

STUDIES ON RAMULARIA AND ALLIED GENERA (I)

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The present paper is the first contribution towards a monographic study of Ramularia and related genera. A discussion on the anamorphic genera concerned is provided. Acrotheca, Didymaria, Ophiocladium, Ovularia, Pseudovularia, Ramulaspera, and Septocylindrium are reduced to the synonymy of Ramularia. Isariopsis is recognized as a separate genus, and Hawksworthiana gen. nov. is described (type species: Ramularia peltigericola Hawksw.). 44 combinations and new names are proposed, based on taxonomical as well as nomenclatural grounds.

(1) Ramularia, Didymaria, Ovularia

Unger (1833) described the genus Ramularia and two original species - R. pusilla (p.169, + pl. II, fig. 12, type host = Poa nemoralis) and R. didyma (p.169, + pl. II, fig. 10 a, type host = Ranunculus polyanthemus). A type species was not indicated. Unger's original material is not preserved. The description of R. didyma is very brief and the original drawing is rather obscure. The original drawing of R. pusilla is, however, unambiguous. Therefore, I propose the following lectotypification:

Ramularia pusilla Unger

Lectotype: Unger (1833, pl. II, fig. 12), original drawing.

Corda (1842) published the description of Didymaria with Ramularia didyma as the only species of the new genus

(= type species). Corda (l.c., p.23) emended the circumscription of Ramularia and remarked: "Diese schöne Gattung des klarsehenden Unger verdient alle Berücksichtigung. Die zweite Art (Ramularia didyma) haben wir getrennt und zu den Bactridiaceen gestellt." Hence, Corda (l.c.) definitely excluded R. didyma and considered R. pusilla as the only species of the genus Ramularia. This clearly represents an indirect typification (the first typification proposed for Ramularia). Hence, R. pusilla must be regarded as type species of Ramularia.

Some other authors considered R. urticae Ces. as type species of Ramularia (e.g. Clements and Shear 1931, Švarcman et al. 1973). But this species was not included in the original circumscription of the genus. Therefore, this proposal must be rejected. V. Arx (1970, 1983) proposed a third typification (lectotype = R. didyma). This typification undoubtedly aims at the maintenance of the "classical" use of two distinct genera - Ramularia and Ovularia ss. Saccardo. However, we should follow the first lectotypification proposed by Corda (l.c.).

Saccardo (1880) described the genus Ovularia with two original species - O. sphaeroidea (Sacc.) Sacc. and O. obovata (Fuck.) Sacc. The latter species is the type. This typification is generally recognized (e.g. Clements and Shear 1931, v. Arx 1970, 1983, Brandenburger 1985). Saccardo (1886) emended the generic circumscription of Ovularia and included the type species of Ramularia. According to Saccardo's conception, R. pusilla must be considered as a typical member of Ovularia. Hence, Ramularia and Ovularia must be lumped (cf. Subramanian 1971). Ramularia would be the correct name for Ovularia ss. Saccardo and, on account of the neotypification proposed by v. Arx (1983) for R. didyma, Didymaria would be the correct name for the "Ramularia-group" (ss. Saccardo). However, in the present paper Ramularia, Didymaria, and Ovularia are united and the generic name Ramularia remains for the entire complex.

There are several conceptions of Ovularia. Originally, it only included taxa with aseptate conidia, produced singly.

Saccardo (1886) and subsequent authors enclosed in Ovularia species with aseptate conidia either formed singly or in chains. V. Arx (1983) put special emphasis on the conidial formation and included species with 1- and 2-celled conidia, but always produced singly. Many authors doubt of the validity of the separation between Ramularia (ss. Saccardo) and Ovularia (e.g. Nannfeldt 1950, Savile 1957, Hughes 1958, Gunnerbeck 1967, Hawksworth 1980, Poelt 1983). Savile (1957) clearly stated that the genus Ovularia is not tenable.

