicola* Melnik).

Pycnidia predominantly epiphyllous and on stems, scattered, semi-immersed, pale yellow-brown to brown or almost black (especially on stems), globose or globose-depressed, 140-200 (300) µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, slightly attenuated, straight or sometimes somewhat flexuous, not or slightly constricted, 12-21 (26) × 3-5 µm.

On living leaves and stems of *Frasera fastigiata* and *F. speciosa*.

Distribution: N. America (USA).

Geraniaceae

137. ***Ascochyta geraniicola*** Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1**, 14, 1923: 32.

Pycnidia amphigenous, immersed, 160 µm diam., with a pore, 15-20 µm diam. Conidia cylindrical, straight or slightly bent, often irregular, 8-10 × 3-3.5 µm.

On living leaves of *Geranium sylvaticum*.

Distribution: Asia (USSR – Georgia).

Gramineae

138. ***Ascochyta agrostidis*** Polozova, Mikol. i Fitopat. **3**, 2, 1969: 189 (holotype *LSKhI!*). – *A. graminicola* Sacc. var. *hispanica* Gonz. Frag., Mem. R. Soc. Esp. Hist. Nat. **11**, 1919: 117.

Pycnidia predominantly epiphyllous, scattered or aggregated, black, globose-depressed, sometimes linearly elongated along leaf veins, up to 90-150 µm in size, with circular pore, sometimes with a small papillate ostiole, erumpent through epidermis. Pycnidial wall thin. Conidia fusiform, both ends rounded, straight, not constricted, 9-12 × 1.8-2.5 µm.

On leaves of *Agrostis alba* and *Holcus lanatus*.

Distribution: Europe (Spain; USSR – Leningrad Oblast').

139. ***Ascochyta antarctica*** Henn., Deutsche Südpolar-Exped. **8**, 1906: 13 (extr.). – *A. stipae* Died., Krypt. Fl. M. Brand. **9**, 1912: 385.

Pycnidia scattered, semi-immersed, brown, globose-depressed or almost lentiform, 150-180 µm diam., with a pore. Pycnidial wall thin. Conidia oblong-ellipsoidal or subcylindrical, both ends blunt, straight or flexuous, slightly constricted, 15-22 (24) × 6-8 µm.

On leaves and dry culms of *Poa cookei* and *Stipa capillata*.

Distribution: Europe (Germany), Antarctica.

140. ***Ascochyta bambusicola*** Cif. & Gonz. Frag., Publ. Estac. Agron. Haina, ser. B, Bot. **4**, 1926: 6.

Pycnidia scattered, immersed, black, globose, 90-100 µm diam., with a circular pore and with a small papillate ostiole. Conidia ovate, both ends rounded and narrowed, 3.5-4.5 × 1.2-1.5 µm.

On leaves of plants from *Bambusoideae*.

Distribution: Central America (Dominican Republic).

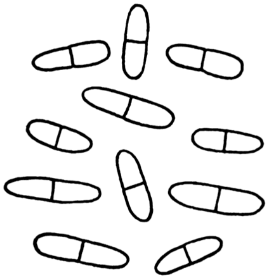

Fig. 37. Conidia of
Ascochyta quercus (× 1000).

Fig. 38. Conidia of
Ascochyta calamagrostidis (× 1000).

141. ***Ascochyta brachypodii*** (Syd.) R. Sprague & Aar. G. Johnson, Mycologia **42**, 1950: 537. – *A. graminicola* Sacc. var. *brachypodii* Trail, Scott. Naturalist (Perth) **3**, 1887: 88. – *Diplodina brachypodii* Syd., Ann. Mycol. **14**, 1916: 246 (isotype PR!).

Pycnidia epiphyllous, more or less aggregated, immersed, black-brown, globose or globose-depressed, 95-120 µm diam., with a circular pore. Pycnidial wall thick. Conidia broadly fusiform, both ends blunt, sometimes one end somewhat attenuated, not constricted or constricted, 15-22 × 4.5-6 µm.

On living and dry leaves of *Brachypodium sylvaticum*.

Distribution: Europe (Germany).

142. ***Ascochyta calamagrostidis*** Brunaud, Mat. Mycol. Saint. 1887: 25. – *Diplodina calamagrostidis* (Brunaud) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 681. – *A. graminicola* Sacc. var. *diedickeana* Baudyš & Picb., Práce Morav. Přír. Společn. **3**, 2, Sign. F. 22, 1926: 29 (holotype BRNM!). – *A. graminicola* Sacc. var. *festucae* Grove, British stem- and leaf-fungi **1**, 1935: 323, non valide publ., descr. angl. (holotype K!). Fig. 38, p. 80.

Pycnidia scattered, immersed, black, globose-depressed or lentiform, 100-300 µm diam., with a circular pore, sometimes with a small papillate ostiole. Pycnidial wall thin, brittle. Conidia cylindrical, with attenuated rounded ends, or subellipsoidal, often with one more attenuated end, straight and slightly flexuous, slightly or not constricted, 11-17 × 2.5-3 µm.

On living leaves and culms of *Bromus tectorum*, *Calamagrostis* sp., *Festuca ovina*.

Distribution: Europe (Czechoslovakia; France; UK).

143. ***Ascochyta cynodontis*** Unamuno, Bol. R. Soc. Esp. Hist. Nat. **29**, 1929: 398.

Pycnidia hypophyllous, scattered, sometimes 2 pycnidia confluent, immersed, dark brown, globose-depressed, 88.5-125 × 53.5-67.8 µm, with a small pore, 10-11 µm diam. Conidia ellipsoidal, straight or slightly flexuous, not constricted, 12-18 × 3.5-4 µm.

On dry leaves of *Cynodon dactylon*.

Distribution: Europe (Spain).

144. ***Ascochyta desmazieri*** Cavara, Z. Pflanzenkrankh. **3**, 1893: 21. – *Septoria graminum* Pass. var. *lolii* Desm., Ann. Sci. Nat. Bot., ser. 2, **19**, 1842: 339. – *Phoma lolii* Pass., Hedwigia **26**, 1887: 26 (isotype LE!). – *Diplodina lolii* H. Zimm., Verh. Naturf. Vereins Brünn **52**, 1913: 101 (holotype PR!). – *A. loliii* (H. Zimm.) R. Sprague & Aar. G. Johnson, Pl. Dis. Rep., Suppl. **137**, 1942: 141. Fig. 39, p. 81.

Pycnidia more or less aggregated, immersed, brown, globose or globose-depressed, 130-200 µm diam., with a circular pore. Conidia cylindrical, both ends rounded, straight, not constricted, 13-20 × 2-3 µm.

On living leaves and dry spikelets of *Lolium multiflorum* and *L. perenne*.

Distribution: Europe (Austria; France; Italy; Sweden), N. America (USA).

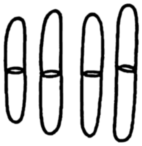

Fig. 39. Conidia of *Ascochyta desmazieri* (after Sprague & Johnson, 1950).

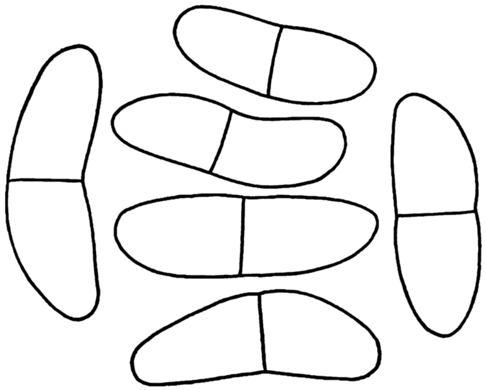

Fig. 40. Conidia of *Ascochyta ducis-aprutii* (× 1000).

145. ***Ascochyta ducis-aprutii*** Mattir., Osserv. scient. durante spedit. polare S. A. R. Amedeo di Savoia, duca degli Abruzzi, Milano, 1903: 682-685. – *Diplodina arctica* Lind, Skr. Vidensk.-Selsk. Christiania, Math.-Naturvidensk. Kl. **9**, 1909: 14. – *A. poae-badensis* Picb., Sborn. Vysok. Škol. Zeměděl v Brno, Sign. D, **18**, 1931: 22 (holotype BRNM!). Fig. 40, p. 81.

Pycnidia predominantly epiphyllous, scattered or 2-3 pycnidia aggregated, immersed, dark brown or black, globose or globose-depressed, up to 200 µm diam., with circular a pore, up to 35 µm diam. Pycnidial wall thick. Conidia cylindrical, with attenuated ends, almost foot-shaped, straight, sometimes very weakly bent, constricted or only slightly constricted, (24) 30-42 × 7-9 (11.5) µm.

On living and dry leaves of *Alopecurus alpinus*, *A. alpinus* f. *mutica*, *Poa badensis*, *P. cenica*, *Poa* sp.

Distribution: Europe (Czechoslovakia; USSR – Leningrad Oblast'), Asia (USSR – Krasnoyarsk Kraj – Taimyr Peninsula), Antarctica, Arctica.

146. ***Ascochyta ischaemi*** Sacc., Michelia **1**, 1878: 164. – *A. graminicola* Sacc. f. *stipae* Fautrey, Rev. Mycol. (Toulouse) **13**, 1881: 10 (isotype K!). – *A. graminicola* Sacc. f. *sudeticae* Fautrey, Rev. Mycol. (Toulouse) **15**, 1893: 110, errore ut *A. graminella* Sacc. f. *sudeticae* Fautrey (isotype LEP!). – *A. graminicola* Sacc. f. *glyceriae* Fautrey, Rev. Mycol. (Toulouse) **15**, 1893: 15 (isotype LEP!). – *A. arundinariae* Tassi, Atti Reale Accad. Fisiocrit. Siena, 4 ser., **8**, 1896: 65. – *Diplodina butleri* Died., Ann. Mycol. **14**, 1916: 195. – *A. graminicola* Sacc. var. *catalaunica* Gonz. Frag., Fl. Microm. Catal. 1917: 132. – *A. zeae* G. L. Stout, Mycologia **22**, 1930: 272. – *Diplodina pannonica* Petr., Sydowia **1**, 1947: 139. – *A. sporoboli* E. Castell. & Graniti in Graniti, Nuovo Giorn. Bot. Ital. **57**, 1950: 255.

Pycnidia predominantly epiphyllous and on culms, scattered or aggregated, often arranged in line, immersed, from honey-coloured to brown and dark brown, sometimes black, globose-depressed and widely ellipsoid in outline, up to 250 µm in size, with a circular pore, up to 30 µm diam., surrounded by small dark cells. Pycnidial wall thin or thick, often brittle, carbonaceous. Conidia oblong-ellipsoidal or fusiform, both ends rounded, straight or slightly bent, not or slightly constricted, 10-14 (16) × 3-4 µm.

On leaves and culms of *Andropogon ischaemum*, *Arundinaria falcata*, *Brachypodium phenicioidis*, *Glyceria spectabilis*, *Poa chaixii* (= *P. sudetica*), *Sesleria varia*, *Stipa pennata*, *Sporobolus affinis*, *S. ruspolianum*, *Zea mays*.

Distribution: circumglobal.

Fig. 41. Conidia of ***Ascochyta maydis*** (after Stout, 1930).

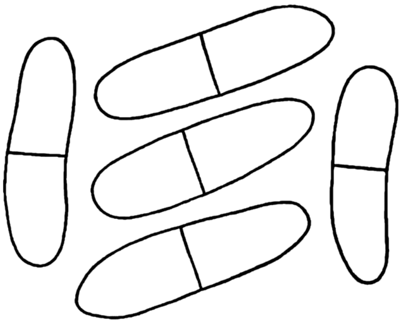

Fig. 42. Conidia of ***Ascochyta melicae*** (× 1000).

147. ***Ascochyta maydis*** G. L. Stout, Mycologia **22**, 1930: 271. – *A. digraphidis* Polozova, Mikol. i Fitopat. **3**, 2, 1969: 190 (holotype *LSKhI!*). Fig. 41, p. 82.

Pycnidia predominantly epiphyllous, scattered, often between leaf veins, immersed, dark brown or black, globose or lentiform, up to 100 µm diam., with circular pore. Pycnidial wall thin. Conidia oblong-ellipsoidal or fusiform, both ends somewhat acutate, straight, slightly constricted, (11) 14-18 × 3-4.5 (5) µm.

On living and dry leaves of *Digraphis arundinaceae*, *Holcus lanatus*, *Zea mays*.

Distribution: Europe (France; USSR – Leningrad Oblast', Stavropol Kraj), N. America (USA).

148. ***Ascochyta melicae*** (Died.) Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *Diplodina melicae* Died., Krypt. Fl. M. Brand. **9**, 1912: 405. – *A. anthoxanthi* Kalymb., Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 218 (holotype AA!). Fig. 42, p. 82.

Pycnidia amphigenous and on culms, scattered, spread along leaf veins, apex erumpent, pale to dark brown, globose or globose-depressed, 110-260 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or fusiform, both ends somewhat attenuated, sometimes one end more attenuated and then conidia bullet-shaped, straight or sometimes somewhat flexuous, not or slightly constricted, 24-33 × 5-7 µm.

On living leaves and dry culms of *Anthoxanthum alpinum*, *Melica nutans*.

Distribution: Europe (Germany; Norway), Asia (USSR – Kazakhstan).

149. ***Ascochyta phleina*** R. Sprague, Mycologia **40**, 1948: 181.

Pycnidia more or less aggregated, immersed, from golden brown to brown, globose, 100-138 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends somewhat attenuated and rounded, straight, not constricted, 11-16 (18) × 1.5-2.2 µm.

On living and withering leaves of *Phleum pratense*.

Distribution: Europe (USSR – Leningrad Oblast'), N. America (USA).

150. ***Ascochyta sesleriae*** C. Massal., Atti Reale Ist. Veneto **74**, 2, 1914: 251. – *Diplodina sesleriae* Moesz, Bot. Közlem. **14**, 1915: 153. – *Stagonospora subseriata* (Desm.) Sacc. var. *franconica* Petr., Krypt. Forsch. Bayer. Bot. Ges. Erforsch. Fl. **II**, 2, 1931: 112. – *Macrodiplodina sesleriae* (C. Massal.) Petr., Sydowia **15**, (1961) 1962: 190.

Pycnidia epiphyllous, scattered, subepidermic, black, globose or subglobose, 133-280 µm diam., with a circular pore and erumpent papillate ostiole. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or fusiform, both ends rounded, straight or slightly flexuous, not or slightly constricted, 30-40 (50) × 8-10 (14) µm.

On leaves of *Sesleria barcensis*, *S. coerulea*, *S. sudensis*, *S. heufleriana*.

Distribution: Europe (Austria; Germany; Hungary; Italy).

151. ***Ascochyta sorghi*** Sacc., Nuovo Giorn. Bot. Ital. **7**, 1875: 302. – *A. graminicola* Sacc. var. *leptospora* Trail, Scott. Naturalist (Perth) **3**, 1887: 88. – *A. cenchricola* Speg., Anales Mus. Nac. Hist. Nat. Buenos Aires **26**, 1914: 130. – *A. elymi* Tehon & E. Y. Daniels, Mycologia **19**, 1927: 124 (holotype NY!). – *A. alopecuri* Polozova, Mikol. i Fitopat. **3**, 2, 1969: 188 (holotype *LSKhI*!).

Pycnidia on leaves and culms, predominantly in lines along veins, immersed, pale to dark brown and black, subglobose or oblong, elliptical in outline, (60) 120-250 µm diam., with a circular pore. Pycnidial wall thin. Conidia oblong-ellipsoidal or fusiform, both ends rounded, straight or sometimes slightly bent, not or slightly constricted, 10-14 × 2-3 µm.

On living leaves and dry culms of *Agropyron repens*, *Alopecurus pratensis*, *Cenchrum echinatum*, *Elymus canadensis*, *Psamma arenaria*, *Sorghum vulgare*.

Distribution: Europe (Italy; UK; USSR – Leningrad Oblast'), N. America (USA), Africa (Senegal).

152. ***Ascochyta sorghina*** Sacc., Michelia **1**, 1878: 167 (holotype PAD!). Fig. 43, p. 84.

Pycnidia epiphyllous, extremely numerous, evenly scattered, dense, sometimes aggregated and 2-3 pycnidia confluent, semi-immersed or more often almost superficial, black, globose, globose-conical or globose-depressed, up to 200 µm diam., with a circular pore, up to 25-30 µm diam. Pycnidial wall thick. Conidia cylindrical, clavate, oval, oblong-ellipsoidal, straight or flexuous, sometimes irregular, constricted, rarely somewhat constricted, 12-20 × 6-8 (9) µm.

On living leaves of *Sorghum halepense*, *S. sudanense*, *S. vulgare*.

Distribution: Europe (Italy), Asia (India; USSR – Georgia), N. America (USA).

The extremely numerous superficial pycnidia represent the most characteristic feature of this fungus, which cause a rough surface. Sprague & Johnson (1950) described this disease from the USA as "rough spot".

153. ***Ascochyta tragi*** Cruchet, Bull. Soc. Vaud. Sci. Nat. **44**, 1909: 475. – *A. sasae* Hara, Publ. Nippon Fungol. Soc. 3-4, 1931: 110.

Pycnidia predominantly epiphyllous, scattered or aggregated, immersed, black, carbonaceous, subglobose or conical, 150-200 µm diam. Pycnidial wall thin. Conidia oval or oblong-oval, both ends rounded, straight, sometimes slightly flexuous, 17-20 × 4-5 µm.

On leaves of *Pseudosasa speculosa* and *Tragus racemosus*.

Distribution: Europe (Switzerland), Asia (Japan).

154. ***Ascochyta zeicola*** Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1895: 433 (holotype NY!). – *A. diedickei* Staritz, Hedwigia **53**, 1913: 162. – *A. stipae* Gonz. Frag., Asoc. Esp. Progr. Ci. Congr. Oporto. VI Ci. Nat. 21 Junio 1921, 1921: 46. – *A. sacchari* Bat., Bol. Agric. Pernambuco **13**, 1946: 58 (isotype URNM!), non valide publ., descr. portug. – *A. sacchari* Bat. ex Melnik, Mikol. i Fitopat. **6**, 2, 1972: 161.

Pycnidia predominantly epiphyllous and on culms, sometimes aggregated, immersed, later leaf tissue decaying and pycnidia becoming superficial, dark brown or black, globose-depressed or lentiform, sometimes linearly elongated along leaf veins, 100-200 (250) µm diam., with a pore. Pycnidial wall often almost carbonaceous. Conidia oblong-ellipsoidal or fusiform, both ends attenuated, predominantly straight, constricted or slightly constricted, sometimes with a faintly yellowish tinge, 6-10 × 2-3 (4) µm.

On leaves and culms of *Glyceria aquatica*, *Saccharum officinarum*, *Stipa tenacissima*, *Zea mays*.

Distribution: Europe (Germany; Spain), N. America (USA), South America (Brazil).

Fig. 43. Conidia of *Ascochyta sorghina* (× 1000).

Fig. 44. Conidia of *Ascochyta akselae* (× 1000).

155. ***Ascochyta zeina*** Sacc., Michelia **1**, 1878: 165.

Pycnidia epiphyllous, aggregated, dark brown, lentiform, with a pore. Conidia oblong-ellipsoidal, both ends rounded, slightly constricted, 18 × 7.5 µm.

On leaves of *Zea mays*.

Distribution: Europe (Italy).

Hippocastanaceae

156. ***Ascochyta grandimaculans*** Kabát & Bubák, Hedwigia **46**, 1907: 291 (isotypi LE! LEP!).

Pycnidia epiphyllous, scattered, immersed, brown or dark brown, globose or slightly depressed, 70-140 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thin. Conidia cylindrical, some ellipsoidal, both ends rounded, not constricted, 4-10 × 2.5-3.2 µm.

On living leaves of *Aesculus hippocastanum*.

Distribution: Europe (Czechoslovakia).

Hydrocharitaceae

157. ***Ascochyta akselae*** Melnik, Nov. Sist. Niz. Rast. 1979: 247. – *Phyllosticta aloidis* Oudem., Ned. Kruidkr. Arch., ser. 3, **2,** 742. – *A. aloidis* (Oudem.) Aksel, Tr. Bot. Inst. AN SSSR, ser. 2, **11**, 1956: 83, sine basionymo compl., non valide publ. – *A. aloidis* H. Ruppr., Sydowia **11**, (1957) 1958: 424. Fig. 44, p. 84.

Pycnidia amphigenous, more or less aggregated, immersed, yellowish-brown, globose-depressed, 140-150 µm diam. or ellipsoidal in plane, 200 × 150 µm, with circular pore up to 12 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends broadly rounded, straight, not constricted, 8.4-10.8 × 2-3 µm.

On living leaves of *Stratiotes aloides*.

Distribution: Europe (Germany; The Netherlands; USSR – Latvia).

158. ***Ascochyta kirulisii*** H. Ruppr., Sydowia **13**, 1959: 15.

Pycnidia epiphyllous, scattered, sometimes aggregated or in obscure concentric circles, immersed, light yellowish brown, globose-depressed or elliptical in outline, 110-130 µm diam., with a circular pore, 10-12 µm diam., and papillate ostiole. Pycnidial wall thin, delicate. Conidia cylindrical, both ends broadly rounded, straight, very rarely slightly bent, not constricted, 8.8-11 (15) × 3-4 µm.

On living leaves of *Hydrocharis morsus-ranae*.

Distribution: Europe (USSR – Latvia).

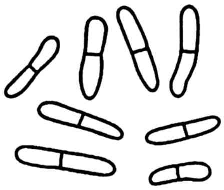

Fig. 45. Conidia of
Ascochyta hydrophylli (× 1000).

Fig. 46. Conidia of
Ascochyta caryae (× 1000).

Hydrophyllaceae

159. ***Ascochyta hydrophylli*** R. Sprague & F. D. Bailey, Mycologia **29**, 1937: 428 (holotype NY!). Fig. 45.

Pycnidia epiphyllous, inconspicuous, scattered, immersed, sometimes erumpent and becoming superficial, pale brown, globose, 75-100 × 80-115 µm, with an indistinct pore, up to 20 µm diam. Pycnidial wall thin, delicate. Conidia cylindrical, both ends rounded, straight, sometimes slightly bent, not constricted, 12-13 × 2.2-2.4 µm.

On living leaves of *Hydrophyllum tenuipes*.

Distribution: N. America (USA).

160. ***Ascochyta hydrophylli-virginiani*** H. C. Greene, Amer. Midl. Naturalist **41**, 1949: 720.

Pycnidia epiphyllous, scattered, inconspicuous, pale olivaceous, subglobose, 90-130 µm diam., with a pore. Pycnidial wall thin. Conidia cylindrical, 10-15 × 3.5-4 µm.

On living leaves of *Hydrophyllum virginianum*.

Distribution: N. America (USA).

Juglandaceae

161. ***Ascochyta caryae*** H. C. Greene, Trans. Wisconsin Acad. Sci. **53**, 1964: 194 (holotype WIS!). Fig. 46.

Pycnidia epiphyllous, scattered or aggregated, inconspicuous, immersed, yellowish brown, subglobose, 95-140 µm diam., with a small circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or slightly bent, not constricted, (6.5) 7-8.5 (10) × (2.8) 3-4 (4.5) µm.

On living leaves of *Carya ovata*.

Distribution: N. America (USA).

162. ***Ascochyta juglandis*** Boltsh., Z. Pflanzenkrankh. **8**, 1898: 263.

Pycnidia epiphyllous, not numerous, very inconspicuous, immersed, olivaceous or dark brown, globose, 80-130 (160) diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia cylindrical, both ends rounded, straight, slightly constricted, 8-15 × (3) 4-5 µm.

On living leaves of *Juglans manchurica*, *J. regia*, *Pterocarya sorbifolia*.

Distribution: Europe (Austria; Germany; UK), Asia (USSR – Azerbajdzhan, Georgia, Primorskij Kraj), N. America (USA).

Juncaceae

163. ***Ascochyta luzulicola*** R. Sprague, Res. Stud. State Univ. Wash. **30**, 1962: 172. Fig. 47, p. 86.

Pycnidia widely scattered, erumpent, brown, globose, 85-110 µm diam. Conidia cylindrical, often some conidia wider in the middle and almost ellipsoidal, both ends rounded, 14-18 × 3.3-4.7 µm.

On dry leaves of *Luzula parviflora*.

Distribution: N. America (USA – Alaska).

164. ***Ascochyta paucisporula*** R. Sprague, Res. Stud. State Univ. Wash. **30**, 1962: 171.

Pycnidia arranged in a line, dark brown, globose, 40-80 µm diam. Conidia cylindrical, 14-16 × 2.8-3.2 µm.

On living leaves of *Luzula divaricata*, *L. piperi*.

Distribution: N. America (USA).

165. ***Ascochyta teretiuscula*** Sacc. & Roum., Michelia **2**, 1882: 662 (isotypi K! LEP!). – *Diplodina teretiuscula* (Sacc. & Roum.) Died., Ann. Mycol. **10**, 1912: 140.

Pycnidia predominantly epiphyllous, scattered, sometimes confluent, immersed, black, globose or slightly depressed, 100-150 µm diam., with a circular pore. Pycnidial wall more or less thick, persistent. Conidia cylindrical, both ends rounded, straight, not or sometimes very weakly constricted, 10-14 (15) × 2.5-3 µm.

On living and dry leaves and stems of *Luzula campestris*, *L. pedemontana*, *L. pilosa*, *L. silvatica*.

Distribution: Europe (Denmark; France; Germany; UK; USSR – Arkhangelsk Oblast', Estonia, Karelia, Kirov Oblast', Latvia, Leningrad Oblast', Perm Oblast'), N. America (USA).

Iridaceae

166. ***Ascochyta gladioli*** Traverso & Spessa, Bol. Soc. Brot. **25**, 1910: 180.

Pycnidia aggregated, immersed, slightly erumpent, dark brown, globose-depressed, 140-170 µm diam. Conidia cylindrical-bacilliform, straight or slightly bent, not constricted, 12-15 × 2.5-3 µm.

On dry stems of *Gladiolus cardinalis*.

Distribution: Europe (Portugal).

167. ***Ascochyta iridis*** Oudem., Contr. Fl. Mycol. Pays-Bas **13**, 1889: 46. – *A. pseudacori* Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 647. – *Diplodina iridis* Pass., J. Hist. Nat. Bordeaux 1885: 136. Fig. 48, p. 86.

Pycnidia scattered, initially subepidermal, later erumpent, black, small. Conidia fusiform or oblong-ellipsoidal, both ends rounded, slightly constricted, 15-20 × 4-5 µm.

On leaves of *Iris pseudacorus*.

Distribution: Europe (France; The Netherlands).

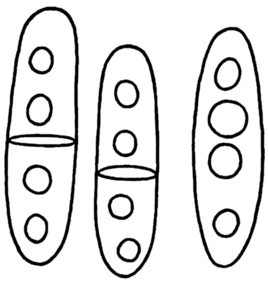

Fig. 47. Conidia of *Ascochyta luzulicola* (after Sprague, 1962).

Fig. 48. Conidia of *Ascochyta iridis* (after Allescher, 1901).

Labiatae

168. ***Ascochyta betonicae*** Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1**, 14, 1923: 31. – ? *A. betonicae* Hollós, Math. Természett. Közlem. **35**, 1, 1926: 13.

Pycnidia epiphyllous, scattered, immersed, ochraceous or brown, lentiform, 100-180 µm diam., with a circular pore. Pycnidial wall thin. Conidia oblong-ellipsoidal, both ends rounded, straight or sometimes slightly bent, not constricted, (5) 7-10 × 2.5-3.5 µm.

On living leaves of *Betonica grandifolia*, *B. officinalis*.

Distribution: Europe (Hungary; USSR – Orel Oblast'), Asia (USSR – Georgia).

169. ***Ascochyta lamiorum*** Sacc., Michelia **1**, 1878: 170. – *Phyllosticta glechomae* Sacc., Michelia **2**, 1878: 151. – *A. labiatarum* Bres. var. *labiatarum*, Hedwigia **39**, 1900: 327. – *A. labiatarum* Bres. var. *basilici* Bres., Hedwigia **39**, 1900: 327 (isotype WRSL!). – *A. galeopsidis* A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **5**, 1914: 158. – *A. galeopsidis* A. G. Eliasson, Svensk Bot. Tidskr. **9**, 1915: 408 (isotype BRNM!). – *A. phlomidis* Bubák & Wróbl., Hedwigia **57**, 1916: 332. – *A. glechomatis* Bondartsev, Mat. po Mikol. Obsled. Rossii **5**, 2, 1921: 4 (holotype LE!). – *A. glechomae* (Sacc.) Baudyš & Picb., Práce Morav. Přír. Společn. **3**, 2, Sign. F. 22, 1926: 30. – *A. elsholtziae* Bondartsev, Mat. po Mikol. Obsled. Rossii **5**, 2, 1921: 21. – *Diplodina galeopsidis* Picb., Práce Morav. Přír. Společn. **7**, 4, Sign. F. 56, 1932: 13 (holotype BRNM!). – *D. ocimi* Picb., Práce Morav. Přír. Společn. **7**, 4, Sign. F. 56, 1932: 14 (holotype BRNM!). – *A. monardae* Klaptsova, Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 4-6, 1941: 78 (holotype LE!). – *A. ballotina* I. E. Brezhnev, Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **14**, 1961: 208 (holotype *LGU!*). – *A. coleobrookeae* Pandotra & Ganguly, Mycopathol. Mycol. Appl. **22**, 2-3, 1964: 110 (holotype IMI!). – *A. babajaniae* Tasl., Mikol. i Fitopat. **1**, 1, 1967: 113 (holotype *EGU!*). – *A. glechomae* Sandu & Mititiuc, Feddes Repert. **81**, 8-9, 1971: 626 (holotype I!). – *A. lallemantiae* Žerbele, Mikol. i Fitopat. **6**, 1, 1972: 56 (holotype *Pribalt. filial VIZR!*).

Pycnidia predominantly epiphyllous and on stems, scattered or sometimes aggregated, immersed, light to dark brown, globose or globose-depressed, sometimes lentiform, up to 180 µm diam., with a circular pore, sometimes with a small papillate ostiole. Pycnidial wall thin. Pycnidia on the stems more abundant, globose or globose-depressed, up to 300 µm diam., with a circular pore and often with a papillate ostiole. Pycnidial wall thick. Conidia predominantly cylindrical, some oblong-ellipsoidal or slightly clavate, both ends rounded, straight or sometimes slightly flexuous, not or only slightly constricted, (6) 7-12 × (2.5) 3-4 µm.

On living leaves and dry stems of *Coleobrookea oppositifolia*, *Ballota nigra*, *Elsholtzia patrini*, *Galeobdolon luteum*, *Galeopsis tetrahit*, *Glechoma hederacea*, *Lallemantia iberica* f. *sulfurea*, *Lamium album*, *Monarda fistulosa*, *Ocimum basilicum*, *Phlomis alpina*, *Ph. tuberosa*.

Distribution: Europe (Bulgaria; Czechoslovakia; Germany; Romania; Sweden; USSR – Kursk Oblast', Latvia, Leningrad Oblast', Moscow Oblast', Tambov Oblast', Ukraine), Asia (India; USSR – Armenia, Georgia, Kazakhstan).

170. ***Ascochyta leonuri*** Ellis & Dearn., Proc. Roy. Canad. Inst., N. S. 1897: 92. – *Diplodina leonuri* Rostr., Skr. Vidensk.-Selsk. Christiania, Math.-Naturvidensk. Kl. **4**, 1904: 33. – *A. cardiacae* Dobrozr., Bolezni Rast. **8**, 1914: 141. – *A. nepetae* Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 711. – *Diplodina menthae* Picb., Práce Morav. Přír. Společn. **2**, 5, 1925: 158 (holotype BRNM!). – *A. nepetae* É. J. Marchal & Verpl., Bull. Soc. Roy. Bot. Belgique **59**, 1926-1927: 23. – *Stagonospora leonuri* (Rostr.) Moesz & Smarods, Magyar Bot. Lapok **31**, 1932: 41, quoad solum basionymum. – *A. menthicola* Ishiy., Trans. Sapporo Nat. Hist. Soc. **14**, 4, 1936: 298. – *A. menthicola* Bubák & Picb., Ann. Mycol. **35**, 1937: 143 (holotype BRNM!). – *A. nepeticola* Melnik, Nov. Sist. Niz. Rast. 1968: 178. Fig. 49, p. 89.

Pycnidia predominantly epiphyllous, scattered, immersed, ochraceous or brown, globose-depressed, 80-160 (200) µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidia on stems dense scattered, numerous, sometimes 2-3 pycnidia confluent, semi-immersed, dark brown, almost black, globose-depressed, sometimes lentiform, up to 300 µm diam., with a circular pore, up to 20 µm diam., often with a small papillate ostiole. Pycnidial wall on leaves thin, on stems thicker. Conidia cylindrical, both ends rounded, straight or sometimes slightly flexuous, slightly constricted, 8-15 (17) × (2.5) 3-4.5 (5) µm.

On living leaves and dry stems of *Leonurus cardiaca*, *Mentha arvensis*, *M. longifolia*, *Nepeta cataria*, *N. mussinii*, *N. pannonica*.

Distribution: Europe (Belgium; Bulgaria; Czechoslovakia; Germany; Hungary; Norway; Romania; USSR – Kirov Oblast', Ukraine), Asia (Japan; USSR – Kazakhstan, Primorskij Kraj), N. America (Canada, USA).

171. ***Ascochyta melissae*** É. J. Marchal & Sternon, Bull. Soc. Roy. Bot. Belgique **55**, 1923: 50.

Pycnidia brown, 70-90 µm diam., with somewhat protruding ostiole. Conidia ellipsoidal, both ends rounded, not constricted, 8-10 × 3-5 µm.

On leaves of *Melissa officinalis*.

Distribution: Europe (Belgium).

Lardizabalaceae

172. ***Ascochyta akebiae*** Bres. in Syd., Mycoth. marchica: no. 4074 (1894) (isotype LEP!).

Pycnidia epiphyllous, scattered, almost superficial, dark brown, globose-depressed, 150-180 µm diam., with a circular pore. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or somewhat bent, slightly constricted, 9-12 × 2.5-4 µm.

On living leaves of *Akebia quinata*.

Distribution: Europe (Germany).

Leguminosae

173. ***Ascochyta caraganae*** (Vestergr.) Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *Diplodina caraganae* Vestergr., Jahreskat. Wiener Bot. Tauschanst. 1897: 4 (isotype S!). – *A. trigonellae* Traverso & Spessa, Bol. Soc. Brot. **24**, 1909: 180. – *A. trigonellae* Hollós, Math. Természett. Közlem. **35**, 1, 1926: 16. Fig. 50, p. 89.

Pycnidia predominantly epiphyllous, on stems and on twigs, scattered or aggregated, immersed, honey-coloured, light brown, brown or dark brown, up to 250 µm diam., with a distinct pore, up to 25-30 µm diam., sometimes with a papillate ostiole. Pycnidial wall thin. Conidia bacilliform, straight, both ends blunt, not constricted, 10-16 × 2.5-3 µm.

On living leaves and dry stems of *Trigonella coerulea*, on living branches of *Caragana arborescens*.

Distribution: Europe (Hungary; Italy; Spain; Sweden).

174. ***Ascochyta cassiae*** Henn., Notizbl. Königl. Bot. Gart. Berlin **22**, 1900: 39. – *Diplodina cassiae* (Henn.) Died., Krypt. Fl. M. Brand. **9**, 1912: 403.

Pycnidia immersed, only protruding through the epidermis by the ostiole or non-erumpent, pale brown, globose-depressed, 110-130 µm diam., with a circular pore, surrounded by small dark cells. Conidia oblong-ellipsoidal or ovate, not constricted, 6-9 × 3-3.5 µm.

On dry stems of *Cassia marylandica*.

Distribution: Europe (Germany).

175. ***Ascochyta coluteae*** Lambotte & Fautrey, Rev. Mycol. (Toulouse) **20**, 1898: 58. – *A. coluteae* Lambotte & Fautrey f. *fructuum* ([basionym author not found]) Fautrey, Rev. Mycol. (Toulouse) **20**, 1898: 102 (isotype LEP!). – *A. coluteaecola* Hollós, Math. Természett. Közlem. **25**, 1925: 126. – ? *A. caulicola* Laubert var. *lupini* Grove, British stem- and leaf-fungi **1**, 1935: 303, non valide publ., descr. angl.

Pycnidia predominantly epiphyllous, also on stems, sometimes on fruits, scattered or aggregated, immersed, sometimes on stems and fruits almost superficial due to the decay of the host tissues, from light yellow and ochraceous up to dark brown and almost black (especially on dead substrate), 130-180 µm diam., with a circular pore, surrounded by small dark cells, on stems and fruits sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia oblong-ellipsoidal, both ends rounded, straight, sometimes somewhat flexuous, not or slightly constricted, 9-15 × (3) 4-5 µm.

On living leaves, dry fruits, and stems of *Colutea arborescens*, *Lupinus arboreus* (?).

Distribution: Europe (France; Hungary; Spain; UK), Asia (USSR – Turkmenia).

Fig. 49. Conidia of ***Ascochyta leonuri*** (× 1000).

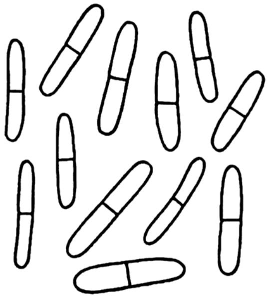

Fig. 50. Conidia of ***Ascochyta caraganae*** (× 1000).

Fig. 51. Conidia of ***Ascochyta cytisi*** (× 1000).

176. ***Ascochyta cytisi*** Lib., Pl. Crypt. Ard.: no. 156 (1832) (isotype LE!). – *Sphaeria leguminis-cytisi* Desm., Ann. Sci. Nat. Bot., ser. 2, **19**, 1843: 358. – *A. leguminum* Sacc., Michelia **1**, 1879: 530. – *A. siliquastri* Pass., Hedwigia **17**, 1878: 172 (isotypi K! LE! LEP!). – *Marssonia carnea* Vestergr., Jahreskat. Wiener Tauschanst. 1897: 4 (isotype LE!). – *Phyllosticta laburni* Oudem., Ned. Kruidkr. Arch., Ser. 3, **2:** 226. – *A. laburni* Kabát & Bubák, Hedwigia **52**, 1912: 347 (isotypi LE! LEP! *GruzIZR!*). – *A. lathyri* Trail var. *lathyri-odorati* Kabát & Bubák, Hedwigia **52**, 1912: 347 (isotypi LE! LEP! *GruzIZR!*). – *Diplodina rhachidiciola* Bubák, Ann. K. K. Naturhist. Hofmus. **28**, 1914: 206. – *A. laburni* (Oudem.) Petr. in Petr., F. polon.: no. 9 (1920). – *A. astragali* Lebedeva f. *foliicola* Woron., Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **3**, 2, 1924: 31 (holotype *GruzIZR!*). – *A. lathyrina* Hollós, Math. Természett. Közlem. **35**, 1, 1926: 15. – *A. astragalicola* Petr., Hedwigia **68**, 1929: 236 (holotype *OSKhI*!). – *A. kabatiana* Trotter in Sacc. & Trotter, Syll. Fung. **25**, 1931: 330. – *A. rhachidicola* (Petr.) Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **8**, 1952: 139. – *A. laburni* Cejp in Cejp & Zavřel, Zprávy Vlastiv. Ústavu v Olomouci **141**, 1968: 13 (holotype PRC! isotype LE!). Fig. 51, p. 89.

Pycnidia epiphyllous and on other parts of the host plants, scattered or sometimes aggregated, sometimes 2-3 pycnidia confluent, immersed, yellowish ochraceous or light brown, sometimes brownish, rarely rusty or honey-coloured, globose-depressed or lentiform, up to 200-250 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia cylindrical, oblong-ellipsoidal or somewhat clavate, both ends rounded, straight or sometimes slightly bent, slightly constricted or not constricted, (6) 9-15 × 2.5-4.5 µm.

On living leaves and other living and dry parts of *Astragalus glycyphyllus*, *Astragalus* sp., *Cercis siiliquastrum*, *Cytisus anagyroides*.

Distribution: Europe (Austria; France; Germany; UK; USSR – Latvia, Leningrad Oblast', Ukraine), Asia (Iraq; USSR – Altai Kraj, Armenia, Georgia, Kazakhstan).

This species is close to *A. phaseolorum* Sacc. but differs in having longer conidia.

177. ***Ascochyta emeri*** Sacc., Michelia **1**, 1878: 163. – *A. viciae-pisiformis* Bubák, Ann. Mycol. **2**, 1904: 397.

Pycnidia predominantly epiphyllous, scattered, immersed, from ochraceous brown to brown, globose-depressed or lentiform, 110-180 µm diam., with a circular pore, surrounded by small dark cells. Conidia oblong-ellipsoidal or subcylindrical, both ends rounded, straight of sometimes slightly flexuous, slightly or not constricted, 8.8-15.4 × 2-4 µm.

On living leaves of *Coronilla emerus* and *Vicia pisiformis*.

Distribution: Europe (Czechoslovakia; Italy).

178. ***Ascochyta goebeliae*** Byzova & Pisareva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 242 (holotype AA!).

Pycnidia amphigenous, scattered or aggregated, immersed, pale brown, globose-depressed or lentiform, 70-280 µm diam., with a circular pore, 15 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight or sometimes slightly bent, not constricted, 6.2-15 (18) × 2.2-4 µm.

On living leaves of *Goebelia alopecuroides*, *Oxytropis pilosissima*.

Distribution: Asia (USSR – Kazakhstan).

179. ***Ascochyta lathyri*** Trail, Scott. Naturalist (Perth) **3**, 1887: 87.

Conidia cylindrical, both ends blunt, 8-10 × 2.5 µm.

On living leaves of *Lathyrus sylvestris*.

Distribution: Europe (UK).

180. ***Ascochyta oxytropidis*** J. Schröt., Pilz. Labrad.: 19. – *A. erythrinae* Elisei, Atti Ist. Bot. Univ. Pavia, ser. 4, **10**, 1938: 236.

Pycnidia predominantly epiphyllous and on petioles, immersed, from honey-coloured to dark brown, almost black, up to 250 µm diam., with a small circular pore. Conidia oblong-ellipsoidal or almost fusiform, both ends rounded, straight or bent, not constricted, 9-11 × 2.5-3.5 µm.

On living leaves and dry petioles of *Erythrina crista-galli*, *Oxytropis uralensis*.

Distribution: Europe (Italy), N. America (USA).

