Neth. J. Pl. Path. 76 (1970) 165–170

Nomenclatural remarks on three plant parasitic fungi

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Accepted 8 September 1969

Abstract

Discella salicis (Westend.) Boerema is a new combination proposed for the conidial state of *Cryptodiaporthe salicella* (Fr.) Petr. (branch canker of willow) to replace the misapplied name *Discella carbonacea* (Fr. ex Fr.) Berk. & Br. The new combination *Mycosphaerella pyri* (Auersw.) Boerema is proposed for the perfect state of *Septoria pyricola* (Desm.) Desm. (leaf fleck of pear) to be used instead of the misapplied name *Mycosphaerella sentina* (Fr.) Schroet. The name *Melampsoridium betulinum* (birch rust) is attributable to Klebahn alone; and not as being based on earlier names from Persoon, Fries, Tulasne or Desmazières.

Introduction

While compiling a list of parasitic fungi of common occurrence on trees and shrubs in The Netherlands it appeared to me that the nomenclature of some of the parasites is not in accordance with the International Code of Botanical Nomenclature ("Edinburgh Code", 1966). There are several reasons for this, such as the lack of rules of nomenclature for fungi before 1910, misidentifications, and misapplications. In this paper the nomenclature of three parasites is discussed.

The fungus causing branch canker of willow

CRYPTODIAPORTHE SALICELLA (Fr.) Petr. in Annls mycol. 19: 180. 1921.
Syn. e.g.: *Sphaeria salicella* Fr., Syst. mycol. 2 (Sect. 2): 377. 1823.
Diaporthe salicella (Fr.) Sacc. in Atti Soc. veneto-trent. Sci. nat. 2: 135. 1873.
Stat. con.: DISCELLA SALICIS (Westend.) comb. nov.
Basionym: *Diplodina salicis* Westend. in Bull. Acad. r. Belg. Cl. Sci. II, 2: 562. 1857.
Rejected names perfect state:
Cryptodiaporthe salicina (Pers.) Wehm. as "(Curr.) Wehm." in Trans. Br. mycol. Soc. 17: 281. 1932 (misapplied).
Cryptodiaporthe salicella (Fr.) Wehm. in Trans. Br. mycol. Soc. 17: 282. 1932 (preoccupied and misapplied).
Rejected name imperfect state:
Discella carbonacea (Fr. ex Fr.) Berk. & Br. in Ann. Mag. nat. Hist. 5: 376. 1850 (misapplied).

The confusion in the nomenclature of the perfect state of this fungus was pointed out in 1958 by Butin, who established that its correct name is *Cryptodiaporthe salicella*

(Fr.) Petr. The description given by Wehmeyer (1932, 1933) under the name *Cryptodiaporthe salicina* applies to *C. salicella* (Fr.) Petr. but it appears to have been based on a misidentification by Currey (1858) of the name *Sphaeria salicina* Pers., a name introduced by Persoon (1796, 1801) for a species that is a typical *Valsa*, *V. salicina* (Pers. ex Fr.) Fr. Wehmeyer's (1932, 1933) description under *Cryptodiaporthe salicella* (Fr.) Wehm., a later homonym of *C. salicella* (Fr.) Petr., relates to a different species, also occurring on willow, *C. apiculata* (Wallr.) Fr.

Berkeley and Broome (1850) based the form-genus *Discella* on the conidial state of the fungus, characterized by excipuliform (cup-shaped, dish-shaped) pycnidia with fusoid 1-septate spores. They named it *Discella carbonacea*, a recombination of *Phacidium carbonaceum* Fr. ex Fr., under reference to No. 210 in Fries' exsiccata series Scleromyceti Sueciae. The latter was originally described by Fries (1818) as *Xyloma carbonaceum* Fr. and later transferred to *Phacidium* (Fries, 1819, 1823). The material of *Phacidium carbonaceum* in No. 210 of the original edition of Scleromyceti Sueciae (Fasc. 6, 1821; mentioned by Fries, 1823) preserved in Uppsala, however, appears to be completely different from the conidial state of *Cryptodiaporthe salicella*. It contains subepidermal scolecosporous pycnidia, which are generally discoid or saucer-shaped in appearance. Superficially it shows some resemblance to a paraphysoid Discomycete, which Fries thought it to be. It is probably conspecific with *Rhabdospora longispora* Ferraris (1904, p. 498). The No. 210 of the second edition of the Scleromyceti Sueciae (1834) preserved in Uppsala contains a variety of different fungi, among others the conidial stage of *Cryptodiaporthe salicella*. A copy of this second edition may well furnish the clue to Berkeley & Broome's interpretation of *Phacidium carbonaceum*. However I agree with Holm and Nannfeldt (1962) that the typification should be based on the material in the original edition referred to by Fries in his "Systema mycologicum". The name *Discella carbonacea* can therefore not be maintained for the conidial state of *C. salicella*.

