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Novel fungal taxa from the arid Middle East (1940-2000) : omissions from previous notes

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Abstract – Succeeding two compilations respectively of novel soil-borne fungal taxa and of novel taxa from habitats other than soil, 54 additional novel taxa similarly originating from the arid Middle East and introduced since World War II are here documented. 41 genera are represented. They concern 27 Ascomycetes (including ten lichenized and one lichenicolous forms), 17 anamorphic fungi, 7 Basidiomycetes, 2 Myxomycetes and one Oomycete. The nomenclatural status of each novel taxa is clearly defined. Changes in taxonomic positions are also reported whenever these could be located following present-day knowledge or established from published notes. Some annotations of morphological or of ecological nature are also indicated. A lectotype is designated for *Gymnascella marismortuis*. The note also considers some recently published taxonomic decisions but relating to few previously treated taxa. This third contribution is expected to refine the mycological history of the fungal population of this arid region.

Novel fungi / documentation / biodiversity / taxonomy / Middle East / ascomycetes / basidiomycetes / anamorphic fungi

Résumé – La présente note est un additif aux deux listes annotées précédentes traitant des taxons nouveaux pour la Science originaires du Moyent Orient, introduits durant la période 1940-2000. 54 éléments appartenant à 41 genres sont considérés : 27 Ascomycètes (dont dix lichénisants et un lichenicole), 17 champignons anamorphiques, 7 Basidiomycètes, deux Myxomycètes et un Oomycète. Chaque élément fait l'objet d'une évaluation critique de sa position nomenclaturale et du statut taxonomique ; des données d'ordre morphologique et écologique sont également rapportées. Les taxons traités révèlent une origine tellurique ou sont issus d'habitats autres que le sol, sources principales des organismes rapportés dans les deux notes antérieures. Un lectotype est désigné pour *Gymnascella marismortuis*. Cet additif considère aussi des décisions d'ordre taxonomique relatives à des espèces inscrites dans les deux notes publiées. Son contenu devrait permettre d'affiner l'histoire mycologique de la population fongique de cette région aride particulière.

Champignons nouveaux pour la science / documentation / biodiversité / taxonomie / Moyen Orient / ascomycètes / basidiomycètes / champignons anamorphiques

INTRODUCTION

Novel fungal taxa having original localities situated in the arid Middle East and introduced in the decades 1940-2000 were documented in two previous notes (Mouchacca 1995, 1999 b). The first dealt mainly with soil-borne taxa; the

second considered novel fungi from habitats other than soil. For each novel taxon, basic descriptive information with characteristics of type material (and whenever possible of location) was then given. Extensive search was also undertaken to update individual taxonomic positions whenever changes were expected to occur following present day knowledge. Based on recently published information, justification of many infraspecific taxa was in few cases considered insufficient. Finally for binomials not reassessed since their proposal, information on the respective genera was provided instead.

Recently an attempt was undertaken to collate names of novel fungal taxa introduced in the same period but originating instead from the three states of the Maghreb region. This led to the discovery of binomials of a number of novel fungal taxa not considered in the two previous notes on the Middle East zone. These omissions form the material of the present contribution. The latter also includes a number of taxonomic decisions unreported in the same previous notes.

LIST OF TREATED TAXA

Binomials of the present omissions that proved to be ***still taxonomically valid*** are printed in ***bold italic characters***. Similar binomials but of *invalidly published or of synonymized taxa* are in underlined *simple italic characters*. *Other binomials cited* are in *simple italics*.

Taxa considered are grouped following gross taxonomic characters at the Class level. For each a set of data identical to the one reported in the previously published relevant notes is again provided. This is also commonly followed by a concise annotation on the taxonomic affinities and of salient ecological features of the treated organism.

Fungal authors' names are abbreviated following the recent electronic version of Kirk & Ansell 'Authors of Fungal Names' (2003). Herbaria are abbreviated in accordance with *Index Herbariorum* (Holmgren *et al*. 1990). For herbaria or collections not included in this document the following acronyms were used:
CMPG – Collection Pharmacie Université de Grenoble, Fungi Herb. Grenoble, France;
FMR – Faculty of Medecine, Reus, University of Taragona, Spain; and
HAI (or sometimes UHA) – Herbarium Institute of Evolution, Haifa University, Haifa, Israël.

Myxomycetes

Dictyostelium arabicum H. Hagiw. – Bulletin of the National Science Museum Tokyo, Series B: Botany 17: 110. 1991. Holotype: TNS M-50021 (ex Hagiwara OD-15). OMAN. In humus layer of grassland, field and orchard in a highland (850 m alt.) at Qairun Hairiti, Dhufar Province. The new dictyostelid is a PG-negative species, i.e., it makes spores without polar granules. Macroscopically close to *Dictyostelium brefeldianum* Hagiw. on the basis of similar large white sporocarps. It could, however, mainly be distinguished by the clavate sporophore tips not being capitate as in the latter. Additional characters are the production of supporters in the case of prostrate sporophores and the presence of stout sporophores often surrounded by somewhat well-developed basal disks; the latter are sometimes accompanied by supporting cells.

In this first study of Oman dictyostelids around 12 species could be reported from the soil samples collected in the twelve different sites of this province.

Physarum rayssiae Ramon – Israël Journal of Botany 17: 299. 1968 (1969). Holotype: HUJ ?; isotype Kew. ISRAEL. On dead pine needles, common in and around Jerusalem city, 6.XII.1960, E. Ramon. The myxomycete was regarded to approximate *Physarum variegatum* Thind & Dhillon in having the double-layered sporangial wall, the sporangiate and plasmodiocarpous fructifications, the colour of the lime knots and spores size. Differs, however, by fructifications laterally compressed of a whitish or yellowish lighter colour, delicate inner sporangium layer, a well branched capillitium and the presence of a small columella. Dedicated to Prof. T. Rayss the well known 'student of Palestinian fungi and algae' of the Hebrew University of Jerusalem.

In this first contribution on the myxomycetes of the Palestine area a total of 39 taxa were surveyed [Ramon 1968 (1969)]. Similar preliminary data for the nearby subtropical Upper Egypt region due to Abdel-Raheem (2002) consider 20 species belonging to 17 genera.

Oomycetes

Calyptralegnia basraensis Muhsin – Polske Archivum Hydrobiologii 41: 415. 1994. Holotype: BSRA Muhsin 201 [as UBCEH (University of Basrah College of Education Herbarium) TMM 201]. IRAQ. From a water sample of the Shatt Al Arab river, Abul-Khasib site, close to Basrah city, southern Iraq, January 1993. This is the third known member of *Calyptrolegnia* Coker, type species *C. achlyoides* (Coker & Couch) Coker [basionym: *Thraustotheca achlyoides* Coker & Couch]. The genus is mainly characterized by the presence of an operculum (lid) at the apex of the zoosporangia. The Iraqi species was distinguished on the ground of large oogonia and centric oospores. Antheridia were not reported.

Ascomycetes

I. Non lichenized forms

Chaetomium dreyfussii Arx, in Arx, Guarro & Figueras – Beihefte zur Nova Hedwigia 84: 6. 1986. Holotype: CBS 376.83 (= SM 32). ISRAEL. From hare dung, M. Dreyfus. Main diagnostic features: Ascomata spherical to ovate, ostiolate, 140-200 µm, wall of angular brown, thick-walled cells; ascomatal hairs seta-like, mainly in the upper part, erect, unbranched, brown, smooth; asci clavate, 8-spored, 36-52 × 12-15 µm. Ascospores fusiform or elongate pyriform, when mature with a brown central part and pale apical parts, 14-16 × 5-6 µm, with a distinct apical germ pore.

This peculiar species may be related to *Chaetomium atrobrunneum* Ames, which has similar, black, setose ascomata, but it deviates by ascospores being much smaller. Still known only from the original collection (CBS List of Cultures 35th edition 2001). Dedicated to the Swiss mycologist M. Dreyfuss for his contributions on this ascomycetous genus.

Chaetomium oblatum Dreyfuss & Arx, in Arx, Guarro & Figueras – Beihefte zur Nova Hedwigia 84: 6. 1986. Holotype: CBS 790.83. ISRAEL. Isolated from seeds of an unknown plant, Moledat, M. Dreyfuss. Main diagnostic features: Ascomata ovate or ampulliform, ostiolate, 70-110 µm, with a pale brown wall of angular,

4-8 µm cells; ascomatal hairs numerous, long, regularly coiled, brown, verrucose, 1.5-2 µm broad. Asci clavate, 8-spored; ascospores oblate or hemispherical, brown, 6-7.5 × 4-5 µm, without a distinct germ pore.

This is the only *Chaetomium* species with oblate ascospores. It shows some affinities to *Ch. uniporum* Aue & E. Müll. originating from Egypt but with ovate ascospores. On common agar media sporulation is very weak but this is enhanced by the use of sterilized wood and stems of *Apiaceae* (Arx, Guarro & Figueras 1986).

Cochliobolus cymbopogonis J.A. Hall & Sivan. – Transactions of the British Mycological Society 59: 315. 1972; Sivanesan - Mycological Papers 158: 110. 1987. Holotype: IMI 130402. The SUDAN. In culture from *Sorghum* seeds, 27.XI.1967, Fraser.

anamorph: *Curvularia cymbopogonis* (Dodge) Groves & Skolko [as '*cymbopogi*'] – Canadian Journal of Research 23: 96. 1945.

basionym: *Helminthosporium cymbopogonis* Dodge [as '*cymbopogi*'] - Annales of the Missouri Botanical Garden 29: 139. 1942.