There are three main characteristics that have been used for the separation of Ramularia and Ovularia: conidial formation (formed singly or in chains), septation, shape. The combination "conidia formed singly, aseptate, ovoid or ellipsoid-ovoid" characterizes Ovularia. Ramularia ss. Saccardo possesses more or less cylindrical, septate conidia produced in chains. There are, however, very numerous transitions between the two basic types. There are combinations of all mentioned features: conidia formed singly, ellipsoid-ovoid, but often septate (e.g. Ovularia decipiens Sacc. and Ramularia graminella (v. Höhn.) Braun); conidia ellipsoid-ovoid or cylindrical, aseptate, but often in chains (e.g. Ramularia rubicola Braun, R. nonneae Lob.) etc. Numerous species are intermediate with regard to the conidial shape, the conidial production as well as the formation of septa. Various "typical" Ramularia species possess ellipsoid-ovoid conidia, e.g. Ramularia gnaphalii (Syd.) Karak., R. melittis (Unam.) Braun, R. ballotae Massal., R. spiraeae-arunci (Sacc.) Allesch. Furthermore, the formation of 1-celled conidia in Ramularia is very common. Very numerous Ramularia-species produce 1- and 2-celled conidia, e.g. R. urticae Ces., R. thesii Syd., R. didymarioides Br. & Sacc., R. barbareae Peck, R. schulzeri Bäuml. Even the features of the conidial formation are not constant. Numerous species produce their conidia partly in chains, partly singly. The conidia possess either a single, basal scar or two scars. Ramularia aplospora Speg. and R. variabilis Fuck. are two typical examples. They must be regarded as entirely intermediate. The conidial shape ranges from subglobose, ellipsoid-ovate to cylindrical, the conidia are 1-celled or

possess septa, they are either produced singly or in chains (fig. 1). The limits between Ramularia ss. Saccardo and Ovularia are very obscure. Various species could be assigned to Ramularia as well as Ovularia. Therefore, the separation between the two genera is not justified. Furthermore, all discussed genera represent anamorphic states of a single teleomorph genus, i.e. Mycosphaerella. Hence, Ramularia, Ovularia, and Didymaria should be considered as a single genus.

(2) Septocylindrium

This name was introduced by Bonorden (1851) for Cylindrium septatum Bonorden. However, he cited this name under Cylindrium because he hesitated to recognize it fully. Bonorden (l.c., p.35) remarked: "Kein Bedenken würde ich tragen, darauf eine eigene Gattung unter dem Namen Septocylindrium zu bauen, wenn ich so glücklich gewesen wäre, mehrere Arten zu entdecken ..." Saccardo validated the genus Septocylindrium and changed the name of the type species (Septocylindrium bonordenii Sacc., Michelia 1, p.89, 1877). But the type species belongs to Ramularia:

Ramularia septata (Bonorden) Bubák, Ann. Myc. 14, p.350 (1916)

Syn.: Cylindrium septatum Bonorden (1851). Septocylindrium bonordenii Sacc. (1877). Septocylindrium septatum (Bon.) Pound (1889). Ramularia bonordenii (Sacc.) v. Höhn. (1927).

Hence, Septocylindrium must be considered as a synonym of Ramularia.

(3) Acrotheca

This genus was introduced by Fuckel (1860). The type species, A. gei Fuck., represents a typical member of the genus Ramularia.

(4) Ophiocladium

This name was described by Cavara (1893). The type species, O. hordei, is very close to Ovularia ss. Saccardo. Spargue (1946) introduced the combination Ovularia hordei. The conidiophores of this species are more or less undulate.

This feature is not sufficient to recognize a separate genus. Somewhat undulate conidiophores are not unusual in Ramularia (e.g. R. sphaeroidea Sacc.).

(5) Ramulaspera

Lindroth (1902) introduced this new generic name for Ramularia-like fungi with asperulate conidia. Ovularia salicina Vestergr. is the type species. There are, however, some additional species with somewhat verruculose-echinulate conidia (light microscope!), e.g. Didymaria linariae Pass., Ramularia sidae Olive.

SEM studies, recently carried out in our department, revealed that the smooth conidia of R. variabilis and R. spec. on Hieracium (light microscope) are, indeed, verrucose-echinulate. The warts and spines are very fine (ca 0.5 µm high or mostly shorter). The differences between "smooth" and "rough" conidia seem to be dependent on the quality of the used microscope. Ramulaspera should be included in Ramularia.