The new combination *Discella salicis* proposed above has been based on *Diplodina salicis*, the type of which is preserved in Herb. Jardin Botanique de l'État in Brussels. It should be noted that *D. salicis* represents the type species of *Diplodina* (1857) and that this genus and *Discella* (1850) are based on the same conidial state. Hence the name *Diplodina* must be reduced to the synonymy of *Discella* (compare Boerema et al., 1965).

In literature (Oudemans, 1920, p. 138; Grove, 1937, p. 148) one older name has been mentioned in connection with the conidial state of *Crytodiaporthe salicella*, viz *Stilbospora microsperma* Johnston (1831). A recombination of this epithet in the genus *Discella* is not possible, since this would result in a later homonym of the binomial *Discella microsperma* Berkeley & Broome (1850), another species occurring on Salicaceae, compare Petrak (1961) and von Arx (1963).

The leaf fleck fungus of pear

MYCOSPHAERELLA PYRI (Auersw.) comb. nov.

Basionym: *Sphaerella pyri* Auersw. in Gonnerm. and Rabenh., Mycol. europ. Abb. Pyrenomyc. 5/6: 11. 1872.

Stat. con.: SEPTORIA PYRICOLA (Desm.) Desm. in Annls Sci. nat. (Bot.) III, 14: 114. 1850.

Basionym: *Depazea pyricola* Desm. in Pl. cryptog. N. France (ed. 1) Fasc. 15, No. 721. 1834.
Rejected name perfect state:
Mycosphaerella sentina (Fr.) Schroet. in Cohn, KryptogFlora 3(2): 334. 1894 (misapplied).
Mycosphaerella sentina "(Fuck. nec Fr.) Schroet." (Klebahn, 1908) (illegitimate authors indication).
Incorrect spelling imperfect state:
Septoria piricola Desm. (e.g. Klebahn, 1908; Moore 1959).

As noted by Klebahn (1908), the combination *Mycosphaerella sentina* (Fr.) Schroeter (1894) cannot be applied to the perfect state of this leaf fleck fungus of pear because its basionym *Sphaeria sentina* Fries (1823) was described from apple and is probably related to the apple scab fungus. Klebahn (1908), in an attempt to circumvent this difficulty, proposed the combination *M. sentina* as though it had been based on "*Sphaerella sentina* Fuck." instead of on *Sphaeria sentina* Fr. This, however, is not in accordance with the present rules of nomenclature. Moreover there exists no *Sphaerella sentina* Fuck. as this binomial is also a recombination based on *Sphaeria sentina* Fr. (Fuckel, 1870).

As far as is known the oldest valid name of the perfect state is *Sphaerella pyri* Auersw.; see also Klebahn (1908). Its use in combination with *Mycosphaerella* is not really a transfer from another genus since *Mycosphaerella* Johanson (1884) is only a name change for *Sphaerella* (Fr.) Rabenh., a later homonym of the algal-genus *Sphaerella* Sommerf. (1824).

The name of the conidial state of the fungus is usually spelled *Septoria piricola* instead of *S. pyricola* as adopted by Desmazières (1850). The basionym *Depazea pyricola* Desm. was also written with a *y*. According to Article 73 of the "Edinburgh Code", the original spelling *pyricola* must be retained. Incidentally, the advantage of this is that the epithets of the perfect and imperfect states now are spelled the same.