The fungus is homothallic and the teleomorph is produced by growing conidial isolates on a suitable agar media with wheat straw. It induces seed and seedling blight and leaf spots of *Cymbopogon mardus* (citronella grass) and *C. citratus* (lemon grass). Also reported from several tropical and subtropical countries in Africa and Central and South Americas (Sivanesan 1987).

Coniochaetidium nuciforme Guarro, Gené, Al-Bader & Abdullah – Mycoscience 38: 123. 1997. Holotype: IMI 372758; isotype FMR 5776. IRAQ. From forest soil, Nineva, Mosul, 20.III.1995, S.M. Al-Bader & S.K. Abdullah. The specific epithet refers to the nut shaped ascospores. *Coniochaetidium* Malloch & Cain groups few species with non-ostiolate, globose ascomata and dark ascospores having a germ slit laterally extending nearly the entire spore length. In the closely related *Coniochaeta* (Sacc.) Cooke, the ascomata are ostiolate and usually with stiff hairs. The Iraqi fungus has 4-spored asci, uniseriate ascospores, dark olivaceous brown, oblate, with the convex hemispheres slightly umbonate, nut shaped, smooth-walled, 19-22.5 × 13.5-17.5 µm, with a longitudinal germ slit lying between two prominent and close ridges. No anamorph developed *in vitro*.

Coniochaetidium savoryi (Booth) Malloch & Cain [basionym: *Thielavia savoryi* Booth] also has 4-spored asci but the ascospores are definitely larger. *Coniochaeta nodulisporoides* D. Hawksw. originating from Jordan has similar 4-spored asci but the comparatively smaller ascospores are provided with a protruding rim; also an associated *Nodulisporium* Preuss state anamorph develops in culture (see Mouchacca 1999 b).

Corynascella arabica Guarro, Al-Saadoon, Gené & Abdullah – Mycologia 89: 955. 1997. Holotype: FMR 5873; isotype: IMI 375017. IRAQ. From donkey dung, Barjisia, Basrah, 10.II.1995, S.K. Abdullah & A.H. Al-Saadoon. The protologue was based on ascomata developing in nature, attempts to obtain pure cultures of the fungus being unsuccessful. The species is the sole member of *Corynascella* Arx & Hodges with a cephalothecoid peridium, this being of *textura intricata* or *epidermoidea* in the other known members. The presence of thick-walled ascospores with germinal pores at each end favoured its relocation in *Corynascella*. No anamorph was observed but paraphyses are reported; these are hyaline, filiform, septate, 1.5-2.5 µm diam.

Gymnascella marismortuis Buchalo, Nevo, Wasser, Oren & Molitoris - Proceedings of the Royal Society, London 265: 1462. 1998. Holotype: UHA No. 1632 and KW No. 2005; *nom. inval.*, Art. 37.3 ICBN. ISRAEL. ***Gymnascella marismortuis*** Buchalo, Nevo, Wasser, Oren & Molitoris: Specimen UHA No. 1632 is here designated as LECTOTYPE.

Isolated from a water sample of the Dead Sea taken close to the locality of Ein-Zukim. The specific epithet refers to the original habitat, a most saline lake on earth with salinity attaining 340 g / l (water activity around 0,669). The new ascomycete is able to grow on media containing up to 50 % Dead Sea water. Optimal growth was obtained on malt agar supplemented with 1 M NaCl at 26 °C. No growth developed on common laboratory media. This 'obligate halophile' proved to tolerate salinities in the range 0.5-2.0 M NaCl or 10-30 % (by volume) of Dead Sea water. In addition to these physiological abilities ***Gymnascella marismortuis*** is distinguished by pale yellow lenticular ascospores, 5.3-6.6 µm in diam., 3.3-4.7 µm wide, provided with a broad equatorial rim, 1.5-2.2 µm wide; arthroconidia, chlamydospores and nodulose hyphae are also present.

Meliola sudanensis Hansford – Sydowia 10: 91. 1956; Hansford - The Meliolinae. A Monograph. Beihefte zur Sydowia II: 162. 1961. Holotype: IMI 40111. The SUDAN. On leaves of *Combretum* sp., Yambo, S.A.J. Tarr No. 409; isotypes Tarr Nos. 432 & 431 (= IMI 40112 & 40113). No additional collections are cited by Hansford (1961) in his treatment of the Meliolinae.

Neotestudina rosatii Segretain & Destombes – Comptes Rendus hebdomadaires des séances de l'Académie des Sciences, Paris 253: 2579. 1961; Hawksworth & Booth - Mycological Papers 135: 27. 1974 [as '*Zopfia rosatii*']; Domsch *et al.* - Compendium of Soil Fungi: 513. 1980.

= *Pseudophaeotrichum sudanense* Aue, E. Müll. & Stoll – Nova Hedwigia 17: 84. 1969. Holotype: ZT M7140; isotypes CBS 512.69 = IMI 173129. The SUDAN. Isolated from soil, Wadi Medani, 14.XI.1966, A. Riggenbach. Type species of *Pseudophaeotrichum* Aue, E. Müll. & Stoll – Nova Hedwigia 17: 84. 1969. Synonymy *fide* Hawksworth 1979.

Neotestudina Segretain & Destombes was first regarded as congeneric with *Zopfia* Rabenh. by Hawksworth & Booth (1974) but it was subsequently reintroduced by Hawksworth (1979). The type species *N. rosatii* was originally isolated from severe white-grained mycetomas of human foot in Somalia by L. Rosati. It was later reported from similar mycetomas in other African countries and also in Australia. The fungus was subsequently repeatedly observed in dry soil in Senegal which suggests that it is a rather common component of the local soil mycoflora. Other known habitats include groundnut, coriander, *Vigna sinensis* and soil in Africa, Australia and India (Domsch *et al*. 1980).

Pleospora eucalypti J.L. Mulder – Mycological Research 92: 116. 1989. Holotype: IMI 321842. KUWAIT. On bark of *Eucalyptus camaldulensis* Dehn., University campus, Shuwaikh, Kuwait City, 7.XI.1986, J.L. Mulder (JM 203). The exposed bark of *Eucalyptus* trees in Kuwait is subjected to extreme conditions of solar radiation and dessication by the dry hot prevailing air current. Such bark surfaces proved to be colonised by a single dominating fungus. Following Mulder (1989) species dwelling in such an ecological niche may be predictably different from related ones developing under less environmental stress. The Kuwaiti fungus produces muriform biseriate ascospores, mostly obovoid, tapering sharply at one end, light brown, commonly 3-4 septate, 14-18 × 7-8 µm. Close to *P. chartarum* Fuckel

having consistantly larger ascospores, 17-24 × 7-9 µm, with coarsely echinulated walls. A *Phoma*-like anamorph developed in culture.

Pleospora gracilariae E.G. Simmons & Schatz, in Simmons – Memoirs of the New York Botanical Garden 49: 305. 1989. Holotype: BPI ex EGS 37-373. ISRAEL. Isolated from *Gracilaria* sp. (Algae), 1983, S. Schatz.
anamorph: ***Stemphylium gracilariae*** E.G. Simmons sp. nov. – Memoirs of the New York Botanical Garden 49: 305. 1989.

Simmons (1989) emphasized that 'diagnostic clues to the uniqueness of ***Pleospora gracilariae*** among known *Pleospora* species with *Stemphylium* anamorphs are its comparative speed of ascoma maturation in culture and the small size of its ascospores'. Production of mature ascospores within 9-12 days after inoculation is the shortest generation span observed thus far for any member of the genus. These ascospores are also among the smallest yet known of the established *Pleospora* / *Stemphylium* holomorphs by Simmons (2001): 28-29.5 × 12.5-13.6 µm. In addition and among the same set of components, only *S. globuliferum* (Vestergr.) E.G. Simmons has mature conidia in culture being smaller than those of ***S. gracilariae***: 28-32 × 18-23 µm.

Polystigma amygdalinum P.F. Cannon – Mycological Research 100: 1416. 1996. Holotype: IMI 353415. ISRAEL. On leaves of *Prunus dulcis,* Kibbutz Givat Oz, 28.II.1992, A. Lin.
= *Septoria rubra β amygdali* Desmaz. – Annales des Sciences Naturelles, Sér. Botanique 2, 19: 343. 1843.
= *Polystigma rubra* var. *amygdali* (Desmaz.) Sacc. [as '*amygdalinum*'] – *Sylloge Fungorum* 3: 622. 1884.
= *Polystigma rubrum* var. *amygdalis* Rehm – Annales Mycologici 4: 70. 1906, *nom. nud*.
All synonymies *fide* Cannon 1996.

The species is a serious pathogen of almonds in the Middle East, often causing premature defoliation. Known host species are *Prunus dulcis* (syn. *P. amygdalus*, *Amygdalus communis*, *A. webbii*), *Amygdalus nana* and *A. ledebouriana*. The fungus has been referred to in the past both as *Polystigma ochraceum* (Wahlenb.) Sacc. (now a synonym of *P. fulvum* DC) and as *P. rubrum* (Pers.) DC but is distinct from these species in stromatal morphology and ascospore shape. It was described as a new species due to the difficulties of typifying unequivocally Desmazières' name, *Septoria rubra β amygdali*. The present distribution encompasses the Mediterranean zone (inclusive of the Middle East area) being also recorded in Afghanistan, India, Iran, Kazakhstan, Romania and Ukraine (Cannon 1996).