181. ***Ascochyta phaseolorum*** Sacc., Michelia **1**, 1878: 164 (holotype K!). – *A. ontariensis* R. Stone, Phytopathology **5**, 1915: 6. – *Diplodina lupini* Jaap, Verh. Bot. Vereins Prov. Brandenburg **58**, 1916: 20. – *A. borjomi* Bondartsev, Bull. Jard. Bot. St. Petersb. **12**, 1912: 102 (holotype LE!). – *A. astragali* Lebedeva, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **1**, 10, 1922: 145 (holotype LE!). – *A. lupinicola* Petr., Ann. Mycol. **19**, 1921: 281. – ? *A. dolichi* Gonz. Frag., Bol. Soc. Brot., ser. 2, **3**, 1924: 56. – *A. sojaecola* I. N. Abramov, Bolezni i vrediteli soevykh bobov na Dal'nem Vostoke 1938: 68 (holotype LE!). – *A. pseudopinodella* Bond.-Mont. in Bond.-Mont. & Vasiljevsky, Askokhitoz gorokha 1937: 56 (holotype LE!). – *A. adzhametica* Shosh., Izv. Gruz. opyt. stanc. zashchity rast., Seriya A. Fitopatol. 2, 1940: 272. – *A. oro* Viégas, Bragantia **5**, 1912, 1945: 725 (holotype IACM!). – *A. astragali* Golovin, Tr. Sredneaz. Univ., Nov. Ser., Vyp. 14, Biol. Nauki **5**, 1950: 33. – *A. astragalicola* Pisareva, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 251. – *A. lablab* M. I. Nikol., Nov. Sist. Niz. Rast. 1970: 259 (holotype LE!), ut *A. lablabi* M. I. Nikol. Fig. 52, p. 91.

Pycnidia epiphyllous, scattered or often in concentric circles, also on other parts of the host plant, immersed or semi-immersed, on stems often becoming superficial if the epidermis is ruptured, from honey-coloured, ochraceous, and light brown to dark brown, globose-depressed or lentiform, 75-200 µm diam., with a circular pore, up to 20-30 µm diam., surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight, not constricted, 6-12 × 2.5-4 µm.

On living leaves and other living and dry parts of many *Leguminosae*.

Distribution: circumglobal.

This fungus is widespread on numerous legumes. According to Crossan (1958) and Alcorn (1968), this species may also grow on hosts of other plant families.

182. ***Ascochyta rabiei*** (Pass.) Labr., Rev. Pathol. Vég. Entomol. Agric. France **18**, 1931: 230. – *Zythia rabiei* Pass., Comm. Soc. Crittog. Ital. **2**, 3, 1867: 435-446 (holotype K!).

Pycnidia amphigenous, densely aggregated, sometimes several pycnidia confluent, subsuperficial, pale to dark brown, globose-depressed or lentiform, 90-160 (200) µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or broadly ellipsoidal, sometimes slightly narrowed towards one end, with broadly rounded ends, straight, very often with an eccentric septum, not constricted, 8-15 (18) × 4-6 µm.

On leaves of *Cicer arietinum*.

Distribution: Europe (Italy).

There are numerous descriptions of *Ascochyta* diseases on legumes referred to *A. rabiei* which strongly differ, however, from the features of this species based on the holotype (K!). These authors dealt undoubtedly with other fungi that are not identical with the latter species.

183. ***Ascochyta robiniae*** Sacc. & Speg., Michelia **1**, 1878: 163.

Pycnidia scattered, lentiform, 180 µm diam., with a pore. Conidia oblong-ellipsoidal, not constricted, 10-15 × 5-6 µm.

On living leaves of *Robinia pseudoacacia*.

Distribution: Europe (Germany; Italy).

184. ***Ascochyta sojae*** Miura, Flora of Manchuria and East Mongolia, III Cryptogams, Fungi. 1928: 443.

Pycnidia amphigenous, scattered, semi-immersed, dark brown, globose, 90-120 µm diam., with a short papillate ostiole. Conidia oblong-ellipsoidal or almost fusiform, both ends blunt, not constricted, 12-18 × 4-4.5 µm.

On living leaves of *Glycine max*.

Distribution: Asia (Japan; Mongolia; USSR – Amur Oblast', Khabarovsk Kraj).

185. ***Ascochyta trifolii-alpestris*** Dominik, Acta Soc. Bot. Poloniae **11**, 1934: 242.

Pycnidia epiphyllous, brown, globose or almost globose-depressed, 180 × 120 µm. Conidia fusiform, both ends acute, straight, slightly constricted, 9-15 × 2-3 µm.

On living leaves of *Trifolium alpestris*.

Distribution: Europe (Poland).

Fig. 52. Conidia of *Ascochyta phaseolorum* (× 1000).

Fig. 53. Conidia of *Ascochyta viciae* (× 1000).

186. ***Ascochyta viciae*** Lib., Pl. Crypt. Ard.: no. 356 (1837) (isotype LE!). – *Phyllosticta viciae* (Lib.) Cooke, Seem. J. Bot. **4**: 97. – *A. viciae* Trail, Scott. Naturalist (Perth) **3**, 1887: 87. – *A. viciicola* Sacc., Syll. Fung. **10**, 1892: 303. – *A. ervicola* Syd., Hedwigia **38**, 1899: 138 (isotypi LE! LEP!). – *A. caulicola* Laubert, Arb. d. Biol. f. Land- und Forst. Wirtsch. K. Gesund **3**, 1903: 441 (isotypi K! LE! LEP!). – *Marssonia meliloti* Trel.,

Fungi Wiscons. 1884: 16. – *A. lethalis* Ellis & Barthol. in Ellis & Everh., F. Columb.: no. 1808 (1903) (isotype *LGU*!). – *A. galegae* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **5**, 1907: 459. – *A. meliloti* (Trel.) Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 663. – *A. bulgarica* Bubák & Picb., Ann. Mycol. **25**, 1927: 142 (holotype BRNM!). Fig. 53, p. 91.

Pycnidia epiphyllous and on other parts of the host plants, evenly scattered or sometimes aggregated, often 2-3 pycnidia confluent, immersed or semi-immersed, pale brown or brown, sometimes almost black, globose, globose-depressed or lentiform, up to 250 µm diam., sometimes some pycnidia up to 630 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight or sometimes slightly flexuous, more or less strongly constricted, 12-17 × 3-5 µm.

On living leaves and living and dry other parts of *Astragalus glycyphyllos*, *A. glycyphylloides*, *Galega officinalis*, *Melilotus officinalis*, *Trifolium repens*, *Vicia* spp.

Distribution: circumglobal.

This fungus is a dangerous parasite of legumes. The most comprehensive description of disease symptoms, caused by this fungus, can be found in Kuprevitch (1954). Grove (1935) reported that *A. viciae* has also been found on *Galium mollugo*. According to Stone (1912), the perfect state of this species is ***Mycosphaerella lethalis*** R. Stone.

187. ***Ascochyta woronowiana*** Siemaszko, Izv. Kavkazsk. Muzeya **12**, 1918: 23.

Pycnidia epiphyllous, brown, punctiform, 100-140 µm diam., with a pore, 20 µm diam. Conidia ellipsoidal, 6-7 × 3 µm.

On living leaves of *Psorolea acaulis*.

Distribution: Asia (USSR – Georgia).

Liliaceae

188. ***Ascochyta allii*** Hollós, Bot. Közlem. **25**, 1928: 126 (holotype BP!).

Pycnidia epiphyllous, scattered, immersed, ochraceous, lentiform, 120-160 µm diam., with a pore. Conidia oblong-ellipsoidal, not or weakly constricted, 12-15 × 2.5-3 µm.

On withering leaves of *Allium sativum* and *A. trachyscordum*.

Distribution: Europe (Hungary), Asia (USSR – Kazakhstan).

189. ***Ascochyta aphyllanthis*** Henn., Hedwigia **41**, 1902: 137.

Pycnidia immersed, erumpent, black, globose-depressed, about 100 µm diam., with a circular pore. Pycnidial wall thin. Conidia oblong-ellipsoidal or almost fusiform, both ends blunt, slightly constricted, 12-14 × 3-3.5 µm.

On petioles of *Aphyllanthes monspeliensis*.

Distribution: Europe (Germany).

190. ***Ascochyta erythronii*** Sacc. & Speg., Michelia **1**, 1878: 163.

Pycnidia pale brown, lentiform, 150-180 µm diam., with pore. Conidia oblong-fusiform., both ends acute, slightly constricted, 14-18 × 4-5 µm.

On leaves of *Erythronium dens-canis*.

Distribution: Europe (Italy).

191. ***Ascochyta fuscopapillata*** Bubák & Dearn., Hedwigia **58**, 1916: 21.

Pycnidia epiphyllous, scattered or aggregated, yellowish, globose-depressed, 90-150 µm diam., with a widely opened pore and papillate ostiole. Pycnidial wall thin. Conidia cylindrical or fusiform, often with one acute end, straight or flexuous, sometimes irregular, 15-22 × 2-3 µm.

On living leaves of *Smilax herbacea*.

Distribution: N. America (USA).

192. ***Ascochyta herreana*** Henn. & Staritz in Sacc., Syll. Fung. **18**, 1906: 346.

Pycnidia aggregated, black-brown, subglobose, 80-90 µm diam., with a pore. Pycnidial wall thin. Conidia ellipsoidal or oval, 9-15 × 5 µm.

On leaves of *Funkia ovata*.

Distribution: Europe (Germany).

193. ***Ascochyta hortensis*** Kabát & Bubák, Hedwigia **44**, 1905: 353. – *A. funckiae* Bondartsev & Trusova, Bolezni Rast. **7**, 1913: 215 (holotype LE!).

Pycnidia amphigenous, scattered or more or less aggregated, immersed, from light to dark brown, globose, 70-180 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin, delicate. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight or slightly bent, not constricted, 5-9 × 3-3.5 µm.

On living leaves of *Funkia albo-marginata*, *F. obovata*, *F. univittata*.

Distribution: Europe (Czechoslovakia; Germany; USSR – Tula Oblast').

194. ***Ascochyta juelii*** Bubák, Ann. Mycol. **7**, 1909: 61.

Pycnidia amphigenous, immersed, pale brown, globose-depressed, 90-120 µm diam., with a circular pore and papillate ostiole. Pycnidial wall thin. Conidia ellipsoidal, some cylindrical, both ends acute, 8-16 × 2-3.5 µm.

On living leaves of *Colchicum autumnalis*.

Distribution: Europe (Austria).

195. ***Ascochyta lobikii*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. allii* Lobik, Bolezni Rast. **17**: 1929: 173 (holotype LE!), non *A. allii* Hollós, Bot. Közlem. **25**: 1928: 126. Fig. 54, p. 94.

Pycnidia scattered, immersed, brown, globose-depressed, 100-160 × 80-90 µm, with a circular pore, 15 µm diam. Pycnidial wall thin. Conidia broadly fusiform, both ends rounded, straight, not constricted, 13-15 (16) × 4-5.2 µm.

On drying leaves of *Allium cepa* and *A. rotundum*.

Distribution: Europe (USSR – Stavropol Kraj).

196. ***Ascochyta londonensis*** Bubák & Dearn., Hedwigia **58**, 1916: 22. – *A. smilacina* Sacc., Notae Mycol. **22**, 1917: 170.

Pycnidia predominantly epiphyllous, scattered, immersed, yellow or ochraceous, globose or globose-depressed, 80-130 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, not constricted, 11-15 × 3.5-4 µm.

On living leaves of *Smilax herbacea* and *S. pulverulentum*.

Distribution: N. America (Canada; USA).

Fig. 54. Conidia of
Ascochyta lobikii (× 1000).

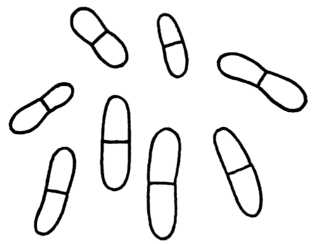

Fig. 55. Conidia of
Ascochyta tulipae (× 1000).

197. ***Ascochyta tulipae*** Byzova, Bot. Mat. Gerb. Inst. Bot. AN KazSSR **2**, 1964: 89 (holotype AA!). Fig. 55, p. 94.

Pycnidia more or less aggregated, immersed, olivaceous brown, globose, 80-125 × 70-110 µm, with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or somewhat bent, slightly constricted, 7.2-15.5 × 3-5 µm.

On living leaves of *Tulipa alberti*.

Distribution: Asia (USSR – Kazakhstan).

198. ***Ascochyta veratri*** Cavara, F. longobard. exs., Pug. II, 1892: no. 98. – *Gloeosporium veratrinum* Allesch., Verz. Süd. Bayern. beob. Pilze **3**, 1892: 73. Fig. 56, p. 95.

Pycnidia predominantly epiphyllous, scattered or aggregated. sometimes 2-3 pycnidia confluent, immersed or semi-immersed, ochraceous or reddish brown, globose-depressed, sometimes compressed in the centre, up to 200 µm diam., with a circular pore, up to 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin, very delicate. Conidia cylindrical or slightly clavate, both ends broadly rounded, straight or flexuous, somewhat constricted, 14-20 × 3.5-5 µm.

On living leaves of *Veratrum album*, *V. lobelianum*, *V. nigrum*, *V. viride*.

Distribution: Europe (Germany; Italy; USSR – Gorky Oblast', Kursk Oblast', Leningrad Oblast'), Asia (USSR – Georgia).

Linaceae

199. ***Ascochyta lini*** Rostr., Bot. of the Faeroes **1**, 1901: 314 (holotype C!).

Pycnidia scattered, immersed, dark brown or almost black, globose or globose-depressed, 100-180 µm diam., with a small, distinct circular pore, up to 15 µm diam. Pycnidial wall more or less thin. Conidia clavate, some ovate, oblong-ellipsoidal or cylindrical, both ends rounded, straight or slightly bent, not or only sometimes slightly constricted, 7-12 (15) × 3.5-4.5 µm.

On living and dry stems of *Linum catharcticum*, *L. usitatissimum*.

Distribution: Europe (Denmark – Faeroes; USSR – Ivanovo Oblast', Novgorod Oblast', Smolensk Oblast').

Loasaceae

200. ***Ascochyta cajophorae*** Henn., Notizbl. Königl. Bot. Gart. Berlin **22**, 1900: 39.

Pycnidia scattered or in short lines, immersed, dark brown, globose, 120-200 µm diam., with a pore, 25 µm diam., surrounded by small dark cells, and with a small papillate ostiole. Conidia ellipsoidal, both ends blunt, not constricted, 6-8 × 3-3.5 µm.

On dry stems of *Cajophora lateritia*.

Distribution: Europe (Germany).

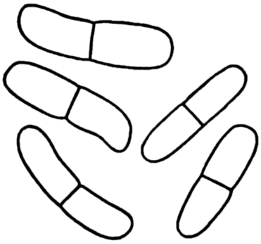

Fig. 56. Conidia of *Ascochyta veratri* (× 1000).

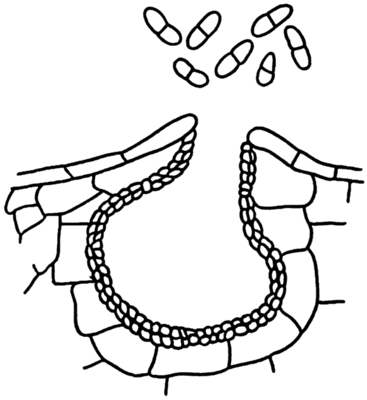

Fig. 57. Pycnidium (× 54) and conidia (× 405) of ***Ascochyta procenkoi*** (after Ablakatova & Koval', 1961; as *A. zonata*).

Loganiaceae

201. ***Ascochyta davidii*** Tasl., Mikol. i Fitopat. **1**, 1, 1967: 112 (holotype *EGU!* isotype LE!). – ? *Diplodina buddleiae* Moreau, Rev. Mycol. (Paris) **11**, 1946: 43, non valide publ., descr. gall.

Pycnidia epiphyllous and on stems, scattered, immersed, later erumpent, brown, globose of globose-depressed, 80-110 µm diam., with a circular pore, 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia oblong-ellipsoidal, rounded apically and somewhat acute at the base, straight, slightly constricted, 8-16 × 3-4.2 µm.

On living leaves and dry stems of *Buddleia davidii*, *B. lindleyana*, *B. thyrsoides* (?).

Distribution: ?Europe (? France), Asia (USSR – Georgia).

Magnoliaceae

202. ***Ascochyta liriodendri*** Woron., Izv. Kavkazsk. Muzeya **9**, 1915: 119.

Pycnidia semi-immersed, globose, 140-150 µm diam. Conidia fusiform, mostly flexuous or irregular, 15-18 × 6 µm.

On living leaves of *Liriodendron tulipifera*.

Distribution: Asia (USSR – Azerbajdzhan).

203. ***Ascochyta procenkoi*** Melnik, Nov. Sist. Niz. Rast. 1967: 272. – *A. zonata* A. Prots. ex Ablak. & Koval, Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **14**, 1961: 156, non *A. zonata* Syd., Hedwigia **38**, 1899: 138. Fig. 57, p. 95.

Pycnidia epiphyllous, scattered, globose, 85-120 µm diam. Conidia cylindrical, both ends rounded, 6-10 × 2.5-3 µm.

On living leaves of *Schisandra chinensis*.

Distribution: Asia (USSR – Primorskij Kraj).

Malvaceae

204. ***Ascochyta abelmoschi*** Harter, J. Agric. Res. **14**, 1918: 209.

Pycnidia on leaves, stems, flowers, and fruits, scattered or aggregated, immersed or semi-immersed, rusty or brown, globose or globose-conical, 65-225 µm diam., with a circular pore, 15-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, sometimes oblong-ovate, both ends rounded, straight or slightly bent, constricted or not constricted, 4-14 × 2-4.5 µm.

On living leaves, stems, flowers, and fruits of *Hibiscus (Abelmoschus) esculentus*, *H. trionum* and *H. palustris*.

Distribution: Europe (Bulgaria; USSR – Stavropol Kraj), Asia (USSR – Primorskij Kraj; Sri Lanka), N. America (USA).

Ellis (1950) published comprehensive data on the disease caused by this fungus.

205. ***Ascochyta malvicola*** Sacc., Michelia **1**, 1878: 161. – *Phyllosticta destructiva* Desm. var. *destructiva*, Ann. Sci. Nat. Bot., ser. 3, **3**, 1847: 29. – *A. althaeina* Sacc. & Bizz. in Sacc., Atti Ist. Veneto Sci. **6**, 2, 1884: 444. – *A. althaeina* Sacc. & Bizz. var. *major* Brunaud, Ann. Soc. Sci. Nat. Charente-Infer. 1889: 62. – *Diplodina malvae* Tognini, II Contr. Micol. Tosc. 1895: 12. – *A. alceina* Lambotte & Fautrey, Bull. Soc. Mycol. France **15**, 1899: 153. – *Diplodinula malvae* (Tognini) Tassi, Bull. Lab. Orto Bot. Univ. Siena **5**, 1902: 47. – *A. montenegrina* Bubák, Sitz. K. Böhm. Ges. Wiss. **12**, 1903: 13. – *Diplodina alceina* (Lambotte & Fautrey) Allesch. in Rabenh. Krypt.-Fl. **7**, 1903: 881. – *D. althaeae* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **4**, 1906: 342. – *D. hibisci* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **4**, 1906: 344. – *A. malvae* H. Zimm., Verh. Naturf. Vereins Brünn **47**, 1908: 37. – *A. abutilonis* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **7**, 1909: 53. – *A. malvae* Died., Krypt. Fl. M. Brand. **9**, 1912: 391. – *A. gossypii* Woron., Vestn. Tiflissk. Bot. Sada **35**, 1914: 26. – *A. gossypii* Syd., Ann. Mycol. **14**, 1916: 194. – *A. destructiva* (Desm.) Höhn., Hedwigia **60**, 1919: 185. – *A. malvarum* Mig. in Thome's Krypt. Fl. **3**, 1921: 281 (ut *A. malvacum* Mig.). – *A. hibisci-cannabini* Khokhr. in Tranz., Gutner & Khokhr., Tr. Inst. Novykh Lubyanykh Materialov **1**, 1933: 131 (holotype LEP!). – *Diplodina malvae* Tognini f. *lavaterae* Grove, British stem- and leaf-fungi **1**, 1935: 335, non valide publ., descr. angl. (holotype K!). – *A. sidae* Sawada, Spec. Publ. Coll. Agric., Nat. Taiwan Univ. **8**, 1959: 152, non valide publ., descr. jap. – *A. urenae* Sawada, Spec. Publ. Coll. Agric., Nat. Taiwan Univ. **8**, 1959: 152, non valide publ., descr. jap. – *Diplodina abutilonis* S. Ahmad, Biologia (Lahore) **13**, 1967: 34.

Pycnidia epiphyllous and on stems, scattered or aggregated, immersed or semi-immersed, on stems often protruding through epidermis, light to dark brown, globose or globose-depressed or lentiform, 120-200 µm diam., with a circular pore, surrounded by small dark cells, on stems often with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal or slightly clavate, with rounded ends, sometimes with one or both ends slightly narrowed, straight or slightly bent, not or slightly constricted, (5) 7-10 (12) × 2-4 µm.

On living leaves, on living and dry stems of *Abutilon* spp., *Alcea* spp., *Althaea* spp., *Gossypium* spp., *Hibiscus* spp., *Lavatera* spp., *Malva* spp., *Sida* spp., and *Urena lobata*.

Distribution: circumglobal.

Many of the names quoted above have been referred to *Phoma exigua* Desm. by van der Aa & van Kesteren (1971).

Menyanthaceae

206. ***Ascochyta menyanthicola*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. menyanthis* Oudem., Ned. Kruidkr. Arch., ser. 2, **3**, 1903: 262, non *A. menyanthis* Lib., Pl. Crypt. Ard.: no. 262 (1834). – *Phyllosticta destructiva* Desm. var. *menyanthis* Desm., Pl. Crypt. Fr.: no. 681 (1859), non valide publ., nom. nud. – *Ph. destructiva* Desm. f. *menyanthidis* Rabenh. in Rabenh. & G. Winter, F. europ.: no. 3092, non valide publ., nom. nud.

Pycnidia predominantly hypophyllous, scattered, semi-immersed, brownish, more often dark brown, almost black, globose or globose-conical, 200-300 µm diam., with a circular pore, up to 25 µm diam. Pycnidial wall carbonaceous, thick. Conidia cylindrical, both ends rounded, straight, not constricted, 12-19 × (2) 2.5-3.5 µm.

On living leaves of *Menyanthes trifoliata*.

Distribution: Europe (Germany; The Netherlands; USSR – Kirov Oblast', Leningrad Oblast').

Conidia of the fungus occur very seldom, but pycnidia containing a sclerotial mass are common.

Moraceae

207. ***Ascochyta ficus*** Traverso & Spessa, Bol. Soc. Brot. **25**, 1910: 180.

Pycnidia hypophyllous, densely aggregated, slightly protruding, black, subglobose, 110-130 × 85-100 µm. Pycnidial wall dark brown. Conidia oblong-fusiform, straight, not constricted, 11-14 × 2-2.5 µm.

On living leaves of *Ficus macrophylla*.

Distribution: Europe (Portugal).

208. ***Ascochyta humuliphila*** Melnik, Nov. Sist. Niz. Rast. 1972: 210. – *A. humuli* Kabát & Bubák, Hedwigia **43**, 1904: 419 (isotypi LE! LEP! *GruzIZR!*), non *A. humuli* Lasch in Rabenh., Herb. mycol.: no. 680 (1884).

Pycnidia predominantly epiphyllous, evenly scattered, semi-immersed, yellowish, yellow-brown and sometimes brown, globose and globose-depressed, (85) 100-200 µm diam., with a small papillate ostiole and circular pore, 15-20 µm diam., surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia short-cylindrical, oblong-ellipsoidal or oblong-ovate, both ends broadly rounded, straight or very seldom slightly bent, 7-15 × 3-5 µm.

On living leaves of *Humulus lupulus*.

Distribution: Europe (Czechoslovakia; Germany; Romania; UK; USSR – Latvia, Leningrad Oblast', Lithuania, Ukraine, Yaroslavl Oblast'), Asia (USSR – Armenia, Georgia).

209. ***Ascochyta miyakei*** Tanaka, Mycologia **10**, 1918: 286. – *A. mori* I. Miyake, Imp. Ser. Exp. Sta. Techn. Rep. **1**, 5, 1916: 345, non *A. mori* Maire, Ann. Mycol. **11**, 1913: 354. – *A. morifolia* Sawada, Spec. Rept. Taiwan Agr. Exp. Sta. **19**, 1919: 545 (isotype IMI!).

Pycnidia immersed, later erumpent, ellipsoidal or conical, 160 µm diam., with a circular pore and papillate ostiole. Pycnidial wall thin. Conidia ellipsoidal or cylindrical, with blunt ends, or ovate, not constricted, 9-11 × 3.5-4 µm.

On twigs of *Morus alba*.

Distribution: Asia (Japan).

210. ***Ascochyta mori*** Maire, Ann. Mycol. **11**, 1913: 354.

Pycnidia not numerous, scattered, semi-immersed, yellowish-brown, sometimes brown, lentiform, somewhat compressed in the centre, 40-175 µm diam., with an indistinct pore, up to 15-30 µm diam., surrounded by small dark cells. Conidia cylindrical, some oblong-ellipsoidal, straight or slightly bent, sometimes with a very pale greenish tinge, (6.5) 8-11 × 2-3 µm.

On living leaves of *Morus alba*, very often together with *Septogloeum mori* Briosi & Cavara

Distribution: Europe (Greece), Asia (USSR – Armenia, Azerbajdzhan, Georgia).

211. ***Ascochyta moricola*** Berl., Addit. Syll.: 441. – *Diplodina moricola* (Berl.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 691.

Pycnidia immersed, globose or globose-conical, 200 µm diam., with a small papillate ostiolum. Conidia fusiform, both ends acute, not or slightly constricted, sometimes with a very pale yellowish tinge, 10 × 3 µm.

On dry branches of *Morus alba*.

Distribution: Europe (Italy).

212. ***Ascochyta prasadii*** D. D. Shukla & V. N. Pathak, Sydowia **21**, (1967) 1968: 277 (holotype IMI!).

Pycnidia epiphyllous, more or less aggregated, immersed, light brown, globose or globose-depressed, 55.8-93 × 52.7-86.8 µm, with a circular pore, 14.4-16 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or ovate, both ends blunt and in such case more or less clavate, straight or irregular, very weakly constricted, 7.5-10 × 1.5-2.5 µm.

On living leaves of *Cannabis sativa*.

Distribution: Asia (India).

Myrtaceae

213. ***Ascochyta myrticola*** Maire & Sacc. in Sacc. & Syd., Syll. Fung. **16**, 1902: 930.

Pycnidia black, with a pore. Conidia oblong-ellipsoidal, both ends blunt, not constricted, 8-9 × 2.5-3 µm.

On leaves of *Myrtus communis*.

Distribution: Europe (Italy).

Nyctaginaceae

214. ***Ascochyta oxybaphi*** Trel., J. Mycol. **1**, 1885: 14. – *A. boerhaaviae* Tharp, Mycologia **9**, 1917: 106 (holotype NY!). – *A. abroniae* R. Sprague, Mycologia **29**, 1937: 427 (holotype NY!). Fig. 58, p. 99.

Pycnidia epiphyllous, sometimes amphigenous, solitary to numerous, scattered, sometimes several pycnidia confluent, semi-immersed, from light to dark brown, globose or globose-depressed, 100-160 (200) µm diam., with a circular pore, up to 30 µm diam., surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, some slightly clavate or oval, ends rounded, not constricted or constricted, 10-18 × 3.5-5 µm.

On living leaves of *Abronia mellifera*, *Boerhaavia erecta*, *Mirabilis* sp., *Oxybaphus nyctaginoides*.

Distribution: N. America (USA).

Oleaceae

215. ***Ascochyta forsythiae*** (Sacc.) Höhn. sec. H. Zimm., Verh. Naturf. Vereins Brünn **47**, 1909: 36. – *Phyllosticta forsythiae* Sacc., Michelia **1**, 1877: 93. – *A. forsythiae* Died., Krypt. Fl. M. Brand. **9**, 1912: 383. Fig. 59, p. 99.

Pycnidia epiphyllous, scattered or aggregated, often in concentric circles, immersed, from light to dark brown or almost black, globose or globose-depressed, up to 150 µm diam., with a circular pore, pale pycnidia with a pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or slightly clavate, both ends rounded, straight or sometimes somewhat bent, septum often not in the middle, not or slightly constricted, 7-12 × 3-4 µm.

On living leaves of *Forsythia* spp.

Distribution: Europe (Czechoslovakia; Germany; Romania; USSR – Latvia, Moscow Oblast'), Asia (USSR – Armenia).

216. ***Ascochyta fraxinicola*** Brunaud, Miscell. Mycol.: 17. – *Diplodina fraxinicola* (Brunaud) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 687.

Pycnidia scattered, immersed, very small. Conidia ellipsoidal, fusiform, or ovate-ellipsoidal, not or slightly constricted, 15-18 × 5-6 µm.

On young branches of *Fraxinus excelsior*.

Distribution: Europe (France).

217. ***Ascochyta fraxinifolia*** Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1**, 14, 1923: 32 (holotype LE!). – *A. jasminicola* Canonaco, Boll. Stud. Inform. Reale Giardino Colon. **14**, 23, 1936: 15 (extr.).

Pycnidia epiphyllous, subepidermal, later erumpent, brownish, 130-140 µm diam., with a circular pore. Pycnidial wall rather thick. Conidia ellipsoidal, oblong-ellipsoidal, or oval, both ends rounded, straight, not or slightly constricted, 6-8 × 3-4 µm.

On living leaves of *Fraxinus excelsior* and *Jasminum* sp.

Distribution: Asia (USSR – Georgia), Africa.

218. ***Ascochyta ligustri*** Sacc. & Speg., Michelia **1**, 1878: 165.

Pycnidia predominantly epiphyllous, evenly scattered, semi-immersed, olivaceous, dark brown or almost black, globose-depressed, lentiform, sometimes compressed in the centre, 90-200 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thin. Conidia ellipsoidal, both ends rounded, straight, sometimes slightly bent, not or slightly constricted, 6-10 × 2-3 µm.

On living leaves of *Ligustrum vulgare*.

Distribution: Europe (Germany; Italy; Romania; USSR – Latvia), Asia (USSR – Armenia).

According to Melik-Khatchatryan (1964), this fungus belongs to the life cycle of ***Mycosphaerella ligustri*** (Desm.) Fuckel.

219. ***Ascochyta metulispora*** Berk. & Broome, Ann. Nat. Hist. **1**, 1878: 30 (holotype K!). Fig. 60, p. 99.

Pycnidia epiphyllous, in the centre of the spot, semi-immersed, light brown, globose-depressed, up to 120 µm diam., with a circular pore. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight or bent, not or slightly constricted, 6-10 × 2.4-3 µm.

On living leaves of *Fraxinus* sp.

Distribution: Europe (UK).

The shape of the conidia in the holotype material is quite distinct from that described by the original authors.

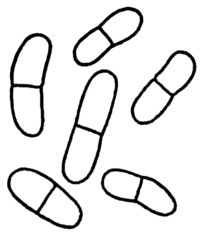

Fig. 58. Conidia of ***Ascochyta oxybaphi*** (× 1000).

Fig. 59. Conidia of ***Ascochyta forsythiae*** (× 1000).

Fig. 60. Conidia of ***Ascochyta metulispora*** (× 1000).

220. ***Ascochyta orientalis*** Bondartsev, Acta Horti Petropol. **26**, 1906: 43. (holotype LE!). Fig. 61, p. 100.

Pycnidia epiphyllous, scattered, immersed or semi-immersed, from honey-coloured to brown, globose, 100-200 µm diam., with a circular pore, 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, sometimes slightly flexuous, somewhat constricted, 16-23 × 5-7 µm.

On living leaves of *Syringa vulgaris*.

Distribution: Europe (USSR – generally distributed), Asia (USSR – Armenia, Georgia).

Fig. 61. Conidia of ***Ascochyta orientalis*** (× 1000).

221. ***Ascochyta orni*** Sacc. & Speg., Michelia **1**, 1878: 168.

Pycnidia amphigenous, slightly erumpent, globose-depressed, 200 µm diam. Conidia ovate-fusiform, not or sometimes slightly constricted, almost hyaline, 10-11 × 2-2.5 µm.

On leaves of *Fraxinus ornus*.

Distribution: Europe (Italy).

222. ***Ascochyta syringae*** Bres., Hedwigia **33**, 1894: 207 (isotype WRSL!). – *A. fraxini* Kabát & Bubák, Hedwigia **52**, 1912: 346 (isotypi LE! LEP! *GruzIZR!*). – *A. syringaecola* Hollós, Bot. Közlem. **25**, 1928: 127 (holotype BP!).

Pycnidia predominantly epiphyllous and on fruits, scattered or aggregated, immersed or semi-immersed, yellowish or light brown, globose-depressed or lentiform, 150-250 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some sometimes oblong-ellipsoidal or biscuit-shaped, both ends rounded, straight, sometimes slightly flexuous, not or slightly constricted, 8-15 × 3-5 µm.

On living leaves and dry fruits of *Fraxinus angustifolius*, *F. excelsior* and *Syringa vulgaris*.

Distribution: Europe (Czechoslovakia; Germany; Hungary; USSR – generally distributed), Asia (USSR – Armenia).

Onagraceae

223. ***Ascochyta circaeae*** Bubák & Picb., Ann. Mycol. **35**, 1937: 142 (holotype BRNM!). Fig. 62, p. 101.

Pycnidia predominantly epiphyllous, scattered or aggregated, semi-immersed, yellow, transparent, globose, 150-170 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, oblong-ellipsoidal, or slightly clavate, both ends rounded, not or slightly constricted, 8-9 × 2.5-3 µm.

On living leaves of *Circaea lutetiana*.

Distribution: Europe (Bulgaria).

224. ***Ascochyta epilobii*** Oudem., Beih. Bot. Centralbl. **11**, 1901: 529.

Pycnidia epiphyllous and on stems, scattered, immersed, brownish, globose-depressed, 150-200 µm diam., with a circular pore, 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, with broadly rounded ends, straight or very rarely slightly bent, not or slightly constricted, on leaves 6.8-10 × 3-3.5 (3.8) µm, on stems 11.5-14 × 3-4 µm.

On living leaves and stems of *Epilobium angustifolium*, *E. roseum*.

Distribution: Europe (The Netherlands; USSR – Moscow Oblast').

225. ***Ascochyta godetiae*** Riedl, Sydowia **19**, (1965) 1966: 190. Fig. 63, p. 101.

Pycnidia more or less widely scattered, brownish, depressed, 175-220 × 100-120 µm, with a short ostiole, erumpent through the epidermis. Pycnidial wall thin. Conidia cylindrical, both ends rounded or blunted, straight, not or slightly constricted, 9-15 × 3.5-6 µm.

On dry stems of *Godetia whitneyi*.

Distribution: Europe (Austria).

Fig. 62. Conidia of *Ascochyta circaeae* (× 1000).

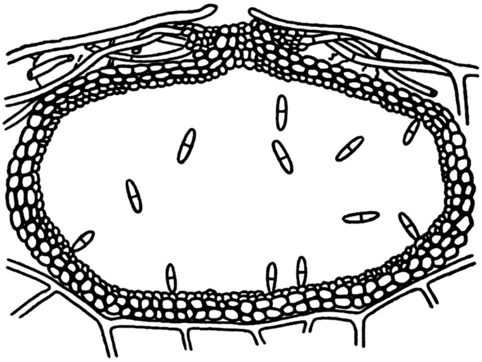

Fig. 63. Pycnidium and conidia of *Ascochyta godetiae* (after Riedl, 1965).

Palmae

226. ***Ascochyta trachycarpi*** Melnik, Nov. Sist. Niz. Rast. 1969: 195 (holotype LE!). Fig. 64, p. 102.

Pycnidia predominantly epiphyllous, scattered, immersed, dark brown or black, lentiform or almost globose, 90-140 µm diam., with a circular pore, 15-20 µm diam. Pycnidial wall thin. Conidia cylindrical, oval, or oblong-ellipsoidal, both ends rounded or sometimes slightly acute, straight, 8.3-13 × 2.5-3 (3.5) µm.

On living leaves of *Trachycarpus martianus*.

Distribution: Europe (USSR – Ukraine).

Papaveraceae

227. ***Ascochyta chelidoniicola*** Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. chelidonii* Kabát & Bubák, Hedwigia **46**, 1907: 290 (isotypi LE! LEP!), non *A. chelidonii* Lib., Pl. Crypt. Ard.: no. 57 (1830). Fig. 65, p. 102.

Pycnidia epiphyllous, scattered, immersed, light yellow or yellowish brown, globose-depressed, up to 160-200 µm diam., with an indistinct circular pore. Pycnidial wall thin, very delicate. Conidia oblong-ellipsoidal or subcylindrical, both ends attenuated, straight or sometimes slightly flexuous, with somewhat eccentric septum, not or slightly constricted, 10-22 × 3-5 µm.

On living leaves of *Chelidonium majus*.

Distribution: Europe (Czechoslovakia).

Fig. 64. Conidia of *Ascochyta trachycarpi* (× 1000).

Fig. 65. Conidia of *Ascochyta chelidoniicola* (× 1000).

228. ***Ascochyta dicentrae*** Oudem., Beih. Bot. Centralbl. 1902: 7. Fig. 66, p. 103.

Pycnidia epiphyllous and on stems, immersed, on stems semi-immersed, black, oval or globose, up to 180 µm diam., with a circular pore. Conidia cylindrical or oblong-fusiform, both ends attenuated, straight or slightly bent, not constricted, sometimes with a very faintly greenish tinge, 7-12 × 2.5-3.5 µm.

On living leaves and stems of *Dicentra spectabilis*.

Distribution: Europe (The Netherlands), N. America (USA).

229. ***Ascochyta fumariae*** Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **6**, 1908: 530.

Pycnidia epiphyllous, scattered, immersed, brown, lentiform, 140-180 µm diam., with a pore. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight or flexuous, irregular, not constricted, 14-18 × 4-5.5 µm.

On living and withering leaves of *Fumaria schleicheri* and *F. vaillantii*.

Distribution: Europe (Hungary; Sweden) ?Asia (?USSR – ? Kazakhstan).

230. ***Ascochyta glaucii*** (Cooke & Massee) Died., Krypt. Fl. M. Brand. **9**, 1912: 383, excl. basionymo (isotype LE!). Fig. 67, p. 103.

Pycnidia numerous, evenly scattered, immersed, from light to dark brown, lentiform, 150-225 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded or sometimes one end slightly narrowed, straight or flexuous, not constricted or constricted, 9-15 (17) × 2.5-4 µm.

On dry stems of *Glaucium flavum*.

Distribution: Europe (Germany, UK).

231. ***Ascochyta papaveris*** Oudem., Contr. Fl. Mycol. Nowaja Semlja 1885: 12. – *Diplodina papaveris* (Oudem.) Lind, Meddel. om Grønland 71, 1926: 169.

Pycnidia epiphyllous, scattered, black, 200 µm diam. Pycnidial wall thin. Conidia broadly fusiform or subellipsoidal, 9 × 3.5 µm.

On leaves of *Papaver nudicaulis*.

Distribution: Europe (USSR – Novaya Zemlya Islands).

Pedaliaceae

232. ***Ascochyta sesami*** Miura, Flora of Manchuria and East Mongolia, III Cryptogams, Fungi. 1928: 445.

Pycnidia semi-immersed, pale brown, globose, 80-100 µm diam., with a short ostiole. Conidia fusiform, slightly constricted, 10 × 3 µm, one-celled conidia oblong or broadly ellipsoidal, both ends rounded, 5 × 3 µm.

On leaves of *Sesamum orientale* (= *S. indicum*).

Distribution: Asia (Mongolia).

Pinaceae

233. ***Ascochyta laricina*** Voglino, Ann. R. Accad. Agric. Torino **55**, (1912) 1913: 220 (holotype TO!).

Pycnidia scattered, erumpent through the epidermis, black, globose-depressed, 80-90 µm diam., with a pore. Pycnidial wall thin. Conidia oblong-ellipsoidal, both ends acute, not constricted, 10-12 × 2-3 µm.

On young plant of *Larix deciduous*.

Distribution: Europe (Italy).

Pittosporaceae

234. ***Ascochyta tobirae*** Hara, J. Jap. Bot. **1**, 4, 1917: 101.

Pycnidia initially immersed, later erumpent, globose or almost globose, with a papillate ostiole. Pycnidial wall thin. Conidia cylindrical or fusiform, both ends rounded, sometimes slightly yellowish, 10-13 × 2-3 µm.

On leaves of *Pittosporum tobira*.

Distribution: Asia (Japan).

Plantaginaceae

235. ***Ascochyta plantaginicola*** Melnik, Nov. Sist. Niz. Rast. 1970: 249. – *A. plantaginis* Sacc. & Speg., Michelia **1**, 1878: 166, non *A. plantaginis* Ces. in Klotzsch, Herb. Mycol.: no. 1742 (1853). – *A. sodalis* Naumov, Mat. po Mikol. i Fitopat. Rossii **6**, 1, 1927: 11 (holotype LEP!). – *A. plantaginella* Tehon, Mycologia **25**, 1933: 247 (holotype NY). Fig. 68, p. 103.

Pycnidia predominantly epiphyllous, immersed, yellow brown, lentiform, sometimes compressed in the centre, 90-160 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical or almost ellipsoidal, both ends broadly rounded, straight, very rarely slightly bent, not constricted, 6-12 × 2.5-4.5 µm.

On living leaves of *Plantago aristata*, *P. major*, *P. media*, *P. rugelii*, *Plantago* sp.

Distribution: Europe (generally distributed), Asia (USSR – Kazakhstan), N. America (USA).

Fig. 66. Conidia of ***Ascochyta dicentrae*** (× 1000).

Fig. 67. Conidia of ***Ascochyta glaucii*** (× 1000).

Fig. 68. Conidia of ***Ascochyta plantaginicola*** (× 1000).

Plumbaginaceae

236. ***Ascochyta plumbaginicola*** Henn., Hedwigia **41**, 1902: 137. – *Diplodina plumbaginicola* (Henn.) Died., Krypt. Fl. M. Brand. **9**, 1912: 406. – *A. staticicola* Unamuno, Asoc. Esp. Progr. Ci. Congr. Salamanca 1923: 45.

Pycnidia epiphyllous and on stems, scattered or aggregated, semi-immersed, brown, globose, globose-depressed or globose-conical, up to 140 µm diam., with a wide pore. Pycnidial wall thin. Conidia oblong-ellipsoidal or ovate, both ends blunt, 5-8 × 2-3 µm.

On living leaves and dry stems of *Plumbago europaea* and *Statice occidentalis*.

Distribution: Europe (Germany; Spain).

237. ***Ascochyta tenerifensis*** Jørst., Blyttia **24**, 1966: 228 (holotype C!).

Pycnidia amphigenous, numerous, scattered, semi-immersed, almost black, subglobose, 65-80 µm diam., with an indistinct pore. Pycnidial wall thin, very delicate. Conidia cylindrical, both ends rounded, sometimes with somewhat acute base, straight, very rarely slightly flexuous, not constricted, 12-15 (19) × 2-2.5 µm.

On living leaves of *Statice umbricata*.

Distribution: Europe (Spain – Canary Islands).

Polemoniaceae

238. ***Ascochyta phlogis*** Voglino, Ann. R. Accad. Agric. Torino **51**, 1908: 20 (extr.). – *Diplodina phlogis* Fautrey, Rev. Mycol. (Toulouse) **12**, 1890: 165 (isotypi LEP! NY!). – *A. phlogina* Fairm., Ann. Mycol. **8**, 1910: 323. Fig. 69, p. 105.