The birch rust

MELAMPSORIDIUM BETULINUM Kleb. in Z. PflKrankh. 9: 17, 19, 147. 1899 [as "*M. betulinum* (Pers.) nob."].
Syn. e.g.: *Melampsora betulina* Wint. in Hedwigia 19: 55. 1880 [as "*M. betulina* (Pers.)"].
Incorrect citations:

Melampsoridium betulinum	(Pers.) Kleb. (e.g. Gäumann, 1959; Blumer, 1963) (refers to imperfect state).
id.	"(Fr.) Kleb." (e.g. Hylander et al., 1953; Cummins and Stevenson, 1956; Wilson and Henderson, 1966) (imaged combination).
id.	"(Tul.) Kleb." (Oudemans, 1920) (imaged combination).
id.	"(Desm.) Kleb." (Moore, 1959) (imaged combination).

Klebahn (1899, p. 147) introduced the combination "*Melampsoridium betulinum* (Pers.) nob.", citing the earlier combination *Melampsora betulina* "(Pers.) Desm."

(incorrect authorship) under reference to Plowright (1891). In Plowright's paper the latter binomial is correctly cited as "*Melampsora betulina* (Pers.) Wtr.". This combination by Winter (1880) is based on the uredial state of the rust, *Uredo populina* var. *betulina* Pers. (cf. Winter, 1882).

Klebahn caused the present confusion in the author citation by citing "Desm." instead of Winter. It should be remembered that Desmazières (1850) made a similar combination in the genus *Melampsora*, which was based not on the name founded by Persoon but on *Sclerotium* (*Xyloma*) *betulinum* as described by Fries (1822) and published as a new combination of *Peziza betulinum* Albertini & Schweinitz (1805). The identity of this species is uncertain but judging by the original description and figure it quite certainly has no connection with a rust. Fries himself, no doubt, was uncertain as to how to interpret *Peziza betulinum;* in 1829 he considered it to be a species of *Perisporium: P. betulinum* (Alb. & Schw.) Fr. (see also Holm and Nannfeldt, 1962, p. 50, 51).

Hylander et al. (1953) and Cummins and Stevenson (1956) are of the opinion that the basionym of the recombination proposed by Klebahn is the name given by Fries. This would mean that the combination *Melampsoridium betulinum* would have to be rejected because it is obviously not based on a rust at all.

There is reason to believe, however, that Klebahn gave Persoon as the author of the epithet *betulinum* ("*M. betulinum* (Pers.) nob.") on purpose, mentioning Desmazières only as the first author to place the rust in the genus *Melampsora*. It is evident that Klebahn was aware of the uncertain disposition of the combination(s) made by Fries (cf. discussion by Tulasne, 1854, p. 94–97), whereas Persoon's *Uredo populina* var. *betulina* undoubtedly refers to the rust in question. In such cases Klebahn often changed the author names (see this paper under *Mycosphaerella pyri*).

By accepting the uredial name proposed by Persoon as basionym of Klebahn's combination the name *Melampsoridium betulinum* can be maintained but it must be attributed to Klebahn alone (Article 59 "Edinburgh Code").

Acknowledgments

The author is very much obliged to Dr R. A. Maas Geesteranus, Rijksherbarium, Leiden, for kindly going through the manuscript and for his valuable comments, and also to the Directors of the Herbaria in Brussels, Leiden, Paris and Uppsala for the loan of material on the fungi discussed. Dr Elizabeth Helmer van Maanen, Amsterdam, was so kind as to improve the English text.

Samenvatting

Opmerkingen over de nomenclatuur van drie planteparasitaire schimmels

Voorgesteld is het imperfecte stadium van *Cryptodiaporthe salicella* (Fr.) Petr., de veroorzaker van schorsbrand bij wilg, aan te duiden met de nieuwe combinatie *Discella salicis* (Westend.) Boerema, ter vervanging van de onjuist toegepaste naam *Discella carbonacea* (Fr. ex Fr.) Berk. & Br. Voor het perfecte stadium van *Septoria pyricola* (Desm.) Desm., veroorzaker van een bladvlekkenziekte bij peer, is de nieuwe combinatie *Mycosphaerella pyri* (Auersw.) Boerema geïntroduceerd, in plaats van de onjuist

toegepaste naam *Mycosphaerella sentina* (Fr.) Schroet. Verder werd vastgesteld dat Klebahn moet worden beschouwd als de enige auteur van de berkenroest *Melampsoridium betulinum*.

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