(6) Pseudovularia

There are no fundamental differences between Pseudovularia and Ovularia (= Ramularia). P. trifolii, the type species, was transferred to Ramularia by Deighton (R. argentinensis Deighton, nom. nov., Trans. Br. mycol. Soc. 59(2), p.190, 1972). Clements and Shear (1931) cited Pseudovularia as a synonym of Ovularia.

(7) Isariopsis

I. pusilla Fres. (= I. alborosella) is the type species of this genus. Savile (1957) discussed the status of Isariopsis and emphasized to recognize this genus. Gunnerbeck (1967) and Gjaerum (1967) transferred several Isariopsis taxa to Ramularia, including the type species. Hence, Isariopsis was reduced to the synonymy of the latter genus. The species of Isariopsis are clearly distinguished from Ramularia by the features of the conidiophores. They are aggregated in synnemata. Furthermore, in Isariopsis there is an obvious tendency of the conidiophores to become coloured, at least near the base. I prefer to retain Isariopsis as a

separate genus.

(8) Ramularia-like fungi on lichens

There are two lichenicolous species related to Ramularia - Ramularia peltigericola Hawksworth and Ovularia peltigeriae Keissl. The latter species was transferred to another genus (= Refractohilum peltigeriae (Keissl.) Hawksworth). The status of R. peltigericola is very doubtful. Chupp (1953, p. 491) stated: "No Mycosphaerella has ever been proved pathogenic on any host excepting those with chlorophyll." Some Ramularia species are associated with parasitic fungi (e.g. Coleosporium, Melampsora, Aecidium), but always in close connexion with their green host plants (ferns, phanerogams). The true Ramularia species usually cause leaf spots. The slender, mostly more or less cylindrical conidiophores are formed in fascicles, usually arising through the stomata of the host. The symptoms caused by R. peltigericola are different. The conidiophores are ampulliform and they are formed singly. The conidia are produced singly and stroma-like structures are absent. The connexion between R. peltigericola and teleomorphic states of Mycosphaerella is very doubtful. On account of the biological as well as morphological differences, I propose to assign R. peltigericola to a new genus.

Hawksworthiana U. Braun gen. nov.

Lichenicola. Mycelium immersum, ex hyphis vel cellulis hyalinis.

Cellulae conidiogenae monoblasticae vel 2-3 polyblasticae, ampulliformes vel subcylindricae, non septatae, hyalinae.

Conidiis hyalinis, solitariis, acrogenis, elongato-clavatis vel subcylindratis, 0-1-septatis.

Typus: Hawksworthiana peltigericola (Hawksworth) U. Braun comb. nov. (Bas.: Ramularia peltigericola Hawksworth, Notes R. bot. Garden Edinb. 38(1), p.172, 1980, type material IMI 239715 a).

The type species has been described and illustrated in detail by Hawksworth (1980). Nothing can be added.

(9) Emended circumscription of Ramularia

Ramularia Unger, Die Exantheme der Pflanzen, p.169, Wien 1833 (emend.)

Type species: R. pusilla Ung.

Syn.: Didymaria Corda, Anleit. Stud. Myc., p.32, Prag 1842, (type species: Didymaria ungeri Corda = Ramularia didyma Ung.). Septocylindrium Bonorden, Handb. allg. Mykol., p.35, Stuttgart 1851, (type species: Cylindrium septatum Bon. = Ramularia septata (Bon.) Bub.). Acrotheca Fuck., Jahrb. Ver. Naturk. Nassau 15, p.43 (1860), (type species: Acrotheca gei Fuck. = Ramularia gei (Fuck.) Lindau). Ovularia Sacc., Michelia 2, p.17 (1882), (type species: Ovularia obovata (Fuck.) Sacc. = Ramularia obovata Fuck.). Ophiocladium Cav., Z. Pflanzenkr., p.26 (1893), (type species: Ophiocladium hordei Cav. = Ramularia hordeicola Braun). Ramulaspera Lindr., Acta Soc. Fauna Fl. Fenn. 22, p.5 (1902), (type species: Ovularia salicina Vestergr. = Ramularia salicina (Vestergr.) Braun). Pseudovularia Speg., An. Mus. Nac. Buenos Aires 20, p.418 (1910), (type species: Pseudovularia trifolii Speg. = Ramularia argentinensis Deighton).