Pycnidia epiphyllous and on stems, numerous, more or less scattered, immersed, light or dark brown, globose-depressed, on stems lentiform, strongly flattened, up to 180-200 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends slightly attenuated-rounded, straight, sometimes slightly flexuous, not or slightly constricted, (6) 9-14 × 3-4 µm.

On living leaves and dry stems of *Phlox drummondii* and *Ph. paniculata*.

Distribution: Europe (France; Italy; USSR – generally distributed), Asia (USSR – Armenia), N. America (USA).

Polygalaceae

239. ***Ascochyta oxyspora*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **3**, 1900: 99.

Pycnidia scattered, immersed, black, lentiform, 250 µm diam. Pycnidial wall dark brown. Conidia naviculate, with rounded ends, not constricted, 10-12 × 2-3 µm.

On dry stems of *Comesperma sphaerocarpum*.

Distribution: Australia.

Polygonaceae

240. ***Ascochyta atraphaxidis*** (Kravtzev) Melnik, Nov. Sist. Niz. Rast. 1971: 213. – *Diplodina atraphaxidis* Kravtzev ex Schvartsman & Kravtzev, Tr. Inst. Bot. AN KazSSR **9**, 1961: 24.

Pycnidia scattered, sometimes 2-3 pycnidia aggregated, immersed, from brownish grey to almost black, globose or globose-depressed, sometimes lentiform, 80-200 µm diam., with a circular pore, 10-20 µm diam. and with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, not constricted, 8-12 (14) × 3-4.5 µm.

On living stipules, dry and fallen leaves and branchlets of *Atraphaxis virgata*.

Distribution: Asia (USSR – Kazakhstan).

241. ***Ascochyta biguttulata*** E. Y. Daniels, Mycologia **19**, 1927: 125 (type NY!). Fig. 70, p. 105.

Pycnidia hypophyllous, scattered, immersed, brown or dark brown, globose or globose-depressed, 75-150 µm diam., with a circular pore, 15-16 µm diam., with a small, hardly protruding papillate ostiole. Conidia navicular-fusiform, both ends acute, straight, not constricted, 8-14 × 3-4 µm.

On living leaves of *Polygonum convolvulus*.

Distribution: N. America (USA).

Fig. 69. Conidia of *Ascochyta phlogis* (× 1000).

Fig. 70. Conidia of *Ascochyta biguttulata* (× 1000).

242. ***Ascochyta fagopyri*** Thüm. & Bolle, Soc. Adriat. Sci. Nat. 1885: 13. – *Diplodina fagopyri* (Thüm. & Bolle) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 686.

Pycnidia scattered, semi-immersed, black, almost globose, small. Conidia ellipsoidal, both ends rounded, slightly constricted, 8.5-10 × 3-4.5 µm.

On dried stems of *Fagopyrum sagittatum*.

Distribution: Europe (Austria).

243. ***Ascochyta foliicola*** (Gonz. Frag.) Melnik, Nov. Sist. Niz. Rast. 1975: 204. – *A. vicina* Sacc. var. *foliicola* Gonz. Frag., Trab. Mus. Nac. Ci. Nat., ser. Bot. **9**, 1916: 87.

Pycnidia scattered or aggregated, globose-depressed, with a pore. Pycnidial wall thin. Conidia fusiform, both ends acute, 9-12 × 2.5-3 µm.

On leaves of *Rumex acetosella*.

Distribution: Europe (Spain).

244. ***Ascochyta marssonia*** (Siemaszko) Melnik Nov. Sist. Niz. Rast. 1975: 204. – *Stagonospora marssonia* Siemaszko, Izv. Kavkazsk Muzeya, **12**, 1919: 4 (extr.) (holotype LE!; received from *Sukhumi Branch of VNIIChSK*). Fig. 71, p. 106.

Pycnidia epiphyllous, inconspicuous, immersed, pale yellow or pale brown, globose-depressed, 120-200 µm diam., with indistinct circular a pore, up to 35 µm diam. Pycnidial wall almost colourless, very thin, delicate. Conidia cylindrical to ellipsoidal or *Marssonina*-like, both ends broadly rounded, straight, most conidia with strongly eccentric septum, more or less constricted, 15-30 × 10-13.3 (15) µm.

On living leaves of *Polygonum alpinum*.

Distribution: Asia (USSR – Georgia).

245. ***Ascochyta polygoni-setosi*** (Bubák) Melnik, Nov. Sist. Niz. Rast. 1971: 212. – *Diplodina polygoni-setosi* Bubák, Ann. K. K. Naturhist. Hofmus. **28**, 1914: 206.

Pycnidia protruding through the epidermis, dull black, globose-depressed or lentiform, circular in outline or ellipsoidal, 120-250 µm diam., with a circular pore, up to 25 µm diam. Pycnidial wall thick. Conidiophores cylindrical or slightly swollen on the apex, 10-24 × 2 µm. Conidia cylindrical, both ends rounded, straight, not constricted, 13-17 (20) × 2.5-3.5 (4) µm.

On dry stems of *Polygonum setosum* and *Polygonum* sp.

Distribution: Asia (Iran; USSR – Turkmenia).

This species is well-characterised by having conspicuous conidiophores.

246. ***Ascochyta reynoutriae*** Sawada, Bull. Gov. Forest Exp. Sta. **105**, 1958: 52.

Pycnidia epiphyllous, scattered, immersed, dark chestnut-brown, globose, 78-110 µm diam., with a pore, 6-13 µm diam. Conidia ellipsoidal, both ends rounded, slightly constricted, 12-15 × 5-5.5 µm.

On leaves of *Reynoutria japonica*.

Distribution: Asia (Japan).

247. ***Ascochyta rheicola*** Sawada, Bull. Gov. Forest Exp. Sta. **105**, 1958: 52.

Pycnidia subepidermal, globose, 95-127 µm diam. Conidia cylindrical or ellipsoidal, both ends rounded, not constricted, 11-18 × 4.5-5 µm.

On leaves of *Rheum rhaponticum*.

Distribution: Asia (Japan).

248. ***Ascochyta volubilis*** Sacc. & Malbr., Michelia **2**, 1882: 621. – *Diplodina volubilis* (Sacc. & Malbr.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 692. – *A. polygonicola* Kabát & Bubák, Hedwigia **46**, 1907: 292. – *Ascochytella polygonicola* (Kabát & Bubák) Petr., Ann. Mycol. **21**, 1923: 212. – *Gloeosporium polygoni* Dearn. & House, New York State Mus. Bull. **243/244**, 1923: 74. – *A. polygoni* (Dearn. & House) Arx, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. **51**, 3, 1957: 122.

Pycnidia epiphyllous, scattered or aggregated, semi-immersed, pale brown or brown, globose or globose-depressed, (60) 80-180 µm diam., with a circular pore, up to 20 µm diam., with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight, not constricted, 6-12 × 2.5-4 (4.5) µm.

On living leaves of *Polygonum aviculare*, *P. convolvulus*, *P. dumetorum*, *P. lapathifolium*.

Distribution: Europe (Austria; France; Germany; USSR – Leningrad Oblast', Moscow Oblast'), Asia (USSR – Kazakhstan).

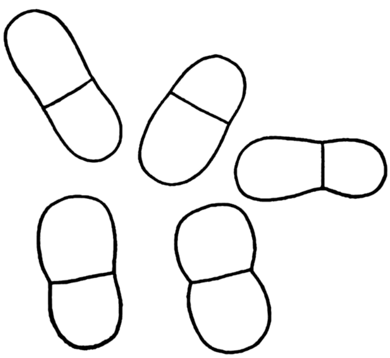

Fig. 71. Conidia of ***Ascochyta marssonia*** (× 1000).

Fig. 72. Conidia of ***Ascochyta georgica*** (× 1000).

Primulaceae

249. ***Ascochyta georgica*** Melnik, Nov. Sist. Niz. Rast. 1970: 244 (holotype LE!). Fig. 72, p. 106.

Pycnidia amphigenous, scattered, immersed, light brown, globose-depressed, 100-200 µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends broadly rounded, straight, not or slightly constricted, 10-15 (18) × (3.5) 4-6 µm.

On withering leaves of *Primula* sp.

Distribution: Asia (USSR – Georgia).

250. ***Ascochyta primulae*** Trail, Scott. Naturalist (Perth) **3**, 1887: 88. – *A. valerandii* Jaap, Ann. Mycol. **14**, 1916: 34.

Pycnidia epiphyllous, scattered, yellowish and pale brown, globose-depressed, 100-150 µm diam., with a pore, sometimes with a papillate ostiole. Conidia cylindrical, both ends blunt, mostly straight, 5-8.5 × 2-2.5 µm.

On living leaves of *Primula vulgaris*, *Samolus valerandi*.

Distribution: Europe (UK; Yugoslavia).

Pteridaceae

251. ***Ascochyta necans*** (Ellis & Everh.) Davis, Trans. Wisconsin Acad. Sci. **21**, 1924: 274. – *Gloeosporium necans* Ellis & Everh., J. Mycol. **4**, 1888: 104. – *Marssonia necans* (Ellis & Everh.) Sacc., Syll. Fung. **10**, 1892: 480. – *A. pteridis* Bres., Hedwigia **33**, 1894: 208 (isotypi LEP! WRSL!). – *Marssonina necans* (Ellis & Everh.) Magnus, Hedwigia **45**, 1906: 88. – *A. jaczevskii* Negru & Vlad, Izv. AN Arm. SSR **15**, 11, 1962: 46 (holotype I!). Fig. 73, p. 108.

Pycnidia epiphyllous and on stems, more or less aggregated, sometimes confluent, immersed, from light to dark brown, almost black, globose or subglobose, 75-180 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thin. Conidia oblong-ellipsoidal, some almost clavate, both ends rounded and slightly attenuated, sometimes bent or even flexuous, with a septum, which is sometimes eccentric, not or slightly constricted, 13-20 (30) × 4-6 µm.

On living leaves and stems of *Pteridium aquilinum*.

Distribution: Europe (Austria; Czechoslovakia; Germany; Romania; Sweden; UK; USSR – Latvia, Leningrad Oblast'), N. America (USA).

According to Davis (1942), this fungus is probably the conidial state of ***Cryptomyces pteridis*** Rehm.

Ranunculaceae

252. ***Ascochyta aconitana*** Melnik, Nov. Sist. Niz. Rast. 1971: 206, ut *A. aconitiana* Melnik – *A. aconiti* Sandu, Stud. Cercet. Biol. **18**, 1, 1966: 18 (holotype I!), non *A. aconiti* Moesz, Bot. Közlem. **22**, 1924: 43.

Pycnidia epiphyllous, immersed, brown, globose or globose-depressed, 75-135 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia ellipsoidal, ovate, or cylindrical, both ends rounded, straight, not or sometimes strongly constricted, 10-15 (18) × 4.5-6.3 µm.

On living leaves of *Aconitum moldavicum*.

Distribution: Europe (Romania).

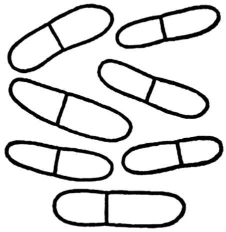

Fig. 73. Conidia of *Ascochyta necans* (× 1000).

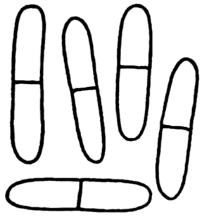

Fig. 74. Conidia of *Ascochyta dolomitica* (× 1000).

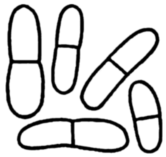

Fig. 75. Conidia of *Ascochyta infuscans* (× 1000).

253. ***Ascochyta dolomitica*** Kabát & Bubák, Oesterr. Bot. Z. **54**, 1904: 4. – *A. vodakii* Bubák, Novenyt. Közlem. **4**, 1907: 52 (extr.) (isotypi LE! LEP! *GruzIZR!*). – *A. carinthiaca* Jaap, Ann. Mycol. **6**, 1908: 219. – *A. hepaticae* Died., Krypt. Fl. M. Brand. **9**, 1912: 385. – *Stagonospora dolomitica* (Kabát & Bubák) Petr., Hedwigia **68**, 1929: 239. Fig. 74, p. 108.

Pycnidia epiphyllous, scattered or aggregated, immersed, yellow, yellowish brown or brown, globose or globose-depressed, 100-180 µm diam., with a pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, not or slightly constricted, (10) 13-20 (22) × 3-5 µm.

On living leaves of *Atragene alpina*, *A. sibirica*, *Hepatica triloba*, *Ranunculus thora*, *Clematis* spp.

Distribution: Europe (Austria; Czechoslovakia; Germany; Romania; USSR – Latvia), Asia (USSR – Altai Kraj, Kazakhstan).

According to Müller (1953), ***Didymella vodakii*** E. Müll. is the perfect state of this species.

254. ***Ascochyta infuscans*** Ellis & Everh., J. Mycol. **5**, 1889: 148 (holotype NY!). – *A. anemones* Kabát & Bubák, Hedwigia **52**, 1912: 345 (isotypi LE! LEP! *GruzIZR!*). Fig. 75, p. 108.

Pycnidia predominantly epiphyllous, scattered or aggregated, immersed, yellowish-brown or brown, globose-depressed or lentiform, 80-180 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or bent, not or slightly constricted, 8-15 (16) × 3-4.5 µm.

On living leaves of *Anemone nemorosa*, *A. ranunculoides*, *Ranunculus abortivus*.

Distribution: Europe (Czechoslovakia; USSR – Leningrad Oblast', Tambov Oblast'), N. America (USA).

255. ***Ascochyta patogonica*** Speg., Fungi Arg. Pug. 2: no. 123. – *A. aconiti* Moesz, Bot. Közlem. **22**, 1924: 43. – *A. septentrionalis* Fokin, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **4**, 3, 1926: 38 (holotype LEP!).

Pycnidia epiphyllous and on petioles, scattered, immersed, from light to dark brown, globose-depressed or lentiform, 80-120 µm diam., with a circular pore, surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, sometimes oblong-ellipsoidal, both ends rounded, straight or sometimes slightly bent, not or slightly constricted, (6.5) 8-10 × 2.5-4 µm.

On living leaves and decaying petioles of *Aconitum septentrionalis*, *A. vulparia*, *Aconitum* sp., *Anemone sphaenophylla*.

Distribution: Europe (Hungary; USSR – Kirov Oblast', Leningrad Oblast'), South America (Argentina).

256. ***Ascochyta savulescui*** Rădul. & Negru, Omagiu lui Traian Săvulescu 1959: 649. Fig. 76, p. 109.

Pycnidia immersed, globose or globose-depressed, 65-95 µm diam., brown. Pycnidial wall thin. Conidia ellipsoidal or oblong-ellipsoidal, both ends rounded, septa sometimes eccentric, constricted, almost hyaline, 18-26 × 7-10 µm.

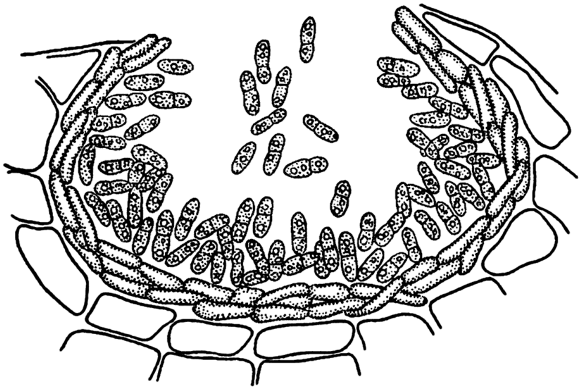

Fig. 76. Pycnidium and conidia of ***Ascochyta savulescui*** (after Rădulescu & Negru, 1959).

On living leaves of *Thalictrum minor*.

Distribution: Europe (Romania).

257. ***Ascochyta vitalbicola*** Maire, Publ. Inst. Bot. **3**, 4, 1937: 18.

Pycnidia epiphyllous, immersed, dark brown, 150 µm diam. Conidia cylindrical, both ends rounded, not or slightly constricted, 15-18 × 5-6 µm.

On leaves of *Clematis vitalba*.

Distribution: Europe (Spain).

Resedaceae

258. ***Ascochyta resedae*** Bond.-Mont., Bolezni Rast. **12**, 1923: 71 (holotype LE!). Fig. 77, p. 110.

Pycnidia amphigenous, scattered, sometimes 2-3 pycnidia confluent, immersed, honey-coloured, globose and globose-depressed, 100-160 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or slightly bent, 6-10 × 3-3.5 µm.

On living leaves of *Reseda odorata*.

Distribution: Europe (USSR – Latvia, Orel Oblast').

Rhamnaceae

259. ***Ascochyta hoveniae*** Sawada, Bull. Gov. Forest Exp. Sta. **105**, 1958: 52.

Pycnidia epiphyllous, immersed, brown, globose, 170 µm diam., with a pore, 25-39 µm diam. Conidia cylindrical or ellipsoidal, 9-14 × 4.5-4.7 µm.

On leaves of *Hovenia dulcis* var. *tomentella*.

Distribution: Asia (Japan).

260. ***Ascochyta natsume*** Hara, Morbi arb. fruct. Japan 1928 (?): 482. – *A. zizyphi* Hara, Pathologia Agriculturalis Plantarum 1930: 700.

Pycnidia epiphyllous, immersed, black, globose or globose-depressed, 100-150 µm diam., with a pore. Pycnidial wall thin. Conidia ellipsoid-ovate, 6-10 × 3-4 µm.

On leaves of *Zizyphus jujuba*.

Distribution: Asia (Japan).

261. ***Ascochyta paliuri*** Sacc., Michelia **1**, 1878: 166. – *A. rhamni* Lebedeva, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **1**, 10, 1922: 146 (holotype LE!). – *A. rhamni* W. B. Cooke & C. G. Shaw, Mycologia **44**, 1952: 799.

Pycnidia predominantly epiphyllous, scattered or aggregated, immersed, pale brown or brown, globose or sometimes lentiform, 100-200 (300) µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight, sometimes slightly bent, not or sometimes slightly constricted, 7-12 × 3-4 µm.

On living leaves of *Paliuris aculeatus*, *P. australis*, *Rhamnus catharctica* and *R. purchiana*.

Distribution: Europe (Italy; USSR – Kursk Oblast'; Yugoslavia), N. America (USA).

Rosaceae

262. ***Ascochyta cruris-galli*** Brunaud, Sphaerops. Char. 1889: 60.

Pycnidia scattered, black, very small. Conidia fusiform, both ends rounded, constricted, 10-14 × 3 µm.

On withering leaves of *Crataegus cruris-galli*.

Distribution: Europe (France).

263. ***Ascochyta crystallina*** McAlpine, Fung. diseas. stone-fruit trees 1902: 98.

Pycnidia erumpent, brown or greyish brown, globose-depressed, large, with a circular pore. Pycnidial wall thin. Conidia cylindrical, both ends rounded, not constricted, 13-15 × 2-3 µm.

On leaves of *Amygdalus communis*.

Distribution: Australia.

Fig. 77. Conidia of ***Ascochyta resedae*** (× 1000).

Fig. 78. Conidia of ***Ascochyta idaei*** (× 1000).

264. ***Ascochyta idaei*** Oudem., Hedwigia **41**, 1902: 178. – *Diplodina idaei* (Oudem.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 695. – *A. pruni* Kabát & Bubák, Hedwigia **47**, 1908: 358 (isotypi LE! LEP! *GruzIZR!*). – *A. zimmermannii-hugonis* Bubák, Ann. Mycol. **13**, 1915: 31 (isotypi H! LE!). – *Gloeosporium osmaroniae* Dearn., Mycologia **16**, 1924: 168. – *A. argillacea* (Bres.) Bond.-Mont., Mat. po Mikol. Obsled. Rossii **5**, 4, 1922: 21, excl. basionymo. – *A. argillacea* (Bres.) Grove, British stem- and leaf-fungi **1**, 1935: 313, excl. basionymo. – *A. osmaroniae* (Dearn.) Arx, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. **51**, 3, 1957: 113. Fig. 78, p. 110.

Pycnidia epiphyllous and on stems, scattered or sometimes 2-3 pycnidia aggregated, light to dark brown, globose-depressed, lentiform, 100-220 µm diam., with a round pore, surrounded by small, dark cells, sometimes with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, ends rounded, straight, sometimes slightly curved, not or only slightly constricted, 7-12 (14) × 2.5-4.5 µm.

On living leaves and dry stems of *Osmoronia cerasiformis*, *Prunus padus*, *Rubus idaeus*.

Distribution: Europe (Czechoslovakia; Germany; UK; USSR – Latvia, Kursk Oblast', Leningrad Oblast', Stavropol Kraj), Asia (USSR – Armenia), N. America (USA).

265. ***Ascochyta potentillarum*** Sacc., Michelia **1**, 1878: 170.

Pycnidia epiphyllous, scattered, brown, lentiform, up to 160 µm diam., with a circular pore. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends bluntly rounded, straight or sometimes slightly bent, not or slightly constricted, 6-10 × 2.7-3 µm.

On living leaves of *Potentilla opaca* and *P. reptans*.

Distribution: Europe (Italy; USSR – Arkhangelsk Oblast’, Latvia), Asia (USSR – Armenia).

266. ***Ascochyta rubi*** Sacc., Ann. Mycol. **1**, 1903: 434.

Pycnidia sublentiform, 70-80 µm diam., with a pore. Conidia fusiform, both ends blunt, hyaline or subhyaline, 10-11 × 2.5-3 µm.

On withering leaves of *Rubus fruticosus* var. *discolor*.

Distribution: Europe (Italy).

267. ***Ascochyta spiraeae*** Kabát & Bubák, Hedwigia **43**, 1904: 359 (isotypi LE! LEP! *GruzIZR!*). – *A. spiraeae* Kabát & Bubák f. *caulicola* Grove, British stem- and leaf-fungi **1**, 1935: 316, non valide publ., descr. angl. (holotype K!). Fig. 79, p. 111.

Pycnidia predominantly hypophyllous and on stems, scattered or aggregated, semi-immersed, brownish, globose-depressed or lentiform, 100-200 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, sometimes biscuit-shaped, both ends rounded, straight, sometimes slightly bent, not constricted, 5-10 (11) × 2.5-3.5 (4.5) µm.

On dry leaves and stems of *Spiraea aruncus* and *S. chamaedrifolia*.

Distribution: Europe (Czechoslovakia; UK).

Rubiaceae

268. ***Ascochyta cinchonae*** Melnik, Nov. Sist. Niz. Rast. 1968: 173 (holotype LE!).

Pycnidia epiphyllous, evenly scattered, immersed, very pale brown, globose or globose-depressed, 120-160 µm diam., with a circular pore, 15-20 µm diam., surrounded by small dark cells. Pycnidial wall thin, very delicate. Conidia cylindrical, some clavate, both ends rounded, straight, not constricted, 3.6-6.4 × 2-3 µm.

On leaves of *Cinchona* sp.

Distribution: Asia (USSR – Georgia).

269. ***Ascochyta coffeae*** Henn., Hedwigia **41**, 1902: 307. Fig. 80, p. 111.

Pycnidia scattered, immersed, black, globose-depressed, 70-80 µm diam. Conidia ellipsoidal or oval, with somewhat blunt ends, 4-6 × 2.5-3 µm.

On leaves of *Coffea arabica*.

Distribution: South America (Brazil).

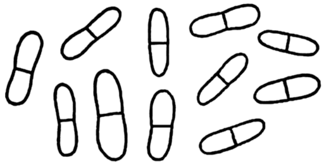

Fig. 79. Conidia of *Ascochyta spiraeae* (× 1000).

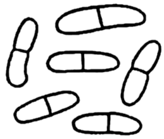

Fig. 80. Conidia of *Ascochyta coffeae* (× 1000).

270. ***Ascochyta phyllidis*** Jørst., Skr. Norske Vidensk.-Akad. Oslo, Mat.-Naturvidensk. Kl. **7**, 1962: 41 (holotype O!). Fig. 81, p. 112.

Pycnidia epiphyllous, conspicuous on the lower surface of leaves, evenly scattered, immersed, pale brown, lentiform, 120-260 µm diam., with a circular pore, 20 µm diam., surrounded by small dark cells, and with a small papillate ostiole. Pycnidial wall thin. Conidia cylindrical, some oval or ovate, both ends rounded, straight, not constricted, 4-10 × 2-3 µm.

On living leaves of *Phyllis nobla*.

Distribution: Europe (Spain – Canary Islands).

271. ***Ascochyta tarda*** R. B. Stewart, Mycologia **49**: 1957: 430 (holotype K!).

Pycnidia amphigenous, scattered, immersed, brown, sometimes almost black, globose and globose-depressed, 70-110 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends rounded or sometimes slightly attenuated, straight or bent, not constricted and constricted, 9-14 × 2-3 µm.

On living leaves and young shoots of *Coffea arabica*.

Distribution: Africa (Ethiopia).

According to the original data, confirmed by the examination of holotype material from K, this fungus often occurs together with a ***Mycosphaerella*** sp. (which is not identical with ***M. coffeae*** Cooke), but the genetic connections have not been proven.

Rutaceae

272. ***Ascochyta bombycina*** Penz. & Sacc., Syll. Fungi Agrum., Contr. 22: 17.

Pycnidia almost globose, 60-70 µm diam., with thin brown wall. Conidia cylindrical, both ends blunt, slightly constricted, subhyaline, 8-9.5 × 3-4.5 µm.

On withering leaves of *Limonia australis*.

Distribution: Europe (Italy).

273. ***Ascochyta cinerea*** McAlpine, Fung. diseas. citrus Australia 1899: 110. Fig. 82, p. 112.

Pycnidia densely aggregated, immersed, black, 150-200 µm diam. Pycnidial wall thin. Conidia oblong-ellipsoidal, both ends rounded, not constricted, 11-14 × 4-4.5 µm.

On branches of *Citrus* spp.

Distribution: Asia (USSR – Georgia).

Fig. 81. Conidia of ***Ascochyta phyllidis*** (× 1000).

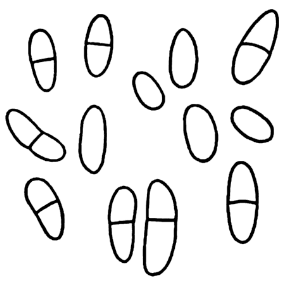

Fig. 82. Conidia of ***Ascochyta cinerea*** (after McAlpine, 1899).

Fig. 83. Conidia of ***Ascochyta corticola*** (after McAlpine, 1899).

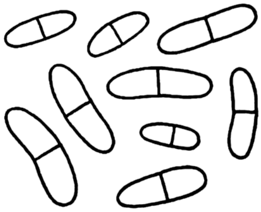

Fig. 84. Conidia of ***Ascochyta nobilis*** (× 1000).

274. ***Ascochyta corticola*** McAlpine, Fung. diseas. citrus Australia 1899: 53. – *Diplodina corticola* (McAlpine) Curzi, Boll. Staz. Patol. Veg. Roma **12**, 1932: 395. Fig. 83, p. 113.

Pycnidia erumpent, from dark brown to black, globose-depressed or lentiform, up to 300-375 µm diam., with a circular pore, 15-18 µm diam., and papillate ostiole. Conidiophores simple, cylindrical, one-celled, 12-14 × 3-3.5 µm. Conidia ellipsoidal, often allantoid, not constricted, 7-9 (12) × 2-3 mm, average 7.7 × 2.8 µm.

On living bark of trunks and twigs of *Citrus aurantium* and *C. limonum*.

Distribution: Australia; New Zealand.

The description is taken from Brien (1931) who studied this fungus and disease in detail.

275. ***Ascochyta hesperidearum*** Penz. in Sacc., Michelia **2**, 1880: 445.

Pycnidia amphigenous, scattered or aggregated, black, subglobose, 180-200 µm diam., with a circular pore. Conidia oblong-fusiform, not constricted, 11-15 × 3-4 µm.

On withering and living leaves of *Citrus limonum* and *Limonia australis*.

Distribution: Europe (Italy).

276. ***Ascochyta nobilis*** Kabát & Bubák, Oesterr. Bot. Z. **54**, 1904: 24 (isotypi LE! LEP! *GruzIZR!*). – *A. pteleae* Kabát & Bubák, Hedwigia **52**, 1912: 348 (isotypi LE! LEP! *GruzIZR!*). – ? *Diplodina dictamni* Kabát & Bubák, Hedwigia **52**, 1912: 350. – *A. dictamni* Kruschewa, Trud. Sel.-Khoz. Inst. G. Dimitrov **7**, 1959: 492. Fig. 84, p. 113.

Pycnidia epiphyllous, scattered or aggregated, immersed, from light to dark brown, globose-depressed, 10-200 (270) µm diam., with a circular pore, 25-30 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal, ends rounded, straight to slightly curved, not or only slightly constricted, 7-12 (14) × 2.7-3.5 (4.5) µm.

On living leaves of *Dictamnus albus*, *D. angustifolia*, *D. fraxinella*, *Ptelea trifoliata*.

Distribution: Europe (Bulgaria; Czechoslovakia; Germany; USSR – Latvia, Leningrad Oblast', Lithuania, Moscow Oblast').

277. ***Ascochyta phellodendri*** Kabát & Bubák, Hedwigia **41**, 1902: 292.

Pycnidia epiphyllous, scattered, sometimes aggregated, immersed, brown, globose, 70-120 µm diam., with a circular pore and small papillate ostiole. Conidia cylindrical, both ends rounded, straight or bent, not or slightly constricted, 6-10 × 3.5 µm.

On living leaves of *Phellodendron amurense*.

Distribution: Europe (Czechoslovakia).

278. ***Ascochyta skimmiae*** S. Ahmad, Biologia (Lahore) **6**, 2 (1960) 1961: 129.

Pycnidia epiphyllous, scattered, erumpent, black, globose, 120 µm diam., with a pore. Pycnidial wall approximately 12.5 µm wide. Conidia fusiform, not constricted, 11-12 × 2.5 µm.

On fallen leaves of *Skimmia laureola*.

Distribution: Asia (West Pakistan).

Salicaceae

279. ***Ascochyta salicicola*** Pass., J. Hist. Nat. Bordeaux 1885: 16.

Pycnidia scattered or aggregated. Conidia cymbiform, not constricted, 8-10 × 2.5 µm.

On living leaves of *Salix alba*.

Distribution: Europe (France).

280. ***Ascochyta salicina*** Sacc., E. Bommer & M. Rousseau, Bull. Soc. Roy. Bot. Belgique **26**, 1. 1887: 220.

Pycnidia not numerous, single or in groups, erumpent, black, globose, small. Conidia cylindrical, both ends rounded, often slightly flexuous, 16-18 × 3.5 µm.

On living leaves of *Salix caprea*.

Distribution: Europe (Belgium).

281. ***Ascochyta translucens*** Kabát & Bubák, Hedwigia **44**, 1905: 353. – *A. populicola* Kabát & Bubák, Hedwigia **47**, 1908: 358 (isotypi LE! LEP! *GruzIZR!*). – *A. babylonica* H. C. Greene, Trans. Wisconsin Acad. Sci. **53**, 1964: 213.

Pycnidia epiphyllous, scattered or aggregated, immersed, almost transparent or very pale, only sometimes brownish, globose-depressed, 70-150 µm diam., with a circular pore, sometimes surrounded by small dark cells. Pycnidial wall very thin, delicate, almost transparent or colourless. Conidia oblong-ellipsoidal, subcylindrical or almost fusiform, both ends rounded, straight, not or slightly constricted, 6-11 × 2-4 µm.

On living leaves of *Populus alba*, *P. tremula*, *Salix babylonica*, *S. caprea* and *S. fragilis*.

Distribution: Europe (Czechoslovakia; Germany; USSR – Yaroslavl Oblast'), N. America (USA).

282. ***Ascochyta vitellinae*** Pass., J. Hist. Nat. Bordeaux 1885: 16.

Pycnidia hypophyllous, almost aggregated, immersed, subochraceous. Conidia fusiform, both ends acute, 12-15 × 4-4.5 µm.

On leaves of *Salix vitellina*.

Distribution: Europe (France).

Santalaceae

283. ***Ascochyta santali*** Thirum. & Naras., Sydowia **4**, 1950: 72 (holotype IMI! isotype HCIO!). Fig. 85, p. 115.

Pycnidia amphigenous, single, immersed, yellowish brown, globose-depressed, 100-250 × 70-107 µm, with a circular pore, 15-30 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, ovate, or ellipsoidal, both ends rounded, straight, not constricted, (6) 7-10.5 × 3-4 µm.

On living leaves of *Santalum album*.

Distribution: Asia (India).

Sapindaceae

284. ***Ascochyta heterodendri*** Hansf., Proc. Linn. Soc. New South Wales **79**, 1954: 132 (holotype K!).

Pycnidia single or 2-3 pycnidia aggregated and almost confluent, immersed or semi-immersed, black, globose or subglobose, up to 140 µm diam. Conidia cylindrical, both ends rounded, with slightly attenuated subtruncate lower cell, straight or flexuous, not constricted, 10-15 × 2.5-3 µm.

On leaves of *Heterodendrum alnifolium*.

Distribution: Australia.

Material from K (Royal Botanic Gardens, Kew) was too poor to be sufficient for a comprehensive examination.

Sapotaceae

285. ***Ascochyta guaranitica*** Speg., F. Guar., Pug. 2, 1888: no. 170 (isotypi LEP! NY!). Fig. 86, p. 115.

Pycnidia hypophyllous, extremely numerous, densely aggregated, semi-immersed, black, elliptical-lentiform, compressed in the centre, 60-70 µm diam., with a circular pore, up to 15 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends blunt, straight, not constricted, 18-20 × 2.5 µm.

On leaves of a plants of the *Sapotaceae*.

Distribution: South America (Brazil).

Fig. 85. Conidia of
Ascochyta santali (× 1000).

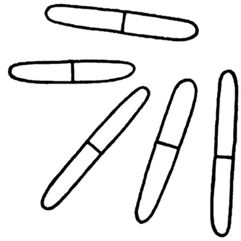

Fig. 86. Conidia of
Ascochyta guaranitica (× 1000).

Saxifragaceae

286. ***Ascochyta philadelphi*** Sacc. & Speg., Michelia **1**, 1878: 165. – *Phyllosticta vulgaris* Desm. var. *philadelphi* Sacc., Syll. Fung. **3**, 1884: 19. – *A. deutziae* Bres., Hedwigia **39**, 1900: 326 (isotype WRSL!). – *A. fuscescens* Kabát & Bubák, Oesterr. Bot. Z. **54**, 1904: 26 (isotypi LE! LEP! *GruzIZR!*). – *A. deutziae* A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **4**, 1913: 174. – *A. hydrangeae* G. Arnaud & M. A. Arnaud, Rev. Pathol. Vég. Entomol. Agric. France **11**, 1924: 56. – *A. vulgaris* Kabát & Bubák var. *philadelphi* (Sacc.) Grove, British stem- and leaf-fungi **1**, 1935: 306. – *A. ribicola* H. C. Greene, Trans. Wisconsin Acad. Sci. **46**, 1957: 156 (holotype WIS!).

Pycnidia epiphyllous and on stems, numerous, scattered or aggregated, immersed, from yellowish brown to brown and dark brown, on leaves sometimes transparent, globose-depressed and lentiform, 90-160 (200) µm diam., with a circular pore, 20-25 µm diam., surrounded by small dark cells. Conidia cylindrical, some oblong-ellipsoidal or slightly clavate, both ends rounded, straight or sometimes bent, not or slightly constricted, 6-11 (13) × 2.-3.5 (4) µm.

On living leaves and stems of *Deutzia gracilis*, *Hydrangea* spp., *Philadelphus* spp., *Ribes americanum*.

Distribution: Europe (generally distributed), Asia (USSR – Armenia), N. America (USA).

Scrophulariaceae

287. ***Ascochyta euphrasiae*** Oudem., Contr. Fl. Mycol. Pays-Bas **16**, 1898: 68. – *A. molleriana* G. Winter, Contr. Fl. Mycol. Lusit., ser. 5, 1884: 53 (no. 796). – *A. decipiens* Pass., Atti Reale Accad. Lincei, Rendicondi Cl. Sci. Fis., ser. 4, **7**, 2, 1891: 49. – *Diplodina antirrhini* Fautrey, Rev. Mycol. (Toulouse) **13**, 1891: 10 (isotype LEP!). – *D. antirrhini* Fautrey f. *fructuum* Fautrey, Rev. Mycol. (Toulouse) **15**, 1893: 113, non valide publ., nom. nud. (isotype LEP!). – *D. euphrasiae* (Oudem.) Allesch. in Rabenh. Krypt.-Fl. **6**,

1901: 686. – *D. passerinii* Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 678. – *Diplodinula antirrhini* (Fautrey) Tassi, Bull. Lab. Orto Bot. Univ. Siena **5**, 1902: 44. – *A. scrophulariae* Kabát & Bubák, Hedwigia **42**, 1903: 359. – *A. linariae* Bond.-Mont., Bolezni Rast. **13**, 1924: 60 (holotype LE!). – *A. scrophulariae* Hollós, Bot. Közlem. **25**, 1928: 127.

Pycnidia epiphyllous and on stems, scattered, subepidermal, immersed, from yellowish to dark brown, globose-depressed and lentiform, up to 200 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, sometimes slightly bent, not or slightly constricted, 7-12 (13.5) × 3-4 µm.

On living leaves and dry stems of *Antirrhinum majus*, *Digitalis* spp., *Euphrasia officinalis*, *Linaria vulgaris*, *Scrophularia nodosa*, *S. czernyakowskiana*.

Distribution: Europe (generally distributed), Asia (USSR – Armenia, Kazakhstan).

288. ***Ascochyta garretiana*** Syd. & P. Syd., Ann. Mycol. **3**, 1905: 185. Fig. 87, p. 116.

Pycnidia epiphyllous and on stems, scattered, immersed, erumpent, black, globose or globose-depressed, sometimes globose-conical, 175-350 µm diam., with a small circular pore, up to 30 µm diam. Conidia cylindrical, both ends rounded, straight, sometimes slightly flexuous, not constricted, 11-20 × 2.5-3.5 µm.

On living leaves and stems of *Orthocarpus tolmieus*, *O. pusillus*.

Distribution: N. America (USA).

289. ***Ascochyta pedicularis*** (Rostr.) Arx, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. **51**, 3, 1957: 116. – *Gloeosporium pedicularis* Rostr., Oest. Groenl. Svampe: 29. – *Phoma pedicularis* Fuckel in von Heuglin, Reisen Nordpol. **3**, 1874. – *Gloeosporium pedicularis-lanatae* Henn. in Allesch. & Henn., Pilze aus Umanak-Distrikt 1897: 14. – *Diplodina pedicularis* (Fuckel) Lind, Rep. Sci. Res. Norweg. Exped. Novaya Zemlya 1921, **19**, 1924: 21. – *D. pedicularidicola* Murashk. in Murashk. & Ziling, Tr. Sibirsk. Inst. Selsk. i Lesn. Khozyaistva **18**, 1927: 26 (holotype *OSKhI*! isotypi PR! TRT!). Fig. 88, p. 116.

Pycnidia numerous, scattered, immersed, brown to dark brown or almost black, globose-conical, 180-360 µm diam., with a circular pore, up to 50 µm diam., and papillate ostiole. Pycnidial wall thick. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, sometimes one end slightly narrowed, straight, sometimes slightly bent, not constricted, (10) 12-24 (26) × (2.7) 3-4.5 (5) µm.

On living leaves and dry stems of *Pedicularis* spp.

Distribution: Europe (France; USSR – Arkhangelsk Oblast' – Novaya Zemlya Islands), Asia (USSR – Omsk Oblast', Krasnoyarsk Kraj), N. America (USA).

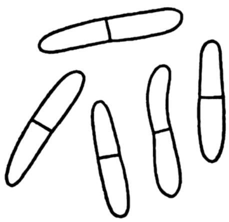

Fig. 87. Conidia of *Ascochyta garretiana* (× 1000).

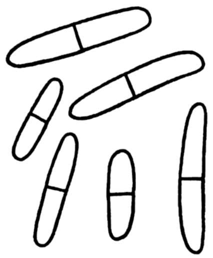

Fig. 88. Conidia of *Ascochyta pedicularis* (× 1000).

290. ***Ascochyta verbasci*** Sacc. & Speg., Michelia **1**, 1878: 166. – *Diplodina antirrhinicola* Sousa da Câmara, Revista Agron. (Lisboa) **20**, 1, 1932: 47 (holotype LISVA!). Fig. 89, p. 117.

Pycnidia epiphyllous and on stems, immersed, yellowish or yellowish brown, globose-depressed or lentiform, 150-200 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia oblong-ovate or subcylindrical, both ends rounded, straight or slightly flexuous, more or less constricted, 15-19 × 5-6 µm.

On living leaves and dry stems of *Antirrhinum* sp. and *Verbascum phlomoides*.

Distribution: Europe (Italy; Portugal).

291. ***Ascochyta verbascina*** Thüm., Contr. Fl. Litor. 1880: no. 343. – *A. saccardoi* (Sacc.) Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1**, 14, 1923: 33, excl. basionymo. – *Diplodina rhinanthi* Hollós, Math. Természett. Közlem. **35**, 1, 1926: 25 (holotype BP! isotype BUCA!). – *A. scutellariae* Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 10-12, 1945: 161 (holotype LE!). – *A. veronicicola* Melnik, Nov. Sist. Niz. Rast. 1967: 269 (holotype LE!). Fig. 90, p. 117.

Pycnidia epiphyllous and on dry stems, scattered or sometimes aggregated, immersed, from pale yellow and pale brown to dark brown or almost black, globose-depressed and lentiform, 60-200 µm diam., with a circular pore, up to 20-30 µm diam., surrounded by small dark cells, on stems with a small papillate ostiole. Pycnidial wall thin, on stems thicker. Conidia cylindrical, both ends rounded, straight or bent, not constricted, 6-10 × 2.2-3 µm.

On living leaves and dry stems of *Rhinanthus minor*, *Scutellaria altissima*, *Verbascum blattaria*, *V. nigrum*, *V. sinuatus*, *V. thaspiforme*, *Veronica chamaedrys*.

Distribution: Europe (Austria; Hungary; USSR – Latvia, Leningrad Oblast', Ukraine).

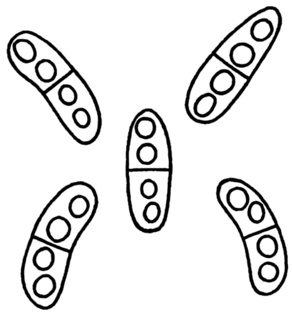

Fig. 89. Conidia of ***Ascochyta verbasci*** (after Câmara, 1932; as *Diplodina antirrhinicola* Sousa da Câmara).

Fig. 90. Conidia of ***Ascochyta verbascina*** (× 1000).

292. ***Ascochyta veronicae*** Rostr., Bot. Tidsskr. **25**, 1903: 319.

Pycnidia epiphyllous, aggregated, brown, globose. Conidia fusiform, straight or slightly flexuous, 23-25 × 3.5-4.5 µm.