Preussia constricta Guarro, Al-Saadoon & Abdullah – Nova Hedwigia 64: 177. 1997. Holotype: FMR No. 5949 (Medical School of Reus, Spain). IRAQ. On sheep dung, Zurbatia, Wasit, 24.VII.1995, A.H. Al-Saadoon. The presence of distinct connectives joining the cells of the ascospores is a unique feature depicting the new species and *Preussia leporina* (Niessl.) Arx among presently known members of the genus. In ***P. constricta*** the ascospores are fusiform-cylindrical, 64-82 × 19-25 µm, dark brown and opaque when mature, transversely 3-septate, deeply constricted at the septa; ascospore cells not easily separable, joined by distinct, narrow connectives, 3-4 × 0.5-0.8 µm, cells about equal in length; germ slit oblique to parallel; gelatinous sheath hyaline, 3-6 µm broad. Similar ascospores of *P. leporina* are smaller: 30-35 × 5.5-6.5 µm.

Preussia hexaphragmia Guarro, Al-Saadoon & Abdullah – Nova Hedwigia 64: 178. 1997. Holotype: FMR No. 5648. IRAQ. On sheep dung, Hadra, Nineva, 21.III.1995, S.K. Abdullah. The new addition is distinguished by ascospores 100-120 µm long, made up of seven cells easily separating at maturity. Six other known taxa share also this feature. They were formerly ascribed to *Sporomiella* Ellis & Everh., a genus presently regarded to match *Preussia* Fuckel and finally transferred to the latter (Guarro, Al-Saadoon & Abdullah 1997 & Guarro *et al*. 1997). Members of this small group are easily segregated by ascospores morphology and size.

Preussia variospora Abdullah, Al-Saadoon & Guarro – Nova Hedwigia 69: 211. 1999. Holotype: FMR No. 5964. IRAQ. On sheep dung, Namrud, Mosul, XI.1994, S.K. Abdullah & A.H. Al-Saadoon. The fungus has ascospores being seven- or eight- celled, moderately to deeply constricted at the septa, dark brown, 65-75 × 7-12 µm, with cells easily separating at maturity. Seven species of *Preussia* Fuckel with seven-celled ascospores have been described: five have shorter ascospores, *P. hexaphragmia* Guarro *et al*. has longer ascospores and finally *P. heptamera* (Auersw.) Guarro has wider ascospores (16-18 µm).

<u>*Pulvinula constellatio*</u> (Berk. & Broome) Boud. var. <u>*microspora*</u> Nemlich & Aviz. Hersh. – Israël Journal of Botany 25: 44. 1976; *nom. inval*., Art. 37.1 ICBN. Holotype: ?. ISRAEL. The fungus proved to very common in shaded, rich sandy loam soils of the coastal plain. Several collections are cited in the publication basically from the Judean Hills and Sharon Plain. They developed in the vicinity of *Quercus calliprinos*, *Cupressus sempervirens*, *Pinus* spp., *Eucalyptus rostrata* and *Cistus salvifolia*. This collection may probably be housed at the Dept. of Plant Pathology, Agricultural Research Organisation, The Volcani Center, Bet Dagan. Regarded to differ from the species 'as described in the literature' by smaller globose ascospores, 8.3-11.3 µm *vs* 13-15 µm or even 15-20 µm, and by concomitantly less developed asci: 150-220 × 10-12 µm *vs* 250 x 22 µm or even 250-300 × 20 µm.

Pulvinula Boud. was originally proposed for taxa with discoid to pulvinate apothecia having globose spores and apically curved paraphyses. Three ellipsoid-spored species were, however, added since. Yao & Spooner (1996) restricted the genus to species with globose spores and asci remaining thin-walled throughout their development. A modern account of *P. constellatio* (Berk. & Broome) Boud. [basionym: *Peziza constellatio* Berk. & Broome] was then provided: the fungus has globose ascospores 16-18.5 µm wide, cylindric asci 260-300 × 18-22 µm with an abrupt base forming a narrow stalk and paraphyses 1.5-2.5 µm wide. A reassessment of the varietal taxonomic position awaits examination of authentic material.

Zopfiella submersa Guarro, Al-Saadoon, Gené & Abdullah – Mycologia 89: 958. 1997. Holotype: IMI 370952; isotypes FMR 5646 (cultures CBS 698.96 = UAMH 8582). IRAQ. On submerged dead culms of *Phragmites* sp., De Qar, Euphrates river, 2.IV.1994, S.K. Abdullah & A.H. Al-Saadoon. Also collected on submerged dead culms of *Arundo donax* L. in the same locality. The specific epithet refers to the submerged growth habit. The new taxon has slightly inaequilateral ascospores provided with a subapical germ pore and an umbonate apex. These features and ascospore size distinguish it from known members of the genus. It is also the second species of *Zopfiella* G. Winter introduced by the same authors from decomposing plant material of this part of Iraq (Mouchacca 1999 b).

II. Lichenized and lichenicolous forms

Adelococcus lecanorae Werner – Bulletin de la Société Botanique de France 110: 315. 1963 (1964); Matzer & Hafellner - Bibliotheca Lichenologica 37: 109. 1990.

Holotype: BC; *fide* Matzer & Hafellner 1990. SYRIA. On *Lecanora (Aspicillia) farinosa* (Flk.) Nyl., between Khan Neijbe and Bassiri in the Djebel Cha.ki NW of Saba Biaz, 4.IX.1934, L. Dubertret. Matzer & Hafellner (1990) reeaxmined the corresponding authentic material. They simply concluded 'the species should be excluded from *Adelococcus* Theiss. & Syd. [type species: *A. alpestris* (Zopf) Theiss. & Syd.]'. Details of a second collection of the same due to R.G. Werner but from Morocco are also reported.

Buellia zoharyi Galun ex Poelt & M. Sulzer – Nova Hedwigia 25: 188. 1974. basionym: Buellia zoharyi Galun – The Lichens of Israël (Jerusalem): 74. 1970; *nom. inval.*, Art. 37.1 ICBN. Holotype: TELA No. 49-1. ISRAEL. On loess, Hamaktesh Hagadol, west and central Negev, 1957, M. Galun. Following Galun (1970), the new species contains stictic acid and atranorin with the hymenium turning blue with iodine. The name also figures in the key to species of *Buellia* De Not. prepared by Scheidegger (1993) pending his revision of European saxicolous members of the genus. Dedicated to the botanist M. Zoharyi of the Hebrew University of Jerusalem.

Recently the new lichenicolous fungus *Polycoccum epizoharyi* Calatyud & V. Atienza was described developing on fresh collections of ***Buellia zoharyi*** (as *B. zoharyi* Galun) made in the surroundings of Ontigola Lake, Madrid, Central Spain (Calatayud & Atienza 2000).

Gonohymenia collemoides Marton & Galun – Israël Journal of Botany 30: 131. 1981; *nom. inval.*, Arts. 36.1 & 37.1 ICBN. The species was regarded to be fairly common on marlaceous soils on hillsides in the Arava Valley and the Judean Desert. Only an English description was provided. No subsequent attempt of validation could be located. Considered to be 'very close' to *Lichinella algerica* (J. Steiner) Moreno & Egea by Schultz *et al.* (2000).

Gonohymenia sodomensis Marton & Galun – Israël Journal of Botany 30: 131. 1981; *nom. inval.*, Arts. 36.1 & 37.1 ICBN. This 'rarely collected species' was observed on alluvial or aeolian marlaceous soil at Mount Sodom on top of hill, and at Wadi Bahbah in southern Sinai. Regarded as a polymorphous species that could easily be confused with *Gonohymenia algerica* and from which it could be distinguished only by its anatomy. Schultz *et al.* (2000) consider, however, variation in the number of cyanobacterial cells per haustorium of no diagnostic value at the species level: all specimens morphologically and anatomically close to *Lichinella algerica* and *Gonohymenia sodomensis* should be reffered to the former.

Heppia echinulata Marton & Galun – Bryologist 77: 239. 1974; Henssen – Acta Botanica Fennica 150: 66. 1994. Holotype: TELA Marton 21500 e; isotype MB. ISRAEL. On marlaceous soil, Nahal Shizaf Hills, Arava Valley, K. Marton. The characteristic features of this lichen are the small gelatinous warty lobes that conspicuously swell when moistened and the hyaline spines covering the thallus surface. The thallus is black or brown but becomes greyish or whitish through the adherence of soil particles or dust. The spines break off easily, and in section they may remain intact only along the margin. This unique species could successfully be separated *in vitro*; this enabled to culture the lichen and its cyanobiont, a species of *Scytonema.*

Members of *Heppia* Nägeli ex A. Massal. are commonly encountered in dry arid areas. The present distribution of ***H. echinulata*** extends to several collecting sites in north Africa and Spain (Henssen 1994).