Mostly parasitic on leaves, causing leaf spots, sometimes chlorosis or without visible symptoms, occasionally saprophytic; vegetative hyphae immersed in the host tissue, very rarely partly superficial - aerial, hyaline or faintly coloured, often forming stromata, mostly in the substomatal cavities, conidiophores hyaline, continuous or septate, simple or occasionally branched, mostly fasciculate, developing on the stromata or from the immersed mycelium, mostly arising through the stomata, rarely through the epidermis, conidiogenous cells integrated, sympodially elongating, often geniculate; conidia formed singly or in chains, in some species conidia exclusively produced singly, in other species exclusively in chains, but in many cases conidial formation mixed, partly in chains, partly formed singly, conidia aseptate or septate, mostly 0-4-septate, shape variable, subglobose, ellipsoid, ovoid, cylindrical, fusiform, rarely filiform, occasionally with constrictions, with scars at both ends or with a single, basal scar, scars distinct, usually thickened, darkened, conidia hyaline, smooth or faintly verrucose - echinulate (light microscope); the known teleomorphic states belong to Mycosphaerella.

(10) Key to Ramularia and related genera (anamorphous genera of Mycosphaerella with hyaline conidiogenous structures)

(based on the key published by v. Arx (1983), but modified)

1. Conidiophores arranged in synnemata, hyaline or sometimes coloured below, yellowish to brownish, conidia usually formed singly, aseptate or septate Isariopsis Fres.
- 1' Conidiophores not arranged in synnemata, solitary or in loose fascicles, always hyaline 2
2. Lichenicolous, on Peltigera, conidiophores ampulliform, formed singly, stroma-like structures absent (correlation to Mycosphaerella very doubtful) Hawksworthiana
- 2' Leaf parasites on ferns and phanerogams, conidiophores usually slender, usually fasciculate 3
3. Conidia produced in chains or singly, shape variable, subglobose, ovoid, pyriform, ellipsoid, subclavate, cylindrical, continuous or with few septa, with a distinct scar at both ends or only with a scar at the base, smooth to rough (echinulate), conidia produced singly are aseptate or only 1-septate and usually subglobose to ellipsoid - obovate Ramularia emend.
- 3' Conidia formed singly, elongate or acicular, many-septate 4
4. Conidiogenous cells and conidia with distinct, slightly thickened, bulging scars Cercospora
- 4' Conidial scars flat, unthickened, not bulging 5
5. Parasitic on Poaceae, conidia often with lateral branches, conidiogenous cells with often protuberant scars Ramulispora
- 5' Parasitic on Dicotyledons, conidia unbranched, conidiogenous cells with non-protuberant scars ... Cercoseptoria

(the genera Miuraea and Mastigosporium - with superficial mycelium, conidiophores and conidiogenous cells undifferentiated - as well as Microdochium and Gloeocercospora - with superficial sporodochia - are not included in the key).