On leaves of *Veronica saxatilis*.

Distribution: Europe (Denmark).

Simaroubaceae

293. ***Ascochyta ailanthi*** Boud. & Fautrey, Rev. Mycol. (Toulouse) **20**, 1898: 58.

Pycnidia epiphyllous, immersed, yellow-ochraceous, sometimes brown, globose or globose-depressed, up to 200 µm diam., with a circular pore, up to 40 µm diam., surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight and bent, sometimes irregular, 7-12 (13.5) × 2.8-4.2 µm.

On living leaves of *Ailanthus glandulosa*.

Distribution: Europe (France; USSR – Latvia, Stavropol Kraj).

Solanaceae

294. ***Ascochyta cyphomandrae*** Petch, Ann. Roy. Bot. Gard. (Peradeniya) **7**, 4, 1922: 313.

Pycnidia epiphyllous, scattered, black, immersed, 300 µm diam. Conidia cylindrical, both ends rounded, 8-10 × 3-3.5 µm.

On leaves of *Cyphomandra betacea*.

Distribution: Asia (Sri Lanka).

295. ***Ascochyta daturae*** Sacc., Michelia **1**, 1878: 163. – *A. nicotianae* Pass., Atti Soc. Crittog. Ital. **3**, 1881: 14. – *A. lycii* Sacc., E. Bommer & M. Rousseau, Bull. Soc. Roy. Bot. Belgique **26**, 1, 1887: 220. – *A. lycopersici* Brunaud, Bull. Soc. Bot. France **34**, 1887: 220. – *A. socia* Pass., Bol. Com. Agr. Parm. 1889: 2 (extr.). – *A. atropae* Bres., Hedwigia **32**, 1893: 32 (isotypi JE! LEP! WRSL!). – *A. alkekengi* C. Massal., Atti Reale Ist. Veneto **59**, 2, 1900: 683. – *A. pedemontana* Ferraris, Malpighia **16**, 1902: 28 (extr.). – *A. physalicola* Oudem., Beih. Bot. Centralbl. 1902: 7. – *A. solanicola* Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 264. – *A. destructiva* Kabát & Bubák, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 1903: 4 (isotypi LE! LEP! *GruzIZR!*). – *A. pinzolensis* Kabát & Bubák, Oesterr. Bot. Z. **54**, 1905: 183. – *A. lycii* Rostr., Bot. Tidsskr. **26**, 1905: 311. – *A. lycii* Died., Krypt. Fl. M. Brand. **9**, 1912: 391. – *Diplodina destructiva* Petr., Ann. Mycol. **19**, 1921: 19, ut *D. destructina* Petr. – *D. lycopersicicola* Bond.-Mont., Mat. po Mikol. Obsled. Rossii **5**, 1922: 4 (holotype LE!). – *A. solani-tuberosi* Naumov, Bolezni Rast. **14**, 1925: 142 (holotype LE! isotype LEP!). – *A. scopoliae* Kandinsk., Mikol. i Fitopat. **5**, 1971: 85 (holotype LE!). Fig. 91, p. 119.

Pycnidia epiphyllous and on other parts of the host plants, scattered or aggregated, sometimes extremely numerous and then several pycnidia confluent, semi-immersed or sometimes almost superficial, from light to dark brown, globose, globose-depressed or lentiform, 80-300 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells, on stems and fruits with a papillate ostiole. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal or slightly clavate, straight or slightly bent, not or slightly constricted, 6-12 × 2.5-4 (4.5) µm.

On living and dry leaves and on other parts of host plants of the *Solanaceae*.

Distribution: circumglobal.

Perfect state of this fungus: ***Didymella lycopersici*** Kleb.

296. ***Ascochyta daturicola*** Bres., Stud. Trent. VII, Ser. 2, **1**, 1926: 21.

Pycnidia hypophyllous, punctiform, brown, 150-180 µm diam. Conidia cylindrical, with acute ends, flexuous, apex often more acute, 16-27 × 4-6 µm.

On leaves of *Datura arborea*.

Distribution: Europe (Italy).

297. ***Ascochyta grabowskiae*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **4**, 1901: 10.

Pycnidia scattered or aggregated, immersed, globose-depressed, 60-80 µm diam., with a pore. Conidia oblong-ellipsoidal, not constricted, 8-10 × 3-4 µm.

On dry stems of *Grabowskia boerhaaviaefolia*.

Distribution: Europe (Italy).

298. ***Ascochyta melongenae*** Padman., Indian J. Agric. Sci. **17**: 1947: 395.

Pycnidia semi-immersed, brownish, globose or subglobose, 90-217 µm diam., with a pore and papillate ostiole. Pycnidial wall thin. Conidia ellipsoidal, with rounded ends or subcylindrical, both ends rounded or blunt, constricted, 10-13 × 3.5-5 µm.

On living leaves of *Solanum melongena*.

Distribution: Asia (India).

Fig. 91. Conidia of *Ascochyta daturae* (× 1000).

Fig. 92. Conidia of *Ascochyta staphyleae* (× 1000).

299. ***Ascochyta petuniae*** Speg., Nov. Add.: no. 156. – *A. solani-nigri* Died., Hedwigia **42**, 1903: 166. – *A. ducometii* Fourmont, Rev. Pathol. Vég. Entomol. Agric. France **25**, 1938: 132.

Pycnidia scattered or aggregated, immersed, brown, globose, 80-130 µm diam., with a circular pore. Pycnidial wall thin. Conidia oblong-ellipsoidal, oblong-ovate, some cylindrical, both ends rounded, not or slightly constricted, 5-8 × 2-4 µm.

On living leaves and stems of *Nicotiana bergera*, *Solanum nigrum*.

Distribution: Europe (France; Germany; Italy), N. America (USA).

Staphyleaceae

300. ***Ascochyta staphyleae*** Syd., Hedwigia **28**, 1899: 138. (isotype LE!). – ? *Diplodina staphyleae* Brunaud, Actes Soc. Linn. Bordeaux 1898: 16 (extr.). Fig. 92, p. 119.

Pycnidia epiphyllous, inconspicuous, scattered, immersed, dark brown or almost black, subglobose, up to 100 µm diam., with a circular pore, 15-20 µm diam. Pycnidial wall thin. Conidia oblong-ellipsoidal or cylindrical, both ends rounded, not constricted, 6-10 × 2.5-3 (4) µm.

On living leaves of *Staphylea colchica*, *S. pinnata*, *S. trifolia*.

Distribution: Europe (Austria; Germany).

Tamaricaceae

301. ***Ascochyta tamaricis*** Golovin, Tr. Sredneaz. Univ., Nov. Ser., Vyp. 14, Biol. Nauki **5**, 1950: 34 (holotype LEP!) Fig. 93, p. 120.

Pycnidia epiphyllous and on stems, more numerous on stems, in both cases evenly scattered, semi-immersed, from light to dark brown, globose or globose-depresses, 50-200 × 30-120 µm, with a wide pore, which later sometimes becomes ruptured. Pycnidial wall thin. Conidia cylindrical, some ellipsoidal, both ends rounded, straight, sometimes slightly curved, not or slightly constricted, 7-14 × 3-5 µm.

On living leaves and stems of *Muricaria alopecuroides*, *Tamarix androssowii*, *T. laxa*.

Distribution: Asia (USSR – Kazakhstan, Uzbekistan).

Theaceae

302. ***Ascochyta theae*** Hara, Mycologia **13**, 1921: 326.

Pycnidia subepidermal, slightly erumpent with a papillate ostiole, dark brown or almost black, globose or globose-depressed, 80-120 µm diam., with a circular pore, 10-15 µm diam. Pycnidial wall thin, carbonaceous. Conidia ellipsoidal, cylindrical, or subovate, both ends rounded to somewhat truncate, septum sometimes eccentric, not constricted, 7-10 × 3.5-4.5 µm.

On living leaves of *Thea sinensis*.

Distribution: Asia (Japan; USSR – Georgia).

Fig. 93. Conidia of *Ascochyta tamaricis* (× 1000).

Fig. 94. Conidia of *Ascochyta daphnes* (× 1000).

Thymelaeaceae

303. ***Ascochyta daphnes*** Höhn. in Strasser, Verh. Zool.-Bot. Ges. Wien **63**, 1924: 227. Fig. 94, p. 120.

Pycnidia epiphyllous, inconspicuous, scattered or sometimes aggregated and often confluent, immersed, from pale brown to light olivaceous, lentiform, sometimes compressed in the centre, 100-200 µm diam., with an inconspicuous circular pore, surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia cylindrical, some oblong-ellipsoidal, with bluntly rounded ends, sometimes one end slightly narrowed, straight or slightly bent, septum sometimes slightly eccentric, not constricted, 7-12 × 3-3.5 µm.

On living leaves of *Daphne mezereum*.

Distribution: Europe (Austria; USSR – Moscow Oblast').

Tiliaceae

304. ***Ascochyta corchori*** Hara, Phytopath. Mag. **12**, 3, 1925: 147.

Pycnidia aggregated, subepidermal, sometimes erumpent, globose or subglobose, 80-130 µm diam., with a circular pore, 15-20 µm diam., surrounded by small dark cells, with a papillate ostiole. Conidia cylindrical, oblong-ellipsoidal or ovate, both ends rounded-subtruncate, straight or sometimes slightly bent, not constricted, 7-11 × 2.5-4 µm.

On living leaves of *Corchorus capsularis*.

Distribution: Asia (Japan).

Ulmaceae

305. ***Ascochyta celtidis*** Hollós, Magyar Bot. Lapok **28**, 1929: 47 (holotype BP!). Fig. 95, p. 122.

Pycnidia epiphyllous, numerous, scattered, immersed, light brown or brown, lentiform, 130-200 µm diam., with a small circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or slightly clavate, both ends rounded, straight or flexuous, not or sometimes slightly constricted, (9) 12-15 (17) × 4-5 µm.

On living leaves of *Celtis occidentalis*.

Distribution: Europe (Hungary).

306. ***Ascochyta hemipteleae*** Melnik, Nov. Sist. Niz. Rast. 1970: 239 (holotype LE!).

Pycnidia rather numerous, scattered or sometimes confluent, covered by exocarp, light brown or brown, globose-depressed or lentiform, 150-220 µm diam., with a small papillate ostiole and minute circular pore, 15 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, ellipsoidal, some ovate, sometimes with one cell larger than the other one, both ends broadly rounded, not or slightly constricted, (6) 7.5-10.5 × (2.5) 3-4.5 µm.

On fruits of *Hemiptelea davidii*.

Distribution: Europe (Sweden).

Umbelliferae

307. ***Ascochyta biforae*** Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 10-12, 1945: 160.

Pycnidia scattered, immersed, at first pale, later dark brown, globose-depressed, 150-210 µm diam., with a small papillate ostiole and circular pore, approximately 20 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or somewhat flexuous, 11-16 × 3.5-4 µm, often 15 µm long.

On seeds of *Bifora radians*.

Distribution: Central Europe.

308. ***Ascochyta chaerophylli*** Bres., Hedwigia **33**, 1894: 207 (isotypi LE! NY! WRSL!). – *A. aromatica* Kabát & Bubák, Oesterr. Bot. Z. **54**, 1904: 26.

Pycnidia epiphyllous, inconspicuous, immersed, pale brown, globose-depressed or lentiform, up to 100 µm diam. Pycnidial wall thin, almost transparent, very delicate. Conidia cylindrical, both ends bluntly rounded, straight or flexuous, slightly constricted, 10-20 × 3.5-4.5 µm.

On living leaves of *Chaerophyllum aromaticum*, *Ch. hirsutum*, *Ch. temulum*, *Chaerophyllum* sp.

Distribution: Europe (Czechoslovakia; Germany; UK; USSR – Lithuania).

309. ***Ascochyta libanotidis*** Lebedeva, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **1**, 10, 1922: 145 (holotype LE!).

Pycnidia epiphyllous, scattered, immersed, brownish, globose, 120-140 µm diam., with a circular pore, surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, not constricted, 7-12 × 3-3.5 µm.

On living leaves of *Libanotis montana*.

Distribution: Europe (USSR – Stavropol Kraj).

310. ***Ascochyta lomatii*** W. B. Cooke, Mycologia **44**, 1952: 250.

Pycnidia immersed, brown, approximately 250 µm diam., with a pore. Pycnidial wall thin. Conidia cylindrical, not constricted, 19.8-23.4 × 6.5-7.5 µm.

On leaves of *Lomatium grayi*.

Distribution: N. America (USA).

311. ***Ascochyta ludwigii*** H. Ruppr., Sydowia **11**, 1957: 121.

Pycnidia solitary, evenly scattered, immersed, yellowish brown, globose or widely elliptical, 100-240 µm diam., with a circular pore, up to 36 µm diam. Pycnidial wall thin. Conidia cylindrical, both ends widely rounded, straight, not constricted, 16.8-19.2 × 4.8-7.2 µm.

On living leaves of *Falcaria rivini*.

Distribution: Central Europe.

312. ***Ascochyta phomoides*** Sacc., Michelia **1**, 1879: 530. – *A. anethicola* Sacc., Michelia **2**, 1882: 621. – *Diplodina phomoides* (Sacc.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 685. – *D. angelicae-sylvestris* Petr., Hedwigia **65**, 1925: 267.

Pycnidia epiphyllous and on stems, scattered or aggregated, immersed, olivaceous brown or almost black, globose, 120-200 µm diam., with a circular pore, 15-25 µm diam., sometimes with a small papillate ostiole. Pycnidial wall rather thin. Conidia oblong-ellipsoidal, oblong-ovate, some almost cylindrical, slightly narrowed towards both or only one end, both ends rounded, straight or slightly bent, not or only slightly constricted, 7-11 × 3-4 µm.

On withering leaves and dry stems of *Anethum* sp., *Angelica sylvestris*, and *Eryngium* sp.

Distribution: Europe (France; Germany; Hungary; Poland).

313. ***Ascochyta podagrariae*** Bres., Hedwigia **33**, 1894: 207 (isotypi LEP! WRSL!). – *Marssonia helosciadii* Fautrey & Lambotte, Rev. Mycol. (Toulouse) **18**, 1896: 144 (isotype LEP!). – *Marssonina helosciadii* (Fautrey & Lambotte) Magnus, Hedwigia **45**, 1906: 88. – ? *Marssonina aegopodii* (A. L. Sm. & Ramsb.) Grove, British stem- and leaf-fungi **2**, 1937: 273. Fig. 96, p. 122.

Pycnidia amphigenous, scattered or aggregated, immersed, light ochraceous, honey-yellow or light brown, globose or globose-depressed, 120-200 µm diam., with a circular pore, 30-35 µm diam., sometimes with a small papillate ostiole. Pycnidial wall thin, very delicate. Conidia cylindrical, both ends rounded, sometimes one end slightly acute, straight, some slightly flexuous, partly with (approximately 50%) an eccentric septum, constricted, cells sometimes disarticulating, 15-28 (32) × 5-8 (10) µm.

On living leaves of *Aegopodium podagraria*, *Helosciadium nodiflorum*.

Distribution: Europe (Czechoslovakia; France; Germany; Turkey; USSR – Leningrad Oblast').

Fig. 95. Conidia of *Ascochyta celtidis* (× 1000).

Fig. 96. Conidia of *Ascochyta podagrariae* (× 1000).

314. ***Ascochyta saniculae*** Davis, Trans. Wisconsin Acad. Sci. **18**, 1918: 105 (isotype NY!). – *A. thaspii* Ellis & Everh. var. *saniculae* (Davis) Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 668.

Pycnidia scattered, very inconspicuous, immersed, light reddish brown, globose or lentiform, 100-170 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, ends rounded, straight, sometimes bent, 20-30 × 4-6 µm.

On living leaves of *Sanicula marylandica*.

Distribution: N. America (USA).

315. ***Ascochyta vindobonensis*** Petr., Sydowia **1**, 1947: 127 (isotype PR!).

Pycnidia more or less densely aggregated, sometimes two pycnidia close together, sometimes in more or less regular concentric circles, immersed, olivaceous brown, almost globose-depressed or ellipsoid, 150-300 µm diam., with a papillate ostiole and irregular pore. Pycnidial wall thin. Conidia cylindrical, some slightly clavate, with broadly rounded ends, sometimes with slightly attenuated ends, straight or flexuous, 12-25 × 5-7 µm.

On living and withering leaves of *Siler trilobus*.

Distribution: Europe (Austria).

According to the original description by Petrak, this fungus is the conidial state of ***Didymella oudemansii*** Fautrey.

Urticaceae

316. ***Ascochyta parietariae*** Roum. & Fautrey, Rev. Mycol. (Toulouse) **13**, 1891: 79 (isotypi K! LEP!).

Pycnidia epiphyllous, not numerous, immersed, black, globose, up to 90 µm diam., with a circular pore, up to 20 µm diam. Pycnidial wall thin. Conidia oval, ovate, ellipsoidal, some oblong-ellipsoidal, both ends rounded, straight, (5) 6-8 (9) × 2-3 µm.

On living leaves of *Parietaria officinalis*.

Distribution: Europe (France).

317. ***Ascochyta urticae*** A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **5**, 1914: 159. – *A. urticae* Woron., Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sada RSFSR **3**, 2, 1924: 32 (holotype *GruzIZR!*).

Pycnidia epiphyllous, scattered, immersed, brownish, globose or globose-depressed, 120-180 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical or oblong-ellipsoidal, both ends rounded, straight and bent, not or slightly constricted, 7-12 × 2-4 µm.

On living leaves of *Urtica cannabina*, *U. dioica*, *U. pilulifera*.

Distribution: Europe (UK; USSR – Estonia, Leningrad Oblast'), Asia (USSR – Georgia).

Vacciniaceae

318. ***Ascochyta myrtilli*** Oudem., Hedwigia **37**, 1898: 317. – *Diplodina myrtilli* (Oudem.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 884.

Pycnidia scattered or aggregated, between epidermis and peridium, finally erumpent, black, 200-250 µm diam. Conidia cylindrical, straight, both ends rounded, not constricted, 11-14 × 2.5 µm.

On dry stems of *Vaccinium myrtillus*.

Distribution: Europe (The Netherlands).

319. ***Ascochyta oxycocci*** Henn., Hedwigia **41**, 1902: 137. – *Diplodina oxycocci* (Henn.) Died., Krypt. Fl. M. Brand. **9**, 1912: 407.

Pycnidia hypophyllous, scattered, subepidermal, later erumpent and protruding, dark brown, subglobose, up to 150 µm diam., but mostly smaller, with a minute pore. Pycnidial wall thick. Conidia ellipsoidal or ovate, not constricted, 11-13 × 7-8 µm.

On brown, necrotic leaves of *Oxycoccus macrocarpa*.

Distribution: Europe (Germany).

Valerianaceae

320. ***Ascochyta erevanica*** Babayan & Simonyan, Stud. Cercet. Biol., ser. Bot. **16**, 5, 1964: 45 (holotype *EGU!*). Fig. 97, p. 124.

Pycnidia amphigenous, solitary, scattered, very inconspicuous, immersed, light brown, globose or globose-depressed, (70) 90-140 µm diam., with a circular pore, up to 30 µm diam., surrounded by small dark cells. Pycnidial wall thin, very delicate. Conidia cylindrical, both ends widely rounded, straight, very rarely slightly bent, 6.6-9.9 × 3-3.6 µm.

On living leaves of *Centranthus rubrum*.

Distribution: Asia (USSR – Armenia).

Fig. 97. Conidia of *Ascochyta erevanica* (× 1000).

Fig. 98. Conidia of *Ascochyta valerianae* (× 1000).

321. ***Ascochyta valerianae*** A.L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **4**, 1, 1913: 176. – ? *Diplodina valerianae* Henn., Hedwigia **43**, 1904: 432. – *A. valerianae* Bondartsev, Mat. po Mikol. Obsled. Rossii **5**, 2, 1921: 4. – *A. patriniae* Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4,** 10-12, 1938: 41. Fig. 98, p. 124.

Pycnidia epiphyllous and on seeds, scattered, immersed, from light to dark brown, globose-depressed, 110-180 µm diam., with a circular pore, up to 25 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, some oblong-ellipsoidal, both ends rounded, straight or slightly bent, not constricted, 7-12 × 2-4 µm.

On living leaves and seeds of *Patrinia rupestris*, *P. scabiosaefolia*, *Valeriana* spp.

Distribution: Europe (Czechoslovakia; Sweden; UK; USSR – generally distributed), Asia (USSR – Kazakhstan, Primorskij Kraj).

Verbenaceae

322. ***Ascochyta nyctanthis*** Sahni, Mycopathol. Mycol. Appl. **36**, 1968: 278 (holotype IMI!).

Pycnidia predominantly epiphyllous, numerous, evenly scattered, semi-immersed, dark brown or almost black, globose, sometimes compressed in the centre, 90-160 µm diam., with a circular pore, 15-20 µm diam. Pycnidial wall thin. Conidia not numerous, ellipsoidal, oblong-ellipsoidal, ovate, rarely cylindrical, both ends rounded, straight, not constricted, 6-10 × 1.5-3 µm.

On living leaves of *Nyctanthes arbor-tristis*.

Distribution: Asia (India).

323. ***Ascochyta verbenae*** Siemaszko, Izv. Kavkazsk. Muzeya **12**, 1919: 23. – *A. cuneomaculata* H.C. Greene, Trans. Wisconsin Acad. Sci. **53**, 1964: 195.

Pycnidia epiphyllous and on stems, from pale brown to dark brown, globose or depressed, 125-250 µm diam., with a circular pore, up to 20 µm diam., surrounded by small dark cells. Pycnidial wall thin. Conidia cylindrical, both ends rounded, straight or bent, not or slightly constricted, 7-13 × 3-3.5 (4.5) µm.

On living leaves and dry stems of *Verbena officinalis*, *V. urticifolia*.

Distribution: Europe (Germany; USSR – Leningrad Oblast'), Asia (USSR – Georgia), N. America (USA), Australia.

Violaceae

324. ***Ascochyta violae*** Sacc. & Speg., Michelia **1**, 1878: 163.

Pycnidia scattered, brown, globose-lentiform, 180-200 µm diam., with a pore, surrounded by small dark cells. Conidia fusiform, not constricted, 15-18 × 3.5-4 µm.

On living leaves of *Viola odorata*.

Distribution: Europe (Italy).

325. ***Ascochyta violae-hirtae*** Bubák, Pilzfl. Montenegro 1903: 13.

Pycnidia epiphyllous, immersed, from light brown to brown, lentiform, 90-160 (180) µm diam., with a circular pore, up to 15-20 µm diam., surrounded by small dark cells. Pycnidial wall thin, delicate. Conidia cylindrical or oblong-ellipsoidal, not constricted, 8-12 (13) × 2.5-3.5 µm.

On living leaves of *Viola* spp.

Distribution: Europe (Bulgaria; Czechoslovakia; USSR – generally distributed; Yugoslavia), Asia (USSR – Armenia, Azerbajdzhan, Kazakhstan).

326. ***Ascochyta violicola*** McAlpine, Proc. Linn. Soc. New South Wales 1904: 119.

Pycnidia scattered or somewhat aggregated, erumpent, black, globose, 200 µm diam., with a circular pore, 20 µm diam. Pycnidial wall thin. Conidia ellipsoidal, some suballantoid, not constricted, 7-8 × 2.5 µm.

On living leaves of *Viola odorata*.

Distribution: Australia.

Zygophyllaceae

327. ***Ascochyta pegani*** S. Ahmad, Biologia (Lahore) **17**, 1, 1971: 2.

Pycnidia scattered or two pycnidia together, immersed, globose, 66-132 µm diam., with a pore and protruding through epidermis by an ostiole. Pycnidial wall thick. Conidia oval or oblong-ellipsoidal, not constricted, 7.5-10.5 × 3-4 µm.

On branches of *Peganum harmala*.

Distribution: Asia (West Pakistan).

328. ***Ascochyta tribuli*** Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 1945: 160.

Pycnidia numerous, scattered, immersed, from light to dark brown, 160-200 µm diam., with a circular pore approximately 16 µm diam. Conidia cylindrical, both ends rounded, straight or sometimes slightly bent, not constricted, 7-12 × 3 µm, more often 10 × 3 µm.

On seeds of *Tribulus terrestris*.

Distribution: Europe (USSR – Leningrad Oblast').

8. Excluded Taxa

In this chapter, taxa excluded from *Ascochyta* are listed. These exclusions are based on examinations of type collections (holotypes, isotypes), various other specimens, and, if absent, on original descriptions (diagnoses) of the taxa concerned.

In most cases, it was possible to indicate the generic affinity of the species concerned. The characteristics of the pycnidia of some other taxa are, however, insufficiently known. These taxa are only referred to the appropriate classes or orders. The present list also contains names of species excluded from *Ascochyta*, but with unknown affinity since the type material of the taxa concerned was immature or, if no type was available, the original descriptions were insufficient.

1. *A. acericola* Massa, Ann. Mycol. **10**, 1912: 290, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
2. *A. acerina* Lév. in Demid., Voy. 1842: 115 (in Sacc., Syll. Fung. **10**, 1892: 296 errore typogr. "*A. arenaria* Lév."), sec. diagn. = ? *Septoria* sp.
3. *A. aceris* Lib., Pl. Crypt. Ard.: no. 54 (1830), sec. Sacc. (Syll. Fung. **3**, 1884: 577) = *Phleospora aceris* (Lib.) Sacc.
4. *A. aceris* (Lib.) Fuckel, Symb. Mycol. 1869: 387, sec. isotypum in Lib., Pl. Crypt. Ard.: no. 255 (1834), ut *Cheilaria aceris* Lib. (LE!) = *Didymosporina aceris* (Lib.) Höhn.
5. *A. aceris* Sacc., Mycoth. Veneta: no. 194 (1874), sec. Sacc. (Michelia **1**, 1878: 147) = *Phyllosticta aceris* (Sacc.) Sacc.
6. *A. achlydis* Dearn., Mycologia **8**, 1916: 101, sec. Sprague (Mycologia **29**, 1937: 428) = *Stagonospora achlydis* (Dearn.) R. Sprague.
   Exs.: Calif. Fungi: no. 853 (H, TRT). The exsiccatum studied contained a fungus with a high percentage of 3-4-septate conidia.
7. *A. aconiti* Vasyag., Bot. Mat. Gerb. Inst. Bot. AN KazSSR **3**, 1965: 89 (syn.: *A. vassjaginae* Melnik, Nov. Sist. Niz. Rast. 1967: 271) = *Apiocarpella aconiti* (Vasyag.) Melnik
8. *A. aculeorum* Bres., Stud. Trent. 7, ser. 2, **1**, 1926: 20 = sp. e Sphaeropsidales (Phaeodidymae).
9. *A. aegopodii* Lib., Pl. Crypt. Ard.: no. 49 (1830), sec. isotypum (COI!) = *Septoria aegopodii* Desm.
10. *A. aesculi* Kabát & Bubák, Hedwigia **47**, 1908: 356, sec. isotypum in Kabát & Bubák, F. imp.: no. 509 (LE! LEP! *GruzIZR!*) = sp. e Sphaeropsidales (Phaeodidymae).
11. *A. aesculi* Lib., Pl. Crypt. Ard.: no. 154 (1832), sec. isotypum (LE!) = *Septoria aesculi* (Lib.) Westend.
12. *A. affinis* Jaap, Ann. Mycol. **14**, 1916: 35, sec. Jones & Weimer (J. Agric. Res. **57**, 11, 1938: 805) = *Stagonospora meliloti* (Lasch) Petr.
13. *A. agrimoniae* Lebedeva, Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sad. RSFSR **1**, 10, 1922: 146, sec. holotypum (LE!) = *Phyllosticta* sp.
14. *A. agropyrina* (Fairm.) Trotter in Sacc., Syll. Fung. **25**, 1931: 345, sec. diagn. basionymi = sp. e Sphaeropsidales (Phaeodidymae).
15. *A. alismatis* Ellis & Everh., J. Mycol. **5**, 1889: 148, sec. isotypum in D. Sacc., Mycoth. ital.: no. 1324 (NY!) = *Didymaria alismatis* (Oudem.) Davis.
16. *A. alismatis* (Oudem.) Trail, Scott. Naturalist (Perth) **3**, 1887: 188, sec. Davis (Parasitic fungi of Wisconsin 1942: 103) = *Didymaria alismatis* (Oudem.) Davis.
17. *A. althaeina* Sacc. & Bizz. var. *brunneo-cincta* Brunaud, Rev. Mycol. (Toulouse) **8**, 1886: 141, sec. diagn. = *Septoria parasita* Fautrey.
18. *A. amelanchieris* Melnik, Nov. Sists. Niz. Rast. 1967: 268, sec. holotypum (LE!) = *Phyllosticta* sp.
    The conidia of this fungus do not contain true septa. Previous records of septa were based on observations of conidia with a protoplasm isthmus between oil drops.
19. *A. amorphae* Allesch., Ber. Bayer. Bot. Ges. **4**, 1896: 34, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
20. *A. ampelina* Sacc. var. *ampelina*, Michelia **1**, 1878: 168, sec. Petr. (Sydowia **7**, 1953: 304) = *Pseudodiplodia ampelina* (Sacc.) Petr.
21. *A. ampelina* Sacc. var. *cladogena* Sacc., Syll. Fung. **3**, 1884: 389, sec. Petr. (Sydowia **7**, 1953: 304) = *Pseudodiplodia ampelina* (Sacc.) Petr.

22. *A. androsaceae* T.M. Akhundov, Izv. AN AzerbSSR, Ser. Biol. Nauk, **3**, 1971: 6 (extr.), sec. typum (holotype BAK! isotype LE!) = *Darluca filum* (Fr.) Castagne.
23. *A. anemones* Lib., Pl. Crypt. Ard.: no. 159 (1832), sec. isotypum (LE!) = *Septoria sylvicola* Desm.
24. *A. anisomera* Kabát & Bubák, Hedwigia **43**, 1904: 418, sec. isotypum in Kabát & Bubák, F. imp.: no. 555 (H! LM LEP!) = *Apiocarpella anisomera* (Kabát & Bubák) Melnik
25. *A. anthistiriae* McAlpine, Proc. Linn. Soc. New South Wales **28**, 1903: 95, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
26. *A. apiospora* Cooke & Massee, Grevillea **15**, 1886: 98, sec. holotypum (K!) = *Diplodia variispora* Died.
27. *A. aquatica* Speg., Michelia **1**, 1879: 483, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
28. *A. aquifolii* Lib., Pl. Crypt. Ard.: no. 351 (1837), sec. isotypum (LE!) = *Ceuthospora phacidioides* Grev.
29. *A. aquilegiae* (Roum. & Pat.) Sacc., Syll. Fung. **3**, 1884: 396, sec. isotypum in Roum., F. gall.: no. 2489, ut *Phyllosticta aquilegiae* Roum. & Pat. (LEP!) = sp. e Sphaeropsidales (Phaeodidymae).
30. *A. arachidis* Woron., Bot. Mat. Inst. Spor. Rast. Gl. Bot. Sad. RSFSR **3**, 1924: 31, sec. holotypum (LEP!) = *Phyllosticta arachidis* Khokhr.
31. *A. araujae* Speg., Fungi Arg. Pug. 4: no. 301, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
32. *A. argillacea* (Bres.) Bond.-Mont., Mat. Po Mikol. Obsled. Rossii **5**, 4, 1924: 21 quoad solum basionymum (isotype in K. Krieg., F. saxon.: no. 1187, ut *Phyllosticta argillacea* Bres., LEP!) = *Phyllosticta argillacea* Bres.
33. *A. argillacea* (Bres.) Grove, British stem- and leaf-fungi **1**, 1935: 313, sine basionymo compl., non valide publ., quoad solum basionymum (isotype in K. Krieg., F. saxon.: no. 1187, ut *Phyllosticta argillacea* Bres., LEP!) = *Phyllosticta argillacea* Bres.
34. *A. armoraciae* Fuckel, Symb. Mycol. 1869: 388, sec. isotypos in Fuckel, F. rhen.: no. 486 (K! LE!) = ? *Ramularia armoraciae* Fuckel.
    Exs.: Syd., Mycoth. marchica: no. 693 (LE); Thüm., F. austr.: no. 1078 (K, LE); Thüm., Herb. mycol. oeconom.: no. 23 (LEP). The isotype and other exsiccata only contained punctiform fruitbodies (pycnidia) with sclerotial masses which undoubtedly belonged to fructifications of *Ramularia armoraciae* Fuckel.
35. *A. arnicae* Fuckel, Symb. Mycol. 1876: 36, sec. Sacc. (Syll. Fung. **3**, 1884: 45) = *Phyllosticta arnicae* (Fuckel) Sacc.
36. *A. arophila* Sacc., Grevillea **21**, 1893: 67, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Exs.: Kabát & Bubák, F. imp.: no. 664 (H, LE, LEP, *GruzIZR!*). According to the diagnosis, the conidia of this species are greenish (chlorino-hyalinis). It is very probable that this fungus belongs to *Pseudodiplodia*. Studied exsiccata did not have any *Ascochyta* fructifications.
37. *A. artemisiae* Kalymb., Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 280, sec. holotypum (AA!) = *Selenophoma artemisiae* N.P. Golovina.
38. *A. arunci* Sacc. in D. Sacc., Mycoth. ital.: no. 1329 (1904), sec. isotypum (PR!) = *Phyllostictella* sp.
39. *A. arundinariae* Gonz. Frag., Mem. Real Acad. Ci. Barcelona **15**, 17, 1920: 440, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
40. *A. arundinis* Fautrey & Lambotte, Rev. Mycol. (Toulouse) **17**, 1895: 167, sec. isotypum in Roum., F. sel.: no. 6804 (LEP!) = *Stagonospora* sp.
41. *A. asclepiadis* Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1894: 364, sec. isotypum in Ellis & Everh., North amer. Fungi no. 3265 (NY!) = *Phyllosticta asclepiadearum* Westend.
42. *A. aspidistrae* Massee, Gard. Chron., ser. 3, **13**, 1895: 454, sec. typum (holotype K! isotype NY!) non *Ascochyta*.
    In accordance with Grove (1935), no *Ascochyta* fruitbodies could be found in the type material.
43. *A. asteris* (Bres.) Gloyer, Phytopathology **14**, 1924: 64, sec. diagn. basionymi = *Phyllosticta asteris* Bres.
44. *A. astrantiae* Roum., F. gall.: no. 33 (1879), nom. nud., sec. isotypos (K! NY!) non *Ascochyta*.

44a. *A. atra* Potebnia, Trudy Obshch. Ispyt. Prir. Kharkov. Univ. **34**, 1900: 9 (extr.), sec. diagn. = ? *Discella albo-maculans* Peck.

45. *A. atriplicis* Desm. var. *effusa* Ellis & Kellerm., J. Mycol. **1**, 1885: 3, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).

We failed to find the original publication of *A. atriplicis* Desm. It is possible that it has never been published validly.

46. *A. atropunctata* G. Winter, Hedwigia **24**, 1885: 32, sec. diagn. = *Marssonina panattoniana* (Berl.) Magnus
47. *A. aucubae* Sacc. & Speg. var. *aucubae*, Michelia **1**, 1878: 167, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
48. *A. aucubae* Sacc. & Speg. var. *brunaudiana* Sacc., Syll. Fung. **3**, 1884: 389, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
49. *A. aucubicola* G. Winter, Contr. Fl. Mycol. Lusit. 1883: no. 795, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
50. *A. avenae* (Petr.) R. Sprague & Aar. G. Johnson, Mycologia **40**, 1948: 297, sec. isotypum (LE!) = *Pseudodiplodia avenae* (Petr.) Petr.
51. *A. avenae* (Petr.) Pidopl., Gribnaya flora grubykh kormov ... 1953: 350, sec. isotypum (LE!) = *Pseudodiplodia avenae* (Petr.) Petr.
52. *A. baccae* Rostr., Till. Groenl. Svampe 1899: 625, sec. holotypum (C!) = *Discella empetri* Negru.
53. *A. baccharidis* Pat., Bull. Soc. Mycol. France **8**, 1892: 135, sec. diagn. = *Pazschkeella brasiliensis* Syd.
54. *A. bacciligera* G. Winter, Contr. Fl. Mycol. Lusit. 1884: no. 871, sec. diagn. = *Phyllosticta*? sp.
55. *A. bacteriiformis* Pass. in Thüm., Mycoth. univers. no. 994 (1878), sec. isotypum (LEP!) = *Phyllosticta bacteriiformis* (Pass.) Sacc.
56. *A. balansae* Speg., Fungi Guaran. **1**: 146, sec. typum (holotype K! isotypi NY! PC!) = *Phyllosticta* sp.
57. *A. bambusina* Vasant Rao, Publ. Inst. Mic. Univ. Recife **383**, 1963: 4, sec. holotypum (IMI) = sp. e Sphaeropsidales (Phaeodidymae).
58. *A. banosensis* Syd., Ann. Mycol. **14**, 1916: 368, sec. diagn. = *Phyllosticta* sp.
59. *A. baptisiae* Davis, Trans. Wisconsin Acad. Sci. **22**, 1926: 186, sec. Davis (Trans. Wisconsin Acad. Sci. **30**, 1937: 3) = *Stagonospora baptisiae* (Ellis & Everh.) Davis.
60. *A. batatae* Khokhr. & Dyur., Vrediteli i bolezni batat v SSSR **1**, 1933: 226, sec. holotypum (LEP!) = *Phyllosticta batatas* Cooke.
61. *A. berberidina* Sacc., Michelia **1**, 1879: 530, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Exs.: Roum., F. sel.: no. 6304 (LEP, NY). The exsiccatum of Roumeguère contained a fungus belonging to the Sphaeropsidales (Phaeodidymae).
62. *A. berberidina* Sacc. f. *spinarum* Fautrey in Roum., F. sel.: no. 6305 (1893), nom. nud., sec. isotypum (NY!) = sp. e Sphaeropsidales (Phaeodidymae).
63. *A. beticola* Prill. & Delacr., Bull. Soc. Mycol. France **7**, 1891: 25, sec. Petr. (Sydowia **7**, 1953: 305) = *Pseudodiplodia beticola* (Prill. & Delacr.) Petr.
64. *A. betulina* Vasyag., Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 224, sec. holotypum (AA!) = *Mycosphaerella* sp.
    We failed to find any *Ascochyta* pycnidia in the holotype material, but observed *Mycosphaerella* ascomata with two-celled ascospores. Form and size of the spores resemble those of *A. betulina* as described in the original diagnosis.
65. *A. bondarzewii* Henn., Z. Pflanzenkrankh. **13**, 1903: 220, sec. diagn. = *Septoria caraganae* Henn.
66. *A. bornmuellerii* Syd., Ann. Mycol. **15**, 1917: 148, sec. holotypum (LE!) non *Ascochyta*.
67. *A. boutelouae* Fairm., Mycologia **10**, 1918: 257, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
68. *A. brassicae* Thüm., Contr. Mycol. Lusit. 1880: no. 602, sec. isotypum (NY!) = *Mycosphaerella brassicae* (Duby) Lindau.
69. *A. brunnea* Cooke & Massee, Grevillea **15**, 1886: 98, sec. holotypum (K!) = *Mycosphaerella brunnea* Hansf.
70. *A. buniadis* Syd., Hedwigia **38**, 1899: 137, sec. isotypos in Syd., Mycoth. marchica: no. 4858 (LE! LEP!) = *Ramularia buniadis* Vestergr.
71. *A. bupleuri* Thüm., Contr. Fl. Mycol. Lusit. 1880: no. 603, sec. Oudem. (Enum. Syst. Fung. **4**, 1923: 232) = *Septoria bupleuri-falcati* Died.
72. *A. bupleuri* Thüm. f. *bupleuri-fruticosi* Gonz. Frag., Mem. Real Acad. Ci. Barcelona **15**, 17, 1920: 440, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).

73. *A. buxicola* Hollós, Math. Termeszettud. Közlem. **35**, 1, 1926: 14, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
74. *A. buxina* Sacc., Michelia **1**, 1878: 169, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
75. *A. calamagrostidis* Lib., Pl. Crypt. Ard.: no. 157 (1832), sec. isotypum (LE!) = *Septoria calamagrostidis* (Lib.) Sacc.
76. *A. callistea* H. Ruppr., Sydowia **11**, 1957: 127, sec. diagn. = *Phyllosticta* sp.
77. *A. calpurniae* G. Winter, Hedwigia **24**, 1885: 32, sec. diagn. = *Septoria* sp.
78. *A. camelliae* Pass. in Brunaud, Champ. Saint. **5**: 6, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
79. *A. camphorae* Turconi, Atti Ist. Bot. Univ. Pavia **11**, 1905: 314-318, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
80. *A. cannabis* Lasch in Klotzsch, Herb. viv. mycol.: no. 1059 (1846), sec. Sacc. (Syll. Fung. **3**, 1884: 557) = *Septoria cannabis* (Lasch) Sacc.
81. *A. capparidis* Sacc., Fungi herb. Brux. 1892: no. 34, ut *A. capparidis* (Castagne) Sacc. (*Perisporium capparidis* Castagne in herb., non valide publ.), sec. Petr. (Sydowia **7**, 1953: 305) = *Pseudodiplodia capparidis* (Sacc.) Petr.
82. *A. capparidis* Sacc. var. *foliicola* Caball., Trab. Secc. Ci. Natur. Fac. Univ. Barcelona (cit. sec. Petrak's List 1, 1953: 186) sec. diagn. = ? *Pseudodiplodia capparidis* (Sacc.) Petr.
83. *A. caricis* Fuckel, Symb. Mycol. 1869: 386, sec. isotypum in Fuckel, F. rhen.: no. 1697 (LE!) = *Phyllosticta caricis* (Fuckel) Sacc.
84. *A. carpinea* Sacc., Michelia **1**, 1878: 170, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
85. *A. carthagenensis* Sacc., Michelia **2**, 1880: 144, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
86. *A. caryotina* Vasant Rao, Publ. Inst. Mic. Recife **371**, 1962: 4, sec. holotypum (IMI!) = *Phyllosticta* sp.
87. *A. cassandrae* Peck, Ann. Rep. New York State Mus. **38**, 1885: 94, sec. holotypum (NYS!) = *Discella* sp.
88. *A. catalpae* Tassi, Bull. Lab. Orto Bot. Univ. Siena **3**, 1900: 125, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
89. *A. caulium* Lib., Pl. Crypt. Ard.: no. 248 (1834), sec. isotypum (LE!) = *Phlyctaena caulium* (Lib.) Petr.
90. *A. cephalanthi* Ellis & Everh. in litt.; Sacc., Syll. Fung. **3**, 1884: 392, sec. holotypum (NY!) = sp. e Sphaeropsidales (Phaeodidymae).
91. *A. cerinthes* Lobik, Bolezni Rast. **17**, 3-4, 1928: 173, sec. holotypum (LE!) = *Darluca filum* (Fr.) Castagne.
92. *A. chelidonii* Lib., Pl. Crypt. Ard.: no. 57 (1830), sec. isotypum (LEP!) = *Septoria chelidonii* (Lib.) Desm.
93. *A. chenopodii* Rostr., Bot. Tidsskr. **26**, 1905: 3, 11, sec. holotypum (C!) = *Stagonospora atriplicis* (Westend.) Lind.
94. *A. cherimoliae* Thüm., Contr. Fl. Mycol. Lusit.: no. 607, sec. isotypum (NY!) = *Phyllosticta cherimoliae* J. V. Almeida & Sousa da Câmara.
95. *A. chlorospora* Speg., Michelia **1**, 1878: 483, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
96. *A. cinerariae* Tassi, Bull. Lab. Orto Bot. Univ. Siena **2**, 1899: 31, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Exs.: Herb. mycol. roman.: no. 1681 (LE, LEP). The exsiccata examined did not contain any fruitbodies.
97. *A. citri* Penz. in Sacc., Michelia **2**, 1880: 445, sec, diagn. = sp. e Sphaeropsidales (Phaeodidymae).
98. *A. citricola* McAlpine, Fung. diseas. citrus Australia 1899: 98, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
99. *A. clarkiae* Fautrey & Roum. in Roum., F. sel.: no. 5669 (1891) (errore "5569"), sec. isotypos (K! LEP! NY!) non *Ascochyta*.
100. *A. clematidina* Thüm., Pilzfl. Sibir.: no. 619, sec. isotype (LE!) = *Phaeostagonosporopsis* sp.
101. *A. clematidina* Thüm. var. *thalictri* Davis, Trans. Wisconsin Acad. Sci. **16**, 2, 1910: 757, sec. holotypum (WIS!) = *Phyllosticta* sp.
102. *A. clianthi* Tassi, Bull. Lab. Orto Bot. Univ. Siena **2**, 1899: 31, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
103. *A. cliviae* Magnaghi, Contr. Mic. Ligustica, p. 9 (Atti Ist. Bot. Univ. Pavia **8**, 1902; see also Sacc., Syll. Fung. , 1906: 350), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).