Heppia despreauxii (Mont.) Tuck. – *Genera lichenum*: 46. 1872; Henssen – Acta Botanica Fennica 150: 66. 1994.

basionym: *Solorina despreauxii* Mont. – Histoire naturelle des Iles Canaries 3: 104. 1840.

= *Heppia paulina* Marton, in Marton & Galun – Israël Journal of Botany 30: 148. 1981 (1982). Holotype: TELA; isotype Herb. Henssen. On marlaceous soil, Mount Isai, Judean Desert, 220-210 m below sea level, P. Bubrick. Synonymy *fide* Henssen 1994. For other synonyms, see Henssen 1994.

The specific epithet refers to Paul Bubrick (Department of Botany, Tel-Aviv University) who colllected and identified the species. Regarded as a new taxon on account 'the number of true *Heppia* species described until now is very small, and none of their descriptions fits this species'. A modern description of *H. despreauxii* is provided by Henssen (1994) based on examination of collections from the Canary island Lanzarote and from Spain. The lichen was again recorded in the Arabian Peninsula, an indication of a disjunct worldwide distribution in arid and semi-arid regions (Schultz *et al*. 2000).

Lichenochora wasseri S.Y. Kondr., in Navrotskaya, Kondratyuk, Wasser, Nevo & Zelenko – Israël Journal of Plant Sciences 44: 188. 1996. Holotype: KW, Wasser & Nevo No. 9429. ISRAEL. On thallus of *Caloplaca citrina* (Hoffm.) Th. Fr., Mount Carmel National Park, Lower Nahal Oren, Evolution Canyon, 20.XI.1994, S. Wasser & E. Nevo. A lichenicolous fungus.

The limited Latin diagnosis provided simply stress the fungus 'differ from *Lichenochora xanthoriae* Triebel & Rambold by longer (and thinner) ascospores: 16-19 × 7-9.5 µm *vs* 12-15 × 8-9 µm for *L. xanthoriae*'. The latter was recently described from structures developing on *Xanthoria elegans* (Link) Th. Fr. in North America. It could, however, be distinguished from known members of the genus by lack of gall formation on host thalli, large perithecia and rather large and non verrucose hyaline ascospores, as well as by its occurrence on species of *Caloplaca* Th. Fr. A second collection from Sweden on an undetermined *Caloplaca* sp. was also examined by the author.

Lichinella inflata (Henssen) Moreno & Egea – Cryptogamie, Bryologie-Lichénologie 13: 251. 1992.
basionym: ***Gonohymenia inflata*** Henssen – Berichte der deutschen botanischen Gesellschaft, Berlin 92: 486. 1979. Holotype: Herb. A. Henssen 21515 a. ISRAEL. On the slope at the base of a chalky mountain, Arbel, NW of Lake Tiberiade, High Jordan River, Hagalil, 170 m, 26.III.1971, A. Henssen. *Gonohymenia* J. Steiner was finally regarded as matching *Lichinella* Nyl. by Moreno & Egea (1992) as it was previously suggested by several authors. Nine species were then transferred including ***G. inflata*** Henssen. This lichen has apparently not been reobserved since its introduction.

Lichinella sinaica (Galun & Morton) Moreno & Egea – Cryptogamie, Bryologie-Lichénologie 13: 248. 1992.
basionym: ***Gonohymenia sinaica*** Galun & Marton – The Bryologist 73: 378, 1970; Marton & Galun – Israël Journal of Botany 30: 132. 1981 (1982). Holotype: TELA s.n.; isotypes: Herb. A. Henssen, *fide* Moreno & Egea 1992. EGYPT. On fine sand, accumulated in a depression of a calcareous rock, northern peak of a hill 600 m high, Aripha-a-Naka, Sinai Peninsula, VIII.1969, J. Garty. Galun & Morton (1970) stressed external features of ***L. sinaica*** (as ***G. sinaica***) and *Gonohymenia mesopotamica* Steiner are so similar the 'two species can easily be mistaken for one another'. However, the main features of the former – which may be considered as mediating links – are the heteromerous thallus on the one hand and the continuous epithecial algal layer on the other hand. A revised description was

later elaborated based on additional collections from Spain (Almeria), Morocco (mid & high Atlas, Argana, etc…) and Algeria (Ghardaia, Bou Saada…). Subsequently recorded in the Arabian Peninsula (Brown *et al*. 2002).

Neofuscelia pulloides (Essl.) Essl. – Mycotaxon 7: 52. 1978.
basionym: ***Parmelia pulloides*** Essl. – Journal of the Hattori Botanical Laboratory 42: 138. 1977. Holotype: US; isotype FH. ISRAEL. On rock, Korazim, upper Jourdan Valley, ca. 100 m, M. Galun 128-3. The genus *Neofuscelia* Essl. [basionym: *Parmelia* subgenus *Neofusca* (Gyeln.) Essl.] was established to segregate *Parmelia*-like species characterized by a brown upper cortex exhibiting a blue-green reaction to nitric acid, *Xanthoparmelia*-type lichenan in cell walls, small spores, lack of pseudocyphellae and soredia, chemical diversity, and restriction to soil and rock substrates (Elix 1993). This lichen is very close to the selected type species *Neofuscelia pulla* (Ach.) Essl. But its major medullary constituents are four unidentified fatty acids while the type species contains either stenosporic acid or divaricatic acid. It was collected again in the Canary Islands (Esslinger 1977).

Xanthoria stiligera Giralt, Nimis & Poelt – Journal of the Hattori Botanical Laboratory 74: 281. 1993. Holotype: TELA. ISRAEL. On calcarious rocks, Melulla (near the cemetary) on the top of the hill, Upper Galilee, 25.III.1967, M. Galun.
= *Xanthoria isidioidea auct. pro parte*.

The present distribution of this lichen is of the circum mediterranean type. Known stations are in Israël, Cyprus, Greece, Croatia, Spain, Morocco, Tunisia and Egypt.

Basidiomycetes

Boletus reichertii Aviz. Hersh. & Binyam. - Transactions of the British Mycological Society 59: 27. 1972. Holotype: TELA No. 369. ISRAEL. Under *Quercus calliprinos*, Bar'am Forest, 10.XI.1969. The fungus was found several times during the middle of the rainy season. It is characterized by the beautiful red-purple colour of the pileus and the distinct dark red dots on the stipe. Close to *Boletus dupainii* Boud. but distinguished by the dry subtomentose pileus, persistent red colour of the pileus, stipe being dotted red in the upper part, and the bilaterality of the trama. Dedicated to Prof. I. Reichert for his standing interest in the fungi (and diseases induced by) of the arid Middle East region.

Phakopsora setariae Cummins – Bulletin of the Torrey Botanical Club 83: 223. 1956. Holotype: IMI. The SUDAN. On *Setaria lancea* Stapf, Juba, X.1952, J.A.S. Tarr No. 1908. Other collections examined: On *Setaria aequalis* Stapf, Kampala, Uganda, II.1930, Hansford No. 1059 and on *S. sphacelata* (Schum.) Stapf & C.E. Hubb, Zomba Plateau, Nyassaland, 24.II.1949, Wiehe No. 43a. The species differs from *Phakopsora apoda* (Hariot & Pat.) Mains in shorter and narrower urediospores and thinner apical wall of the outer teliospores. In addition the latter parasitizes host species of *Pennisetum*. Following Ono *et al*. (1992), members of this genus occur mainly in the tropics and the subtropics. Due to the lack of knowledge about their respective full life cycles, the taxonomic acceptance or distinctness of most named taxa remains a first approximation. An example is provided by the specimen Hansford No. 1059 referred to *P. apoda* by Wakefield & Hansford on the basis of uredia only (Cummins 1956).

Scleroderma multiloculare Dring & Rayss – Israël Journal of Botany 12: 158. 1963 (1964). Holotype: K. ISRAEL. On the ground, associated with *Eucalyptus trees*, Hadera, Sharon Plain, autumn 1949, T. Rayss. The species is related to *Scleroderma*

geaster Fr. but is distinguished by much larger sporocarps having a thicker, smooth peridium and the unique multilocular habit. It was, however, not considered by Sims *et al*. (1995) in their revised key of the genus on a worldwide scale; the key considers 25 species.

Sporisorium eriochloae Vánky – Mycotaxon 74: 174. 2000. Holotype: Herb. HUV No. 17807; isotypes BPI 192688, IMI 67783 & Sudan Mycological Herb. No. 2877. The SUDAN. In inflorescenses of *Eriochloa fatmensis* (Hochst. & Steud.) W.D. Clayton [= *E. nubica* (Steud.) Hack. & Stapf ex Thell.], Malakal, 12.X.1956, S.A.J. Tarr. *Sporisorium mixtum* (Massee) Vánky and *Tilletia brachiariae* (Pavgi & Thirum.) Vánky are two other smuts related to species of *Eriochloa.*

Sporisorium urelytri (L. Ling) Vánky – Mycotaxon 85: 60. 2003.
basionym: ***Sorosporium urelytri*** L. Ling – Sydowia 7: 156. 1953. Holotype: IMI 25276. The SUDAN (as Anglo-Egyptian Sudan). On *Urelytrum giganteum* Pilger, Equatorial Province, Mendi-Yei boundary, near Olo River, 4.V.1938, J.G. Myers No. 9003. Additional available collections confirm the presence of the smut on Graminae in actual Zaire: on the same host, à la Grelo Section, VII.1931, P. Quarré No. 2593 = IMI 36152, as Belgian Congo; and in Angola: on *Urelytrum stapfianum* Hubb, no date, Gossweiler No. 9518 = IMI 25277 and at Kela, Lalange Plateau, 3.I.1931, Gossweiler IMI 36153.

