Notes on some Ascomycetes

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1. On *Acantharia, Antennularia* and *Gibbera*

Acantharia Theiss. & Syd. was delimited clearly by Petrak (1947, as *Neogibbera* Petr.) and by Müller & von Arx (1962). Five species were accepted, all parasitic on leaves of *Quercus, Castanopsis* and *Pasania* (Fagaceae). The genus was classified in Venturiaceae and was compared with *Gibbera and Antennularia,* two related genera with species parasitic on Ericaceae and some other phanerogams, but not on Fagaceae.

Sivanesan (1984) transferred *Acantharia sinensis* (Petrak) von Arx to *Gibbera.* This is not justified, because A. *sinensis* is a parasite of *Quercus* leaves and agrees with the other *Acantharia* species in the structure of the ascomatal wall, the asci and the ascospores. In all *Acantharia* species the ascospores are obovate, relatively broad, rather thick-walled and brown when mature. The ascospores of typical *Gibbera* and *Antennularia species,* on the other hand, are ellipsoidal, cylindrical or fusiform, thin-walled and yellow to greenish when mature. Sivanesan based his conclusion on the absence of distinct superficial hyphae, a character without any taxonomic relevance. In many Venturiaceae, the ascomata may be glabrous or setose, and superficial hyphae are often absent, but present when the fungus develops under humid conditions. In *Venturia rumicis* (Desm.) Winter for example, the ascomata on the host plant are mostly glabrous and the hyphae are subcuticular, but in pure culture superficial hyphae predominate and the ascomata are covered with dark setae.

2. On *Ascoidea africana* and *Ascoidea corymbosa*

Ascoidea africana Batra & Francke-Grosmann was described in 1964, and *A. corymbosa* W. Gams & Grinbergs in 1970. A comparision of the type cultures (CBS 377.68 and 457.69) showed that the two taxa

are conspecific; the name *A. africana* has priority. The distinguishing characters, given by GAMS & GRINBERGS (1970) do not exist; the original description of the ascospores of *A. africana* proved to be inadequate.

3. On *Balladyna* and *Balladynopsis*

Balladyna was described by RACIBORSKI (1900) with *B. gardeniae* RAC. = *B. velutina* (BERK. & CURT.) v. HÖHNEL as type. *Balladynopsis* THEISS. & SYD. was introduced in 1917 for *Henningsomyces philippinensis* SYD. Both species are parasitic on leaves of various tropical Rubiaceae and form superficial, pigmented, hyphopodiate hyphae with small, spherical or ovate ascomata and 2-celled, relatively large ascospores. In *B. velutina* the hyphae often bear erect setae or hairs, in *B. philippinensis* mycelial setae are mostly absent, but the ascomata may be setose or hairy.

MÜLLER & von ARX (1962) synonymized the two and some further genera. They considered *Balladyna* to represent a homogeneous entity of tropical leaf parasites on Rubiaceae and enumerated 16 species, which could hardly be distinguished by morphological characters. SIVANESAN (1981) reintroduced *Balladynopsis* and added some new species, which do not grow on Rubiaceae and which have rather deviating structures.

In our opinion *Balladyna* (including *Balladynopsis*) should be restricted to parasites of Rubiaceae with the above mentioned characters. *Phaeodimeriella negrii* CASTELLANI (Nuovo G. bot. Ital. 53: 215. 1947) = *Balladynopsis negrii* (CASTELLANI) M. B. ELLIS = *Balladynagra negrii* (CASTELLANI) BATISTA & PERES has to be classified as **Balladyna negrii** (CASTELLANI) comb. nov. It parasitizes leaves of *Randia* species and other Rubiaceae in Africa and Asia. Species to be excluded are *Balladyna ledermannii* SYD., *Balladynopsis ebbelsii* SIVANESAN and *Balladynopsis macrocarpa* (BATISTA & BEZERRA) SIVANESAN.

4. On *Herpotrichia*

Herpotrichia FUCKEL was monographed by BOSE (1961) and again by SIVANESAN (1971) and it has been considered again by PIROZYNSKI (1972) and by SAMUELS & MÜLLER (1979). The genus contains several, mostly saprophytic species. Three species are parasitic on conifers, viz. *H. juniperi* (DUBY) PETRAK, *H. coulterii* (PECK) BOSE (both are snow moulds), and *H. parasitica* (HARTIG) ROSTRUP (causing decay of needles) and are of some economic relevance.