104. *A. cocoina* Gonz. Frag., Bol. R. Soc. Esp. Hist. Nat. **17**, 1917: 308, sec. isotypum (BUCA!) = sp. e Sphaeropsidales (Phaeodidymae).
105. *A. colorata* Peck, New York State Mus. Rept. **38**, 1884: 94, sec. holotypum (NYS!) = *Marssonina potentillae* (Desm.) Magnus
Detailed studies on the taxonomy of this fungus have been carried out by Wolf (1924).
106. *A. columnaris* (Wallr.) Wollenw. & Hochapfel, Z. Parasitenk. (Berlin) **8**, 1936: 602, excl. basionymi, sec. Boerema & Dorenbosch (Studies in Mycology 3, 1973: 17) = *Phoma macrostoma* Mont. var. *incolorata* (A. S. Horne) Boerema & Dorenb.
107. *A. columnaris* (Wallr.) Wollenw. & Hochapfel, Z. Parasitenk. (Berlin) **8**, 1936: 602, quoad solum basionymum, sec. Höhnel (Hedwigia 59, 1918: 236-284) = *Pleurophomella* sp.
108. *A. coluteae* N. F. Buchw. in Moeller, Fungi of the Faeroes **2**, 1958: 117, sec. diagn. = *Phoma* sp.
109. *A. coluteicola* Gonz. Frag., Fungi Horti Matrit. 1917: 17, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
110. *A. compta* (Sacc.) Jørst., Meld. Stat. Plantepat. Inst. **1**, 1945: 15, sec. diagn. basionymi = *Stagonospora meliloti* (Lasch) Petr.
111. *A. confusa* Bubák, Z. Landwirtsch. Versuch. Oesterr. **8**, 1905: 515, nom. nud., sec. Jones & Weimer (J. Agric. Res. **57**, 11, 1938: 805) = *Stagonospora meliloti* (Lasch) Petr.?
112. *A. confusa* Ellis & Everh., J. Mycol. **10**, 1904: 168, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
Exs.: Barthol., F. columb.: no. 2266 (NY). The exsiccatum examined belonged to the Sphaeropsidales (Phaeodidymae).
113. *A. conicola* Dearn. & House, New York State Mus. Circular **24**, 1940: 47, non valide publ., descr. angl., sec. holotypum (NYS!) = *Discella*? sp.
114. *A. conorum* Henn., Hedwigia **43**, 1904: 73 (ut "*Ascochyta ? conorum*"), sec. diagn. = *Sirococcus strobilinus* (Desm.) Petr.
115. *A. contubernalis* Oudem., Ned. Kruidkr. Arch., ser. 2, **5**: 170, sec. diagn. = *Darluca filum* (Fr.) Castagne.
116. *A. convolvuli* Lib., Pl. Crypt. Ard.: no. 56 (1830), sec. isotypum (LE!) = *Septoria convolvuli* (Lib.) Desm.
117. *A. cookei* Massee, Kew Bull. 1907: 241, sec. holotypum (K!) = *Septoria dianthi* Desm.
118. *A. corchoricola* Khokhr., Bolezni i vrediteli novykh lubyanykh rastenij 1933: 61, sec. holotypum (LEP!) = *Phyllosticta* sp.
119. *A. corni* Lib., Pl. Crypt. Ard.: no. 58 (1830), sec. isotypum (COI!) = *Septoria cornicola* Desm.
120. *A. cornicola* Sacc., Michelia **1**, 1878: 169, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
121. *A. coronaria* Ellis & Davis, Trans. Wisconsin Acad. Sci. **14**, 1, 1902: 94, sec. isotypos (LEP! MW!) = *Marssonina* sp. (*Marssonia coronariae* Sacc. & Dearn.).
The examination of type material (Mel'nik, 1970) showed that this species is identical with *Marssonia coronariae* Sacc. & Dearn. The combination *Marssonina coronariae* (Ellis & Davis) Davis was published later. The name *M. coronariae* Sacc. & Dearn. is older.
122. *A. crataegi* Fuckel, Jahrb. Vereins Naturk. Herzogth. Nassau 1860: 43, sec. isotypum in Fuckel, F. rhen.: no. 473 (LE!) = sp. e Sphaeriales.
123. *A. crataegi* Lib., Pl. Crypt. Ard.: no. 353 (1837), sec. isotypos (LE! S!) = *Septoria oxyacanthae* Fr.
124. *A. cyani* Cruchet, Bull. Soc. Vaud. Sci. Nat. **44**, 1909: 474, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
125. *A. cycadina* Scalia, F. sicil. orient., ser. 3, 1902: 12, sec. diagn. = ? *Hendersonia* sp.
According to the original diagnosis, the two-celled conidia have a faintly greenish-yellowish tinge. Specimens from China (Leningrad Quarantine Laboratory) and Portugal (LISE) agreed well with the original description of this species, but possessed many three- to four-celled conidia. It is very likely that the fungus of the type material also possessed such conidia.
126. *A. cyclaminis* J. W. Kühn in Rabenh., F. europ.: no. 2572 (1881), sec. isotypum (LEP!) = *Septoria corollae* Syd.
127. *A. dahliicola* (Brunaud) Petr., Ann. Mycol. **25**, 1927: 203, quoad solum basionymum = *Phyllosticta dahliicola* Brunaud.

128. *A. davidiana* Kabát & Bubák, Oesterr. Bot. Z. **54**, 1904: 4, sec. isotypos in Kabát & Bubák, F. imp.: no. 207 (LE! LEP! *GruzIZP!*) = sp. e Sphaeropsidales (Phaeodidymae).
129. *A. delphinii* Melnik, Nov. Sist. Niz. Rast. 1968: 173, sec. holotypum (LE!) = *Phyllosticta ajacis* Thüm. In the holotype of this species, the isthmus of the protoplasm between two oil drops was wrongly taken for a true septum.
130. *A. dendrostellerae* Schvartsman, Tr. Inst. Bot. KazSSR **9**, 1961: 67, sec. holotypum (AA!) non *Ascochyta*.
131. *A. densiuscula* Sacc. & Malbr., Michelia **2**, 1882: 621, sec. diagn. = *Darluca filum* (Fr.) Castagne. Morphological characteristics of *A. densiuscula* agrees fully with the original diagnosis of *Diplodina spartii* Sousa da Câmara & Luz, which is, according to the examination of type material (LISVA!), identical with *Darluca filum*.
132. *A. destructiva* (Desm.) Höhn., Hedwigia **60**, 1919: 165, quoad solum basionymum = *Phyllosticta destructiva* Desm. var. *destructiva*.
133. *A. dianthi* (Alb. & Schwein. ex Fr.) Berk., Outl. Brit. Fungol. 1860: 320, sec. Grove (British stem- and leaf-fungi 1, 1935: 380) = *Septoria dianthi* Desm.
134. *A. dianthi* Lasch in Klotzsch, Herb. viv. mycol.: no. 863 (1846), sec. Oudem. (Enum. Syst. Fung. **3**, 1921: 63) = *Septoria dianthi* Desm.
135. *A. dianthi* Lib., Pl. Crypt. Ard.: no. 158 (1832), sec. isotypos (LE! MEL!) = *Darluca filum* (Fr.) Castagne.
136. *A. diapensiae* Rostr., Oest. Groenl. Svampe 1894: 28, sec. holotypum (C!) = sp. e Discellaceis.
137. *A. diervillae* Kabát & Bubák, Hedwigia **46**, 1907: 290, sec. diagn. = *Phyllosticta weigelae* Sacc. & Speg.?
138. *A. digitalis* (Fuckel) Fuckel, Symb. Mycol. 1869: 388, sec. isotypum in Fuckel, F. rhen.: no. 851, ut *Sphaeria digitalis* Fuckel (LE!) non *Ascochyta*.
Exs.: Herb. Barboy-Boissier: no. 2265, ut *A. digitalis* (K, TRT); Roum., F. sel.: no. 4171, ut *A. digitalis* (K, LEP). These exsiccata as well as the type material did not have any fungal fructification.
139. *A. diplodina* Berl. & Bres., Microm. Tridentini: 73, sec. holotypum (K!) = *Gloeosporium hedericola* Maubl.
140. *A. donacina* Sacc., Mycol. Veneta 1873: 107, sec. holotypum (PAD!) = sp. e Sphaeropsidales (Phaeodidymae).
141. *A. dulcamarae* Bubák, Növenyt. Közlem. **4**, 1907: 31 (extr.), sec. diagn. = *Phyllosticta dulcamarae* Sacc.
This fungus is characterised by having initially one-celled conidia; the septum appears very late. The examination of authentic material from Bulgaria showed that even mature samples only contain very few two-celled conidia.
142. *A. ebeleki* Kalymb., Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 231, sec. holotypum (AA!) = *Hendersonia* sp.
143. *A. ebuli* Fuckel, Symb. Mycol. 1869: 386, sec. isotypum in F. rhen.: no. 1554 (LE!) = *Phyllosticta ebuli* (Fuckel) Sacc.
144. *A. effusa* Lib., Pl. Crypt. Ard.: no. 355 (1837), sec., isotypum (LE!) = *Phomopsis stipata* (Lib.) B. Sutton.
145. *A. elaeagni* Sacc., Michelia **2**, 1880: 109, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
146. *A. ellisii* Thüm., Pilze des Weinstockes 1878: 190, sec. isotypos (K! LEP! NY! PR! TRT!) = *Phyllosticta* sp.
147. *A. epilobii* Rabenh. in Klotzsch, Herb. viv. mycol.: no. 1656 (1852), sec. isotypum (LEP!) = *Ramularia karakulinii* N. P. Golovina.
148. *A. eryobotryae* Bubák, Ann. Mycol. **14**, 1916: 152, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
149. *A. eryobotryae* Voglino, Ann. R. Accad. Agric. Torino **51**, 1908: 22 (extr.), sec. holotypum (TO!) = sp. e Sphaeropsidales (Phaeodidymae).
150. *A. euphorbiae* Lasch in Klotzsch, Herb. viv. mycol. no. 862 (1846), sec. Westend. (Bull. Acad. Roy. Sci. Belgique, ser. 2, **2**, 1857: 574) = *Septoria euphorbiae* (Lasch) Desm.

151. *A. evonymella* (Sacc.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 642, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
152. *A. ferrarisiana* Casali, Bull. Soc. Bot. Ital. 1901: 339, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
153. *A. festucae-erectae* Henn., Deutsche Südpolar-Exped. **8**, 1907: 14 (extr.), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
154. *A. feuilleauboisiana* Sacc. & Roum. in Roum., F. gall. no. 2854 (1884); Rev. Mycol. (Toulouse) 6, 1884: 33, sec. isotypos (K! LEP!) = *Phyllosticta* sp.
155. *A. fibricola* Sacc., Michelia **1**, 1877: 109, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
156. *A. foeniculina* McAlpine, Proc. Linn. Soc. New South Wales **29**, 1904: 119, sec. diagn. = *Pseudodiplodia perpusilla* (Desm.) Petr.
157. *A. folliculorum* Penz. & Sacc., Funghi Mortol.: no. 38, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
158. *A. fragariae* Lib., Pl., Crypt. Ard.: no. 155 (1832), sec. isotypos (COI! LE!) = *Septogloeum fragariae* (Briard & Har.) Höhn.
159. *A. fragariae* Sacc., Michelia **1**, 1878: 169, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
160. *A. fragariicola* L. Bertram, Untersuch. über die Entwickl. der Erdbeerwurzeln und deren Erklärung durch *Ascochyta fragaricola* Bertram sp. nov. Diss. Hohen Naturwiss. Fak. Albertus-Univ. Königsberg, 1937: 41, sec. diagn. = *Phoma* sp.
161. *A. frangulina* Kabát & Bubák, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag. Math.-Naturwiss. Cl. 1903: 3 (extr.?), sec. isotypos (LE! LEP! GruzIZR!) = *Cylindrosporium* sp.
   Exs.: Kabát & Bubák, F. imp.: no. 11, *A. franglilina* (isotypi LE! LEP! *GruzIZR!*). In this species, a certain number of transitional fruitbodies (from pycnidia to superficial acervuli) have been observed. Conidia varied from short cylindrical and narrowly fusiform two-celled to filiform 3-4-septate ones.
162. *A. fraxini* Lib., Pl. Crypt. Ard.: no. 48 (1830) (ut "*Ascoxyta*"), sec. isotypos (K! LE!) = *Dothiorella fraxini* (Lib.) Sacc.
163. *A. fraxini* Oudem., Contr. Fl. Mycol. Pays-Bas **8**: 45, sec. Petr. (Sydowia 7, 1953: 304) = *Pseudodiplodia fraxini* (Oudem.) Petr.
164. *A. fremontiae* Harkn., Fungi Pacif. **5**: 439, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
165. *A. fructigena* Dominik, Spraw. kom. fizyograf. Polsk. Akad. Um. **70**, 1936: 48, sec. diagn. = *Septomyxa negundinis* Allesch.
166. *A. galatellae* Nevod. & Byzova ex Byzova, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 277, sec. holotypum (AA!) = *Leptothyrium asterinum* Berk. & Broome.
167. *A. galeopsidis* Lasch in Klotzsch, Herb. viv. mycol. no. 1058 (1846), nom. nud., sec. Westend. (Bull. Acad. Roy. Sci. Belgique, ser. **2**, 2, 1857: 574) = *Septoria galeopsidis* Westend.
168. *A. garryae* Sacc., Michelia **2**, 1880: 162, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
169. *A. gaultheriae* Koval, Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR, **15**, 1962: 90, sec. holotypum (LE!) non *Ascochyta*.
170. *A. geicola* Fiedl. in Klotzsch, Herb. viv. mycol. II: no. 541 (1857), nom. nud., sec. isotypos (LEP! NY!) = *Septoria gei* Roberge & Desm.
171. *A. glaucii* (Cooke & Massee) Died., Krypt. Fl. M. Brand. **9**, 1912: 383, quoad solum basionymum = *Microdiplodia glaucii* (Cooke & Massee) Grove.
172. *A. glycyrrhizae* Vasyag., Bot. Mat. Gerb. Inst. Bot. AN KazSSR, **3**, 1965: 61, sec. holotypum (AA!) = *Macrophyllosticta* sp.
173. *A. graminicola* Sacc. var. *aciolata* J. V. Almeida & Sousa da Câmara, Revista Agron. (Lisboa), **3**, 1903: 92, sec. holotypum (LISVA!) = *Darluca filum* (Fr.) Castagne.
174. *A. graminicola* Sacc. var. *ciliolata* Sacc., Michelia **2**, 1882: 621, sec. diagn. = *Darluca filum* (Fr.) Castagne.
175. *A. graminicola* Sacc. var. *caeruleae* Briard & Har., Rev. Mycol. (Toulouse) **13**, 1891: 17, sec. diagn. = *Darluca filum* (Fr.) Castagne.
176. *A. graminicola* Sacc. var. *graminicola*, Michelia **1**, 1878: 127, sec. holotypum (PAD!) = *Darluca filum* (Fr.) Castagne.

177. *A. graminicola* Sacc. var. *kazachstanica* Byzova, Fl. Spor. Rast. Kazakhstana **5**, 2, 1968: 216, sec. holotypum (AA!) = sp. e Sphaeropsidales (Phaeodidymae).
178. *A. graminicola* Sacc. var. *sacchari* Gonz. Frag., Fl. Microm. Cat. 1917: 132, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
179. *A. grandispora* Kabát & Bubák, Hedwigia **47**, 1908: 356, sec. isotypos in Kabát & Bubák, F. imp.: no. 510 (LE! LEP! GruzIZR!) = sp. e Sphaeropsidales (Phaeodidymae).
180. *A. grossulariae* Lib., Pl. Crypt. Ard.: no. 250 (1834), sec. isotypos (COI! LE!) = *Septoria grossulariae* (Lib.) Westend.
181. *A. grossulariae* Oudem., Contr. Fl. Mycol. Pays-Bas **16**, 1898: 69, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
182. *A. halimodendri* Murashk., Tr. Sibir. S-Kh. Akad. **3**, 1924: 124, sec. holotypum (OSKhl!) = sp. o Sphaeropsidales (Phaeodidymae).
183. *A. hanseni* Ellis & Everh., Bull. Torrey Bot. Club **24**, 1897: 464, sec. isotypos in Ellis & Everh., North amer. fungi: no. 1255 (NY! UC! *LGU!*) = *Didymosporina arbuti* Zeller.
184. *A. haworthiae* Trinchieri, Rend. Real Accad. Sci. Napoli 1909: 4 (extr.), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
185. *A. hellebori* Sacc., Michelia **1**, 1878: 169, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
186. *A. heraclei* Lib., Pl. Crypt. Ard.: no. 51 (1830), sec. isotypum (COI!) = *Cylindrosporium umbelliferarum* Wehm.
187. *A. heteromorpha* (Schulzer & Sacc.) Curzi, Boll. Staz. Patol. Veg. Roma **12**, 1932: 381, sec. diagn. basionymi = *Phoma heteromorpha* Schulzer & Sacc.
188. *A. heterophragmia* Pass., Atti Reale Accad. Lincei, Mem. Cl. Sci. Fis., ser. 4, **6**, 1889: 465, sec. diagn. = *Phaeostagonosporopsis* sp.
189. *A. hieracii* Lasch in Klotzsch, Herb. viv. mycol.: no. 1156 (1847), nom. nud., sec. isotypum (LEP!) = *Septoria mougeotii* Sacc. & Roum.
190. *A. hippocastani* Lib., Pl. Crypt. Ard.: no. 151 (1832), sec. isotypos (COI! K!) = ?*Cytodiplospora* sp.
191. *A. hordei* Hara ex Ideta, Supplement to hand-book of the plant diseases in Japan **2**, 1926: 683, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
192. *A. hordei* Hara ex Ideta f. *skagwayensis* R. Sprague, Mycologia **54**, 1962: 595, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
193. *A. hortorum* (Speg.) C. O. Sm., Delaware Coll. Agric. Exp. Sta. Bull. **63**, 1904: 19-23, sec. Boerema & Dorenbosch (Studies in Mycology 3, 1973: 25) = *Phoma exigua* Desm.
194. *A. humuli* Lasch in Klotzsch, Herb. viv. mycol.: no. 680 (1844), sec. isotypum (LEP!) = *Septoria humuli* Westend.
195. *A. humuli* (Sacc. & Speg.) Syd., Mycoth. germ.: no. 1659 (1921), sine auct. comb., sec. isotypum (LE!) = *Phyllosticta humuli* Sacc. & Speg.
196. *A. hydrangeae* (Ellis & Everh.) Aksel, Tr. Bot. Inst. AN SSSR, Ser. 2, **11**, 1955: 83, sine basionymo compl., non valide publ., quoad solum basionymum = *Phyllosticta hydrangeae* Ellis & Everh.
197. *A. hyperici* Lasch in Rabenh., Herb. mycol.: no. 1159 (1847), sec. isotypum (LEP!) = *Septoria hyperici* Desm.
198. *A. hyperici* Lasch f. *hyperici-quadranguli* Thüm., F. austr. no. 792 (1873), nom. nud., sec. isotypum (LE!) = *Septoria hyperici* Desm.
199. *A. ilicicola* Politis, Mem. Soc. Hist. Nat. Afrique N., Hors. Ser. 2, 1949: 268, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
200. *A. imperfecta* Peck, New York State Mus. Bull. **157**, 1912: 21, sec. holotypum (NYS!) = *Phoma medicaginis* Malbr. & Roum.
    The taxonomic position of this fungus has been treated in detail by Boerema & al. (1965).
201. *A. indusiata* Bres., Hedwigia 35, 1896: 199, sec. isotypos in K. Krieg., F. saxon: no. 1198 (LEP! WRSL!) = sp. e Sphaeropsidales (Phaeodidymae).
202. *A. inulae* (Allesch. & Syd.) Petr., Ann. Mycol. **19**, 1921: 23, quoad solum basionymum = *Phyllosticta inulae* Allesch. & Syd.

203. *A. irpina* Sacc. & Trotter, I Funghi dell' Avellinese 1920: 124, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
204. *A. jaapii* Sacc. in Sacc. & Trotter, Syll. Fung. **25**, 1931: 346, sec. diagn. basionymi, ut *Ascochytella phlomidis* Jaap, Ann. Mycol. 14, 1916: 35 (non *Ascochyta phlomidis* Bubák & Wrobl., 1916) = sp. e Sphaeropsidales (Phaeodidymae).
205. *A. jahniana* Petr., Ann. Mycol. **18**, 1920: 120, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
206. *A. jenissensis* Sacc., Michelia **2**, 1880: 144, sec. holotypum (LE!) = *Phyllosticta* sp.
207. *A. julibrissin* Tassi, Hedwigia **35**, 1896: 43, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
208. *A. kabati-bubaki* Săvul. & Sandu, Hedwigia **75**, 1936: 189 (*A. evonymi* Kabát & Bubák, Hedwigia 46, 1907: 290, non *A. evonymi* Pass., 1887-1891, nec *A. evonymi* Oudem., 1894), sec. isotypos in Kabát & Bubák, F. imp.: no. 665 (LE! LEP!) = *Phyllosticta* sp.
209. *A. kentiae* Maubl., Bull. Soc. Mycol. France **18**, 1903: 293, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
210. *A. koelreuteriae* Hollós, Bot. Közlem. **25**, 1928: 127, sec. holotypum (BP!) = sp. e Sphaeropsidales (Phaeodidymae).
211. *A. laburni* Sacc., Michelia **1**, 1879: 530, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
212. *A. lactucae* Rostr. in Thüm., Mycoth. univ.: no. 2095 (1882), sec. isotypos (K! LE! PR!) = *Septoria lactucae* Pass.
213. *A. lacustris* Pass., Diagn. F. N. IV: 12, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
214. *A. laurina* Tassi, Atti Reale Accad. Fisiocrit. Siena, ser. 4, **8**, 1897: 4, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
215. *A. laurocerasi* Gutner, Tr. Bot. Inst. AN SSSR, Ser. 2, **1**, 1933: 314, sec. holotypum (LEP!) = *Phyllosticta* sp.?
216. *A. ledi* Rostr., Fungi Groenl. 1888: 570, sec. holotypum (C!) non *Ascochyta*.
217. *A. ledicola* Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 261, sec. diagn. = sp. e Discellaceis.
218. *A. ligustrina* Pass., J. Hist. Nat. **4**, 1885: 55, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
219. *A. linicola* Naumov & Vasiljevsky, Mat. po Mikol. i Fitopatol. Rossii **5**, 1926: 3, sec. holotypum (LEP!) = *Phoma exigua* Desm. var. *linicola* (Naumov & Vasiljevsky) Maas.
220. *A. lobeliae* Petch, Ann. Roy. Bot. Gard. (Peradeniya) **7**, 4, 1922: 312, sec. cotypum (K!) = *Colletotrichum gloeosporioides* Penz.
221. *A. lonicerae-canadensis* H. C. Greene, Trans. Wisconsin Acad. Sci. **50**, 1961: 159, sec. holotypum (WIS!) = sp. e Sphaeropsidales (Phaeodidymae).
222. *A. lophanthi* Davis var. *lophanthi*, Trans. Wisconsin Acad. Sci. **14**, 1902: 95, sec. holotypum (WIS!) = sp. e Sphaeropsidales (Phaeodidymae).
223. *A. lophanthi* Davis var. *lycopina* Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 700, sec. holotypum (UC!) = sp. e Sphaeropsidales (Phaeodidymae).
224. *A. lucumae* (Henn.) Wollenw., Ann. Mycol. **15**, 1917: 31, sec. holotypum (B!), ut *Fusarium lucumae* Henn., non *Ascochyta*.
225. *A. lycii* (Desm.) Höhn., Hedwigia **60**, 1919: 165, quoad solum basionymum = *Phyllosticta destructiva* Desm. var. *lycii* Desm.
226. *A. lysimachiae* Lib., Pl. Crypt. Ard.: no. 252 (1834), sec. isotypos (COI! LE!) = *Septoria lysimachiae* (Lib.) Westend.
227. *A. lysimachiae* Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 362, sec. diagn. non *Ascochyta*.
228. *A. mabiana* Sacc., Ann. Mycol. **8**, 1910: 338, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
229. *A. macrospora* (Speg.) Melnik, Mikol. i Fitopatol. **5**, 1, 1971: 21, sec. holotypum (LPS!), ut *Apiosporella macrospora* Speg. = *Apiosporella macrospora* Speg.
230. *A. maculans* Fuckel, Symb. Mycol. 1869: 386, sec. isotypos in Fuckel, F. rhen.: no. 1553 (K! LEP!) = *Asteromella hederae* C. Massal.
231. *A. mali* Ellis & Everh., Bull. Torrey Bot. Club. **27**, 1900: 56, sec. holotypum (NY!) = sp. e Sphaeropsidales (Phaeodidymae).
232. *A. maranthaceae* Rangel, Bol. Agric. (São Paulo), Ser. 16[a], **4**, 1915: 318-319, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).

233. *A. martianoffiana* Thüm., Pilzfl. Sibir.: no. 616, sec. holotypum (LE!) = sp. e Sphaeropsidales (Phaeodidymae).
234. *A. massaena* Sacc. in Sacc. & Trotter, Syll. Fung. **25**, 1931: 345 (*A. ribis* Massa, Ann. Mycol. **10**, 1912: 290, non *A. ribis* Bondartsev, 1912), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
235. *A. matritensis* Alcalde, Anales Jard. Bot. Madrid **5**, 1945: 153, sec. diagn. = *Phaeostagonosporopsis* sp.
236. *A. medicaginis* Bres., Hedwigia **39**, 1900: 326, sec. holotypum (S!) = *Stagonospora meliloti* (Lasch) Petr.
237. *A. medicaginis* Fuckel, Symb. Mycol. 1869: 388, sec. isotypum in Fuckel, F. rhen.: no. 488 (1867) (LE!) = *Sporonema phacidioides* Desm.
238. *A. melanoplaca* (Westend.) Fuckel, Symb. Mycol. 1869: 387 (errore "*A. melanophaea*"), sec. isotypum in Westend., Herb. crypt. Belge no. 1141, ut *Phyllosticta melanoplaca* Westend. (NY!) = *Melasmia aviculare* Westend.
239. *A. meliloti* Trusova, Mat. Po Mikol. i Fitopatol. Rossii **4**, 1915: 54, sec. holotypum (LE!) = *Stagonospora meliloti* (Lasch) Petr.
240. *A. menyanthis* Lasch in Klotzsch, Herb. viv. mycol. no. 860 (1846), nom. nud., sec. Sacc. (Syll. Fung. **3**, 1884: 532) = *Septoria menyanthis* (Lib.) Desm.
241. *A. menyanthis* Lib., Pl. Crypt. Ard.: no. 251 (1834), sec. isotypos (COI! LE!) = *Septoria menyanthis* (Lib.) Desm.
242. *A. menziesii* Davis, Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 664, nom. nud., sec. holotypum (NY!) = *Didymosporina arbuti* Zeller.
243. *A. mespili* Pass. in litt. ex Brunaud, Rev. Mycol. (Toulouse) **8**, 1886: 141, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
244. *A. minutissima* Pass., Rev. Mycol. (Toulouse) **9**, 1887: 145, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
245. *A. missouriensis* R. Sprague & Aar. G. Johnson, Mycologia **42**, 1950: 547, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
246. *A. moellendorfii* Ruhland, Verh. Bot. Vereins Prov. Brandenburg **43**, 1901: 105, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Diplodina corispermi Hollós (holotype BP!) belongs to the present species, too.
247. *A. nasturtii* Sacc. in Syd., Mycoth. marchica: no. 3089 (1890), nom. nud., sec. isotypum (NY!) non *Ascochyta*.
248. *A. nebulosa* Sacc. & Berl., Bull. Soc. Roy. Bot. Belgique **28**, 1889: 22, sec. isotypum (LE!) = sp. e Sphaeropsidales (Phaeodidymae).
249. *A. nigripycnidicola* Ondřej, Biológia (Bratislava) **23**, 1968: 816, sec. specim. auctoris speciei (non type) = *Stagonospora* sp.?
250. *A. nymphaeae* Pass., Hedwigia **16**, 1877: 120, sec. isotypos in Rabenh., F. europ.: no. 2251 (CUP! K! LEP!) = *Ovularia nymphaearum* Allesch.
    Exs.: Erb. critt. ital.: no. 748 (LE); Thüm., Mycoth. Univers.: no. 1096 (K, LE, LEP, MEL). The exsiccata examined belong also to *Ovularia nymphaearum*.
251. *A. obducens* Fuckel, Symb. Mycol. 1869: 388, sec. isotypos in Fuckel, F. rhen.: no. 491 (K! LE!) = *Asteromella* sp.
    Exs.: Roum., F. gall.: no. 2129 (K, LEP). Roumeguère's exsiccatum has to be assigned to *Asteromella*.
252. *A. oleae* Scalia, Funghi della Sicilia orient. 1900: 42, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
253. *A. oleandri* Sacc. & Speg., Michelia **1**, 1878: 162, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
254. *A. oleracea* J. W. Ellis var. *tumida* Bond, Ceylon J. Sci., Sect. A, Bot. **12**, 4, 1947: 175, sec. diagn. = *Phoma* sp.
    Type material from IMI, which seems to be only a part of the holotype, has been examined, but did not contain any fructification.
255. *A. opuli* Oudem., Contr. Fl. Mycol. Pays-Bas **14**, 1892: 43, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).

256. *A. opuntiae* Scalia, Prima contr. fl. micol. Catania 20, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
257. *A. oreoselini* Lasch in Klotzsch, Herb. viv. mycol.: no. 856 (1846), sec. Sacc. (Syll. Fung., **3**, 1884: 528) = *Septoria oreoselini* (Lasch) Sacc.
258. *A. orobanches* Tassi, Atti Reale Accad. Fisiocrit. Siena, ser. 4, **8**, 1896: 8 (extr.), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
259. *A. oryzae* Catt., Contr. stud. miceti riso 1887: 4, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
260. *A. ovalispora* McAlpine, Fungus diseases stone-fruit trees 1902: 104, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
261. *A. oxyacanthae* Lib., Pl. Crypt. Ard.: no. 152 (1833), sec. Oudem. (Enum. Syst. Fung. **3**, 1921: 412) = *Phleospora oxyacanthae* (Kunze & J.C. Schmidt) Wallr.
    According to Jørstad (1965), this species belongs to *Septoria oxyacanthae* Fr.
262. *A. padi* Lib., Pl. Crypt. Ard.: no. 153 (1832), sec. isotypos (K! LE!) = *Phloeosporella padi* (Lib.) Arx.
263. *A. pallor* Berk., Outl. Brit. Fungol. 1860: 320, sec. holotypum (K!) = *Cryptosporium minimum* Laubert
264. *A. papaveris* Oudem. var. *dicentrae* Grove, British stem- and leaf-fungi **1**, 1935: 301, non valide publ., descr. angl., sec. holotypum (K!) = *Phyllosticta* sp.
265. *A. papyricola* Tassi, Bull. Lab. Orto Bot. Univ. Siena **2**, 1899: 153, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
266. *A. parasitica* Fautrey in Roum., F. sel.: no. 5660 (1891); Rev. Mycol. (Toulouse) **14**, 1892: 79 (errore "*A. parasita*"), sec. isotypum (LEP!) = *Phyllosticta destructiva* Desm.
267. *A. paspali* Syd., Ann. Mycol. **34** 1936: 420, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
268. *A. passiflorae* Penz. & Sacc., Funghi Mortol.: no. 39, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
269. *A. paulowniae* Sacc. & Brunaud in Roum., F. gall. 1884: no. 2241 (1882), sec. isotypum (LEP!) = sp. e Sphaeropsidales (Phaeodidymae).
270. *A. perforans* (Roberge) Sacc., Syll. Fung. **3**, 1884: 406, sec. Höhn. (Hedwigia **60**, 1919: 141) = *Tiarospora perforans* (Roberge) Höhn.
271. *A. pergulariae* Pandotra & K.S.M. Sastry, Proc. Indian Acad. Sci., Sect. Bot., **69**, 4, 1969: 210, sec. holotypum (IMI!) = *Septoria* sp.
272. *A. petroselini* Lib., Pl. Crypt. Ard.: no. 252 (1834), sec. isotypum (LE!) = *Septoria petroselini* (Lib.) Desm.
273. *A. phyllachoroides* Sacc. & Malbr. f. *melicae* Fautrey in Roum., F. sel.: no. 5367 (1890); Rev. Mycol. (Toulouse) **12**, 1890: 123, sec. isotypos (K! LEP!) = sp. e Sphaeropsidales (Phaeodidymae).
274. *A. phyllostictoides* (Desm.) Keissl., Ann. Mycol. **21**, 1923: 74, quoad solum basionymum, sec. Boerema & Dorenbosch (Persoonia **6** (1), 1970: 49) = *Phoma macrostoma* Mont. var. *macrostoma*.
275. *A. piniperda* Lindau in Engler & Prantl, Nat. Pflanzenfam. 1, **1**, 1900: 368, sec. diagn. = *Sirococcus strobilinus* (Desm.) Petr.
276. *A. pinodella* L.K. Jones, New York Agric. Exp. Sta. Techn. Bull. **547**, 1927: 10, sec. Boerema, Dorenbosch & Leffring (Neth. J. Plant. Pathol. 71, 1965: 88) = *Phoma medicaginis* var. *pinodella* (L.K. Jones) Boerema.
277. *A. piricola* Sacc., Fungi Ven., ser. 2: 311, sec. isotypum in Sacc., Mycoth. Veneta: no. 518 (K!) = sp. e Sphaeropsidales (Phaeodidymae).
278. *A. pisi* Lib. var. *onobrychidis* Sacc. & Trotter, I Funghi dell' Avellinese, Avellino 1920: 123, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
279. *A. pisi* Lib. f. *phaseoli* Fuckel, F. rhen.: no. 487, nom. nud., sec. isotypos (K! LE!) = *Colletotrichum lindemuthianum* (Sacc. & Magnus) Briosi & Cavara.
280. *A. plantaginis* Ces. in Klotzsch, Herb. viv. mycol.: no. 1742 (1853), sec. isotypum (LE!) = *Septoria plantaginis* (Ces.) Sacc.
281. *A. plantaginis* Sacc., Mycol. Veneta 1873: 194, sec. Sacc. (Michelia **1**, 1878: 140) = *Phyllosticta plantaginis* (Sacc.) Sacc.
282. *A. polygoni* Rabenh. f. *persicariae* Thüm., F. austr.: no. 586 (1872), nom. nud., sec. isotypum (LE!) = *Septoria polygonorum* Desm.

283. *A. populi* Delacr., Bull. Soc. Mycol. France **6**, 1890: 141, sec. diagn. = *Phaeostagonosporopsis* sp.
284. *A. populina* Sacc., Michelia **1**, 1878: 168, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
285. *A. prosopidicola* (Speg.) Sacc. & Trotter in Sacc., Syll. Fung. **22**, 1913: 1029, sec. diagn. basionymi = sp. e Sphaeropsidales (Phaeodidymae).
286. *A. psammae* Oudem., Nederl. Kruidkr. Arch., ser. 3, **2**, 1903: 263, sec. Grove (British stem- and leaf-fungi **1**, 1935: 324) = ? *Tiarospora perforans* (Roberge) Höhn.
287. *A. pseudacori* A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **5**, 1916: 244, sec. Grove (British stem- and leaf-fungi **1**, 1935: 325) = ? *Phyllosticta pseudacori* (Brunaud) Allesch.
288. *A. pterophila* (Fautrey) Keissl., Ann. Naturhist. Hofmus. **35**, 1922: 18, sec. isotypum in Roum., F. sel.: no. 5379, ut *Diplodia pterophila* Fautrey (LEP!) = *Diplodia pterophila* Fautrey.
289. *A. pucciniophyla* Starbäck, Bot. Centralbl. **64**, 1895: 382, sec. diagn. = *Darluca filum* (Fr.) Castagne.
290. *A. puiggarii* Speg., Fungi Arg. Pug. 4: no. 302, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
291. *A. pulmonariae* Fuckel, Symb. Mycol. 1869: 386, sec. isotypum in Fuckel, F. rhen.: no. 1936 (LE!) = *Phyllosticta pulmonariae* (Fuckel) Sacc.
292. *A. quercicola* Lib., Pl. Crypt. Ard.: no. 358 (1837), sec. isotypos (K! LE!) = *Septoria quercicola* Sacc.
293. *A. quercina* Lib., Pl. Crypt. Ard.: no. 46 (1830), sec. diagn. non *Ascochyta*.
294. *A. quercus-ilicis* Güssow, J. Bot. **46**, 1908: 123, sec. holotypum (K!) = *Sphaerellopsis quercuum* Cooke.
295. *A. quercuum* (Cooke) Sacc., Syll. Fung. **3**, 1884: 393, sec. holotypum (K!) = *Sphaerellopsis quercuum* Cooke.
296. *A. ramischiae* Vasyag., Bot. Mat. Gerb. Inst. Bot. AN KazSSR **2**, 1964: 104, sec. holotypum (AA!) = *Mycosphaerella chimaphylae* (Ellis & Everh.) Höhn.
297. *A. ranunculi* Fuckel, Symb. Mycol. 1869: 387, sec. isotypum in Fuckel, F. rhen.: no. 1702 (LE!) = *Phyllosticta ranunculi* (Fuckel) Sacc.
298. *A. raphiae* Tassi, Bull. Lab. Orto Bot. Univ. Siena **4**, 1901: 10, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
299. *A. rhagodiae* Gonz. Frag., Bol. R. Soc. Esp. Hist. Natur. **23**, 1923: 320, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
300. *A. rheea* (Cooke) Grove, Kew Bull. 1919: 439, sec. holotypum (K!) = *Phoma rheea* Cooke.
301. *A. rhododendri* Lind, Danish fungi 1913: 438, sec. diagn. = species e Discellaceis.
302. *A. rhynchosiae* (Thüm.) Sacc., Syll. Fung. **3**, 1884: 398, sec. holotypum in Thüm., Mycoth. univ.: no. 596, ut *Depazea rhynchosiae* Thüm. (K!) = *Phyllosticta* sp.
303. *A. ? rhynchosporae* (Pat.) Berl. & Voglino, Addit. ad v. I-IV Syll. Fung. 1886: no. 4443, quoad solum basionymum = *Phoma rhynchosporae* Pat.
304. *A. ribesia* Sacc. & Fautrey, Bull. Soc. Mycol. France **16**, 1900: 22, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
305. *A. ribis* Lib., Pl. Crypt. Ard.: no. 53 (1830), sec. isotypos (COI! LE!) = *Septoria ribis* (Lib.) Desm.
306. *A. robiniae* Lasch in Klotzsch, Herb. viv. mycol.: no. 1255 (1849), nom. nud., sec. Höhn. (Ann. Mycol. **3**, 1905: 336) = *Phleospora robiniae* (Lib.) Höhn.
307. *A. robiniae* Lib., Pl. Crypt. Ard.: no. 357 (1837), sec. Höhn. (Ann. Mycol. **3**, 1905: 336) = *Phleospora robiniae* (Lib.) Höhn.
308. *A. robiniicola* Hollós, Ann. Hist.-Nat. Mus. Natl. Hung. **5**, 1907: 459, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Authentic material of Hollós (BUCA, H), collected in 1927, was examined and possessed olivaceous-yellowish conidia.
309. *A. rosarum* Lib., Pl. Crypt. Ard.: no. 50 (1830), sec. isotypos (COI! LE!) = *Septoria rosae* Desm.
310. *A. rosmarini* Tassi, Bull. Lab. Orto Bot. Univ. Siena **3**, 1900: 18, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
311. *A. rubi* Lasch in Klotzsch, Herb. viv. mycol.: no. 1157 (1847), sec. isotypum (LEP!) = *Septoria rubi* Westend. var. *saxatilis* Allesch.
312. *A. rubi* Lasch f. *rubi-caesii* Thüm., F. austr.: no. 585 (1872), nom. nud., sec. isotypum (LE!) = *Septoria rubi* Westend.
313. *A. ruborum* Lib., Pl. Crypt. Ard.: no. 247 (1834), sec. isotypum (K!) = *Septocyta ruborum* (Lib.) Petr.