Uromyces hypoestis Barr & Laundon, in Laundon – Mycological Papers 89: 91. 1963. Holotype: stages II & III, IMI 59086; isotypes at PUR. The SUDAN. On *Hypoestes verticillaris* R. Br., Gilo, 19.XI.1954, S.A.J. Tarr No. 2521.
basionym: *Trichobasis hypoestis* M.C. Cooke – Grevillea 10: 128. 1882.
= *Uredo hypoestis* (Cooke) De Toni, in Saccardo – *Sylloge Fungorum* 7: 850. 1888.

The rust species was introduced as a new taxon due to its relocation in *Uromyces* (Link) Unger. It was also collected on *Hypoestes antennifera* S. Moore, *H. aristata* R. Br. and *Hypoestes* sp. in South Africa and Uganda. Pycnia and aecia still unknown. Urediospores globose to obovoidal, 28-36 × 22-30 µm, amber coloured and echinulate. Teliospores cylindrical, fusiform, ellipsoidal or obovoidal, 28-45 × 18-28 µm, yellowish, smooth.

Ustilago suddiana (Spooner) Vánky – Mycotaxon 81: 426. 2002.
basionym: ***Sphacelotheca suddiana*** Spooner – Kew Bulletin 39: 463. 1984. Holotype: K; isotype HUV No. 12097. The SUDAN. On *Suddia sagittifolia* Renvoize, Jonglei, 1982, J.M. Lock No. 82/21.

The marsh grass *Suddia* Renvoize is a unispecific genus in the subfam. *Bambusoideae*, tribe *Phareae*. *Suddia sagittifolia* Renvoize was collected in The Sudan and 'The only panicles collected have been damaged by a smut fungus. This was described as ***Sphacelotheca suddiana*** (Spooner 1984)'. Following Vánky (2002) *Sphacelotheca* de Bary should be restricted to dicotyledonous host plants in the *Polygonaceae* while graminicolous '*Sphacelotheca*' species mostly belong to *Sporisorium* Ehrenb. ex Link. Examination of authentic material showed the fungus is best placed in the genus *Ustilago* (Pers.) Roussel.

Anamorphic fungi

Alternaria dumosa E.G. Simmons – Mycotaxon 70: 310. 1999. Holotype: BPI, dry culture of EGS 45-007. ISRAEL. From leaf lesions of Minneola tangelo (*Citrus paradisi* × *C. reticulata*), Mayan Zvi, 14. XI.1996, Z. Solel 7. The specific epithet recalls the bushy habit of sporulation of the single original isolate. Simmons (1999)

stressed the new species is unusual among the examined set of isolates from *Citrus* 'in that it is the only one that exhibits a sporulation pattern at all similar to that of typical *Alternaria alternata*'. However, the new species has a more condensed sporulation habit and considerably smaller conidia in general than does *A. alternata*. The two are somewhat similar only in a sporulation-pattern sense.

It should be stressed modern study of small spored *Alternaria* Nees species can be undertaken only *via* cultural observations on a number of standard media under specific incubation conditions (see Dugan & Peever 2002 and Simmons 1999).

Alternaria interrupta E.G. Simmons – Mycotaxon 70: 306. 1999. Holotype: BPI, dry culture of EGS 45-011. ISRAEL. From leaf lesions of Minneola tangelo (*Citrus paradisi* × *C. reticulata*), Bet Lyd 29, XI.1996, Z. Solel 11. The specific epithet reflects the 'abrupt discontinuous pattern of conidium size and shape in a single chain'. The species is represented by the original isolate only. Following Simmons (1999) as with many species of *Alternaria* with a variety of conidium sizes and shapes in a controlled population, many individual conidia of ***A. interrupta*** are morphologically indistinguishable from individuals of other species. However, the interrupted sporulation pattern, initially of large spores then abruptly very small ones, which is visible at low magnification (50 X), is characteristic and diagnostic for this species in the context of cultures of relatively small-spored *Alternaria*.

The above two *Alternaria* species figure among the several quite distinct new taxa recently introduced by Simmons (1999) that are responsible for the pathologic condition generally known as '*Alternaria* brown spot of mandarins'. Among them *A. turkisafria* E.G. Simmons (selected holotype from Turkey) proved to be comparatively more common in Israël and in South Africa.

Cercospora tarrii Deighton – Mycological Papers 71: 16. 1959; Crous & Braun – *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*, CBS, Utrecht: 397. 2003. Holotype: IMI 21363. The SUDAN. On living leaves of *Phyllanthus maderaspatensis* L., Ghadamabliya, IX.1947, S.A.J. Tarr No. 26. This is a true *Cercospora* Fresen. *s. str.* (Crous & Braun 2003). It compares with *C. leonensis* Deighton developing on *Phyllanthus discoides* (Baill.) Müll. Arg. in Sierra Leone, a species introduced in the same original publication. The conidiophores are, however, stouter, more prominently geniculate, and of a deeper colour. Further distinguishing features are the paler colour of the conidia predominantly 3-septate, subulate, usually less markedly curved and provided with a slightly but distinctly thickened hilum. Dedicated to the British S.A.J. Tarr, former chief plant pathologist of the Republic of The Sudan and author of the first annotated list of fungi and plant diseases of this country (Tarr 1955).

Cyphellophora fusarioides (B. Sutton & C.K. Campb.) C. Decock [as '*Cyphellophora fusarioides* (Campbell & Sutton) C. Decock] – Antonie van Leeuwenhoek 84: 213. 2003.

basionym: ***Pseudomicrodochium fusarioides*** B. Sutton & C.K. Campb., in Sutton, Campbell & Goldschmied-Reouven – Mycopathologia 114: 160. 1991. Holotype: IMI 339361 (NCPF 2233). ISRAEL. From bronchial lavage fluid from *Homo sapiens*, A. Goldschmied-Reouven.

Pseudomicrodochium B. Sutton was introduced to accommodate *Microdochium* Syd. like microfungi producing 'phialidic' conidia rather than polyblastic spores. The Israeli strain was isolated from a patient suspected (but not

proved) to have a mycotic pulmonary infection. Its rather curved conidia allowed distinction from *Pseudomicrodochium suttonii* Ajello *et al*. (definitely longer straight spores) and *P. aciculare* B. Sutton (thin needle shaped spores); the then remaining three known members of the genus all have cylindrical conidia with more obtuse apices. The same strain also shared, but only with *P. suttonii*, the absence of discrete ampulliform, doliiform or lageniform conidiogenous cells; the latter are reduced to undifferentiated intercalary compartments with the conidiogenous loci sited on raised lateral protuberances.

The recent isolation of a tropical leaf litter microfungi best accomodated in *Cyphellophora* De Vries as *C. guyanensis* C. Decock & Delgado, led Decock *et al*. (2003) to conduct a comparative study of its species with members of either *Pseudomicrodochium* and *Kumbhamaya* M. Jacob & D.J. Bhat. These three genera have in common the presence of simple, intercalary, lateral phialides, mostly reduced to a distinct collarette producing sickle-shaped, brown, 1-3 septate conidia, adhering in bundles. Based on such affinities Decock *et al*. (2003) concluded the older *Cyphellophora* De Vries should only be retained. The type and sole species of *Kumbhamaya* was thus renamed *Cyphellophora indica* (M. Jacob & D.J. Bhat) C. Decock.

A similar straightforward decision proved, however, difficult to be forwarded for known species of *Pseudomicrodochium*. Indeed the latter comprise taxa with light or dark coloured conidia (*P. fusarioides*, *P. suttonii* and *P. trispetata* Matsush.), hyaline conidia (*P. aciculare* & *P. cylindrium* Sutton) or producing light coloured colonies as *P. lauri* Kirk. A molecular analysis of available living material of *Cyphellophora* and *Pseudmicrodochium* species was then conducted. The resulting observations supported the conclusion about the generic affinities and the following two sole combinations: *C. suttonii* (Ajello *et al*.) C. Decock and ***C. fusarioides*** (B. Sutton & C.K. Campb.) C. Decock. The position of *Pseudomicrodochium* taxa having light coloured colonies still require further investigations for a satisfactory generic placement.

Exserohilum israelii Steiman, Guiraud, Seigle-Murandi & Sage [as '*israeli*'] – Antonie van Leeuwenhoek 78: 155. 2000. Holotype: CMPG No. 1339. ISRAEL. Isolated from soil, Timna Park in Arava Valley, Negev Desert, VIII.1994. Seven isolates of this dematiaceous hyphomycete were obtained from the sampled desert site located near ancient copper mines. They were assigned to *Exserohilum* K.J. Leonard & Suggs on account of the conidial protuberant hilum. Main distinguishing features: conidiophores geniculate, 300-600 × 5-6 µm, with up to ten spores; conidia clavate, brown, smooth, 50-88 × 12-18 µm, hilum 1.5-2.5 µm wide; conidia provided with two dark brown septa at both end cells and 7-10 pseudoseptae; germination unipolar or bipolar; chlamydospores present, globose, intercalary or terminal. Approximates *E. rostratum* (Drechs.) K.J. Leonard & Suggs but deviates by longer and stouter conidiophores, definitely straight and not rostrate conidia with dimensions never exceeding half conidial sizes of the latter (Steiman *et al*. 2000). *E. halodes* (Drechs.) K.J. Leonard & Suggs is now admitted as a later synonym of *E. rostratum* (Leonard 1976).