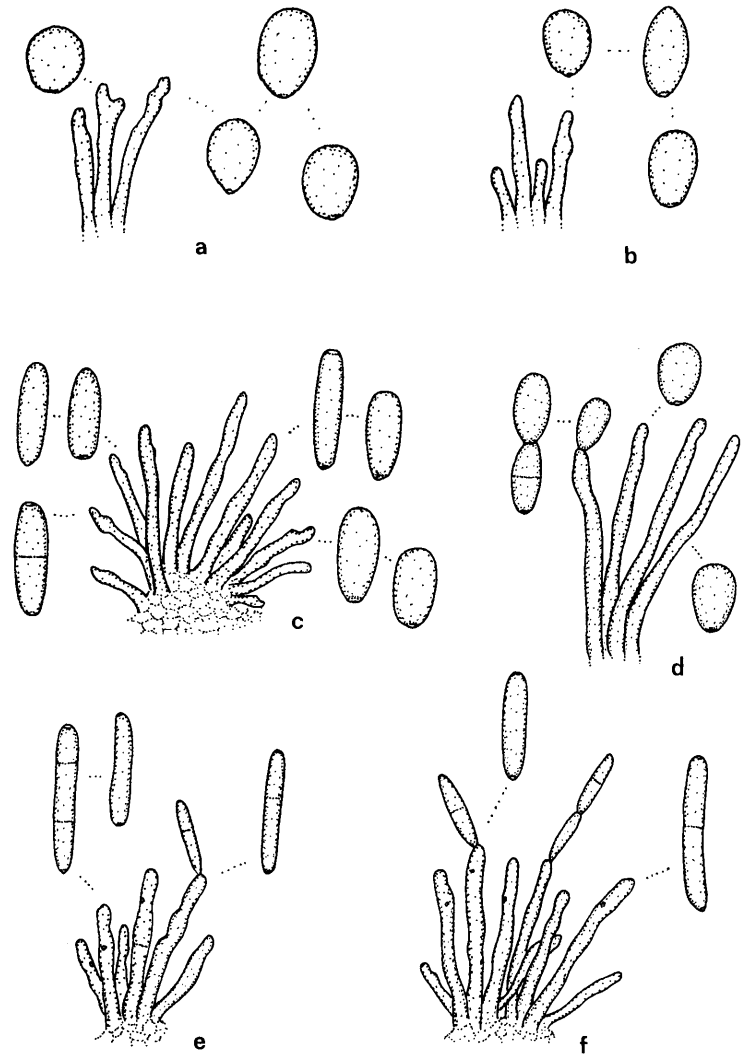


Fig. 1. The variability within the genus Ramularia, a - R. sphaeroidea, b - R. ovata, c - R. variabilis, d - R. aplospora, e - R. taraxaci, f - R. geranii (a, b = "Ovularia"-group; c, d = intermediate species; e, f = "Ramularia"-group). U. Braun del.

(11) Some taxonomically and nomenclaturally necessary changes

Ramularia abscondita (Fautr. & Lamb.) U. Braun comb. nov.

Bas.: Ovularia abscondita Fautr. & Lamb., Rev. Myc. 18, p.144 (1896).

Syn.: R. filaris var. lappae Bres., Hedw. 35, p.200 (1896). R. lappae (Bres.) Ferr., Fl. Ital. Crypt. 6, p.837 (1913).

Notes: R. lappae and O. abscondita are undoubtedly synonyms. R. abscondita is the valid name for this species.

Ramularia anaphalidis (Golovin) U. Braun comb. nov.

Bas.: Ovularia anaphalidis Golovin, Bot. mat. otd. spor. rast. 8, p.105 (1952).

Ramularia atraphaxidis (Golovin) U. Braun comb. nov.

Bas.: Ovularia atraphaxidis Golovin, Tr. sredneaz. gos. univ., N.S., biol. nauk, 14(5), p.17 (1950).

Ramularia babajaniae (Ossip.) U. Braun comb. nov.

Bas.: Ovularia babajaniae Ossip., Mikol. i Fitop. V, 1, p.87 (1971).

Ramularia baldingeriae (Elias.) U. Braun comb. nov.

Bas.: Ovularia baldingeriae Elias., Sv. Bot. Tidskr. 9, p.411 (1915).

Ramularia berberidis (Cooke) U. Braun comb. nov.

Bas.: Ovularia berberidis Cooke, Grevillea 13 (1884-85, No. 68), p.98 (1885).

Ramularia bornmuelleriana (P. Magn.) U. Braun comb. nov.

Bas.: Ovularia bornmuelleriana P. Magn., Bull. Herb. Boiss. 1903, 7, p.586 (1903).

Ramularia carletoni (Ell. & Kell.) U. Braun comb. nov.

Bas.: Ovularia carletoni Ell. & Kell., Journ. Myc., p.144 (1889).

Ramularia castaneae (Sawada) U. Braun comb. nov.

Bas.: Ovularia castaneae Sawada, Bull. Govt. For. Exp. Stat. Tokyo 105, p.82 (1958).