Herpotrichia in the delimitation proposed by the above cited authors is rather variable in the size and shape of the ascomata and the pigmentation and septation of the ascospores. The genus, however, represents a phylogenetic entity, which shows the following characteristics, covering nearly all species:

Ascomata are erumpent or superficial, spherical-ovate, with a relatively wide ostiolar pore in the papillate or conical upper part; covered with hairs or hyphae.

Asci are surrounded and extended by numerous, narrow filamentous, often apically branched and/or anastomosing paraphyses with a gelatinous wall and embedded in a mucoid mass.

Ascospores are attenuated at the ends and distinctly constricted at the first, median septum. Further transverse septa may be formed and show no distinct constrictions.

Anamorphs are pycnidial and belong to the form genus *Pyrenochaeta* de Not.

Conidiomata are superficial or erumpent, hairy or setose, the conidiogenous cells are often catenate and the basipetal conidia are small, 1-celled, hyaline or pale.

Barr (1984) neglected these common characters and distributed the species of *Herpotrichia* over 6 genera belonging to 6 families of at least 3 different orders. No key to the genera was given. This classification should not be accepted. *Herpotrichia,* as delimited by the above mentioned authors is without doubt monophyletic. The genus is related to *Melanomma, Curreya, Cucurbitaria* and the other genera of the Melanommataceae (von Arx & van der Aa, 1983).

The following synonymy is proposed:

Herpotrichia Fuckel, 1868
= *Enchnosphaeria* Fuckel, 1870
= *Neopeckia* Sacc., 1883
= *Byssosphaeria* Cooke, 1879
= *Didymotrichia* Berlese, 1893
= *Lojkania* Rehm, 1905
= *Macbridella* Seaver, 1909
= *Xenonectria* v. Höhnel, 1920
= *Khekia* Petrak, 1921
= *Sydowina* Petrak, 1923
= *Sordariopsis* Kapoor, 1974.

The synonymy of *Sordariopsis* is based on an examination of *S. gelasinosporoides* Kapoor, the type of the genus (ITCC).

5. Pyrenophoraceae

The family name Pyrenophoraceae was introduced by Barr (1979) for pyrenomycetes with bitunicate asci and with hyphomycetous anamorphs belonging to the form genera *Bipolaris, Curvularia, Drechslera* and some relatives, all with many-celled, pigmented poroconidia. Such anamorphs are similar to the *Alternaria* and *Stemphylium* anamorphs of typical species of *Pleospora,* on which the older family Pleosporaceae is based.

Pyrenophora phaeocomes (REBENT.) FR., the type of *Pyrenophora* has no known anamorph. The structure of the ascomata is similar to that of *Pleospora herbarum* (FR.) RABENH. or to *Wettsteinina pachyasca* (NIESSL) PETRAK, which are the types of the Pleosporaceae and the Pseudosphaeriaceae (ERIKSSON, 1981). All these species have spherical or tuberose, thick-walled ascomata with a conical upper part. The asci develop in small numbers between vertical rows of delicate, hyphal cells and have thick walls with ring-like structures in the apex. *Pyrenophora phaeocomes* especially is closely related to *Wettsteinina mirabilis* v. HÖHNEL. Both species have very large, pale, sheated ascospores, 70—100 × 25—40 µm. Those of *W. mirabilis* have 4 transverse septa when mature, those of *P. phaeocomes* 5—7 transverse and 1—2 longitudinal septa (ERIKSSON, 1967).

Both the Pyrenophoraceae and the Pseudosphaeriaceae cannot be separated from the Pleosporaceae. Numerous species include anamorphs with pigmented poroconidia which usually have transverse and often also longitudinal septa. Many intermediates between *Pleospora* and *Pyrenophora* exist and the two genera can be distinguished only artificially by number of septa and cell-size of ascospores, as shown by CRIVELLI (1983).

Species with pycnidial, *Phoma* or *Coniothyrium* like anamorphs should be excluded from *Pleospora* and the Pleosporaceae and will have to be classified in the Melanommataceae (von ARX & van der AA, 1983).

The genus *Leptosphaerulina* will have to be reclassified in the Mycosphaerellaceae or in a separate family (CRIVELLI, 1983).

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