Exserohilum sodomii Guiraud, Steiman, Seigle-Murandi & Sage – Antonie van Leeuwenhoek 72: 318. 1997. Holotype: CMPG No. 1340; isotype ATCC. ISRAEL. Isolated from soil, along the road to the city of Sodom, Dead Sea, Negev Desert, VIII.1994. Main distinguishing features: conidiophores unbranched, geniculate, up to 1000 × 7 µm, bearing 1-8 spores; conidia clavate, brown, smooth, 40-65 × 14-20 µm, with two dark brown septa at either ends and 5-7 pseudoseptae; hilum 1.5-2.5 µm wide, germination unipolar or bipolar; chlamydospores present, globose to

oval, intercalary or terminal. The conidiophores of this species are definitely more pronounced than those of the former taxon also originating from the same dry area. On the other hand its similarly clavate conidia are comparatively shorter and less septate.

Monodictys saudii M.I. Ali, in Ali & Abou-Heilah – Journal College of Science, King Saud University 14: 295. 1983; *nom. inval.*, Arts. 36.1 & 37.1 ICBN. SAUDI ARABIA. The original soil-borne strain was regarded to 'almost fits in *Monodictys putredinis* (Wallr.) Hughes, from which it differs in the colour and rate of growth of the colony, larger dimensions of the conidia, luxuriant growth at 25°C and in its osmophilic nature'. The provided description and published iconography are, however, rather confusing. The former recalls the protologue elaborated by M.B. Ellis for the genus *Monodictys* Hughes (Ellis 1971: 68). The iconography depicts multicellular intercalary chlamydospores of various shapes in addition to similar structures arising in a lateral position but with comparatively less number of cells; these two types of structures are not to be regarded as conidia of that dematiaceous form genus.

Passalora sudanensis (Deighton) U. Braun & Crous, in Crous & Braun – *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*, CBS, Utrecht: 471. 2003.
basionym: ***Phaeoramularia sudanensis*** Deighton – Mycological Papers 144: 45. 1979. Holotype: IMI 48775. The SUDAN. On living leaves of *Clematis sp*. (possibly *C. longicauda* Steud. ex A. Rich), near Katire, 21.X.1951, S.A.J. Tarr No. 1444.

Based on molecular data and reassessments of morphological features, Crous *et al*. (2001) and Crous & Braun (2003) reduced *Mycovellosiella* Rangel and *Phaeoramularia* Munt.-Cvetk. to synonymy with *Passalora* Fr.; they also introduced a new circumscription of the latter genus (*Passalora* Fr. *emend*.). The present species is still known only from the original collection. It produces conidiophores up to twelve in a fascicle, moderately olivaceous, smooth, usually branched, 100-175 × 4-5 µm; conidial scars 1.5-2 µm wide; conidia concolorous with the tips of the conidiophores, smooth, cylindric, slightly curved, markedly catenate, 1-5 septate, 16-78 × 4-6.5 µm.

Passalora tarrii (Deighton) U. Braun & Crous, in Crous & Braun – *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*, CBS, Utrecht: 397. 2003.
basionym: ***Mycovellosiella tarrii*** Deighton – Mycological Papers 137: 20. 1974. Holotype: IMI 32438. The SUDAN. On living leaves of *Solanum melongena* L., Kodak, XII.1947, S.A.J. Tarr No. 119.
= *Cercospora deightonii* Chupp – A monograph of the fungus genus *Cercospora*: 538. 1954 [*non Mycovellosiella deightonii* Katsuki & Harada, in Katsuki – Report of the Tottori Mycological Institute, Japan 10: 566. 1973, *nec Passalora deightonii* (B. Sutton & N. Pons) U. Braun & Crous, in Braun – Schlechtendalia 8: 36. 2002 (basionym: *Cercosporidium deightonii* N. Pons & B. Sutton – Mycological Research 100: 818. 1996)]. Synonymy *fide* Crous & Braun, 2003.

For reasons behind the generic change, see the former paragraph. ***Passalora tarrii*** was also observed on *Solanum cerasiferum* Dunal in the same country. The conidia are very similar to those of *Mycovellosiella nattrassii* Deighton [now *Passalora nattrassii* (Deighton) Crous & Braun] introduced in the same publication but from collections on *Solanum incanum* L. in Kenya, and on *S. melongena* in Sabah, Nepal, China and Japan.

Penicillium discolor Frisvad & Samson, in Frisvad *et al.* – Antonie van Leeuwenhoek 72: 120. 1997. Holotype: IMI 285513 (ex type culture IMI 285513 = CBS 474.84 = FRR 2933 = IBT 5738). ISRAEL. Isolated from *Raphanus sativus* L., J.C. Frisvad. The fungus was later on frequently encountered on nuts, vegetables and cheese in Europe and in the United States. It is characterized by rough, dark green conidia, synnematous growth habit on malt agar and the production of the following secondary metabolites: chaetoglobosins A, B and C (first described from *Chaetomium globosum* Kunze), palitanin, cyclopenin, cyclopenol, cyclopeptin, dehydrocyclopeptin, viridicatin and viridicatol. It also produces the mouldy smelling compounds geosmin and a series of specific orange to red pigments on yeast extract sucrose agar, hence the specific epithet. This *Penicillium* resembles *P. echinulatum* Raper & Thom ex Fassat. morphologically but on the basis of the secondary metabolites it relates to *P. expansum* Link, *P. solitum* Westling and *P. crustosum* Thom.

Penicillium italicum Wehmer var. *italicum* – Hedwigia 33: 211. 1894; Pitt - The genus *Penicillium* and its Teleomorphic States *Eupenicillium* and *Talaromyces*: 382. 1979 (1980).
= *Penicillium italicum* Wehmer var. *avellaneum* Samson & Gutter, in Samson, Stolk & Hadlock – Studies in Mycology, Baarn 11: 30. 1976. Holotype: CBS 719.73. ISRAEL. Isolated from *Citrus* sp., Bet Dagan, J.H. van Emden. Synonymy *fide* Pitt 1979 (1980).

The new variety was regarded to differ from the species by the avellaneous colour, faster growth and presence of white loose hyphal aggregates. However, both formerly introduced white (*Penicillium italicum* var. *album* Wei 1940) and the present brown naturally occurring mutant of *Penicillium italicum* Wehmer were later on taxonomically refuted by Pitt [1979 (1980)].

Phoma pimpinellae Boerema & Gruyter – Persoonia 17: 278. 1999. Holotype: Herb. L 992.163-168, Herb. CBS 10637; *nom. inval.*, Art 37.3 ICBN. ISRAEL. A single ascospore culture of *Leptosphaeria pimpinellae* Lowen & Sivan. developing a *Phoma*-like anamorph; *L. pimpinellae* holotype also from Israël: R. Lowen 523-88, NY; isotype: IMI 328948. ***Phoma pimpinellae*** Boerema & Gruyter, in Boerema - Persoonia 18: 159. 2003. Designation of a LECTOTYPE: Type specimen L 992.163-138, dried culture on MA, dated 01-04-1999, made by J. Gruyter, Plant Protection Service (PD) Wageningen, the Netherlands from the living culture CBS 10637 isolated from a single ascospore of *Leptosphaeria pimpinellae* Lowen & Sivanesan (1989) developing on stem of *Pimpinella anisi,* collected at Mount Carmel, Beit Oren Forest, Wadii near Kibbutz Oren, Israël (Boerema 2003).

The teleomorph was observed on dead blackened but still standing stems of *Pimpinella anisi* at Mount Carmel, Beit Owen Forest, near Kibboutz Oren, R. Lowen (see Mouchacca 1999 b). Structures similar to that of the anamorph were subsequently also found on the same host; it is thus plausible both morphs play a different role in the life cycle of the fungus (Boerema & Gruyter 1999, Lowen & Sivanesan 1989). Pycnidia develop rapidly in culture, subglobose with a long elongated neck, ostiolate, olivaceous-black, with rosy vinaceous exuded conidial masses. Conidiogenous cells 4-6(-8) × 1.5 (at the apex)-5 µm, bottle shaped with a long neck. Conidia continuous, 3.5-4.5 × 1-1.5(-2) µm, ellipsoidal with two small polar guttules. No chlamydospores present. NaOH spot test positive, a brick discolouring of the diffusable pigments on OA and MA. Still known only from the original locality.

Scolecostigmina beshirii (M.B. Ellis) U. Braun - Schlechtendalia 3: 40. 1999.

basionym: ***Stigmina beshirii*** M.B. Ellis – Mycological Papers 72: 38. 1959; Ellis – More Dematiaceous Hyphomycetes: 132. 1976. Holotype: IMI 61919. The SUDAN. On living leaves of *Allophylus* sp., Nertetti (province of Darfour), 26.X.1953, B. Beshir. *Scolecostigmina* U. Braun was introduced to accommodate *Stigmina*-like (*Stigmina s. lat.*, *ss*. Ellis 1971 & 1976) species with scolecosporous, euseptate conidia (Braun 1999). The present fungus develops on the surface of upper leaves inducing round or irregular, brown or dark brown spots 2-10 mm wide. It is distinctive by conidiophores 15-30 × 4-9 µm with up to five annellations and conidia dark brown, smooth or wrinkled, with 3-12 transverse and 0-3 longitudinal septa, 25-80 × 10-14 µm. Dedicated to the collector B. Beschir, Ministry of Agriculture, Republic of The Sudan.