Ramularia chesneyae (Golovina) U. Braun comb. nov.

Bas.: Ovularia chesneyae Golovina, Dokl. Akad. nauk Uzb. SSSR 2, p.53 (1960).

Ramularia cirsii-eriphori U. Braun nom. nov.

Bas.: Ovularia conspicua Fautr. & Lamb., Rev. Myc. 17, p. 169 (1895), non Ramularia conspicua Syd. (1903).

Ramularia conferta (Syd.) U. Braun comb. nov.

Bas.: Didymaria conferta Syd., Ann. Myc. 3, p.186 (1905).

Ramularia cucurbitae (Sacc.) U. Braun comb. nov.

Bas.: Ovularia cucurbitae Sacc., Bull. Soc. Myc. Fr. 12, p. 71 (1896).

Ramularia dobrozrakoviana U. Braun nom. nov.

Bas.: Cercospora equiseti Dobroz., Bolez. rast. (Morb. pl.) 16, p.202 (1927), non Ramularia equiseti Massal. (1902).

Syn.: Didymaria equiseti (Dobroz.) Chupp, A monogr. of the fungus genus Cercospora, p.205 (1954).

Ramularia graminella (v. Höhn.) U. Braun comb. nov.

Bas.: Didymaria graminella v. Höhn., Ann. Myc. 3, p.408 (1905).

Syn.: Didymaria lutetiana Sacc., Ann. Myc. 7, p.435 (1909).

Ramularia hordeicola U. Braun nom. nov.

Bas.: Ophiocladium hordei Cav., Z. Pflanzenkr. 3, p.26 (1893), non Ramularia hordei McAlp. (1902).

Syn.: Ovularia hordei (Cav.) Spargue, Mycologia 38, p.63 (1946).

Ramularia hughesiana (Sacc.) U. Braun comb. nov.

Bas.: Ovularia hughesiana Sacc., Nuov. Giorn. bot. Ital. 27, p.85 (1920).

Ramularia jaczevskii (Negru & Vlad) U. Braun comb. nov.

Bas.: Ovularia jaczevskii Negru & Vlad, Izv. Akad. Nauk. Arm. SSR, biol. nauk. 15, 11, p.48 (1962).

Ramularia karelii (Petra) U. Braun comb. nov.

Bas.: Ovularia karelii Petra, Sydowia 10, p.109 "1956" (1957).

Ramularia lolii (Volkart) U. Braun comb. nov.

Bas.: Ovularia lolii Volkart, Jahresb. Schweiz. Samenuntersuch.-u. Versuchsanst. Zürich XXVI, Jahresb. f. 1903, Abt. Pflanzensch., p.2 (1904).

Ramularia lupinicola (Pollock) U. Braun comb. nov.

Bas.: Ovularia lupinicola Pollock, in Stevenson, Mycologia 38, p.531 (1946).

Ramularia macluræ (Ell. & Langl.) U. Braun comb. nov.

Bas.: Ovularia macluræ Ell. & Langl., J. Myc., p.35 (1890).

Ramularia melittis (Unamuno) U. Braun comb. nov.

Bas.: Ovularia melittis Unamuno, Assoc. Espan. Progr. Cien. Congr. Oporto VI, Cienc. Nat., p.95 (1921).

Ramularia minutissima (Syd.) U. Braun comb. nov.

Bas.: Ovularia minutissima Syd., Ann. Myc. 6, p.480 (1908).

Ramularia nasturtii (Pospelov) U. Braun comb. nov.

Bas.: Didymaria nasturtii Pospelov, in Golovina, Nov. sist. niz. rast. 1964, p.211 (1964).

Ramularia occulta (Sacc.) U. Braun comb. nov.

Bas.: Ovularia occulta Sacc., Ann. Myc. 10, p.313 (1912).

Ramularia pastinacæ-sativæ U. Braun nom. nov.

Bas.: Ramularia pastinacæ Bub., Pilzfl. Montenegro, p.19 (1903), non Ramularia pastinacæ (Karst.) Lindr. & Vestergr. (1902) = Cercospora pastinacæ Karst., Cercospora pastinacæ Solh. (1929).