314. *A. rubra* Lib., Pl. Crypt. Ard.: no. 352 (1837), sec. isotypum (MEL!) = *Polystigmina rubra* (Desm.) Sacc.
315. *A. rufo-maculans* Berk., Outl. Brit. Fungol. 1860: 320, sec. Arx (Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. **51**, 1957: 130) = *Colletotrichum gloeosporioides* Penz.
316. *A. rumicis* Saut. in Roum., F. gall.: no. 1631 (1881), nom. nud., sec. isotypos (K! LEP! NY!) non *Ascochyta*.
Exs.: Syd., Mycoth. marchica: no. 487 (K, NY); Thüm., F. austr.: no. 1276 (K, PR). According to Keissler (1919), who studied Sauter's material, this species does not exist at all. The exsiccata by Sydow and Thümen did not contain any *Ascochyta* fructification.
317. *A. rumicis-patientiae* Picb., Ann. Mycol. **35**, 1937: 142, sec. holotypum (BRNM!) = *Cylindrosporium* sp.
318. *A. saccardiana* Tassi, Atti Reale Accad. Fisiocrit. Siena, ser. 4, **8**, 1896: 6 (extr.), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
319. *A. saccardoi* (Sacc.) Siemaszko, Arch. Nauk Biol. Towarz. Nauk. Warszawsk. **1** (14), 1923: 33, quoad solum basionymum = *Phyllosticta verbasci* Sacc.
320. *A. salicifoliae* Trel., J. Mycol. 1, 1885: 14, sec. Davis (Trans. Wisconsin Acad. Sci. **19**, 2, 1919: 673) = *Cylindrosporium salicifoliae* (Trel.) Davis.
321. *A. salicis* Bonar, Mycologia **38**, 1946: 342, sec. isotypum (UC!) = *Septogloeum salicinum* (Peck) Sacc.
322. *A. salicorniae* Magnus in Jaap, Schriften Naturwiss. Vereins Schleswig-Holstein **12**, 1902: 30, sec. diagn. = *Phaeostagonosporopsis* sp.
In the original diagnosis of this species, hyaline conidia have been described. Later, it was transferred to *Stagonosporopsis* as *St. salicorniae* (Magnus) Died. The conidia were described as hyaline to slightly yellowish-olivaceous. Magnus based his description of this species on immature material. A sample of *S. salicorniae* from the coastal region of Great Britain (LE) and the exsiccatum "Syd., Mycoth. Germ.: no. 1129, *Diplodina salicorniae* Jaap" were examined and belong undoubtedly to a single species with 1-2-septate, pigmented conidia.
323. *A. salsolae* Oudem., Contr. Fl. Mycol. Pays-Bas **15**: 14, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
324. *A. sambuci* Pandotra & K. S. M. Sastry, Proc. Indian Acad. Sci., Sect. Bot. **70**, 2, 1969: 2, sec. holotypum (IMI!) = *Septoria* sp.
325. *A. sambuci* Sacc., Michelia **1**, 1878: 168, sec. isotypum in Sacc., Mycoth. Veneta: no. 986 (K!) = sp. e Sphaeropsidales (Phaeodidymae).
Exs.: Roum., F. gall.: no. 2784 (K, LEP); Zopf & Syd., Mycoth. marchica: no. 99 (K, LEP). The exsiccata examined pertained to the Sphaeropsidales (Phaeodidymae).
326. *A. santolinae* Gonz. Frag., Trab. Mus. Nac. Ci. Nat., Ser. Bot. **5**, 1914: 20 (extr.), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
327. *A. saponariae* Fuckel, Symb. Mycol. 1896: 388, sec. isotypum in Fuckel, F. rhen.: no. 2230 (TRT!) = *Asteromella saponariae* (Fuckel) Petr.
328. *A. sarmenticia* Sacc., Michelia **2**, 1880: 110, sec. diagn.= *Pseudodiplodia* sp.
329. *A. sarmenticia* Sacc. f. *phaseoli* Fautrey in Roum., F. sel.: no. 6903 (1896), nom. nud., sec. isotypum (LEP!) non *Ascochyta*.
330. *A. sarmenticia* Sacc. f. *ramulorum* Fautrey in Roum., F. sel. no. 5366 (1890), nom. nud., sec. isotypum (LEP!) non *Ascochyta*.
331. *A. sarmenticia* Sacc. f. *xylostei* Fautrey in Roum., F. sel. no. 7006 (1896); Rev. Mycol. (Toulouse) **18**, 1896: 146, sec. isotypum (LEP!) = ? *Diplodia lonicerae* Fuckel.
332. *A. scabiosae* Rabenh. in Klotzsch, Herb. viv. mycol.: no. 1253 (1849), nom. nud., sec. isotypum (LE!) = *Septoria scabiosicola* (Desm.) Desm.
333. *A. scandens* Sacc., Michelia **1**, 1879: 530, sec. diagn. sp. e Sphaeropsidales (Phaeodidymae).
334. *A. scotinospora* Sousa da Câmara, Anais Inst. Super. Agron. **3**, 1929: 59, sec. holotypum (LISVA!) = *Hendersonia* sp.
335. *A. sedi* Allesch., Ber. Bayer. Bot. Ges. **4**, 1896: 34, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
336. *A. sedi* Lib., Pl. Crypt. Ard.: no. 249 (1834), sec. isotypos (COI! LE!) = *Septoria sedi* Westend.

337. *A. semeles* Sacc., Ann. Mycol. **6**, 1908: 555, sec. diagn. sp. e Sphaeropsidales (Phaeodidymae).
338. *A. sempervivi* Fautrey in Roum., F. sel.: no. 5774 (1891); Rev. Mycol. (Toulouse) **13**, 1891: 131, sec. isotypum (K!) = *Phoma* sp.
339. *A. senecionis* Fuckel, Symb. Mycol. 1869: 386, sec. isotypos in Fuckel, F. rhen.: no. 1555 (K! LE!) non *Ascochyta*.
    Exs.: Thüm., F. austr.: no. 895 (LE). Thümen's exsiccatum, which is type material, did not contain any *Ascochyta* fructification.
340. *A. senneniana* Gonz. Frag., Asoc. Esp. Progr. Ci. Congr. Oporto VI, Ci. Natur. 24 Junio, 1921: 46, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
341. *A. sesleriae* Baudyš & Picb., Práce Morav. Přír. Společn. **1**, 5, 1924: 295, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
342. *A. sii* Lasch in Klotzsch, Herb. viv. mycol.: no. 1353 (1850), nom. nud., sec. isotypum (LEP!) = *Septoria sii* Roberge & Desm.
343. *A. siliquaecola* Unamuno, Asoc. Esp. Progr. Ci. Congr. Salamanca 1923: 45, sec. isotypum (BUCA!) = *Septogloeum siliquaecola* (Unamuno) Melnik
344. *A. sisymbrii* Ellis & Kellerm., J. Mycol. **5**, 1889: 142, sec. holotypum (NY!) = *Septoria sisymbrii* Ellis.
345. *A. smilacis* Ellis & Everh., J. Mycol. **8**, 1902: 12, sec. holotypum (NY!) = sp. e Sphaeropsidales (Phaeodidymae).
346. *A. smilacis* Ellis & Mart., Amer. Naturalist **16**, 1882: 100, sec. Sacc. (Syll. Fung. **3**, 1884: 450) = *Stagonospora smilacis* (Ellis & Mart.) Sacc.
347. *A. socia* (Tassi) Allesch., Rabenh. Krypt.-Fl. **7**, 1903: 871, sec. diagn. basionymi = sp. e Sphaeropsidales (Phaeodidymae).
348. *A. solani* Oudem., Microm. **1**: 6, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
349. *A. solidaginis* (Schwein. ex Fr.) Starbäck, Bih. Kongl. Svenska Vetensk.-Akad. Handl. Bd. **19**, Afd. III, no. 2, 1893: 84, sec. diagn. = *Darluca filum* (Fr.) Castagne.
350. *A. solidaginis* (Thüm.) Keissl., Beih. Bot. Centralbl. **29**, 2, 1912: 427, sec. isotypum in Thüm., Mycoth. univers.: no. 1399, ut *Septoria solidaginis* Thüm. (LE!) = *Darluca filum* (Fr.) Castagne.
351. *A. sophorae* Allesch., Hedwigia **36**, 1897: 163, sec. isotypum (LEP!) = sp. e Sphaeropsidales (Phaeodidymae).
352. *A. sorbina* Lobik, Bolezni Rast. **17**, 1928: 175, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
353. *A. sparganii* J. W. Ellis, Trans. Brit. Mycol. Soc. **4**, 1914: 293, sec. holotypum (K!) = *Mycosphaerella* sp.
354. *A. spartinae* Trel., Trans. Wisconsin Acad. Sci. **6**, 1885: 122, sec. Sprague (Oregon State Monogr., Stud. Bot. **6**, 1944: 131) = *Septoria spartinae* (Trel.) R. Sprague.
355. *A. staticis* Nagorny, Bolezni Rast. **7**, 1913: 120, sec. holotypum (LEP!) = *Darluca filum* (Fr.) Castagne.
356. *A. stipata* Lib., Pl. Crypt. Ard.: no. 354 (1837), sec. isotypum (LE!) = *Phomopsis stipata* (Lib.) B. Sutton.
357. *A. strobilina* (Corda) Wollenw., Ann. Mycol. **15**, 1917: 31, sec. diagn., basionymi & exs. [Thüm., Mycoth. univ.: no. 780, ut *Fusarium strobilinum* Corda (LE)] = *Sirococcus strobilinus* (Desm.) Petr.
    The diagnosis of *Fusarium strobilinum* Corda and Thümen's exsiccatum, which completely correspond to the original description, showed that this species belongs to *Sirococcus strobilinus*.
358. *A. strobilina* Lib., Pl. Crypt. Ard.: no. 150 (1832), sec. isotypum (LE!) = *Dothiorella strobilina* (Lib.) Sacc.
359. *A. subalpina* R. Sprague & Aar. G. Johnson, Mycologia **42**, 1950: 540, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
360. *A. suberosa* Rostr. ex Neerg., Bot. Tidsskr. **44**, 1938: 360, sec. holotypum (C!) = *Marssonina panattoniana* (Berl.) Magnus
361. *A. symphoricarpi* Pass., Diagn. F. N. IV: 11, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Exs.: Syd., Mycoth. germ.: no. 2390, 2561, ut *Ascochytula symphoricarpi* (Pass.) Died. (LE). According to the original diagnosis, the conidia are hyaline. It is possible that this description was based on immature material. In any case, the exsiccatum examined contained material which fully agreed with the original description, but the conidia were yellow-brown.

362. *A. syringae* Jaap, Ann. Mycol. **12**, 1914: 26, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
363. *A. syringaecola* Bubák & Kabát, Hedwigia **47**, 1908: 360, sec. isotypos in Kabát & Bubák, F. imp.: no. 517 (LE! LEP! GruzIZR!) = sp. e Sphaeropsidales (Phaeodidymae).
364. *A. tecomae* Sacc., Michelia **1**, 1879: 530, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
365. *A. teucrii* Lasch in Klotzsch, Herb. viv. mycol.: no. 1455 (1850), sec. diagn. non *Ascochyta*.
366. *A. thalictri* (Westend.) Petr., Ann. Mycol. **20**, 1922: 134, excl. basionymo, sec. Petr. (Ann. Mycol. **29**, 1931: 377) = *Stagonospora thalictri* Siemaszko, 1919 (syn.: *St. thalictri* Petr., 1931).
367. *A. thalictricola* Gonz. Frag., Trab. Mus. Nac. Ci. Nat., ser. Bot. **12**, 1917: 52, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
368. *A. thaspii* Ellis & Everh., J. Mycol. **5**, 1899: 148, sec. holotypum in Ellis & Everh., North amer. fungi: no. 2381 (NY!) = *Stagonospora thaspii* (Ellis & Everh.) H. C. Greene.
369. *A. thermopsidis* Solheim, Univ. Wyo. Publ. **1**, 934: 229, sec. typum (NY! isotype UC!) = *Apiocarpella thermopsidis* (Solheim) Melnik
370. *A. thlaspeos* Richon f. *arvensis* Gonz. Frag., Mem. Real. Acad. Ci. Barcelona **15**, 17, 1920: 441, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
371. *A. tiliacorae* A. L. Sm., J. Bot. **36**, 1898: 178, sec. holotypum (K!) = *Stagonospora* sp.
372. *A. tiliae* Kabát & Bubák, Hedwigia **46**, 1907: 293, sec. isotypos in Kabát & Bubák, F. imp.: no. 411 (LE! LEP!) = *Phyllosticta tiliae* Sacc. & Speg.
373. *A. tiliae* Lasch in Klotzsch., Herb. viv. mycol.: no. 1160 (1847), sec. isotypum (LEP!) = *Septoria tiliae* Westend.
374. *A. tini* Sacc., Michelia **1**, 1878: 170, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
According to the original description, the conidia have been slightly coloured (subhyalinis). The specimen examined, which was marked as type (K!), did not have any fructification.
375. *A. tirolensis* Bubák, Oesterr. Bot. Z. **54**, 1904: 181 (*A. tirolensis* Bubák f. *tirolensis*), sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
376. *A. tirolensis* Bubák f. *legionensis* Unamuno, Asoc. Esp. Progr. Ci. Sess. 24 Mayo 1929, 1929: 16, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
In the description of this form, Unamuno pointed out that this fungus differs from the typical form in having epiphyllous pycnidia and somewhat larger, bent conidia. Hence, it may be supposed that the pigmentation of the conidia of this forma agreed with that of *A. tirolensis* f. *tirolensis*. Therefore, this forma has also to be referred to the Sphaeropsidales (Phaeodidymae).
377. *A. toluiferae* Speg., Anales Mus. Nac. Hist. Buenos Aires **23**, 1912: 115, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
378. *A. trachelospermi* Fabric., Ann. Sperim. Agrar. (N. S.) **5**, 1951: 1445, sec. Boerema, Dorenbosch & Kesteren (Persoonia 4, 1, 1965: 52) = *Phoma glomerata* (Corda) Wollenw. & Hochapfel.
379. *A. tragopogonis* Bondartsev, Tr. Sankt-Peterburg. Bot. Sada **25**, 1906: 43, sec. typum (holotype LE! isotype LEP!) = *Phyllosticta* sp.
380. *A. tremulae* Thüm., Mycoth. univ.: no. 1895 (1881), sec. isotypos (K! LE! PR!) = *Phyllosticta* sp.
381. *A. tritici* Hori & Enjoji, Pl. Pathol. and Entom. Japan, August 1930, sec. diagn. in Sprague & Aar. G. Johnson, Diseases of cereals and grasses in North America 1950: 156 = sp. e Sphaeropsidales (Phaeodidymae).
382. *A. trollii* Thüm., Pilzfl. Sibir.: no. 618, sec. isotypum (LE!) = sp. e Hyphomycetis.
383. *A. tropaeoli* (Sacc. & Speg.) Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **4**, 10-12, 1938: 42, sec. diagn. basionymi = *Phyllosticta tropaeoli* Sacc. & Speg.
384. *A. tweediana* Penz. & Sacc., Funghi Mortol: no. 40, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
385. *A. ulmella* Sacc., Michelia **1**, 1878: 169, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
Exs.: K. Krieg., F. saxon.: no. 1200 (WRSL). The conidia in the exsiccatum examined were light olivaceous.
386. *A. ulmi* (Westend.) Keissl., Ann. Naturhist. Hofmus. **35**, 1922: 18, sec. diagn. & sec. isotypum in Westend., Herb. crypt. Belge: no. 1143, ut *Phyllosticta ulmi* Westend. (LE!) = *Phyllosticta ulmi* Westend.

387. *A. umbelliferarum* Lasch in Klotzsch, Herb. viv. mycol. no. 1158 (1847), nom. nud., sec. isotypum (LEP!) = ? *Septoria anthrisci* Pass. & Brunaud.
388. *A. umbelliferarum* Lasch f. *anthrisci-sylvestris* Thüm., F. austr.: no. 1277 (1874), nom. nud., sec. isotypum (LE!) = *Ramularia anthrisci* Höhn.
389. *A. unedonis* Sacc., Michelia **1**, 1879: 530, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Exs.: Roum., F. gall.: no. 3980 (H, LEP). Roumeguère's exsiccata contained only *Septoria unedonis* Roberge & Desm.
390. *A. usitatissima* Rothers, Zashch. Rat. **4**, 1927: 535, sec. holotypum (LEP!) = sp. e Sphaeropsidales (Phaeodidymae).
391. *A. utahensis* R. Sprague, Mycologia **40**, 1948: 295, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
    Exs.: Mycofl. saximont.: no. 469 (CUP, NY, UC). Authentic specimens, distributed as exsiccata, contained pycnidia with olivaceous conidia. The septa are, in contrast to the data given in the original description, not central, but somewhat displaced in the lower half.
392. *A. vaccinii* Lib., Pl. Crypt. Ard.: no. 47 (1830), sec. isotypum (LE!) = *Dothiorella latitans* (Fr.) Sacc.
393. *A. vaccinii-arctostaphyli* Jacz. in Woron., Svod svedenij po mycoflore Kavkaza 1915: 159, sec. holotypum (LEP!) = ? *Septomyxa andromedae* Henn.
394. *A. ventricosa* Penz. & Sacc., Funghi Mortol.: no. 41, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
395. *A. veratrina* Ellis & Everh., Proc. Acad. Sci. Nat. Philadelphia 1894: 364, sec. holotypum (isotypum ? NY!) = *Diplodia cylindrospora* Bubák.
396. *A. viburni* Lasch in Thüm., F. austr.: no. 197 (1871), nom. nud., sec. isotypum (LE!) = sp. e Sphaeropsidales (Phaeodidymae).
397. *A. viburni* Rabenh. in Fuckel, F. rhen.: no. 472 (1866), nom. nud., sec. isotypum (LE!) non *Ascochyta*.
398. *A. viburnicola* Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 260, sec. Boerema & Dorenbosch (Studies in Mycology 3, 1973: 33) = *Phoma macrostoma* Mont. var. *macrostoma*.
399. *A. vicina* Sacc. f. *epiphylla* Roum., F. gall.: no. 2976 (1884); Rev. Mycol. (Toulouse) **6**, 1884: 161, sec. isotypum (K!) = sp. e Sphaeropsidales (Phaeodidymae).
400. *A. vicina* Sacc. var. *evonymella* Sacc., Syll. Fung. **3**, 1884: 404, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
401. *A. vicina* Sacc. var. *vicina*, Michelia **2**, 1880: 109, sec. isotypos in Sacc., Mycoth. Veneta: no. 1521 (K! LEP!) = sp. e Sphaeropsidales (Phaeodidymae).
402. *A. virgaureae* Lib., Pl. Crypt. Ard.: no. 55 (1830), sec. isotypum (COI! LE!) = *Septoria virgaureae* (Lib.) Desm.
403. *A. vitalbae* Briard & Har., Rev. Mycol. (Toulouse) **13**, 1891: 17, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
404. *A. volkartii* Bubák in Malkoff, Ann. Mycol. **8**, 1910: 190, nom. nud., sec. Jones & Weimer (J. Agric. Res. **57**, 11, 1938: 807) = *Stagonospora meliloti* (Lasch) Petr.
405. *A. volubilis* Sacc. & Malbr. f. *polygoni-amphibii* Fautrey in Roum., F. sel.: no. 5473 (1890); Rev. Mycol. (Toulouse) **12**, 1890: 167, sec. isotypos (K! LEP!) = *Darluca filum* (Fr.) Castagne.
406. *A. vulnerariae* auct. non Fuckel : Struk., Pyatyj simpozium mikologov i likhenologov Pribaltijskikh respubliki. Vilnius. 1968: 179, errore ut "*A. vulnerariae* (Fuckel) Struk.", sec. specimen = *Darluca filum* (Fr.) Castagne.
407. *A. vulnerariae* Fuckel, Hedwigia **3**, 1864: 157, sec. isotypos in Fuckel, F. rhen.: no. 489 (K! LE!) = *Mycosphaerella vulnerariae* (Fuckel) Lind.
    Exs.: Thüm., F. austr.: no. 693 (K, LE, NY); Thüm., Herb. mycol. oeconom.: no. 366 (LEP). "Thüm., F. austriaci: no. 693" only contains the fructification of ***Mycosphaerella vulnerariae*** and in "Thüm., Herb. Mycol. Oeconom.: no. 366" we have only found *Cercospora radiata* Fuckel and immature pycnidia of *Phyllosticta* sp. (?).
408. *A. weigelae* Sacc. & Speg., Michelia **1**, 1878: 170, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
409. *A. winteri* Sacc., Syll. Fung. **3**, 1884: 391 (*A. tweediana* G. Winter, Contr. Fl. Mycol. Lusit. 1884: no. 796, non *A. tweediana* Penz. & Sacc., 1884) sec. diagn. = *Phyllosticta* sp.
410. *A. wistariae* Debeaux in Roum., F. gall.: no. 732 (1880), nom. nud., sec. isotypum (LE!) non *Ascochyta*.

411. *A. wistariae* Tassi, Bull. Lab. Orto Bot. Univ. Siena **2**, 1889: 231, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
Exs.: Herb. mycol. roman.: no. 1613 (BUCA, CUP, LEP). The exsiccata examined pertain to the Sphaeropsidales (Phaeodidymae).
412. *A. yuccaefoliae* Gonz. Frag., Bol. R. Soc. Esp. Hist. Nat. **23**, 1923: 321, sec. diagn. = sp. e Sphaeropsidales (Phaeodidymae).
413. *A. zinniae* Allesch. f. *caulicola* Syd., Mycoth. germ. no. 2389 (1929), nom. nud., sec. isotypos (LE! LEP! LISE!) = *Phoma* sp.
414. *A. zonata* Syd., Hedwigia **38**, 1889: 138, sec. isotypos in Syd., Mycoth. marchica: no. 4862 (LE! LEP!) = *Phyllosticta* sp.

9. Taxa not examined

Amaranthaceae

1. ***Ascochyta cyathulae*** Chona & Munjal, Curr. Sci. **19**, 1950: 345.

Pycnidia epiphyllous, brownish, globose, 100-180 × 90-150 µm, with a protruding ostiole and pore, 15-21 × 14-16 µm. Conidia elongated, both ends rounded (basal end sometimes acute), hyaline, one-celled, 5-6 × 2 µm, later 1-septate, 7-8 × 3 µm.

Type: on living leaves of *Cyathula tomentosa*, India.

Anacardiaceae

2. ***Ascochyta spondicearum*** A. L. Sm., J. Bot. **14**, 1898: 178 (type K!).

Pycnidia epiphyllous, scattered, immersed, dark brown or almost black, up to 200 µm diam., with a papillate ostiole and circular pore, up to 20 µm diam. Pycnidial wall thick, brittle. Conidia oblong, 1-septate, with irregular cells, hyaline, 17 × 3 µm.

Type: on living leaves of *Spondias mombin*, Angola.

The type specimen examined (K!) had only empty pycnidia; we failed to find any conidia. The author described irregular conidia which is, however, insufficient to place this species.

Annonaceae

3. ***Ascochyta annonaceae*** Henn., Hedwigia **43**, 1904: 386.

Pycnidia scattered, semi-immersed, glossy black, semi-globose, 80-100 µm diam., with pore. Conidia oblong or sub-ellipsoid, both ends blunt, 1-septate, slightly constricted, hyaline, 3-4 × 1-1.5 µm.

Type: on leaves of a plant belonging to the *Annonaceae*, Peru.

The unusually small conidia described in the original diagnosis seem to refer to a *Phyllosticta* sp. It is very probable that *A. annonaceae* does not have any two-celled conidia. In small conidia, the protoplasm isthmus often looks like a septum.

Aquifoliaceae

4. ***Ascochyta ilicis*** Grove, British stem- and leaf-fungi **1**, 1935: 457.

Pycnidia epiphyllous, not numerous, black. Conidia oblong-ellipsoidal, for a long time one-celled, later 1-septate, 4-5 × 2.5 µm.

Type: on living leaves of *Ilex aquifolium*, UK.

Grove (1935) mentioned that this fungus at first looks like a *Phyllosticta*.

Asclepiadaceae

5. ***Ascochyta tripolitana*** Sacc. & Trotter, Ann. Mycol. **10**, 1912: 512.

Pycnidia epiphyllous, more or less aggregated, black, 200-250 µm diam., with a small circular pore. Conidia subcylindrical, both ends blunt, straight, often flexuous, with 1, sometimes with 2 septa, mostly 16-22 × 6.5-7.5 µm.

Type: on living leaves of *Calotropis procera*, Lebanon.

Balsaminaceae

6. ***Ascochyta weissiana*** Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 647. – *A. weissiana* Allesch. f. *caulicola* Höhn. in Strasser, Verh. Zool.-Bot. Ges. Wien **60**, 1910: 314.

Pycnidia on leaves scattered, initially immersed, later erumpent, blackish brown. Conidia oblong, both ends rounded, 1-septate, slightly constricted, hyaline, 10-16 × 3-4.5 µm.

Type: on living leaves and dry stems of *Impatiens* sp., Germany.

The exsiccatum "Krieg., Schädliche Pilze" (CUP), distributed as *Ascochyta weissiana*, only contains rust sori.

Bryophyta

7. ***Ascochyta muscorum*** (Gonz. Frag.) Melnik, Nov. Sist. Niz. Rast. 1972: 153. – *Diplodina muscorum* Gonz. Frag., Bol. R. Soc. Esp. Hist. Nat. **22**, 1922: 283.

Pycnidia scattered, superficial, black, globose-conical, depressed, 70-95 µm diam., initially almost without pore, later with an irregular pore, surrounded by a ring of small dark cells. Conidia oblong, oblong-cylindrical, almost fusiform, 1-septate, almost hyaline, 7.5-12 × 2.5-3.5 µm.

Type: on living and dead stalks of sporogonia of *Tortula vahliana*, Spain.

Calyceraceae

8. ***Ascochyta boopidis*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **4**, 1901: 10.

Pycnidia scattered, subepidermal, black, lentiform, 60-80 µm diam. Conidia bacilliform, straight, 1-septate, not constricted, 6-8 × 3 µm.

Type: on dry stipules of *Boopis anthemoides*, Argentina.

Cannaceae

9. ***Ascochyta cannae*** Rangel, Bol. Agric. (São Paulo), Ser. 16ª, **4**, 1915: 318.

Pycnidia amphigenous, erumpent through the epidermis, initially closed, later with a pore, black, subglobose, 80-130 µm diam. Conidia oblong or elongated, clavate, both ends blunt, straight or flexuous, with a single septum that divides the cell into two irregular cells.

Type: on living leaves of *Canna* sp., Brazil.

Caryophyllaceae

10. ***Ascochyta buffoniae*** Gonz. Frag., Mem. Real Acad. Ci. Barcelona **15**, 17, 1920: 13.

Pycnidia scattered, semi-immersed, black, globose, up to 90 µm diam. Conidia oblong or ellipsoidal, 1-septate, with unclear guttules, hyaline, 7-10 × 3-3.5 µm.

Type: on dry leaves of *Buffonia perennis*, Spain.

11. ***Ascochyta cerasti-pumili*** Unamuno, Mem. R. Soc. Esp. Hist. Nat. **15**, 1929: 350.

Pycnidia predominantly epiphyllous, scattered, punctiform, black, initially subepidermal, 53.5-60.5 µm diam., with a very small pore 4-5 µm diam. Conidia oblong, both ends attenuated, straight or slightly bent, 1-septate, not constricted, hyaline, 8-10 × 2.5-3.5 µm.

Type: on dry leaves of *Ceratium pumilum*, Spain.

Celastraceae

12. ***Ascochyta evonymicola*** Allesch. in Syd., Hedwigia **36**, 1897: 162.

Pycnidia amphigenous, inconspicuous, brownish black, globose-lentiform. Conidia oblong, both ends rounded, 1-septate, slightly constricted, hyaline, 9-13 × 3-4 µm.

Type: on living and withering leaves of *Evonymus europaeus*, Berlin.

Chenopodiaceae

13. ***Ascochyta ceratocarpi*** Golovin, Tr. Sredneaz. Univ., Nov. Ser. Vyp. 14, Biol. Nauki, **5**, 1950: 34.

Pycnidia immersed, dark brown, 50-65 µm diam., with a pore, surrounded by a ring of small dark cells. Conidia bacilliform, both ends rounded, straight or slightly bent, 1-septate, conspicuous only after iodine staining, 4.2-8.3 × 2.1 µm.

Type: on leaves of *Ceratocarpus caput-medusae*, USSR (Uzbekistan).

Compositae

14. ***Ascochyta farfarae*** Siemaszko, Izv. Kavkazsk. Muzeya **12**, 1919: 3.

Pycnidia epiphyllous, light brown, globose-depressed, 80-140 µm diam. Conidia initially one-celled, later 1-septate, 5-7 × 3-3.5 µm.

Type: on leaves of *Tussilago farfara*, USSR (Georgia).

15. ***Ascochyta hypochoeridis*** Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 260. – *Diplodina hypochoeridis* (Oudem.) Sacc. & Syd., Syll. Fung. **16**, 1906: 938.

Pycnidia scattered, initially immersed, later erumpent, black, with a central pore. Conidia cylindrical or oblong-clavate, both ends rounded, sometimes slightly bent, initially with guttules, later 1-septate.

Type: on *Hypochoeris glabra*, The Netherlands.

16. ***Ascochyta lactucae*** Oudem., Contr. Fl. Mycol. Pays-Bas **17**, 1901: 261. – *Diplodina lactucae* (Oudem.) Sacc. & Syd., Syll. Fung. **16**, 1902: 939.

Pycnidia confluent in caespituli, initially subepidermal, later erumpent, black, globose-depressed, 140-170 µm diam., opened in the centre. Conidia oblong, both ends rounded, 1-septate, constricted, hyaline, 12-15 × 3.5 µm.

Type: on stems of *Lactuca sativa*, The Netherlands.

17. ***Ascochyta microspora*** Trail, Scott. Naturalist (Perth) **3**, 1887: 87.

Pycnidia epiphyllous, pale brown, globose, 70 µm diam. Conidia subcylindrical, both ends rounded, straight or bent, 5-7 × 1.5-2 µm.

Type: on living leaves of *Petasites vulgaris* and *Arctium lappa*, Scotland.

18. ***Ascochyta pyrethri*** Brunaud & Malbr., Rev. Mycol. (Toulouse) **9**, 1887: 3 (extr.?). – *Diplodina pyrethri* (Brunaud & Malbr.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 693.

Pycnidia scattered or aggregated in lines, erumpent, black, globose-conical. Conidia ellipsoidal or oblong-ellipsoidal, both ends blunt, straight or slightly bent, 1-septate, not constricted, almost hyaline.

Type: on dry stems of *Pyrethrum sinensis*, France.

19. ***Ascochyta treleasei*** Berl. & Voglino, Add. Syll. Fung. 1886: no. 4439.

Pycnidia brown, 100-120 µm diam., carbonaceous-black around the pore. Conidia ovate, oblong or reniform, often compressed in the median part, with 2-4 guttules, later 1-septate, hyaline, 7-14 × 3-5 µm.

Type: on leaves of *Silphium integrifolium* and *Vernonia noveborascensis*, USA.

Cruciferae

20. ***Ascochyta brassicae-campestris*** Sawada, Bull. Gov. Forest Exp. Sta. **105**, 1958: 51.

Conidia oblong, both ends rounded, 1-septate, hyaline, 11-15 × 4-5 µm.

Type: on leaves of *Brassica campestris* var. *peckinensis*, Japan.

21. ***Ascochyta drabae*** Oudem., Contr. Fl. Mycol. Nowaja Semlja, 1885: 12.

Pycnidia scattered, immersed, apex erumpent, black, semi-globose, 100-130 µm diam., with a circular pore, membranaceous. Conidia oblong, both ends blunt, 1-septate, slightly constricted, hyaline, 10 × 2.5 µm.

Type: on leaves of *Draba alpina*, USSR (Novaja Zemlja).

22. ***Ascochyta thlaspeos*** Richon, Cat. Champ. Marn. 1889: N 1687.

Conidia 14 µm long.

Type: on leaves and stems of *Thlaspi perfoliatum*, France.

Euphorbiaceae

23. ***Ascochyta manihotis*** Henn., Notizbl. Königl. Bot. Gart. Berlin **30**, 1903: 241.

Pycnidia epiphyllous, black, sublentiform, 70-80 µm diam., with a pore. Conidia oblong-ellipsoidal or subclavate, initially one-celled, later 1-septate, 4-6 × 3-3.5 µm.

Type: on living leaves of *Manihot utilissima*, Ethiopia.

Gramineae

24. ***Ascochyta graminea*** (Sacc.) R. Sprague & Aar. G. Johnson, Mycologia **42**, 1950: 539. – *Diplodia graminea* Sacc., Michelia **2**, 1881: 267. – *Diplodina graminea* (Sacc.) Sacc., Syll. Fung. **3**, 1884: 413.

Pycnidia erumpent, often 2-4 pycnidia confluent, black, globose-conical, small. Conidia oblong, 1-sepate, constricted, disarticulating into 2 cells, hyaline, 15-16 × 5-7 µm.

Type: on culms of *Cynodon dactylon*, Italy.

25. ***Ascochyta graminicola*** Sacc. **var. *cynosuri*** Gonz. Frag., Bol. R. Soc. Esp. Hist. Nat. **27**, 1927: 358.

Conidia oblong-oval, hyaline, up to 15 × 3.5 µm.

Type: on living leaves of *Cynosurus cristatus*, Spain.

26. ***Ascochyta kerguelensis*** Henn., Deutsche Südpolar-Exped. **8**, 1906: 14 (extr.).

Pycnidia predominantly aggregated, erumpent, black, semi-globose, 50-60 µm diam., with a pore, membranaceous. Conidia with blunt ends, straight or flexuous, 1-septate, with 2 guttules, hyaline, 12-15 × 3.5-4.5 µm.

Type: on leaves of *Poa kerguelensis*, Kerguelen Islands (Antarctica).

27. ***Ascochyta phyllachoroides*** Sacc. & Malbr., Michelia **2**, 1881: 621.

Pycnidia aggregated in stromatic black patches, immersed. Conidia oblong, 1-septate, basal end slightly pointed, hyaline, 18-20 × 5-6 µm.

Type: on leaves of an unidentified grass (*Gramineae*), France.

Hepaticae

28. ***Ascochyta marchantiae*** Sacc. & Speg., Michelia **2**, 1878: 167.

Pycnidia mainly in lines, erumpent, olivaceous-brown, lentiform, 90-100 µm diam. Conidia oblong, 1-septate, hyaline, 13-15 × 3-4 µm.

Type: on dead thalli of *Marchantia* sp., Italy.

Juglandaceae

29. ***Ascochyta juglandis*** (J. V. Almeida & Sousa da Câmara) Traverso & Spessa, Bol. Soc. Brot. **25**, 1910: 130. – *Diplodina juglandis* Brunaud *sensu* J. V. Almeida & Sousa da Câmara in J. V. Almeida, Contrib. Mycoflora Portug. 1903: 36.

The basionym of this name was cited as *Diplodina juglandis* J. V. Almeida & Sousa da Câmara, but Almeida (1903) only mentioned *D. juglandis* Brunaud. However, the description of this species by the latter author strongly differs from the original diagnosis of *D. juglandis* Brunaud. Almeida (1903) undoubtedly studied a distinct fungus collected in Portugal. The combination cited above is in conflict with the ICBN. The original material of Traverso and Spessa was not available. Therefore, a final conclusion on the taxonomy of the fungus concerned is not yet possible.

Type: on green pericarp of *Juglans regia*, Coimbra, Portugal.

Lauraceae

30. ***Ascochyta oreodaphnes*** Sacc., Michelia **2**, 1882: 538.

Pycnidia epiphyllous, initially immersed, later erumpent, globose-depressed, 160 µm diam. Conidia oblong, both ends blunt, 1-septate, constricted, hyaline, 15-16 × 7-8 µm.

Type: on withering leaves of *Oreodaphne foetens*, Italy.

Leguminosae

31. ***Ascochyta ornithopi*** Bond.-Mont., Bot. Mat. Otd. Spor. Rast. Bot. Inst. AN SSSR **5**, 10-12, 1945: 159.

Pycnidia scattered, almost black, globose-depressed, 60-200 µm diam., mostly 120-160 µm diam., with a blunt conical ostiole and circular pore, 16-20 µm diam. Pycnidial wall 12 µm width. Conidia fusiform or fusiform-cylindrical, straight or slightly bent, 1-septate, sometimes constricted, hyaline.

Type: on seeds of *Ornithopus sativus*, USSR (Ukraine).

The data of the conidia given in the original drawing suggest that they are about 15-20 × 3 µm, but these estimations are uncertain.

32. ***Ascochyta orobi*** Sacc. **var. *onobrychidis*** Prill. & Delacr., Bull. Soc. Mycol. France **9**, 1893: 272.

Pycnidia brown, lentiform, 120-150 µm diam., with a pore 40-45 µm diam. Conidia with rounded ends, slightly flexuous, with 1-septate, slightly constricted, hyaline, 16 × 5-5 µm.

Type: on leaves of *Onobrychis sativa*, France.

33. ***Ascochyta pisi*** Lib. **var. *medicaginis*** Sacc., Nuovo Giorn. Bot. Ital. **27**, 1920: 82.

Pycnidia pale dirty-brown, globose-lentiform, 140-150 µm diam., with a pore. Conidia 1-septate, constricted, sometimes with irregular cells, hyaline, 14.5 × 5-6 µm.

Type: on living stems of *Medicago sativa*, USA.

34. ***Ascochyta pisicola*** (Berk.) Sacc., Syll. Fung. **3**, 1884: 397. – *Depazea pisicola* Berk. in Curr., Trans. Linn. Soc. London **22**, 1858: 334.

Pycnidia black, small, often confluent. Conidia ellipsoidal, one-celled or 1-septate, hyaline, 10-13 µm long.

Type: on pods of *Pisum* sp., UK.

Many authors consider this fungus a synonym of *A. pisi* Lib.

Liliaceae

35. ***Ascochyta dracaenicola*** (Sacc.) Allesch. in Rabenh. Krypt.-Fl. **6**, 1901: 641. – *Diplodina dracaenicola* Sacc., Syll. Fung. **3**, 1884: 413.

Pycnidia scattered, black, small. Conidia oblong, 1-septate, constricted, hyaline, 15-17 µm long.

Type: on leaves of *Dracaena* sp., UK.

36. ***Ascochyta dracaenicola*** Vasant Rao, Mycopathol. Mycol. Appl. **18**, 4, 1962: 280 (type IMI!).

Pycnidia epiphyllous, arranged in concentric circles, semi-immersed, brownish, globose, 76.8-173 µm diam., with a small pore. Conidia oblong, 1-septate, not constricted, 7.35-9.45 × 3.15-4.3 µm.

Type: on living leaves of *Dracaena* sp., India.

The type collection examined contained numerous immature fruitbodies of an unidentified pyrenomycete and pycnidia of *Phoma* sp.; however, we failed to find any pycnidia of an *Ascochyta*.

37. ***Ascochyta hyacinthi*** Tassi, Atti Reale Accad. Fisiocrit. Siena, Ser. 4, **8**, 1896: 8 (extr.).

Pycnidia scattered or almost so, erumpent, pale dirty-brown, lentiform, 100-120 µm diam., with a papillate ostiole. Conidia oblong, both ends rounded, initially one-celled, later 1-septate, hyaline, 7-9 × 2-3 µm.

Type: on withering leaves of *Hyacinthus orientalis*, Italy.

38. ***Ascochyta smilacigena*** Bubák & Dearn. in Bubák, Hedwigia **58**, 1916: 22.

Pycnidia epiphyllous, densely aggregated, subepidermal, brown, globose, 130-220 µm diam., with a pore. Pycnidial wall thin. Conidia oblong-fusiform or cylindrical, both ends rounded, 1-septate, not constricted, 19-28 × 4-8 µm.

Type: on living leaves of *Smilax herbacea*, Canada.

Magnoliaceae

39. ***Ascochyta magnoliae*** Thüm., Contr. Fl. Litor. 1880: no. 342.

Pycnidia epiphyllous, scattered or almost solitary, subepidermal, immersed, extremely small, black. Conidia oblong, both ends attenuated and rounded, straight, 1-septate, not constricted, hyaline, 7-8 × 3 µm.

Type: on living and withering leaves of *Magnolia grandiflora* and *M. obovata*, Italy, Portugal.

This description is based on the original diagnosis. A sample from LE, collected by Bolle at the "locus classicus", which was probably type material, has been examined. The morphological features in this sample agreed well with the original diagnosis, but the conidia were olivaceous brown, although originally described to be hyaline.

Orchidaceae

40. ***Ascochyta cypripedii*** H. C. Greene, Amer. Midl. Naturalist **48**, 1, 1952: 50.

Pycnidia epiphyllous, scattered or aggregated, yellowish brown, subglobose, mostly 100-150 µm diam. Conidia one celled (>50%) and 1-septate, both ends blunt, hyaline, 6-8 × 3-3.5 µm.

Type: on living leaves of *Cypripedium candidum*, USA.

Palmae

41. ***Ascochyta lagenaeformis*** Caball., Anales Jard. Bot. Madrid **1**, 1941: 176.

Pycnidia not numerous, scattered, initially covered by the epidermis, later slightly protruding, dark brown, bottle-shaped, globose and globose-depressed, 60-110 µm diam., with a papillate ostiole, 22-31 µm diam. and 30-41 µm high and with a broad pore. Pycnidial wall pseudoparenchymatic. Conidiophores elongated, conidia oblong, ellipsoidal or oval, straight, sometimes bent, aseptate or 1-septate, hyaline, 3-4 × 1.5-2 µm.

Type: on living leaves of *Cocos nucifera*, Spain.

42. ***Ascochyta cocoes-capitatae*** Caball., Anales Jard. Bot. Madrid **1**, 1941: 179.

Pycnidia covered by the epidermis, lentiform or ellipsoidal, 100-120 µm diam., with a papillate ostiole, 70 µm diam. and 45 µm high, and with a broad pore. Conidia ellipsoidal, cylindrical or fusiform, both ends blunt or acute, 1-septate, not constricted, almost hyaline, 6-12 × 1.5-3 µm, mostly 10.5 × 2 µm.

Type: on living leaves of *Cocos capitata*, Spain.

Phytolaccaceae

43. ***Ascochyta phytolaccae*** Sacc. & Scalia, Fl. Mycol. Lus. **12**, 1903: 10.

Pycnidia epiphyllous, scattered, initially subepidermal, later erumpent, black, globose, 140-175 µm diam., with a pore. Conidia oblong, both ends blunt, initially one-celled, later 1-septate, hyaline, 7.5-9 × 2.5-3 µm.

Type: on withering leaves of *Phytolacca decandra*, Portugal.

Piperaceae

44. ***Ascochyta piperina*** Syd., Ann. Mycol. **37**, 1939: 406.

Pycnidia epiphyllous, unevenly scattered or solitary, subepidermal, globose-depressed or sublentiform, 120-180 µm diam., sometimes somewhat bigger, with a papillate ostiole protruding through the epidermis, and with a circular-irregular rather conspicuous pore, 15 µm diam. Pycnidial wall up to 9 µm width, consisting of pale olivaceous-brown cells. Conidia oblong, oblong-ellipsoidal or short cylindrical, both ends broadly rounded, hardly or only at the basal end slightly attenuated and then subclavate, straight, sometimes slightly bent, small conidia one-celled, larger ones 1-septate, not constricted, 5.5-10 × 2.5-3.6 µm.

Type: on living leaves of *Piper tungurahua*, Ecuador.

Rosaceae

45. ***Ascochyta crataegicola*** Allesch., Ber. Bayer. Bot. Ges. **5**, 1897: 6.

Pycnidia epiphyllous, subepidermal, later protruding, black. Conidia oblong, both ends blunt, 1-septate, not or slightly constricted, almost hyaline, 10-16 × 2-3 µm.

Type: on dead leaves of *Crataegus oxyacantha*, Central Europe.

46. ***Ascochyta misera*** Oudem., Hedwigia **37**, 1898: 178.

Conidia oblong, both ends broadly rounded, straight or bent, 1-septate, slightly constricted, sometimes with irregular cells, hyaline, 12 × 2.5-3 µm.

Type: on leaves of *Crataegus monogyna*, The Netherlands.