Scolecostigmina sudanensis (M.B. Ellis) U. Braun – Schlechtendalia 3: 40. 1999.
basionym: ***Stigmina sudanensis*** M.B. Ellis – Mycological Papers 72: 47. 1959; Ellis – More Dematiaceous Hyphomycetes: 128. 1976. Holotype: IMI 68654. The SUDAN. On leaves of *Ficus* sp., Yabus, 17.XII.1956, S.A.J. Tarr *s.n*. On infected leaves the fungus produces round or irregular brown spots 1-10 mm wide. Conidiophores are 20-30 × 4-7 µm, with up to three annellations. Conidia subhyaline to pale olivaceous brown, smooth, 3-9 septate, 23-50 × 4.5-7 µm. Observed again on *Ficus rubra* in Mauritius (Ellis 1976).

Stanjemonium fuscescens W. Gams, Schroers & Abdullah, in Gams, O'Donnell, Schroers & Christensen – Canadian Journal of Botany 76: 1580. 1998 (1999). Holotype: Herb. CBS 264.96. IRAQ. Isolated from desert soil by S.K. Abdullah on actidione medium, dep. J. Guarro, CBS 264.96 = NRRL 26546 (= ex-type culture). Anamorphic fungi with 'solitary conidia produced on phialide-like conidiogenous cells' are presently assigned to simply four genera including the recent *Stanjemonium* W. Gams *et al*. The genus is distinguished from *Aphanocladium* W. Gams by pigmentation of conidia, less fluffy and more slowly growing colonies, and conidiogenous cells that collapse at maturity leaving a broad scar. The Iraqi *Stanjemonium* species is morphologically close to the type species *S. grisellum* W. Gams *et al*.; it deviates, however, by darker pigmentation of the colonies, extremely rich sporulation with conspicuous loosening of the conidial epispore wall, and the absence of a fetid odour. The two other known taxa are *S. ochroroseum* W. Gams *et al*. and *S. spectabile* (W. Gams) W. Gams [basionym: *Aphanocladium spectabile* W. Gams].

Stemphylium gracilariae E.G. Simmons: see ***Pleospora gracilariae*** E.G. Simmons & Schatz.

Stemphylium herbarum E.G. Simmons – Sydowia 38: 291. 1985.
misapplied name: <u>*Stemphylium botryosum*</u> Wallr. forma specialis <u>*lycopersici*</u> Rotem, Y. Cohen & I. Wahl – Canadian Journal of Plant Sciences 46: 270. 1966. ISRAEL. On leaves of *Lycopersicon esculentum* Mill.

In 1966, Rotem *et al*. noted all tomato varieties grown in the Israeli coastal plain were repeatedly affected by a serious foliage blight and leaf-spot disease. *Stemphylium botryosum* could then be isolated. The resulting strain proved to be highly virulent but able to attack only tomato foliage. The perfect state *Pleospora herbarum* (Pers.:Fr.) Rabenh. ex Ces. & De Not. developed in culture though not observed on the host living or dead tissues. The disease was then regarded as the first report of the fungus as a field pathogen of tomato and a new f. sp. was consequently introduced. It should be stressed special forms are commonly characterized by their physiological reaction to particular host plants and their nomenclature is not considered by the code (Art. 4 ICBN).

Following Simmons [1985 (1986)] 'several years of culture work with many isolates of *Stemphylium* and of *Pleospora* defend the statement that ascosporic *P. herbarum* and its anamorph, constitute a species quite distinct from *S. botryosum* and its teleomorph'. Simmons then proposed the name *S. herbarum* E.G. Simmons for the anamorph of *Pleospora herbarum* and the name *P. tarda* E.G. Simmons for the teleomorph of *Stemphylium botryosum*. These taxonomic decisions imply a reassessment of published data of phytopathological nature implicating both *Stemphylium* anamorphs. Any proposal of a forma specialis should thus be regarded as superfluous. Judging from the iconography provided by Rotem *et al*. (1966) the *Pleospora* / *Stemphylium* depicted suggests the two components rather correspond to *P. herbarum* and *S. herbarum*.

Stemphylium solani Weber also causes small leaf spots on several *Solanaceae* including tomato plants (Ellis & Gibson 1975) but it has not yet been linked with a *Pleospora* teleomorph (Simmons 1989 & 2003).

Veronaea constricta Mustafa & Abdel-Wahid – Mycotaxon 38: 167. 1990. Holotype: IMI 327667. EGYPT. Isolated from cultivated sandy loam soil, close to Ismailia city, 1988, A.F. Mustafa. The specific epithet refers to the smooth uniseptate conidia, 8-14 × 2.5-4 µm, being deeply constricted at the septum. The fungus is close to *Veronaea carlinae* M.B. Ellis and *V. botryosa* Ciferri & Mont. both having conidia of similar size but being cylindrical to narrowly ellipsoidal and not constricted at the median septum. *V. botryosa* is involved in cases of skin infection in China, France and the Philipines (de Hoog *et al*. 2000).

TAXONOMIC DECISIONS UNREPORTED IN PREVIOUS NOTES

Aphanoascus orissi (B. Sur & G.R. Ghosh) Cano & Guarro, in Cano *et al*. – Studies in Mycology 47: 158. 2002.
basionym: *Pseudoarachniotus orissi* B. Sur & G.R. Ghosh, in Ghosh & Sur – Kavaka 12: 67. 1985.
= *Uncinocarpus orissi* (B. Sur & G.R. Ghosh) Sigler & Flis - Canadian Journal of Botany 76: 1627. 1988.
= *Gymnoascus arxii* Cano & Guarro - Studies in Mycology 31: 61. 1989.
= *Aphanoascus boninensis* Udagawa & Uchiyama - Mycoscience 40: 283. 1999.
anamorph: ***Chrysosporium zonatum*** Al-Musallam & C.S. Tan - Persoonia 14: 69. 1989. Holotype CBS 437.88. KUWAIT. Isolated as a secondary colonizer of horse hair immersed in horse dung collected around Kuwait City. Slightly thermotolerant and capable of producing keratinolytic and cellulolytic enzymes.
= *Chrysosporium gourii* P.C. Jain, Deshmukh & S.C. Agrawal - Mycoses 36: 77. 1993.
All previous synonymies are due to Cano *et al*., 2003.

Chrysosporium zonatum was originally described exclusive of a teleomorph. It recently proved to represent the anamorphic state of *Pseudoarachniotus orissi* (Cano *et al*. 2003). Despite the absence of a well structured multilayered peridial wall in this ascomycete, Cano *et al*. (2003) concluded its better placement would be in *Aphanoascus* Zukal.

Bauhinus jehudanus (Zundel *emend*. Denchev) Denchev - Mycoscience 38: 326. 1997.

basionym: ***Ustilago jehudana*** Zundel - Mycologia 36: 401. 1944. Holotype: BPI 0-188-938; isotype BPI 0-162-085. PALESTINE. On inflorescences of *Silene apetala* Willd., Desert of Jehuda, 25.III.1935, T. Rayss; both specimens labelled ***U. jehudae.***

= *Ustilago moenchiae-menticae* Lindtner – Glasnik prirodnjačkog muzeja srpske zemlje. Serija B. Biološke nauke. Belgrade 3-4: 32. 1950; synonymy *fide* Denchev 1997.

Denchev (1997) reexamined available original material of this smut. He observed the sori were not localized in the anthers as stressed in the protologue but in the host gynoecium leading to the destruction of the ovules. According to this author, ovariicolous *Ustilago* species on *Caryophyllaceae* should be included in *Bauhinus* Moore while similar anthericolous smuts may remain in *Microbotryum* Lév. No further collections either from the original locality or any other station was later reported.

Cercospora saudii M.S. Mahmoud [as '*saudiaii*'] – Indian Journal of Botany 10: 151. 1987; Crous & Braun – *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*, Centraalbureau voor Schimmelcultures, Utrecht: 366. 2003.

On a plant host basis, the species is presently considered a good member of the genus *Cercospora* Fresen.

Coonemeria aegyptiaca (S.Ueda & Udagawa) Mouch. – Cryptogamie, Mycologie 19: 31. 1997.
basionym: ***Thermoascus aegyptiacus*** S. Ueda & Udagawa – Transactions of the Mycological Society of Japan 24: 135. 1983. Holotype: Herb. NHL No. 2914. EGYPT. Isolated from a sample of marine sludge, 30 km N Port Said city, 9.X.1978, H. Komatsu.

anamorph: ***Paecilomyces aegyptiaca*** S. Ueda & Udagawa – Transactions of the Mycological Society of Japan 24: 135. 1983.