Ramularia polliniae (P. Henn.) U. Braun comb. nov.

Bas.: Ovularia polliniae P. Henn., Engl. Bot. Jahrb. 38, p.165 (1905).

Ramularia pseudogeranii U. Braun nom. nov.

Bas.: Ovularia geranii Siemaszko, Acta Soc. Sci. Vars. 7(3), p.11 (1914).

Ramularia rhamnigena (Ell. & Ev.) U. Braun comb. nov.

Bas.: Ovularia rhamnigena Ell. & Ev., Bull. Torrey bot. Club, p.471 (1897).

Ramularia robiciana (Voss) U. Braun comb. nov.

Bas.: Ovularia robiciana Voss, Myc. Carn. IV, p.283 (1892).

Syn.: Ovularia betonicae Massal. (1889), non Ramularia be-

tonicae Chochr. (1951). ? Ovularia bullata Ell. & Ev. (1897), O. stachydis-ciliatae Peck (1911).
Ovularia stachydis Bres. belongs to R. stachydis (Pass.) Massal.

Ramularia rubiicola U. Braun nom. nov.

Bas.: Ovularia rubi Bub., Növ. Közl., p.39 (1907), non Ramularia rubi (Wint.) Wollenweber, Fusaria Autogr. Delin., 1 ed., p.470 (1916).

Syn.: Ramularia rubi (Bub.) Karakul., in Karakul. & Vassil., Fungi Imp. Paras., 1, Hyphomycetes, p.139 (1937). R. rubi (Bub.) Mangenot, Bull. Soc. Myc. Fr. 74, p.136 (1958), homonyms.

Ramularia salicina (Vestergr.) U. Braun comb. nov.

Bas.: Ovularia salicina Vestergr., Bih. K. Sv. Akad. Handl. 22, Afd. III, 6, p.28 (1896).

Syn.: Ramulaspera salicina (Vestergr.) Lindr. (1902).

Ramularia scirpina (Sacc.) U. Braun comb. nov.

Bas.: Didymaria scirpina Sacc., Ann. Myc. 11, p.551 (1913).

Ramularia solheimii U. Braun nom. nov.

Bas.: Ovularia asteris Solh., Univ. Wyom. Publ. 7, p.41 (1940), non Ramularia asteris (Plowr. & Phil.) Bub. (1908).

Ramularia symphoricarpi (Ell. & Ev.) U. Braun comb. nov.

Bas.: Didymaria symphoricarpi Ell. & Ev., Bull. Torrey bot. Club, p.471 (1897).

Ramularia torrendii (Bres.) U. Braun comb. nov.

Bas.: Cercospora torrendii Bres., Ann. Myc. 18, p.57 (1920).

Syn.: Cercospora ranunculi Jaap, Ann. Myc. 14, p.41 (1916), non Ramularia ranunculi Peck (1883). Ramularia ranunculi-muricati Joerst., Skr. norsk. vid. akad., 1. Math.-Nat. Kl., N.S., 7, p.55 (1962).

Ramularia tovarae (Sawada) U. Braun comb. nov.

Bas.: Ovularia tovarae Sawada, Bull. Govt. For. Exp. Stat. Tokyo 105, p.83 (1958).

Ramularia tuberculiformis (v. Höhn.) U. Braun comb. nov.

Bas.: Ovularia tuberculiformis v. Höhn., Österr. Bot. Z. LV, p.187 (1905).

Ramularia vitis (Richon) U. Braun comb. nov.

Bas.: Ovularia vitis Richon, Cat. Champ. Marn., no.1899,

Vitry 1889.

Ramularia vogeliana (Sacc. & Syd.) U. Braun comb. nov.

Bas.: Ovularia vogeliana Sacc. & Syd., Ann. Myc. 2, p.194 (1904).

Ramularia zeretelliana U. Braun nom. nov.

Bas.: Didymaria onobrychidis Zeretelli, Bolez. rast. (Morb. pl.) 13(2), p.60 (1924), non Ramularia onobrychidis Allesch. (1891).

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