47. ***Ascochyta pirina*** Peglion, Malpighia **8**, 1895: 446.

Pycnidia black, 0.3 mm diam. Conidia 1-septate, slightly constricted, hyaline, 12-14 × 4-5 µm.

Type: on fruits of *Pyrus communis*, Italy.

48. ***Ascochyta rosicola*** Sacc., Michelia **1**, 1878: 164.

Pycnidia epiphyllous, lentiform, with a pore. Conidia oblong or short fusiform, 1-septate, not constricted, hyaline, 8-10 × 3-3.5 µm.

Type: on leaves and prickles of *Rosa muscaria*, Italy.

Rubiaceae

49. ***Ascochyta galii-aristati*** Gonz. Frag., Fungi Horti Matr. 1917: 52.

Pycnidia initially immersed, later erumpent, dark brown, globose-depressed, circular or irregular, 300 µm diam., with a small pore. Pycnidial wall thin. Conidia cylindrical or oblong, 1-septate, hyaline, 6-9 × 1.2-1.5 µm.

Type: on stems of *Galium aristatum*, Spain.

50. ***Ascochyta rubiae*** Bubák, Bull. Herb. Boissier, ser. 2, **6**, 1906: 476.

Pycnidia epiphyllous, scattered, subepidermal, chestnut-brown, slightly globose-depressed, 70-120 µm diam., with a circular pore. Conidia oval or oblong, both ends rounded, 1-septate, not constricted, 6.5-9 × 2.5-3.5 µm.

Type: on living leaves of *Rubia peregrina*, Yugoslavia.

Rutaceae

51. ***Ascochyta pilocarpi*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **4**, 1901: 9.

Pycnidia subepidermal, black, sublentiform, 60-70 µm diam. Pycnidial wall thin. Conidia oblong, both ends attenuated, initially one-celled, later 1-septate, not constricted, 6-7 × 2-3 µm.

Type: on dry leaves of *Pilocarpus pinnatifolia*, Argentina.

Scrophulariaceae

52. ***Ascochyta mimuli*** A. L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. **5**, 1915: 158.

Pycnidia epiphyllous, protruding through the epidermis, brown, globose, 110-120 µm diam., with a circular pore. Conidia oblong, both ends rounded, straight or flexuous, 10-14 × 2-3 µm.

Type: on leaves of *Mimulus langsdorfii*, UK.

Solanaceae

53. ***Ascochyta arida*** McAlpine, Proc. Linn. Soc. New South Wales 1903: 553.

Pycnidia erumpent, orange-brown, globose-depressed, 170 µm diam., with a papillate ostiole. Pycnidial wall thin. Conidia oblong, both ends rounded, 1-septate, not constricted, hyaline, pale grey in mass, 17-19 × 4-4.5 µm.

Type: on withering leaves and dry stems of *Nicotiana glauca*, Australia.

Sterculiaceae

54. ***Ascochyta sterculiae*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **4**, 1901: 10.

Pycnidia epiphyllous, aggregated, almost superficial, 200-250 µm diam., with a pore. Pycnidial wall olivaceous green. Conidia oblong, 1-septate, not or slightly constricted, almost hyaline, 8-10 × 3-4 µm.

Type: on living leaves of *Sterculia diversifolia*, Italy.

Umbelliferae

55. ***Ascochyta ferulae*** Pat., Enum. Champ. Tunisie 1892: 17.

Pycnidia scattered, subepidermal, glossy-black, 250-500 µm diam., with a papillate ostiole. Conidia oblong, both ends blunt, with 1, sometimes 3 septa, not constricted, hyaline, 18-21 × 4-6 µm.

Type: on living stems of *Ferula* sp., Tunis.

Verbenaceae

56. ***Ascochyta infortunata*** T. S. Ramakr., Proc. Indian Acad. Sci., Sect. Bot. **34**, 1951: 163.

Pycnidia amphigenous, more numerous on the lower side, initially covered by the epidermis, later erumpent, black, globose, 78-120 × 55-99 µm, with papillate ostiolum. Conidia oblong, 1-septate, hyaline or almost so, 5-13 × 5-6 µm, average 9 × 5 µm.

Type: on leaves of *Clerodendron infortunatum*, India.

Vitaceae

57. ***Ascochyta baccicola*** Brunaud, Actes Soc. Linn. Bordeaux 1898: 15 (extr.).

Pycnidia densely aggregated, erumpent, black, globose. Conidia elongated-oval or oblong, 1-septate, not constricted, hyaline, 12.5-15 × 7-7.5 µm.

Type: on fruits of *Vitis vinifera*, France.

Various substrates

58. ***Ascochyta fibriseda*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **2**, 1899: 153.

Pycnidia more or less dense, immersed, black, lentiform, 80-100 µm diam., opening, often surrounded by radial spreading brownish fibrilles, membranaceous. Conidia oblong, both ends narrowed or broadly rounded, 1-septate, not constricted, hyaline, 12-14 × 3-3.5 µm.

Type: on dry leaves of *monocots*, Japan.

59. ***Ascochyta charticola*** Tassi, Bull. Lab. Orto Bot. Univ. Siena **2**, 1899: 154.

Pycnidia scattered, immersed, yellow-brown, lentiform, 100-200 µm diam., membranaceous. Conidia oblong, both ends rounded, 1-septate, not or slightly constricted, hyaline, 12-14 × 2-3 µm.

Type: on decaying sheet of paper, found on a field (arable land), Italy.

10. Taxa not effectively published

1. *A. atriplicis* Lasch in Klotzsch, Herb. viv. mycol.: no. 861 (1846), nom. nud.
2. *A. betulae* Lib., nom. nud., sec. Jørst., Skr. Norske Vidensk.-Akad. Oslo, Mat.-Naturvidensk. Kl. **22**, 1965: 13.
   According to Jørstad (1965), neither *A. betulae* Lib., nor the combination *Septoria betulae* (Lib.) Westend. based on this basionym, has ever been published.
3. *A. brassicae-junceae* Sawada, Spec. Publ. Coll. Agric., Nat. Taiwan Univ. **8**, 1959: 149, non valide publ., descr. jap.
4. *A. dichrocephalae* Sawada, Rep. Gov. Res. Inst. Formosa **85**, 1953: 71, non valide publ., descr. jap.
5. *A. dulcamarae* Lasch in Klotzsch, Herb. viv. mycol.: no. 858 (1846), nom. nud.
   Exs.: Syd., Mycoth. marchica: no. 1187 (NY). Sydow's exsiccatum contains only *Septoria dulcamarae* Desm.
6. *A. fraxini* Keissl., Ann. Naturhist. Hofmus. **35**, 1922: 18, ut *A. fraxini* (Desm.) Keissl., non valide publ. – *Phyllosticta destructiva* Desm. var. *fraxini* Desm. in herb. ex Keissl., l. c.: 18, pro syn.
7. *A. galii* Lasch in Klotzsch, Herb. viv. mycol.: no. 1254 (1849), nom. nud.
8. *A. geranii* Rabenh. in Klotzsch, Herb. viv. mycol.: no. 1655 (1852), nom. nud.
9. *A. graminicola* Sacc. f. *moliniae* Niel in Roum., F. sel.: no. 6103 (1892), nom. nud.
10. *A. graminum* Lasch in Klotzsch, Herb. viv. mycol.: no. 1155 (1847), nom. nud.
11. *A. helianthi* I. N. Abramov, Bolezni sel'skokhozyastvennykh rastenij Dal'nego Vostoka 1939: 255, non valide publ., descr. ross.
12. *A. hyoscyami* Lasch in Klotzsch, Herb. viv. mycol.: no. 864 (1846), nom. nud.
13. *A. laburni* Sacc. var. *laburni-montani* Fautrey in Roum., F. sel.: no. 5564 (1891), nom. nud.
14. *A. ligulariae* Sawada, Rep. Gov. Res. Inst. Formosa **85**, 1953: 71, non valide publ., descr. jap.
15. *A. lychnidis* Lasch in Klotzsch, Herb. viv. mycol.: no. 857 (1846), nom. nud.
16. *A. monachorum* Bubák, Ann. Mycol. **8**, 1910: 190, nom. nud.
17. *A. muscorum* Gonz. Frag. in herb., sec. Unamuno, Mem. Real Acad. Ci. Exact. Madrid **4**, 1933: 199, nom. nud.
18. *A. orchidis* Rabenh. in Klotzsch, Herb. viv. mycol.: no. 988 (1846), nom. nud.
19. *A. perillae* I. N. Abramov, Bolezni sel'skokhozyastvennykh rastenij Dal'nego Vostoka 1939: 246, non valide publ., descr. ross.
20. *A. polygoni* Rabenh. in Klotzsch, Herb. viv. mycol.: no. 990 (1846), nom. nud.
21. *A. rostrupii* Vestergr., Microm. rar. sel.: no. 536 (1902), nom. nud.
22. *A. rumicis* Bubák & Malkoff, Ann. Mycol. **8**, 1910: 190, nom. nud.
23. *A. senecionicola* Petr. f. *diplodina* H. Ruppr., Sydowia **13**, 1959: 15, non valide publ., descr. germ.
24. *A. sidae* Sawada, Spec. Publ. Coll. Agric., Nat. Taiwan Univ. **8**, 1959: 152, non valide publ., descr. jap.
25. *A. silenes* Lasch in Klotzsch, Herb. viv. mycol.: no. 1256 (1849), nom. nud.
26. *A. stipae* Died. f. *agropyri* Grove, British stem- and leaf-fungi **1**, 1935: 324, non valide publ., descr. angl.
27. *A. trifolii-montani* Bond.-Mont. in V. F. Kuprevich, Gribnye bolezni klevera i lucerny 1954: 118, non valide publ., descr. ross.
28. *A. urenae* Sawada, Spec. Publ. Coll. Agric., Nat. Taiwan Univ. **8**, 1959: 152, non valide publ., descr. jap.
29. *A. zingiberi* Sawada, Spec. Publ. Coll. Agric., Nat. Taiwan Univ. **8**, 1959: 152, non valide publ., descr. jap.

11. Species where the description remained inaccessible

1. *A. catabrosae* Unamuno, Mauritania, Tanger **15** (no. 178), 1942: 285.
   Type: on leaves of *Catabrosa aquatica* from Morocco.
2. *A. graminicola* Sacc. var. *phlei-pratensis* Unamuno, Anales Jard. Bot. Madrid 2, 1941 (actually published in 1942): 69.
   Type: on leaves of *Phleum pratense* from Spain.
3. *A. melongenae* Takimoto, Nippon Engei Zasshi **39**, 5, 1927: 32.
   Type: on leaves of *Solanum melongena* from Japan.
4. *A. mercurialina* Caball., Publ. Mus. Ci. Nat. Univ. Barcelona 1920: 102.
   Type: on leaves of *Mercurialis annua* from Spain.
5. *A. quercina* Lib., Pl. Crypt. Ard.: no. 46 (1830).
   Type: on twigs of *Quercus* sp. (Oudemans, 1920).

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13. Host index

A) Host family synopsis

Family	Subgenus *Ascochyta*	Subgenus *Libertia*	(Not Examined)
Euphorbiaceae	Key: p. 30, Descr.: p. 48	Key: p. 36, Descr.: p. 77	Descr.: p. 146
Fabaceae	see Leguminosae		
Fagaceae		Key: p. 36, Descr.: p. 78	
Gentianaceae		Key: p. 36, Descr.: p. 78	
Geraniaceae		Key: p. 36, Descr.: p. 79	
Gramineae		Key: p. 36, Descr.: p. 79	Descr.: p. 146
Hippocastanaceae		Key: p. 36, Descr.: p. 84	
Hydrocharitaceae		Key: p. 37, Descr.: p. 84	
Hydrophyllaceae		Key: p. 37, Descr.: p. 85	
Juglandaceae		Key: p. 37, Descr.: p. 85	Descr.: p. 147
Juncaceae	Key: p. 31, Descr.: p. 48	Key: p. 37, Descr.: p. 85	
Iridaceae		Key: p. 37, Descr.: p. 86	
Labiatae	Key: p. 31, Descr.: p. 48	Key: p. 37, Descr.: p. 87	
Lamiaceae	see Labiatae		
Lardizabalaceae		Key: p. 37, Descr.: p. 88	
Lauraceae			Descr.: p. 147
Leguminosae	Key: p. 31, Descr.: p. 49	Key: p. 37, Descr.: p. 88	Descr.: p. 147
Liliaceae	Key: p. 31, Descr.: p. 51	Key: p. 38, Descr.: p. 92	Descr.: p. 148
Linaceae		Key: p. 38, Descr.: p. 94	
Loasaceae		Key: p. 38, Descr.: p. 94	
Loganiaceae		Key: p. 38, Descr.: p. 95	
Magnoliaceae		Key: p. 38, Descr.: p. 95	Descr.: p. 148
Malvaceae	Key: p. 31, Descr.: p. 52	Key: p. 38, Descr.: p. 95	
Menyanthaceae		Key: p. 38, Descr.: p. 96	
Moraceae	Key: p. 31, Descr.: p. 52	Key: p. 38, Descr.: p. 97	
Myrtaceae		Key: p. 39, Descr.: p. 98	
Nyctaginaceae		Key: p. 39, Descr.: p. 98	
Oleaceae		Key: p. 39, Descr.: p. 98	
Onagraceae		Key: p. 39, Descr.: p. 100	
Orchidaceae			Descr.: p. 148
Paeoniaceae	Key: p. 31, Descr.: p. 52		
Palmae		Key: p. 39, Descr.: p. 101	Descr.: p. 149
Papaveraceae		Key: p. 39, Descr.: p. 101	
Pedaliaceae		Key: p. 39, Descr.: p. 103	
Phytolaccaceae			Descr.: p. 149
Pinaceae		Key: p. 39, Descr.: p. 103	
Piperaceae			Descr.: p. 149
Pittosporaceae		Key: p. 39, Descr.: p. 103	
Plantaginaceae		Key: p. 39, Descr.: p. 103	
Plumbaginaceae	Key: p. 31, Descr.: p. 52	Key: p. 40, Descr.: p. 104	
Poaceae	see Gramineae		
Polemoniaceae	Key: p. 31, Descr.: p. 52	Key: p. 40, Descr.: p. 104	
Polygalaceae		Key: p. 40, Descr.: p. 104	
Polygonaceae	Key: p. 31, Descr.: p. 53	Key: p. 40, Descr.: p. 104	
Primulaceae		Key: p. 40, Descr.: p. 107	
Pteridaceae		Key: p. 40, Descr.: p. 107	
Ranunculaceae	Key: p. 31, Descr.: p. 54	Key: p. 40, Descr.: p. 107	
Resedaceae		Key: p. 40, Descr.: p. 109	
Rhamnaceae		Key: p. 40, Descr.: p. 109	
Rosaceae		Key: p. 41, Descr.: p. 110	Descr.: p. 149

B) Host species Index

Substrate	afflicted parts	Host plant family		*Ascochyta* species (“not examined sp.” in “[]”)
Aconitum sp.	(lv., decaying petioles)	Ranunculaceae	255.	***A. patogonica*** (p. 108)
Aconitum vulparia	(lv., decaying petioles)	Ranunculaceae	255.	***A. patogonica*** (p. 108)
Acorus calamus	(lv.)	Araceae	58.	***A. acori*** (p. 59; Fig. 15, p. 59)
Actaea spicata	(lv.)	Ranunculaceae	35.	***A. actaeae*** (p. 54)
Actinidia polygama	(lv.)	Actinidiaceae	49.	***A. actinidiae*** (p. 58)
Adenocaulon sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Adenophora lilifolia	(lv.)	Campanulaceae	82.	***A. adenophorae*** (p. 65; Fig. 21, p. 65)
Adenostylis sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Aegopodium podagraria	(lv.)	Umbelliferae	313.	***A. podagrariae*** (p. 122; Fig. 96, p. 122)
Aesculus hippocastanum	(lv.)	Hippocastanaceae	156.	***A. grandimaculans*** (p. 84)
Agastache foeniculum	(lv.)	Labiatae	18.	***A. lagochili*** (p. 49; Fig. 7, p. 49)
Ageratum sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Agropyron repens	(lv., culms)	Gramineae	151.	***A. sorghi*** (p. 83)
Agrostemma githago	(lv.)	Caryophyllaceae	2.	***A. githaginis*** (p. 44; Fig. 1, p. 45)
Agrostis alba	(lv.)	Gramineae	138.	***A. agrostidis*** (p. 79)
Ailanthus glandulosa	(lv.)	Simaroubaceae	293.	***A. ailanthi*** (p. 117)
Akebia quinata	(lv.)	Lardizabalaceae	172.	***A. akebiae*** (p. 88)
Alcea spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Aleurites fordii (= *A. caudata*)	(lv.)	Euphorbiaceae	130.	***A. heveae*** (p. 77; Fig. 34, p. 77)
Alfredia cernua	(lv.)	Compositae	7.	***A. chrysanthemi*** (p. 45; Fig. 3, p. 46)
Alhagi sp.	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Alisma plantago-aquatica	(lv.)	Alismataceae	50.	***A. boydii*** (p. 58)
Alisma plantago-aquatica	(st.)	Alismataceae	51.	***A. ignobilis*** (p. 58)
Allium cepa	(lv.)	Liliaceae	195.	***A. lobikii*** (p. 93; Fig. 54, p. 94)
Allium rotundum	(lv.)	Liliaceae	195.	***A. lobikii*** (p. 93; Fig. 54, p. 94)
Allium sativum	(lv.)	Liliaceae	188.	***A. allii*** (p. 92)
Allium trachyscordum	(lv.)	Liliaceae	188.	***A. allii*** (p. 92)
Alnus glutinosa	(lv.)	Betulaceae	75.	***A. alni*** (p. 63)
Alnus incana	(lv.)	Betulaceae	75.	***A. alni*** (p. 63)
Alopecurus alpinus	(lv.)	Gramineae	145.	***A. ducis-aprutii*** (p. 81; Fig. 40, p. 81)
Alopecurus alpinus f. *mutica*	(lv.)	Gramineae	145.	***A. ducis-aprutii*** (p. 81; Fig. 40, p. 81)
Alopecurus pratensis	(lv., culms)	Gramineae	151.	***A. sorghi*** (p. 83)
Alstonia scholaris	(lv.)	Apocynaceae	55.	***A. alstoniae*** (p. 59)
Althaea spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Amaranthus caudatus	(lv., st.)	Amaranthaceae	52.	***A. celosiae*** (p. 58)
Amaranthus retroflexus	(lv., st.)	Amaranthaceae	52.	***A. celosiae*** (p. 58)
Amygdalus communis	(lv.)	Rosaceae	263.	***A. crystallina*** (p. 110)
Andropogon ischaemum	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Anemone nemorosa	(lv.)	Ranunculaceae	254.	***A. infuscans*** (p. 108; Fig. 75, p. 108)
Anemone ranunculoides	(lv.)	Ranunculaceae	254.	***A. infuscans*** (p. 108; Fig. 75, p. 108)
Anemone sphaenophylla	(lv., decaying petioles)	Ranunculaceae	255.	***A. patogonica*** (p. 108)

Substrate	**afflicted parts**	**Host plant family**	***Ascochyta* species (“not examined sp.” in “[]”)**
Anethum sp.	(lv., st.)	Umbelliferae	312. ***A. phomoides*** (p. 121)
Angelica dahurica	(lv.)	Umbelliferae	43. ***A. levistici*** (p. 56)
Angelica sylvestris	(lv., st.)	Umbelliferae	312. ***A. phomoides*** (p. 121)
Annonaceae	(lv.)	Annonaceae	n3. [***A. annonaceae*** (p. 143)]
Anthoxanthum alpinum	(lv., culms)	Gramineae	148. ***A. melicae*** (p. 82; Fig. 42, p. 82)
Anthurium spp.	(lv.)	Araceae	60. ***A. minima*** (p. 60)
Antirrhinum majus	(lv., st.)	Scrophulariaceae	287. ***A. euphrasiae*** (p. 115)
Antirrhinum sp.	(lv., st.)	Scrophulariaceae	290. ***A. verbasci*** (p. 116; Fig. 89, p. 117)
Aphyllanthes monspeliensis	(petioles)	Liliaceae	189. ***A. aphyllanthis*** (p. 92)
Aquilegia spp.	(lv., oth. pts.)	Ranunculaceae	36. ***A. aquilegiae*** (p. 54)
Aralia nudicaulis	(lv., petioles)	Araliaceae	64. ***A. marginata*** (p. 61; Fig. 16, p. 63)
Arctium lappa	(lv.)	Compositae	n17. [***A. microspora*** (p. 145)]
Aristolochia clematitis	(lv.)	Aristolochiaceae	66. ***A. aristolochiae*** (p. 61; Fig. 17, p. 63)
Aristolochia clematitis	(fallen fruits)	Aristolochiaceae	67. ***A. aristolochiicola*** (p. 61)
Aristolochia clematitis	(lv.)	Aristolochiaceae	1. ***A. versicolor*** (p. 44)
Aristolochia sipho	(lv.)	Aristolochiaceae	66. ***A. aristolochiae*** (p. 61; Fig. 17, p. 63)
Armoracia rusticana	(lv.)	Cruciferae	120. ***A. matthiolae*** (p. 75)
Artemisia sp.	(lv., st., fruits, seeds)	Compositae	105. ***A. doronici*** (p. 70; Fig. 28, p. 72)
Arum italicum	(lv.)	Araceae	59. ***A. arigena*** (p. 60)
Arum maculatum	(lv.)	Araceae	61. ***A. pellucida*** (p. 60)
Arundinaria falcata	(lv., culms)	Gramineae	146. ***A. ischaemi*** (p. 81)
Asarum canadense	(lv.)	Aristolochiaceae	66. ***A. aristolochiae*** (p. 61; Fig. 17, p. 63)
Asarum europaeum	(lv.)	Aristolochiaceae	66. ***A. aristolochiae*** (p. 61; Fig. 17, p. 63)
Aster drummondii	(lv.)	Compositae	104. ***A. compositarum*** (p. 70; Fig. 27, p. 70)
Astragalus glycyphylloides	(lv., oth. pts.)	Leguminosae	186. ***A. viciae*** (p. 91; Fig. 53, p. 91)
Astragalus glycyphyllos	(lv., oth. pts.)	Leguminosae	186. ***A. viciae*** (p. 91; Fig. 53, p. 91)
Astragalus glycyphyllus	(lv., oth. pts.)	Leguminosae	176. ***A. cytisi*** (p. 89; Fig. 51, p. 89)
Astragalus sp.	(lv., oth. pts.)	Leguminosae	176. ***A. cytisi*** (p. 89; Fig. 51, p. 89)
Atragene alpina	(lv.)	Ranunculaceae	253. ***A. dolomitica*** (p. 108; Fig. 74, p. 108)
Atragene sibirica	(lv.)	Ranunculaceae	253. ***A. dolomitica*** (p. 108; Fig. 74, p. 108)
Atraphaxis virgata	(stipules, lv., branchlets)	Polygonaceae	240. ***A. atraphaxidis*** (p. 104)
Atriplex sp.	(lv.)	Chenopodiaceae	103. ***A. boni-henrici*** (p. 70)
Atriplex spp.	(lv.)	Chenopodiaceae	3. ***A. atriplicis*** (p. 44)
Atriplex spp.	(lv., st.)	Chenopodiaceae	101. ***A. chenopodiicola*** (p. 69)
Ballota nigra	(lv., st.)	Labiatae	169. ***A. lamiorum*** (p. 87)
Balsaminum hortensis	(lv., st.)	Balsaminaceae	69. ***A. impatientis*** (p. 62)
Bambusoideae	(lv.)	Gramineae	140. ***A. bambusicola*** (p. 79)
Basella rubra?	(lv.)	Basellaceae	70. ***A. basellae*** (p. 62)
Begonia credneri	(lv.)	Begoniaceae	71. ***A. begoniae*** (p. 62)
Begonia evansiana	(lv.)	Begoniaceae	71. ***A. begoniae*** (p. 62)
Begonia sempervirens	(lv.)	Begoniaceae	71. ***A. begoniae*** (p. 62)
Berberis glauca	(lv.)	Berberidaceae	73. ***A. australis*** (p. 62)
Berberis vulgaris	(lv.)	Berberidaceae	74. ***A. berberidis*** (p. 63; Fig. 18, p. 63)
Beta vulgaris	(lv.)	Chenopodiaceae	100. ***A. betae*** (p. 69; Fig. 26, p. 70)
Beta vulgaris	(lv., seeds)	Chenopodiaceae	4. ***A. chochryakovii*** (p. 44)

Substrate	afflicted parts	Host plant family		*Ascochyta* species (“not examined sp.” in “[]”)
Betonica grandifolia	(lv.)	Labiatae	168.	***A. betonicae*** (p. 87)
Betonica officinalis	(lv.)	Labiatae	168.	***A. betonicae*** (p. 87)
Betonica officinalis	(lv.)	Labiatae	18.	***A. lagochili*** (p. 49; Fig. 7, p. 49)
Bifora radians	(seeds)	Umbelliferae	307.	***A. biforae*** (p. 121)
Boehmeria spp.	(lv.)	Urticaceae	44.	***A. boehmeriae*** (p. 56)
Boerhaavia erecta	(lv.)	Nyctaginaceae	214.	***A. oxybaphi*** (p. 98; Fig. 58, p. 99)
Bolboschoenus maritimus (= *Scirpus maritimus*)	(lv.)	Cyperaceae	12.	***A. kurdistanica*** (p. 47)
Boopis anthemoides	(stipules)	Calyceraceae	n8.	[***A. boopidis*** (p. 144)]
Borago officinalis	(lv.)	Boraginaceae	77.	***A. boraginis*** (p. 63)
Brachypodium phenicioidis	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Brachypodium sylvaticum	(lv.)	Gramineae	141.	***A. brachypodii*** (p. 80)
Brassica campestris	(lv., seeds, st.)	Cruciferae	117.	***A. cheiranthi*** (p. 74)
Brassica campestris var. *peckinensis*	(lv.)	Cruciferae	n20.	[***A. brassicae-campestris*** (p. 146)]
Brassica campestris var. *peckinensis*	(lv.)	Cruciferae	119.	***A. lepidii*** (p. 75)
Brassica oleracea	(lv., seeds, st.)	Cruciferae	117.	***A. cheiranthi*** (p. 74)
Brassica rapa	(lv., seeds, st.)	Cruciferae	117.	***A. cheiranthi*** (p. 74)
Bromus tectorum	(lv., culms)	Gramineae	142.	***A. calamagrostidis*** (p. 80; Fig. 38, p. 80)
Buddleia davidii	(lv., st.)	Loganiaceae	201.	***A. davidii*** (p. 95)
Buddleia lindleyana	(lv., st.)	Loganiaceae	201.	***A. davidii*** (p. 95)
Buddleia thyrsoides (?)	(lv., st.)	Loganiaceae	201.	***A. davidii*** (p. 95)
Buffonia perennis	(lv.)	Caryophyllaceae	n10.	[***A. buffoniae*** (p. 144)]
Buxus sempervirens	(lv.)	Buxaceae	80.	***A. limbalis*** (p. 64)
Cajophora lateritia	(st.)	Loasaceae	200.	***A. cajophorae*** (p. 94)
Cakile maritima	(st., fruits)	Cruciferae	116.	***A. cakiles*** (p. 74)
Calamagrostis sp.	(lv., culms)	Gramineae	142.	***A. calamagrostidis*** (p. 80; Fig. 38, p. 80)
Calendula sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Calla palustris	(lv.)	Araceae	61.	***A. pellucida*** (p. 60)
Calotropis procera	(lv.)	Asclepiadaceae	n5.	[***A. tripolitana*** (p. 143)]
Calycanthus floridus	(lv.)	Calycanthaceae	81.	***A. calycanthi*** (p. 65)
Calycanthus occidentale	(lv.)	Calycanthaceae	81.	***A. calycanthi*** (p. 65)
Calystegia sepium (= *Convolvulus s.*)	(lv.)	Convolvulaceae	113.	***A. kleinii*** (p. 73)
Campanula spp.	(lv., petals, st.)	Campanulaceae	83.	***A. bohemica*** (p. 65; Fig. 22, p. 65)
Campanula spp.	(lv.)	Campanulaceae	84.	***A. carpathica*** (p. 66)
Canna sp.	(lv.)	Cannaceae	n9.	[***A. cannae*** (p. 144)]
Cannabis sativa	(lv.)	Moraceae	212.	***A. prasadii*** (p. 98)
Caragana arborescens	(branches)	Leguminosae	173.	***A. caraganae*** (p. 88; Fig. 50, p. 89)
Carex spp.	(lv.)	Cyperaceae	123.	***A. caricicola*** (p. 75; Fig. 32, p. 76)
Carex spp.	(lv.)	Cyperaceae	124.	***A. caricina*** (p. 76; Fig. 33, p. 77)
Carica papaya	(petioles, fruits)	Caricaceae	93.	***A. caricae-papayae*** (p. 67)

Substrate	afflicted parts	Host plant family		*Ascochyta* species ("not examined sp." in "[]")
Circaea lutetiana	(lv.)	Onagraceae	223.	***A. circaeae*** (p. 100; Fig. 62, p. 101)
Cirsium arvense	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Cirsium heterophyllum	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Citrus aurantium	(bark, trunks, twigs)	Rutaceae	274.	***A. corticola*** (p. 113; Fig. 83, p. 113)
Citrus limonum	(bark, trunks, twigs)	Rutaceae	274.	***A. corticola*** (p. 113; Fig. 83, p. 113)
Citrus limonum	(lv.)	Rutaceae	275.	***A. hesperidearum*** (p. 113)
Citrus spp.	(branches)	Rutaceae	273.	***A. cinerea*** (p. 112; Fig. 82, p. 112)
Cladrastis tinctoria	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Clematis spp.	(lv.)	Ranunculaceae	253.	***A. dolomitica*** (p. 108; Fig. 74, p. 108)
Clematis vitalba	(lv.)	Ranunculaceae	257.	***A. vitalbicola*** (p. 109)
Clerodendron infortunatum	(lv.)	Verbenaceae	n56.	[***A. infortunata*** (p. 151)]
Cnicothamnus lorentzii	(lv.)	Compositae	108.	***A. lorentzii*** (p. 72)
Cocos capitata	(lv.)	Palmae	n42.	[***A. cocoes-capitatae*** (p. 149)]
Cocos nucifera	(lv.)	Palmae	n41.	[***A. lagenaeformis*** (p. 149)]
Codonopsis clematidea	(lv.)	Campanulaceae	85.	***A. codonopsis*** (p. 66)
Coffea arabica	(lv.)	Rubiaceae	269.	***A. coffeae*** (p. 111; Fig. 80, p. 111)
Coffea arabica	(lv., young shoots)	Rubiaceae	271.	***A. tarda*** (p. 112)
Colchicum autumnalis	(lv.)	Liliaceae	194.	***A. juelii*** (p. 93)
Coleobrookea oppositifolia	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Colutea arborescens	(lv., fruits, st.)	Leguminosae	175.	***A. coluteae*** (p. 88)
Comesperma sphaerocarpum	(st.)	Polygalaceae	239.	***A. oxyspora*** (p. 104)
Commiphora caudata	(lv.)	Burseraceae	78.	***A. commiphorae*** (p. 64; Fig. 19, p. 64)
Comocladia sp.	(lv.)	Anacardiaceae	53.	***A. comocladiae*** (p. 58)
Convallaria majalis	(lv.)	Liliaceae	26.	***A. majalis*** (p. 51)
Convolvulus arvensis	(st., petioles, fruits, lv.)	Convolvulaceae	112.	***A. calystegiae*** (p. 73)
Convolvulus arvensis	(lv., st.)	Convolvulaceae	9.	***A. convolvuli*** (p. 46)
Convolvulus sepium	(st., petioles, fruits, lv.)	Convolvulaceae	112.	***A. calystegiae*** (p. 73)
Corchorus capsularis	(lv.)	Tiliaceae	304.	***A. corchori*** (p. 120)
Coreopsis sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Coronilla emerus	(lv.)	Leguminosae	177.	***A. emeri*** (p. 89)
Coronilla varia	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Corylus avellana	(lv.)	Betulaceae	76.	***A. coryli*** (p. 63)
Cotyledon gibbiflora	(lv.)	Crassulaceae	114.	***A. cotyledonis*** (p. 73)
Crambe kotschyana	(lv.)	Cruciferae	10.	***A. crambicola*** (p. 46)
Crambe tatarica	(lv., seeds, st.)	Cruciferae	117.	***A. cheiranthi*** (p. 74)
Crataegus cruris-galli	(lv.)	Rosaceae	262.	***A. cruris-galli*** (p. 110)
Crataegus monogyna	(lv.)	Rosaceae	n46.	[***A. misera*** (p. 149)]
Crataegus oxyacantha	(lv.)	Rosaceae	n45.	[***A. crataegicola*** (p. 149)]
Crypostemma sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
Cucurbitaceae		Cucurbitaceae	11.	***A. cucumeris*** (p. 47; Fig. 4, p. 48)
Cyathula tomentosa	(lv.)	Amaranthaceae	n1.	[***A. cyathulae*** (p. 143)]
Cynara sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Cynodon dactylon	(culms)	Gramineae	n24.	[***A. graminea*** (p. 146)]
Cynodon dactylon	(lv.)	Gramineae	143.	***A. cynodontis*** (p. 80)
Cynosurus cristatus	(lv.)	Gramineae	n25.	[***A. graminicola* var. *cynosuri*** (p. 146)]
Cyperaceae (*Carex*?)	(decaying lv.)	Cyperaceae	126.	***A. socialis*** (p. 76)
Cyphomandra betacea	(lv.)	Solanaceae	294.	***A. cyphomandrae*** (p. 118)
Cypripedium candidum	(lv.)	Orchidaceae	n40.	[***A. cypripedii*** (p. 148)]
Cytisus anagyroides	(lv., oth. pts.)	Leguminosae	176.	***A. cytisi*** (p. 89; Fig. 51, p. 89)
Dahlia sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Daphne mezereum	(lv.)	Thymelaeaceae	303.	***A. daphnes*** (p. 120; Fig. 94, p. 120)
Datura arborea	(lv.)	Solanaceae	296.	***A. daturicola*** (p. 118)
Delphinium elatum	(lv.)	Ranunculaceae	35.	***A. actaeae*** (p. 54)
Delphinium spp.	(lv., oth. pts.)	Ranunculaceae	36.	***A. aquilegiae*** (p. 54)
Dentaria quinquefolia	(lv.)	Cruciferae	118.	***A. dentariae*** (p. 74)
Deutzia gracilis	(lv., st.)	Saxifragaceae	286.	***A. philadelphi*** (p. 115)
Dicentra spectabilis	(lv., st.)	Papaveraceae	228.	***A. dicentrae*** (p. 102; Fig. 66, p. 103)
Dicranum scoparium	(dead sporogons)	Bryophyta	79.	***A. bryophyla*** (p. 64; Fig. 20, p. 64)
Dictamnus albus	(lv.)	Rutaceae	276.	***A. nobilis*** (p. 113; Fig. 84, p. 113)
Dictamnus angustifolia	(lv.)	Rutaceae	276.	***A. nobilis*** (p. 113; Fig. 84, p. 113)
Dictamnus fraxinella	(lv.)	Rutaceae	276.	***A. nobilis*** (p. 113; Fig. 84, p. 113)
Digitalis spp.	(lv., st.)	Scrophulariaceae	287.	***A. euphrasiae*** (p. 115)
Digraphis arundinaceae	(lv.)	Gramineae	147.	***A. maydis*** (p. 82; Fig. 41, p. 82)
Dioscorea sp.	(lv.)	Dioscoreaceae	127.	***A. dioscoreae*** (p. 76)
Dipsacus spp.	(lv., st.)	Dipsacaceae	129.	***A. dipsaci*** (p. 77)
Doronicum sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Draba alpina	(lv.)	Cruciferae	n21.	[***A. drabae*** (p. 146)]
Dracaena sp.	(lv.)	Liliaceae	n35.	[***A. dracaenicola*** (p. 148)]
Echinops sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Elsholtzia patrini	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Elymus canadensis	(lv., culms)	Gramineae	151.	***A. sorghi*** (p. 83)
Epilobium angustifolium	(lv., st.)	Onagraceae	224.	***A. epilobii*** (p. 100)
Epilobium roseum	(lv., st.)	Onagraceae	224.	***A. epilobii*** (p. 100)
Equisetum spp.	(lv., st.)	Equisetaceae	13.	***A. equiseti*** (p. 47; Fig. 5, p. 48)
Eryngium sp.	(lv., st.)	Umbelliferae	312.	***A. phomoides*** (p. 121)
Erythrina crista-galli	(lv., petioles)	Leguminosae	180.	***A. oxytropidis*** (p. 90)
Erythronium dens-canis	(lv.)	Liliaceae	190.	***A. erythronii*** (p. 92)
Eupatorium urticaefolium	(lv.)	Compositae	104.	***A. compositarum*** (p. 70; Fig. 27, p. 70)
Euphrasia officinalis	(lv., st.)	Scrophulariaceae	287.	***A. euphrasiae*** (p. 115)
Evonymus europaeus	(lv.)	Celastraceae	n12.	[***A. evonymicola*** (p. 145)]
Evonymus europaeus	(lv.)	Celastraceae	98.	***A. evonymi*** (p. 69)
Evonymus europaeus	(twigs)	Celastraceae	99.	***A. oudemansii*** (p. 69)
Fagopyrum sagittatum	(lv.)	Polygonaceae	32.	***A. bresadolae*** (p. 53; Fig. 12, p. 53)

Substrate	afflicted parts	Host plant family		*Ascochyta* species ("not examined sp." in "[]")
Fagopyrum sagittatum	(dried st.)	Polygonaceae	242.	***A. fagopyri*** (p. 105)
Fagus orientalis	(lv.)	Fagaceae	133.	***A. fagi*** (p. 78; Fig. 36, p. 78)
Falcaria rivini	(lv.)	Umbelliferae	311.	***A. ludwigii*** (p. 121)
Ferula sp.	(st.)	Umbelliferae	n55.	[***A. ferulae*** (p. 151)]
Festuca ovina	(lv., culms)	Gramineae	142.	***A. calamagrostidis*** (p. 80; Fig. 38, p. 80)
Ficus carica	(lv.)	Moraceae	28.	***A. caricae*** (p. 52)
Ficus hyrcanica	(lv.)	Moraceae	28.	***A. caricae*** (p. 52)
Ficus macrophylla	(lv.)	Moraceae	207.	***A. ficus*** (p. 97)
Fimbrystilis tokioensis	(lv., culms)	Cyperaceae	125.	***A. decipiens*** (p. 76)
Forsythia spp.	(lv.)	Oleaceae	215.	***A. forsythiae*** (p. 98; Fig. 59, p. 99)
Frasera fastigiata	(lv., st.)	Gentianaceae	136.	***A. fraserae*** (p. 79)
Frasera speciosa	(lv., st.)	Gentianaceae	136.	***A. fraserae*** (p. 79)
Fraxinus angustifolius	(lv., fruits)	Oleaceae	221.	***A. syringae*** (p. 100)
Fraxinus excelsior	(young branches)	Oleaceae	216.	***A. fraxinicola*** (p. 98)
Fraxinus excelsior	(lv.)	Oleaceae	217.	***A. fraxinifolia*** (p. 99)
Fraxinus excelsior	(lv., fruits)	Oleaceae	221.	***A. syringae*** (p. 100)
Fraxinus ornus	(lv.)	Oleaceae	221.	***A. orni*** (p. 100)
Fraxinus sp.	(lv.)	Oleaceae	219.	***A. metulispora*** (p. 99; Fig. 60, p. 99)
Fumaria schleicheri	(lv.)	Papaveraceae	229.	***A. fumariae*** (p. 102)
Fumaria vaillantii	(lv.)	Papaveraceae	229.	***A. fumariae*** (p. 102)
Funkia albo-marginata	(lv.)	Liliaceae	193.	***A. hortensis*** (p. 93)
Funkia obovata	(lv.)	Liliaceae	193.	***A. hortensis*** (p. 93)
Funkia ovata	(lv.)	Liliaceae	192.	***A. herreana*** (p. 93)
Funkia univittata	(lv.)	Liliaceae	193.	***A. hortensis*** (p. 93)
Galega officinalis	(lv., oth. pts.)	Leguminosae	186.	***A. viciae*** (p. 91; Fig. 53, p. 91)
Galeobdolon luteum	(lv.)	Labiatae	17.	***A. elephas*** (p. 48)
Galeobdolon luteum	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Galeopsis tetrahit	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Galinsoga parviflora	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Galium aristatum	(st.)	Rubiaceae	n49.	[***A. galii-aristati*** (p. 150)]
Galium mollugo (?)	[questionable record!]	Rubiaceae	186.	***A. viciae*** (p. 91; Fig. 53, p. 91)
Geranium sylvaticum	(lv.)	Geraniaceae	137.	***A. geraniicola*** (p. 79)
Gerbera sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Gladiolus cardinalis	(st.)	Iridaceae	166.	***A. gladioli*** (p. 86)
Glaucium flavum	(st.)	Papaveraceae	230.	***A. glaucii*** (p. 102; Fig. 67, p. 103)
Glechoma hederacea	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Glyceria aquatica	(lv., culms)	Gramineae	154.	***A. zeicola*** (p. 83)
Glyceria spectabilis	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Glycine max	(lv.)	Leguminosae	184.	***A. sojae*** (p. 91)
Godetia whitneyi	(st.)	Onagraceae	225.	***A. godetiae*** (p. 101; Fig. 63, p. 101)
Goebelia alopecuroides	(lv.)	Leguminosae	178.	***A. goebeliae*** (p. 90)
Gossypium spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Grabowskia boerhaaviaefolia	(st.)	Solanaceae	297.	***A. grabowskiae*** (p. 118)
Gramineae	(lv., grass	Gramineae	n27.	[***A. phyllachoroides*** (p. 146)]