The genus *Coonemeria* Mouch. [type species *C. crustacea* (Apinis & Chesters) Mouch.] was recently introduced to accommodate thermophilic cleistothecial ascomycetes having coiled ascogonial initials, pseudoparenchymatous walls of *textura angularis* type, unicellular ascospores and a distinctive *Paecilomyces*-type anamorph. Three species were then transferred to the genus. These were formerly members of either *Thermoascus* Miehe or *Dactylomyces* Sopp, two genera having morphologically similar perfect states but deviating anamorphs. *Thermoascus* is presently distinguished by the lack of any accessory state producing chains of conidia; in *Dactylomyces* this state belongs to the anamorphic genus *Polypaecilum* G. Smith (Mouchacca 1997, 1999 a). Among the three accepted species, ***Coonemeria aegyptiaca*** is distinguished mainly by almost smooth ellipsoidal ascospores.

Harpophora maydis (Samra *et al.*) W. Gams – Studies in Mycology, Baarn 45: 192. 2000.
basionym: ***Cephalosporium maydis*** Samra, Sabet & Hingorani – Phytopathology 53: 404. 1963. Holotype: IMI 107621. EGYPT. From roots and stems of *Zea mays* L. developing a wilt disease considered as being new to the country.

Cephalosporium Corda is presently recognized as a synonym of *Acremonium* Link (Gams 1971). This Egyptian *Cephalosporium* was not treated by Gams (1971) in his revision of *Cephalosporium*-like fungi on the ground it morphologically deviates from the basic concept of this group of taxa. In his

continuous efforts to review ascomycete orders in which *Phialophora*-like fungi had been placed, Gams (2000) introduced the new genus *Harpophora* W. Gams for the anamorphs of both *Gaeumannomyces* Arx & D.L. Olivier and *Magnaporthe* R.A. Krause & R.K. Webster (*Magnaporthaceae*), which have mostly sickle-shaped phialoconidia. Four new combinations were then established for *Phialophora radicicola* Cain (selected type species) and its variety *graminicola* Deacon, and for *Ph. zeicola* and *Cephalosporium maydis*. These taxa have in common colonies growing rapidly, rather olivaceous-brown, typically showing some broader radiating 'runner hyphae' and narrower lateral hyphae. The phialides resemble those of *Phialophora* Medlar, are more or less pigmented, with a conspicuous divergent collarette. Conidia borne in slimy heads, cylindrical with strong curvature, hyaline, sometimes not germinable *in vitro*.

Passalora dissiliens (Duby) U. Braun & Crous – *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*, CBS Utrecht: 164. 2003.
basionym: *Torula dissiliens* Duby – Mémoire de la société de physique et d'histoire naturelle de Genève 7: 128. 1835.

= *Cercospora judaica* Rayss – Palestine Journal of Botany, Jerusalem Ser. III: 22. 1943. Holotype: IMI 82179. PALESTINE. On living leaves of *Vitis vinifera*, Bath Yam, 5.X.1940, leg. Rayss.
= *Phaeoramularia dissiliens* (Duby) Deighton, in Ellis – More Dematiaceous Hyphomycetes: 324. 1976.
For other synonyms, see Crous & Braun 2003.

Crous *et al*. (2001) concluded on molecular ground that *Phaeoramularia* Munt.-Cvetk. should be treated as a synonym of *Passalora* Fr. Mouchacca (1999) formerly reported the fungus developing on *Vitis vinifera* in Palestine as a synonym of *Phaeoramularia dissiliens*.

Physoderma astomae (Rayss) Karling – Lloydia 13: 60. 1950.
basionym: ***Urophlyctis astomae*** Rayss – Palestine Journal of Botany, Jerusalem Ser. II: 248. 1942. Holotype: HUJ ?. PALESTINE. On stems, petioles and living leaves of *Astoma sessifolium*, Hierosolymis, 6. IV.1937, leg. Zaitschek.

The chytridiomycetous genus *Urophlyctis* Schröt. was earlier regarded as a synonym of *Physoderma* Wallr. by Karling (1950) who then transferred a number of taxa to the latter. The taxonomic decision was, however, later questioned by Sparrow (1960: 483) and even by Karling himself (1977: 274). Recently Longcore (1996) underlined the status of taxa ascribed to *Urophlyctis* still requires reconsideration. The combination introduced for this chytrid was apparently simply based on the protologue. The parasite causes large bulbiform, congruent galls, up to 5 mm wide, on the stems, leaves and petioles leading to deformations of the stems (Karling 1950).

Physoderma rayssi Karling [as *P. Rayssi* (Rayss) *nov. nom.*] – Lloydia 13: 60. 1950; *nom. nov*.
basionym: ***Urophlyctis eryngii*** Rayss – Palestine Journal of Botany, Jerusalem Ser. II: 248. 1942. Holotype: HUJ ?. PALESTINE. On living leaves of *Eryngium creticum*. Three collections were cited: Mount Heteri prope Zikhron-Ya'aqov, old district of Samaria, 14.III.1940; Kiryat-Amal, district of Acre Plain, 15.III.1940; Herzlia, district of Sharon, 10.IV.1941; all leg. Rayss ?.

The new name was introduced on account of the previously described *Physoderma eryngii* Corda (Corda 1837). This parasite of leaves and petioles develops circular, 3-5 mm wide, spherical or oval brown pustules. Following

Karling (1950) it may not be conspecific with the parasite of *Eryngium campestre* described by Corda since the latter is apparently not a valid species.

Sphaeropsis sp.
= *Diplodia pinea* (Desm.) J.J. Kickx forma specialis *cupressi* Solel, Madar, Kimchi & Golan - Canadian Journal of Plant Pathology 9: 117. 1987. Holotype: IMI 303475. ISRAEL. Isolated from the diseased cambial tissue of *Cupressus sempervirens* var. *stricta* and var. *horizontalis*.

This coelomycetous agent of stem and branch canker of the Italian cypress tree in Israël was regarded to 'differ from the common *Diplodia pinea* (Desm.) J.J. Kickx by the somewhat smaller spores, lack of ornamentation on the conidial wall inner surface and also by not being pathogenic to pine' (Madar *et al*. 1989, Solel *et al*. 1987). *Diplodia pinea* proved, however, to match *Sphaeropsis sapinea* (Fr.) Dyko & B. Sutton, a widely distributed fungus introduced under a large number of binomials. It develops on bark, shoots, needles and cones of several plants including *Abies, Larix, Pinus*, *Cupressus* and *Pseudotsuga* (Punithalingam & Waterston 1970). Based on these data, the distinction of a forma specialis was thus regarded as superfluous (Mouchacca 1999 b).

Original isolates of the forma specialis were, however, compared with several strains of the species by Swart *et al*. (1993) following several morphological and cultural characters. These authors concluded to the absence of substantial evidence of a close relationship between *Sphaeropsis sapinea* and its reputed f. sp. *cupressi*. They advocated the Israeli strain better be referred to as ***Sphaeropsis*** sp. pending a comprehensive examination of *Sphaeropsis* and *Diplodia* species occurring on *Cupressaceae*. In addition recent results obtained by de Wet *et al*. (2003) provide strong evidence the B morphotype isolates of *Sphaeropsis sapinea* are distantly related to this ***Sphaeropsis***. They represent a discrete taxon for which the name *Diplodia scrobiculata* J. de Wet, B. Slippers & M.J. Wingfield was introduced. The status of the two other distinct morphotypes, namely A & C, await further investigations.

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INDEX OF NAME CHANGES

Cephalosporium maydis Samra et al.	Harpophora maydis (Samra et al.) W. Gams
Cyphellophora fusarioides (B.S. & C.K.C.) C. Decock	Pseudomicrodochium fusarioides B. Sutton & C.K. Campb.
Diplodia pinea f. sp. cupressi Solel et al.	Sphaeropsis sp.
Gonohymenia inflata Henssen	Lichinella inflata (Henssen) Moreno & Egea
Gonohymenia sinaica Galun & Marton 1111111& Egea	Lichinella sinaica (Galun & Morton) Moreno
Heppia paulina Marton	Heppia despreauxii (Mont.) Tuck.
Mycovellosiella tarrii Deighton	Passalora tarrii (Deighton) U. Braun & Crous
Parmelia pulloides Essl.	Neofuscelia pulloides (Essl.) Essl.
Penicillium italicum var. avellaneum Samson & Gutter	Penicillium italicum Wehmer
Phaeoramularia sudanensis Deighton	Passalora sudanensis (Deighton) U. Braun & Crous
Pseudophaeotrichum sudanense Aue et al.	Neotestudina rosatii Segretain & Destombes
Sphacelotheca suddiana Spooner	Ustilago suddiana (Spooner) Vánky
Sorosporium urelytri L. Ling	Sporisorium urelytri (L. Ling) Vánky
Stemphylium botryosum f. sp. lycopersici Rotem et al.	Stemphylium herbarum E.G. Simmons
Stigmina beshirii M.B. Ellis	Scolecostigmina beshirii (M.B. Ellis) U. Braun
Stigmina sudanensis M.B. Ellis	Scolecostigmina sudanensis (M.B. Ellis) U. Braun
Thermoascus aegyptiacus S. Ueda & Udagawa	Coonemeria aegyptiaca (S.Ueda & Udagawa) Mouch.
Urophlyctis astomae Rayss	Physoderma astomae (Rayss) Karling
Urophlyctis eryngii Rayss	Physoderma rayssi Karling
Ustilago jehudana Zundel	Bauhinus jehudanus (Zundel emend. Denchev) Denchev