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
	species not identified)			
Grimmia pulvinata	(dead sporogons)	Bryophyta	79.	***A. bryophyla*** (p. 64; Fig. 20, p. 64)
Grossularia acicularis	(lv.)	Saxifragaceae	37.	***A. bondarceviana*** (p. 54)
Haloxylon ammodendron	(twigs)	Chenopodiaceae	5.	***A. haloxyli*** (p. 45; Fig. 2, p. 45)
Haloxylon aphyllum	(twigs)	Chenopodiaceae	5.	***A. haloxyli*** (p. 45; Fig. 2, p. 45)
Haloxylon sp.	(twigs)	Chenopodiaceae	5.	***A. haloxyli*** (p. 45; Fig. 2, p. 45)
Hedera helix	(lv.)	Araliaceae	63.	***A. ambrosiana*** (p. 60)
Heleocharis palustris	(lv., culms)	Cyperaceae	125.	***A. decipiens*** (p. 76)
Helianthus sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Helianthus strumosus	(lv.)	Compositae	104.	***A. compositarum*** (p. 70; Fig. 27, p. 70)
Helosciadium nodiflorum	(lv.)	Umbelliferae	313.	***A. podagrariae*** (p. 122; Fig. 96, p. 122)
Hemiptelea davidii	(fruits)	Ulmaceae	306.	***A. hemipteleae*** (p. 120)
Hepatica triloba	(lv.)	Ranunculaceae	253.	***A. dolomitica*** (p. 108; Fig. 74, p. 108)
Heracleum mantegazzianum	(lv., st.)	Umbelliferae	42.	***A. grovei*** (p. 56)
Heracleum sibiricum	(lv., st.)	Umbelliferae	42.	***A. grovei*** (p. 56)
Heracleum sosnowsky	(lv., st.)	Umbelliferae	42.	***A. grovei*** (p. 56)
Heracleum sphondylium	(lv., st.)	Umbelliferae	42.	***A. grovei*** (p. 56)
Heracleum ternatum	(lv.)	Umbelliferae	43.	***A. levistici*** (p. 56)
Hesperis matrionalis	(lv., seeds, st.)	Cruciferae	117.	***A. cheiranthi*** (p. 74)
Heterodendrum alnifolium	(lv.)	Sapindaceae	284.	***A. heterodendri*** (p. 114)
Hevea brasiliensis	(lv.)	Euphorbiaceae	130.	***A. heveae*** (p. 77; Fig. 34, p. 77)
Hevea brasiliensis	(lv.)	Euphorbiaceae	131.	***A. heveana*** (p. 77; Fig. 35, p. 78)
Hibiscus (Abelmoschus) esculentus	(lv., st., flowers, fruits)	Malvaceae	204.	***A. abelmoschi*** (p. 95)
Hibiscus palustris	(lv., st., flowers, fruits)	Malvaceae	204.	***A. abelmoschi*** (p. 95)
Hibiscus spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Hibiscus trionum	(lv., st., flowers, fruits)	Malvaceae	204.	***A. abelmoschi*** (p. 95)
Hieracium sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Holcus lanatus	(lv.)	Gramineae	138.	***A. agrostidis*** (p. 79)
Holcus lanatus	(lv.)	Gramineae	147.	***A. maydis*** (p. 82; Fig. 41, p. 82)
Homogyne sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Hovenia dulcis var. *tomentella*	(lv.)	Rhamnaceae	259.	***A. hoveniae*** (p. 109)
Humulus lupulus	(lv.)	Moraceae	208.	***A. humuliphila*** (p. 97)
Hyacinthus orientalis	(lv.)	Liliaceae	n37.	[***A. hyacinthi*** (p. 148)]
Hydrangea spp.	(lv., st.)	Saxifragaceae	286.	***A. philadelphi*** (p. 115)
Hydrastis sp.	(lv.)	Ranunculaceae	35.	***A. actaeae*** (p. 54)
Hydrocharis morsus-ranae	(lv.)	Hydrocharitaceae	158.	***A. kirulisii*** (p. 84)
Hydrophyllum tenuipes	(lv.)	Hydrophyllaceae	159.	***A. hydrophylli*** (p. 85; Fig. 45, p. 85)

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
Hydrophyllum virginianum	(lv.)	Hydrophyllaceae	160.	***A. hydrophylli-virginiani*** (p. 85)
Hyoscyamus niger	(lv., oth. pts.)	Solanaceae	39.	***A. physalina*** (p. 55; Fig. 13, p. 55)
Hypochoeris glabra		Compositae	n15.	[***A. hypochoeridis*** (p. 145)]
Hypochoeris sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Ilex aquifolium	(lv.)	Aquifoliaceae	n4.	[***A. ilicis*** (p. 143)]
Impatiens noli-tangere	(lv., st.)	Balsaminaceae	69.	***A. impatientis*** (p. 62)
Impatiens parviflora	(lv., st.)	Balsaminaceae	69.	***A. impatientis*** (p. 62)
Impatiens sp.	(lv., st.)	Balsaminaceae	n6.	[***A. weissiana*** (p. 144)]
Impatiens sultani	(lv., st.)	Balsaminaceae	69.	***A. impatientis*** (p. 62)
Inula britannica	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Inula conyza	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Ipomoea batatas	(st., petioles, fruits, lv.)	Convolvulaceae	112.	***A. calystegiae*** (p. 73)
Ipomoea batatas	(lv., st.)	Convolvulaceae	9.	***A. convolvuli*** (p. 46)
Ipomoea purpurea (= *Pharbis hispida*)	(st., petioles, fruits, lv.)	Convolvulaceae	112.	***A. calystegiae*** (p. 73)
Iris pseudacorus	(lv.)	Iridaceae	167.	***A. iridis*** (p. 86; Fig. 48, p. 86)
Jasminum sp.	(lv.)	Oleaceae	217.	***A. fraxinifolia*** (p. 99)
Juglans manchurica	(lv.)	Juglandaceae	162.	***A. juglandis*** (p. 85)
Juglans regia	(fruits, green pericarp)	Juglandaceae	n29.	[***A. juglandis*** (p. 147)]
Juglans regia	(lv.)	Juglandaceae	162.	***A. juglandis*** (p. 85)
Juncus squarrosus	(inflorescence stalks, bracts)	Juncaceae	16.	***A. junci*** (p. 48)
Kuhnia sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Lactuca sativa	(st.)	Compositae	n16.	[***A. lactucae*** (p. 145)]
Lagochilus platyacanthus	(lv.)	Labiatae	18.	***A. lagochili*** (p. 49; Fig. 7, p. 49)
Lallemantia iberica f. *sulfurea*	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Lamium album	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Lappa sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Lapsana sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Larix deciduous	(young plant)	Pinaceae	233.	***A. laricina*** (p. 103)
Lathyrus latifolius	(lv., oth. pts.)	Leguminosae	21.	***A. pisi*** (p. 50; Fig. 9, p. 51)
Lathyrus sylvestris	(lv.)	Leguminosae	179.	***A. lathyri*** (p. 90)
Lavatera spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Leguminosae	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Leguminosae	(lv., oth. pts.)	Leguminosae	181.	***A. phaseolorum*** (p. 90; Fig. 52, p. 91)
Leguminosae	(lv., oth. pts.)	Leguminosae	21.	***A. pisi*** (p. 50; Fig. 9, p. 51)
Lens esculenta	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Leonurus cardiaca	(lv., st.)	Labiatae	170.	***A. leonuri*** (p. 87; Fig. 49, p. 89)
Lepidium ruderalis	(lv.)	Cruciferae	119.	***A. lepidii*** (p. 75)
Levisticum officinale	(lv.)	Umbelliferae	43.	***A. levistici*** (p. 56)
Libanotis montana	(lv.)	Umbelliferae	309.	***A. libanotidis*** (p. 121)

Substrate	afflicted parts	Host plant family		*Ascochyta* species ("not examined sp." in "[]")
Ligularia heterophylla	(lv.)	Compositae	107.	***A. ligulariae*** (p. 72; Fig. 29, p. 72)
Ligularia macrophylla	(lv.)	Compositae	107.	***A. ligulariae*** (p. 72; Fig. 29, p. 72)
Ligularia persica	(lv.)	Compositae	107.	***A. ligulariae*** (p. 72; Fig. 29, p. 72)
Ligularia tussilaginea var. *formosana*	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Ligustrum vulgare	(lv.)	Oleaceae	218.	***A. ligustri*** (p. 99)
Limonia australis	(lv.)	Rutaceae	272.	***A. bombycina*** (p. 112)
Limonia australis	(lv.)	Rutaceae	275.	***A. hesperidearum*** (p. 113)
Linaria vulgaris	(lv., st.)	Scrophulariaceae	287.	***A. euphrasiae*** (p. 115)
Linum catharcticum	(st.)	Linaceae	199.	***A. lini*** (p. 94)
Linum usitatissimum	(st.)	Linaceae	199.	***A. lini*** (p. 94)
Liriodendron tulipifera	(lv.)	Magnoliaceae	202.	***A. liriodendri*** (p. 95)
Lolium multiflorum	(lv., spikelets)	Gramineae	144.	***A. desmazieri*** (p. 80; Fig. 39, p. 81)
Lolium perenne	(lv., spikelets)	Gramineae	144.	***A. desmazieri*** (p. 80; Fig. 39, p. 81)
Lomatium grayi	(lv.)	Umbelliferae	310.	***A. lomatii*** (p. 121)
Lonicera spp.	(lv.)	Caprifoliaceae	91.	***A. tenerrima*** (p. 67; Fig. 23, p. 68)
Lonicera tatarica	(branches)	Caprifoliaceae	90.	***A. tatarica*** (p. 67)
Lunaria rediviva	(lv.)	Cruciferae	121.	***A. pachyphragmae*** (p. 75)
Lupinus arboreus (?)	(lv., fruits, st.)	Leguminosae	175.	***A. coluteae*** (p. 88)
Luzula campestris	(lv., st.)	Juncaceae	165.	***A. teretiuscula*** (p. 86)
Luzula divaricata	(lv.)	Juncaceae	164.	***A. paucisporula*** (p. 86)
Luzula parviflora	(lv.)	Juncaceae	163.	***A. luzulicola*** (p. 85; Fig. 47, p. 86)
Luzula pedemontana	(lv., st.)	Juncaceae	165.	***A. teretiuscula*** (p. 86)
Luzula pilosa	(lv., st.)	Juncaceae	165.	***A. teretiuscula*** (p. 86)
Luzula piperi	(lv.)	Juncaceae	164.	***A. paucisporula*** (p. 86)
Luzula silvatica	(lv., st.)	Juncaceae	165.	***A. teretiuscula*** (p. 86)
Magnolia grandiflora	(lv.)	Magnoliaceae	n39.	[***A. magnoliae*** (p. 148)]
Magnolia obovata	(lv.)	Magnoliaceae	n39.	[***A. magnoliae*** (p. 148)]
Malva spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Mangifera indica	(lv.)	Anacardiaceae	54.	***A. mangiferae*** (p. 59)
Manihot utilissima	(lv.)	Euphorbiaceae	n23.	[***A. manihotis*** (p. 146)]
Marchantia sp.	(dead thalli)	Hepaticae	n28.	[***A. marchantiae*** (p. 147)]
Matricaria sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Matthiola incana	(lv.)	Cruciferae	120.	***A. matthiolae*** (p. 75)
Medicago sativa	(st.)	Leguminosae	n33.	[***A. pisi* var. *medicaginis*** (p. 147)]
Melica nutans	(lv., culms)	Gramineae	148.	***A. melicae*** (p. 82; Fig. 42, p. 82)
Melilotus officinalis	(lv., oth. pts.)	Leguminosae	186.	***A. viciae*** (p. 91; Fig. 53, p. 91)
Melissa officinalis	(lv.)	Labiatae	171.	***A. melissae*** (p. 88)
Mentha arvensis	(lv., st.)	Labiatae	170.	***A. leonuri*** (p. 87; Fig. 49, p. 89)
Mentha longifolia	(lv., st.)	Labiatae	170.	***A. leonuri*** (p. 87; Fig. 49, p. 89)
Menyanthes trifoliata	(lv.)	Menyanthaceae	206.	***A. menyanthicola*** (p. 96)
Mercurialis annua	(lv., st.)	Euphorbiaceae	132.	***A. mercurialis*** (p. 78)
Mercurialis perennis	(lv., st.)	Euphorbiaceae	132.	***A. mercurialis*** (p. 78)
Mertensia virginica	(lv.)	Boraginaceae	77.	***A. boraginis*** (p. 63)
Mimulus langsdorfii	(lv.)	Scrophulariaceae	n52.	[***A. mimuli*** (p. 150)]
Mirabilis sp.	(lv.)	Nyctaginaceae	214.	***A. oxybaphi*** (p. 98; Fig. 58, p. 99)
Momordica elaterium	(lv.)	Cucurbitaceae	122.	***A. elaterii*** (p. 75)
Monarda fistulosa	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
monocots	(lv.)	Various substrates	n58.	[***A. fibriseda*** (p. 151)]
Morus alba	(twigs)	Moraceae	209.	***A. miyakei*** (p. 97)
Morus alba	(lv.)	Moraceae	210.	***A. mori*** (p. 97)
Morus alba	(branches)	Moraceae	211.	***A. moricola*** (p. 97)
Mulgedium sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Muricaria alopecuroides	(lv., st.)	Tamaricaceae	301.	***A. tamaricis*** (p. 119; Fig. 93, p. 120)
Myrtus communis	(lv.)	Myrtaceae	213.	***A. myrticola*** (p. 98)
Nepeta cataria	(lv., st.)	Labiatae	170.	***A. leonuri*** (p. 87; Fig. 49, p. 89)
Nepeta mussinii	(lv., st.)	Labiatae	170.	***A. leonuri*** (p. 87; Fig. 49, p. 89)
Nepeta pannonica	(lv., st.)	Labiatae	170.	***A. leonuri*** (p. 87; Fig. 49, p. 89)
Nicotiana bergera	(lv., st.)	Solanaceae	299.	***A. petuniae*** (p. 119)
Nicotiana glauca	(lv., st.)	Solanaceae	n53.	[***A. arida*** (p. 150)]
Nyctanthes arbor-tristis	(lv.)	Verbenaceae	322.	***A. nyctanthis*** (p. 124)
Ocimum basilicum	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Onobrychis sativa	(lv.)	Leguminosae	n32.	[***A. orobi* var. *onobrychidis*** (p. 147)]
Onobrychis sativa	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Onopordon acanthium	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Oreodaphne foetens	(lv.)	Lauraceae	n30.	[***A. oreodaphnes*** (p. 147)]
Ornithopus sativus	(seeds)	Leguminosae	n31.	[***A. ornithopi*** (p. 147)]
Orobus sp.	(lv., oth. pts.)	Leguminosae	21.	***A. pisi*** (p. 50; Fig. 9, p. 51)
Orobus vernus	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Orthocarpus pusillus	(lv., st.)	Scrophulariaceae	288.	***A. garretiana*** (p. 116; Fig. 87, p. 116)
Orthocarpus tolmieus	(lv., st.)	Scrophulariaceae	288.	***A. garretiana*** (p. 116; Fig. 87, p. 116)
Osmoronia cerasiformis	(lv., st.)	Rosaceae	264.	***A. idaei*** (p. 110; Fig. 78, p. 110)
Oxybaphus nyctaginoides	(lv.)	Nyctaginaceae	214.	***A. oxybaphi*** (p. 98; Fig. 58, p. 99)
Oxycoccus macrocarpa	(lv.)	Vacciniaceae	319.	***A. oxycocci*** (p. 123)
Oxytropis pilosissima	(lv.)	Leguminosae	178.	***A. goebeliae*** (p. 90)
Oxytropis uralensis	(lv., petioles)	Leguminosae	180.	***A. oxytropidis*** (p. 90)
Pachyphragma macrophylla	(lv.)	Cruciferae	121.	***A. pachyphragmae*** (p. 75)
Paeonia officinalis	(lv.)	Paeoniaceae	29.	***A. paeoniae*** (p. 52)
Paeonia sp.	(lv.)	Paeoniaceae	29.	***A. paeoniae*** (p. 52)
Paliuris aculeatus	(lv.)	Rhamnaceae	261.	***A. paliuri*** (p. 110)
Paliuris australis	(lv.)	Rhamnaceae	261.	***A. paliuri*** (p. 110)
Panax ginseng	(lv., petioles)	Araliaceae	64.	***A. marginata*** (p. 61; Fig. 16, p. 63)
Papaver nudicaulis	(lv.)	Papaveraceae	231.	***A. papaveris*** (p. 102)
Parietaria officinalis	(lv.)	Urticaceae	316.	***A. parietariae*** (p. 123)
Patrinia rupestris	(lv., seeds)	Valerianaceae	321.	***A. valerianae*** (p. 124; Fig. 98, p. 124)
Patrinia scabiosaefolia	(lv., seeds)	Valerianaceae	321.	***A. valerianae*** (p. 124; Fig. 98, p. 124)
Pedicularis spp.	(lv., st.)	Scrophulariaceae	289.	***A. pedicularis*** (p. 116; Fig. 88, p. 116)
Peganum harmala	(branches)	Zygophyllaceae	327.	***A. pegani*** (p. 125)
Periploca graeca	(lv., dry floral envelopes)	Asclepiadaceae	68.	***A. asclepiadearum*** (p. 61)
Petasites sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Petasites vulgaris	(lv.)	Compositae	n17.	[***A. microspora*** (p. 145)]
Phaseolus sp.	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Phellodendron amurense	(lv.)	Rutaceae	277.	***A. phellodendri*** (p. 113)

Substrate	afflicted parts	Host plant family		*Ascochyta* species ("not examined sp." in "[]")
Philadelphus spp.	(lv., st.)	Saxifragaceae	286.	***A. philadelphi*** (p. 115)
Philodendron imbe	(lv.)	Araceae	62.	***A. philodendri*** (p. 60)
Phleum pratense	(lv.)	Gramineae	149.	***A. phleina*** (p. 82)
Phlomis alpina	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Phlomis tuberosa	(lv., st.)	Labiatae	169.	***A. lamiorum*** (p. 87)
Phlox drummondii	(lv., st.)	Polemoniaceae	238.	***A. phlogis*** (p. 104; Fig. 69, p. 105)
Phlox paniculata	(lv., st.)	Polemoniaceae	238.	***A. phlogis*** (p. 104; Fig. 69, p. 105)
Phyllis nobla	(lv.)	Rubiaceae	270.	***A. phyllidis*** (p. 112; Fig. 81, p. 112)
Physalis alkekengi	(lv., oth. pts.)	Solanaceae	39.	***A. physalina*** (p. 55; Fig. 13, p. 55)
Phytolacca decandra	(lv.)	Phytolaccaceae	n43.	[***A. phytolaccaceae*** (p. 149)]
Pilocarpus pinnatifolia	(lv.)	Rutaceae	n51.	[***A. pilocarpi*** (p. 150)]
Piper tungurahua	(lv.)	Piperaceae	n44.	[***A. piperina*** (p. 149)]
Pisum sativum	(lv., oth. pts.)	Leguminosae	21.	***A. pisi*** (p. 50; Fig. 9, p. 51)
Pisum sp.	(pods)	Leguminosae	n34.	[***A. pisicola*** (p. 148)]
Pisum spp.	(lv., oth. pts.)	Leguminosae	20.	***A. pinodes*** (p. 50)
Pittosporum tobira	(lv.)	Pittosporaceae	234.	***A. tobirae*** (p. 103)
Plantago aristata	(lv.)	Plantaginaceae	235.	***A. plantaginicola*** (p. 103; Fig. 68, p. 103)
Plantago major	(lv.)	Plantaginaceae	235.	***A. plantaginicola*** (p. 103; Fig. 68, p. 103)
Plantago media	(lv.)	Plantaginaceae	235.	***A. plantaginicola*** (p. 103; Fig. 68, p. 103)
Plantago rugelii	(lv.)	Plantaginaceae	235.	***A. plantaginicola*** (p. 103; Fig. 68, p. 103)
Plantago sp.	(lv.)	Plantaginaceae	235.	***A. plantaginicola*** (p. 103; Fig. 68, p. 103)
Plumbago europaea	(lv., st.)	Plumbaginaceae	236.	***A. plumbaginicola*** (p. 104)
Plumbago europaea	(lv.)	Plumbaginaceae	30.	***A. plumbaginis*** (p. 52)
Plumeria sp.	(lv.)	Apocynaceae	56.	***A. plumeriae*** (p. 59)
Poa badensis	(lv.)	Gramineae	145.	***A. ducis-aprutii*** (p. 81; Fig. 40, p. 81)
Poa cenica	(lv.)	Gramineae	145.	***A. ducis-aprutii*** (p. 81; Fig. 40, p. 81)
Poa chaixii (= *Poa sudetica*)	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Poa cookei	(lv., culms)	Gramineae	139.	***A. antarctica*** (p. 79)
Poa kerguelensis	(lv.)	Gramineae	n26.	[***A. kerguelensis*** (p. 146)]
Poa sp.	(lv.)	Gramineae	145.	***A. ducis-aprutii*** (p. 81; Fig. 40, p. 81)
Polemonium acutiflorum	(lv., oth. pts.)	Polemoniaceae	31.	***A. polemonii*** (p. 52; Fig. 11, p. 53)
Polemonium caeruleum	(lv., oth. pts.)	Polemoniaceae	31.	***A. polemonii*** (p. 52; Fig. 11, p. 53)
Polemonium campanulatum	(lv., oth. pts.)	Polemoniaceae	31.	***A. polemonii*** (p. 52; Fig. 11, p. 53)
Polygonum alpinum	(lv.)	Polygonaceae	244.	***A. marssonia*** (p. 105; Fig. 71, p. 106)
Polygonum aviculare	(lv.)	Polygonaceae	248.	***A. volubilis*** (p. 106)
Polygonum convolvulus	(lv.)	Polygonaceae	241.	***A. biguttulata*** (p. 105; Fig. 70, p. 105)
Polygonum convolvulus	(lv.)	Polygonaceae	248.	***A. volubilis*** (p. 106)
Polygonum dumetorum	(lv.)	Polygonaceae	248.	***A. volubilis*** (p. 106)
Polygonum lapathifolium	(lv.)	Polygonaceae	248.	***A. volubilis*** (p. 106)
Polygonum setosum	(st.)	Polygonaceae	245.	***A. polygoni-setosi*** (p. 105)
Polygonum sp.	(st.)	Polygonaceae	245.	***A. polygoni-setosi*** (p. 105)
Populus alba	(lv.)	Salicaceae	281.	***A. translucens*** (p. 114)

Substrate	afflicted parts	Host plant family		*Ascochyta* species ("not examined sp." in "[]")
Populus tremula	(lv.)	Salicaceae	281.	***A. translucens*** (p. 114)
Potentilla opaca	(lv.)	Rosaceae	265.	***A. potentillarum*** (p. 111)
Potentilla reptans	(lv.)	Rosaceae	265.	***A. potentillarum*** (p. 111)
Prenanthes cacaliifolia (= *Mulgedium cacaliifolium*)	(lv.)	Compositae	8.	***A. siemaszkoi*** (p. 46)
Primula sp.	(lv.)	Primulaceae	249.	***A. georgica*** (p. 107; Fig. 72, p. 106)
Primula vulgaris	(lv.)	Primulaceae	250.	***A. primulae*** (p. 107)
Prunus padus	(lv., st.)	Rosaceae	264.	***A. idaei*** (p. 110; Fig. 78, p. 110)
Psamma arenaria	(lv., culms)	Gramineae	151.	***A. sorghi*** (p. 83)
Pseudosasa speculosa	(lv.)	Gramineae	153.	***A. tragi*** (p. 83)
Psorolea acaulis	(lv.)	Leguminosae	187.	***A. woronowiana*** (p. 92)
Ptelea trifoliata	(lv.)	Rutaceae	276.	***A. nobilis*** (p. 113; Fig. 84, p. 113)
Pteridium aquilinum	(lv., st.)	Pteridaceae	251.	***A. necans*** (p. 107; Fig. 73, p. 108)
Pterocarya sorbifolia	(lv.)	Juglandaceae	162.	***A. juglandis*** (p. 85)
Pyrethrum sinensis	(st.)	Compositae	n18.	[***A. pyrethri*** (p. 145)]
Pyrethrum sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Pyrus communis	(fruits)	Rosaceae	n47.	[***A. pirina*** (p. 149)]
Quercus spp.	(lv.)	Fagaceae	134.	***A. quercus*** (p. 78; Fig. 37, p. 80)
Ranunculus abortivus	(lv.)	Ranunculaceae	254.	***A. infuscans*** (p. 108; Fig. 75, p. 108)
Ranunculus thora	(lv.)	Ranunculaceae	253.	***A. dolomitica*** (p. 108; Fig. 74, p. 108)
Reseda odorata	(lv.)	Resedaceae	258.	***A. resedae*** (p. 109; Fig. 77, p. 110)
Reynoutria japonica	(lv.)	Polygonaceae	246.	***A. reynoutriae*** (p. 106)
Rhagadiolus sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Rhamnus catharctica	(lv.)	Rhamnaceae	261.	***A. paliuri*** (p. 110)
Rhamnus purchiana	(lv.)	Rhamnaceae	261.	***A. paliuri*** (p. 110)
Rheum rhaponticum	(lv.)	Polygonaceae	247.	***A. rheicola*** (p. 106)
Rheum sp.	(lv.)	Polygonaceae	33.	***A. rhei*** (p. 53)
Rhinanthus minor	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Rhytisma acerimum	(stromata)	Aceraceae	48.	***A. velata*** (p. 57; Fig. 14, p. 59)
Ribes americanum	(lv., st.)	Saxifragaceae	286.	***A. philadelphi*** (p. 115)
Ribes nigrum	(lv.)	Saxifragaceae	37.	***A. bondarceviana*** (p. 54)
Ribes rubrum	(lv.)	Saxifragaceae	37.	***A. bondarceviana*** (p. 54)
Ricinus communis	(lv., st.)	Euphorbiaceae	132.	***A. mercurialis*** (p. 78)
Ricinus communis	(lv.)	Euphorbiaceae	14.	***A. ricini*** (p. 48)
Robinia pseudoacacia	(lv.)	Leguminosae	183.	***A. robiniae*** (p. 91)
Rorippa palustris	(lv., seeds, st.)	Cruciferae	117.	***A. cheiranthi*** (p. 74)
Rosa muscaria	(lv., prickles)	Rosaceae	n48.	[***A. rosicola*** (p. 150)]
Rubia peregrina	(lv.)	Rubiaceae	n50.	[***A. rubiae*** (p. 150)]
Rubus fruticosus var. *discolor*	(lv.)	Rosaceae	266.	***A. rubi*** (p. 111)
Rubus idaeus	(lv., st.)	Rosaceae	264.	***A. idaei*** (p. 110; Fig. 78, p. 110)
Rudbeckia sp..	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Rumex acetosella	(lv.)	Polygonaceae	243.	***A. foliicola*** (p. 105)
Rumex tianschanicus	(lv.)	Polygonaceae	34.	***A. rumicicola*** (p. 53)
Saccharum officinarum	(lv., culms)	Gramineae	154.	***A. zeicola*** (p. 83)

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
Salicornia patula (= *S. procumbens*)	(st.)	Chenopodiaceae	102.	***A. salicorniae-patulae*** (p. 69)
Salix alba	(lv.)	Salicaceae	279.	***A. salicicola*** (p. 114)
Salix babylonica	(lv.)	Salicaceae	281.	***A. translucens*** (p. 114)
Salix caprea	(lv.)	Salicaceae	280.	***A. salicina*** (p. 114)
Salix caprea	(lv.)	Salicaceae	281.	***A. translucens*** (p. 114)
Salix fragilis	(lv.)	Salicaceae	281.	***A. translucens*** (p. 114)
Salix vitellina	(lv.)	Salicaceae	282.	***A. vitellinae*** (p. 114)
Sambucus canadensis	(lv.)	Caprifoliaceae	92.	***A. wisconsina*** (p. 67)
Sambucus ebulus	(lv.)	Caprifoliaceae	86.	***A. ferdinandi*** (p. 66)
Sambucus nigra	(lv., branches)	Caprifoliaceae	87.	***A. lantanae*** (p. 66)
Sambucus nigra	(lv.)	Caprifoliaceae	92.	***A. wisconsina*** (p. 67)
Sambucus racemosa	(lv.)	Caprifoliaceae	92.	***A. wisconsina*** (p. 67)
Sambucus spp.	(lv.)	Caprifoliaceae	91.	***A. tenerrima*** (p. 67; Fig. 23, p. 68)
Samolus valerandi	(lv.)	Primulaceae	250.	***A. primulae*** (p. 107)
Sanicula marylandica	(lv.)	Umbelliferae	314.	***A. saniculae*** (p. 122)
Santalum album	(lv.)	Santalaceae	283.	***A. santali*** (p. 114; Fig. 85, p. 115)
Sapotaceae	(lv.)	Sapotaceae	285.	***A. guaranitica*** (p. 115; Fig. 86, p. 115)
Scabiosa caucasica	(lv., st.)	Dipsacaceae	129.	***A. dipsaci*** (p. 77)
Schisandra chinensis	(lv.)	Magnoliaceae	203.	***A. procenkoi*** (p. 95; Fig. 57, p. 95)
Scorzonera hispanica	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Scorzonera humilis	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Scorzonera inconspicua	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Scorzonera sp.	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Scrophularia czernyakowskiana	(lv., st.)	Scrophulariaceae	287.	***A. euphrasiae*** (p. 115)
Scrophularia nodosa	(lv., st.)	Scrophulariaceae	287.	***A. euphrasiae*** (p. 115)
Scutellaria altissima	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Securinega suffruticosa	(lv.)	Euphorbiaceae	15.	***A. securinegae*** (p. 48; Fig. 6, p. 48)
Sedum aizoon	(lv.)	Crassulaceae	115.	***A. telephii*** (p. 74; Fig. 31, p. 76)
Sedum maximum	(lv.)	Crassulaceae	115.	***A. telephii*** (p. 74; Fig. 31, p. 76)
Sedum purpureum	(lv.)	Crassulaceae	115.	***A. telephii*** (p. 74; Fig. 31, p. 76)
Sedum telephium	(lv.)	Crassulaceae	115.	***A. telephii*** (p. 74; Fig. 31, p. 76)
Selaginella helvetica	(sporophylls, sporangia)	Selaginellaceae	38.	***A. selaginellae*** (p. 55)
Senecio sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Sesamum orientale (= *S. indicum*)	(lv.)	Pedaliaceae	232.	***A. sesami*** (p. 103)
Sesleria barcensis	(lv.)	Gramineae	150.	***A. sesleriae*** (p. 82)
Sesleria coerulea	(lv.)	Gramineae	150.	***A. sesleriae*** (p. 82)
Sesleria heufleriana	(lv.)	Gramineae	150.	***A. sesleriae*** (p. 82)
Sesleria sudensis	(lv.)	Gramineae	150.	***A. sesleriae*** (p. 82)
Sesleria varia	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Sida spp.	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Silene antirrhina	(lv., st.)	Caryophyllaceae	95.	***A. silenes*** (p. 68)
Silene nutans	(lv., st.)	Caryophyllaceae	95.	***A. silenes*** (p. 68)
Silene wallichiana	(lv., st.)	Caryophyllaceae	95.	***A. silenes*** (p. 68)
Siler trilobus	(lv.)	Umbelliferae	315.	***A. vindobonensis*** (p. 122)

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
Silphium integrifolium	(lv.)	Compositae	n19.	[***A. treleasei*** (p. 145)]
Sinapis alba	(lv.)	Cruciferae	119.	***A. lepidii*** (p. 75)
Skimmia laureola	(fallen lv.)	Rutaceae	278.	***A. skimmiae*** (p. 113)
Smilax herbacea	(lv.)	Liliaceae	n38.	[***A. smilacigena*** (p. 148)]
Smilax herbacea	(lv.)	Liliaceae	191.	***A. fuscopapillata*** (p. 93)
Smilax herbacea	(lv.)	Liliaceae	196.	***A. londonensis*** (p. 93)
Smilax pulverulentum	(lv.)	Liliaceae	196.	***A. londonensis*** (p. 93)
Solanaceae	(lv., oth. pts.)	Solanaceae	295.	***A. daturae*** (p. 118; Fig. 91, p. 119)
Solanum melongena	(lv.)	Solanaceae	298.	***A. melongenae*** (p. 118)
Solanum nigrum	(lv., st.)	Solanaceae	299.	***A. petuniae*** (p. 119)
Solidago altissima	(lv.)	Compositae	106.	***A. greenei*** (p. 71)
Sonchus arvensis	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Sonchus asperus	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Sonchus leptocephalus	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Sonchus oleraceus	(lv., st.)	Compositae	110.	***A. sonchi*** (p. 72; Fig. 30, p. 76)
Sonchus oleraceus	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Sonchus palustris	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Sorghum halepense	(lv.)	Gramineae	152.	***A. sorghina*** (p. 83; Fig. 43, p. 84)
Sorghum sudanense	(lv.)	Gramineae	152.	***A. sorghina*** (p. 83; Fig. 43, p. 84)
Sorghum vulgare	(lv., culms)	Gramineae	151.	***A. sorghi*** (p. 83)
Sorghum vulgare	(lv.)	Gramineae	152.	***A. sorghina*** (p. 83; Fig. 43, p. 84)
Sparganium ramosum	(lv.)	Sparganiaceae	40.	***A. quadriguttulata*** (p. 55)
Sphaerophysa salsula	(lv.)	Leguminosae	22.	***A. sphaerophysae*** (p. 50)
Spinacia oleracea	(lv.)	Chenopodiaceae	103.	***A. boni-henrici*** (p. 70)
Spinacia oleracea	(lv.)	Chenopodiaceae	6.	***A. spinaciicola*** (p. 45)
Spiraea aruncus	(lv., st.)	Rosaceae	267.	***A. spiraeae*** (p. 111; Fig. 79, p. 111)
Spiraea chamaedrifolia	(lv., st.)	Rosaceae	267.	***A. spiraeae*** (p. 111; Fig. 79, p. 111)
Spondias mombin	(lv.)	Anacardiaceae	n2.	[***A. spondicearum*** (p. 143)]
Sporobolus affinis	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Sporobolus ruspolianum	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Staphylea colchica	(lv.)	Staphyleaceae	300.	***A. staphyleae*** (p. 119; Fig. 92, p. 119)
Staphylea pinnata	(lv.)	Staphyleaceae	300.	***A. staphyleae*** (p. 119; Fig. 92, p. 119)
Staphylea trifolia	(lv.)	Staphyleaceae	300.	***A. staphyleae*** (p. 119; Fig. 92, p. 119)
Statice occidentalis	(lv., st.)	Plumbaginaceae	236.	***A. plumbaginicola*** (p. 104)
Statice umbricata	(lv.)	Plumbaginaceae	237.	***A. tenerifensis*** (p. 104)
Stellaria graminea	(lv.)	Caryophyllaceae	96.	***A. stellariae*** (p. 68; Fig. 25, p. 68)
Sterculia diversifolia	(lv.)	Sterculiaceae	n54.	[***A. sterculiae*** (p. 150)]
Stilbocarpa polaris	(lv.)	Araliaceae	65.	***A. stilbocarpae*** (p. 61)
Stipa capillata	(lv., culms)	Gramineae	139.	***A. antarctica*** (p. 79)
Stipa pennata	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Stipa tenacissima	(lv., culms)	Gramineae	154.	***A. zeicola*** (p. 83)
Stokesia sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Stratiotes aloides	(lv.)	Hydrocharitaceae	157.	***A. akselae*** (p. 84; Fig. 44, p. 84)
Symphoricarpus racemosus	(branches)	Caprifoliaceae	88.	***A. symphoriae*** (p. 66)
Symphoricarpus racemosus	(lv.)	Caprifoliaceae	89.	***A. symphoricarpophila*** (p. 66)
Symphoricarpus spp.	(lv.)	Caprifoliaceae	91.	***A. tenerrima*** (p. 67; Fig. 23, p. 68)

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species ("not examined sp." in "[]")**
Syntrichia alpina	(dead sporogons)	Bryophyta	79.	***A. bryophyla*** (p. 64; Fig. 20, p. 64)
Syringa vulgaris	(lv.)	Oleaceae	220.	***A. orientalis*** (p. 99; Fig. 61, p. 100)
Syringa vulgaris	(lv., fruits)	Oleaceae	221.	***A. syringae*** (p. 100)
Tamarix androssowii	(lv., st.)	Tamaricaceae	301.	***A. tamaricis*** (p. 119; Fig. 93, p. 120)
Tamarix laxa	(lv., st.)	Tamaricaceae	301.	***A. tamaricis*** (p. 119; Fig. 93, p. 120)
Tamus communis	(lv.)	Dioscoreaceae	128.	***A. tami*** (p. 76)
Taraxacum sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Thalictrum minor	(lv.)	Ranunculaceae	256.	***A. savulescui*** (p. 108; Fig. 76, p. 109)
Thea sinensis	(lv.)	Theaceae	302.	***A. theae*** (p. 119)
Thlaspi perfoliatum	(lv., st.)	Cruciferae	n22.	[***A. thlaspeos*** (p. 146)]
Tortula muralis var. *aestiva*	(dead sporogons)	Bryophyta	79.	***A. bryophyla*** (p. 64; Fig. 20, p. 64)
Tortula vahliana	(stalks of sporogonia)	Bryophyta	n7.	[***A. muscorum*** (p. 144)]
Trachycarpus martianus	(lv.)	Palmae	226.	***A. trachycarpi*** (p. 101; Fig. 64, p. 102)
Tragia geraniifolia	(lv., st.)	Euphorbiaceae	132.	***A. mercurialis*** (p. 78)
Tragus racemosus	(lv.)	Gramineae	153.	***A. tragi*** (p. 83)
Tribulus terrestris	(seeds)	Zygophyllaceae	328.	***A. tribuli*** (p. 125)
Trifolium alpestris	(lv.)	Leguminosae	185.	***A. trifolii-alpestris*** (p. 91)
Trifolium repens	(lv., oth. pts.)	Leguminosae	186.	***A. viciae*** (p. 91; Fig. 53, p. 91)
Trifolium sp.	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Trigonella coerulea	(lv., st.)	Leguminosae	173.	***A. caraganae*** (p. 88; Fig. 50, p. 89)
Trollius chinensis	(lv., oth. pts.)	Ranunculaceae	36.	***A. aquilegiae*** (p. 54)
Tulipa alberti	(lv.)	Liliaceae	197.	***A. tulipae*** (p. 94; Fig. 55, p. 94)
Tussilago farfara	(lv.)	Compositae	n14.	[***A. farfarae*** (p. 145)]
Tussilago farfara	(lv., st.)	Compositae	111.	***A. tussilaginis*** (p. 73)
Typha angustifolia	(lv., st.)	Typhaceae	41.	***A. typhoidearum*** (p. 56)
Typha latifolia	(lv., st.)	Typhaceae	41.	***A. typhoidearum*** (p. 56)
Typha sp.	(lv., st.)	Typhaceae	41.	***A. typhoidearum*** (p. 56)
Urena lobata	(lv., st.)	Malvaceae	205.	***A. malvicola*** (p. 96)
Urtica cannabina	(lv.)	Urticaceae	317.	***A. urticae*** (p. 123)
Urtica dioica	(lv.)	Urticaceae	317.	***A. urticae*** (p. 123)
Urtica pilulifera	(lv.)	Urticaceae	317.	***A. urticae*** (p. 123)
Vaccinium myrtillus	(st.)	Vacciniaceae	318.	***A. myrtilli*** (p. 123)
Valeriana spp.	(lv., seeds)	Valerianaceae	321.	***A. valerianae*** (p. 124; Fig. 98, p. 124)
Veratrum album	(lv.)	Liliaceae	198.	***A. veratri*** (p. 94; Fig. 56, p. 95)
Veratrum lobelianum	(lv.)	Liliaceae	198.	***A. veratri*** (p. 94; Fig. 56, p. 95)
Veratrum nigrum	(lv.)	Liliaceae	198.	***A. veratri*** (p. 94; Fig. 56, p. 95)
Veratrum viride	(lv.)	Liliaceae	198.	***A. veratri*** (p. 94; Fig. 56, p. 95)
Verbascum blattaria	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Verbascum nigrum	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Verbascum phlomoides	(lv., st.)	Scrophulariaceae	290.	***A. verbasci*** (p. 116; Fig. 89, p. 117)
Verbascum sinuatus	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Verbascum thaspiforme	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Verbena officinalis	(lv., st.)	Verbenaceae	323.	***A. verbenae*** (p. 124)
Verbena urticifolia	(lv., st.)	Verbenaceae	323.	***A. verbenae*** (p. 124)
Vernonia	(lv.)	Compositae	n19.	[***A. treleasei*** (p. 145)]

Substrate	**afflicted parts**	**Host plant family**		***Ascochyta* species (“not examined sp.” in “[]”)**
noveborascensis				
Veronica chamaedrys	(lv., st.)	Scrophulariaceae	292.	***A. verbascina*** (p. 117; Fig. 90, p. 117)
Veronica saxatilis	(lv.)	Scrophulariaceae	292.	***A. veronicae*** (p. 117)
Viburnum lantana	(lv., branches)	Caprifoliaceae	87.	***A. lantanae*** (p. 66)
Viburnum spp.	(lv.)	Caprifoliaceae	91.	***A. tenerrima*** (p. 67; Fig. 23, p. 68)
Vicia faba	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Vicia faba	(lv., oth. pts.)	Leguminosae	23.	***A. spraguei*** (p. 50)
Vicia pannonica	(lv.)	Leguminosae	24.	***A. viciae-villosae*** (p. 51; Fig. 10, p. 51)
Vicia pisiformis	(lv.)	Leguminosae	177.	***A. emeri*** (p. 89)
Vicia sativa	(lv., oth. pts.)	Leguminosae	19.	***A. boltshauseri*** (p. 49; Fig. 8, p. 49)
Vicia spp.	(lv., oth. pts.)	Leguminosae	186.	***A. viciae*** (p. 91; Fig. 53, p. 91)
Vicia villosa	(lv.)	Leguminosae	24.	***A. viciae-villosae*** (p. 51; Fig. 10, p. 51)
Vigna catjang	(lv.)	Leguminosae	25.	***A. vignae*** (p. 51)
Vinca major	(lv.)	Apocynaceae	57.	***A. vincae*** (p. 59)
Vincetoxicum officinale	(lv., dry floral envelopes)	Asclepiadaceae	68.	***A. asclepiadearum*** (p. 61)
Vincetoxicum sibiricum	(lv., dry floral envelopes)	Asclepiadaceae	68.	***A. asclepiadearum*** (p. 61)
Viola odorata	(lv.)	Violaceae	324.	***A. violae*** (p. 124)
Viola odorata	(lv.)	Violaceae	326.	***A. violicola*** (p. 125)
Viola spp.	(lv.)	Violaceae	325.	***A. violae-hirtae*** (p. 125)
Viscaria viscosa	(st.)	Caryophyllaceae	97.	***A. viscariae*** (p. 68)
Vitis vinifera	(fruits)	Vitaceae	n57.	[***A. baccicola*** (p. 151)]
Xanthium sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Zea mays	(lv., culms)	Gramineae	146.	***A. ischaemi*** (p. 81)
Zea mays	(lv.)	Gramineae	147.	***A. maydis*** (p. 82; Fig. 41, p. 82)
Zea mays	(lv., culms)	Gramineae	154.	***A. zeicola*** (p. 83)
Zea mays	(lv.)	Gramineae	155.	***A. zeina*** (p. 84)
Zinnia sp.	(lv., st., fruits, seeds)	Compositae	105.	***A. doronici*** (p. 70; Fig. 28, p. 72)
Zizyphus jujuba	(lv.)	Rhamnaceae	260.	***A. natsume*** (p. 109)

(lv. = leaves; st. = stems; oth. pts. = other parts)

14. Fungus index

For accepted *Ascochyta* species the page containing the description and synonymy is printed **bold**, the page on which the species is listed in the key ***bold-italic.*** Page numbers of teleomorphs and figures are printed **bold** as well. An *italic* page number indicates a synonym of an accepted species. All other occurrences in the text (excluded species, cross-references, spelling variants, *etc.*) are printed in plain font.

Abbreviations: *A.* = *Ascochyta*, *Ph.* = *Phyllosticta*.