

(1359-1360) Two proposals to conserve the names *Rhizoctonia* and *R. solani* (*Hyphomycetes*)

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(1359) *Rhizoctonia* DC. in Lamarck & Candolle, Fl. Franç., ed. 3, 5: 110. 8 Oct 1815 [*Fungi*], *nom. cons. prop.*

Type: *R. solani* J. G. Kühn (Krankh. Kulturgew.: 224. 1858), *typ. cons. prop.*

The two original species of *Rhizoctonia* are *R. crocorum* (Pers.: Fr.) DC. (l.c.: 111; = *Sclerotium crocorum* Pers., Syn. Meth. Fung.: 119. 1801, : Fr.) of which the teleomorph is known as *Helicobasidium purpureum* Pat. (in Bull. Soc. Bot. France 32: 172. 1885); and *R. medicaginis* DC. (l.c.). The type of the latter has been identified as *R. crocorum* (Andersen & Stalpers in Mycotaxon 51: 445. 1994). *R. crocorum* was designated as the type of the generic name by Donk (in Taxon 11: 97. 1962).

However, the vast majority of literature on *Rhizoctonia* deals with *R. solani*, which is the anamorph of *Thanatephorus cucumeris* (A. B. Frank) Donk, classified in the *Ceratobasidiaceae* (*Ceratobasidiales*). Two other genera with anamorphs considered to belong to *Rhizoctonia* s.l. are found in this family: *Ceratobasidium* D. P. Rogers and *Waitea* Warcup & P. H. B. Talbot.

Helicobasidium is not closely related to *Thanatephorus*, as septal pore ultrastructure, spindle pole bodies and nuclear features indicate its affinity to the *Uredinales* (Bourett & McLaughlin in Canad. J. Bot. 64: 130-145. 1986), and it is also morphologically quite distinct. A classification of the anamorphs of *Helicobasidium* and *Thanatephorus* in the same form genus is therefore undesirable.

Recently efforts have been made to bring anamorph taxonomy into accordance with teleomorph taxonomy. The synonymy of *Moniliopsis aderholdii* Ruhland with *R. solani* was already established by Duggar (in Ann. Missouri Bot. Gard. 3: 1-10. 1916). Moore (in Mycotaxon 29: 91-99. 1987) proposed to take up the name *Moniliopsis* Ruhland (in Arbeiten Biol. Reichsanst. Land- Forstw. 6: 76. 1908) to accommodate anamorph taxa with teleomorphs in *Thanatephorus* and *Waitea* (both with multinucleate cells). This procedure, although in full agreement with the *Code*, has not been followed in practice. The name *Rhizoctonia solani* is so strongly entrenched in phytopathological literature (see below) that it should not be replaced (see also Boerema & al. in Netherlands J. Pl. Pathol. 99, Suppl. 1: 26. 1993).

We therefore propose conservation of *Rhizoctonia* with *R. solani* as its conserved type. For the anamorph of *Helicobasidium purpureum*, *R. crocorum*, the generic name *Thanatophytum* Nees (Syst. Pilze: 148. 1816), typified by *T. crocorum* (Pers.) Nees, is available: it is a legitimate name since *Rhizoctonia* was not yet typified in 1816 and since its second element, *R. medicaginis*, was not mentioned by Nees. However, a second nomenclatural action is necessary to save the name *Rhizoctonia solani*.

(1360) *Rhizoctonia solani* J. G. Kühn, Krankh. Kulturgew.: 224. 1858 [*Fungi*], *nom. cons. prop.*

Type: [dried culture] CBS 239.95 (CBS), *typ. cons. prop.*

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- (=) *Rhizoctonia napaeae* Westend. & Wallays, Herb. Crypt.: No. 225. 1846, *nom. rej. prop.*

Type: [specimen] *Westendorp & Wallays*, Herb. Crypt. No. 225 (BR).

Rhizoctonia solani is a very well known anamorph taxon, especially among plant pathologists. Until 1970 more than 4000 publications were concerned with this fungus (Menzies in Parmeter, *Rhizoctonia solani* Biol. Pathol.: 3-5. 1970), and their number continues to increase. Numerous pathological studies describe *R. solani* as an economically important pathogen of a large number of crops. It displays various outbreeding systems and is the most often studied species for vegetative compatibility.

Rhizoctonia solani has never been properly typified. Duggar (in Ann. Missouri Bot. Gard. 2: 426. 1915) was informed by Kühn personally that no type had been prepared. The original drawing published by Kühn (l.c.), the only element available for lectotypification, contains elements not belonging to this taxon and is thus unsuited as type. There is a general consensus that the original description refers to a specimen belonging to "Anastomosis Group 3" of *R. solani*. Schulz (in Arbeiten Biol. Reichsanst. Land- Forstw. 22: 30. 1936) published the invalid "*Hypochnus solani* var. *typica*", later cited by Sneh & al. (Ident. *Rhizoctonia* Sp.: 67, 71. 1991) as "*R. solani* var. *typica*" and associated with "AG 3" (Andersen & Stalpers in Mycotaxon 51: 450. 1994). A specimen from *Solanum tuberosum* belonging to this group is therefore here proposed to serve as the conserved type of the name of the species and, ultimately, the genus. A living culture is preserved under the same number.

Rhizoctonia napaeae, published in 1846, is an earlier synonym. Its type is in good condition and easily identifiable. Its identity with *R. solani*, regarded as probable by Parmeter & Whitney (in Parmeter, l.c.: 7-19), was verified by Andersen & Stalpers (in Mycotaxon 51: 437-457. 1994), so that an undesirable name change is required.

Menzies (in Parmeter, l.c.: 4) argues ironically against conserving *Rhizoctonia solani*: "If he [Kühn] could look at the saprophytic mycelium and sclerotia, confuse them with a few unrelated fungous structures, describe the wrong symptoms, and still reach the correct conclusion that he was dealing with a potato pathogen, then surely he deserves the honour of naming it". This statement does not outweigh the arguments in favour of conserving *R. solani*. Serious confusion would result from the name change mandated by priority. In Parmeter (l.c.) it was clearly stated that the name *R. solani* was to be retained for the anamorph of *Thanatephorus cucumeris*. It is very well known, whereas *R. napaeae* was mentioned only in five reviews since its publication, in four of which it was misspelt in different ways, three times with wrong author citations: "*R. rapae* Westendorp & Wallays" (Westendorp in Bull. Acad. Roy. Sci. Belgique 18: 384-417. 1852), "*R. napae* Westendorp" (Kickx, Fl. Crypt. Flandres: 470. 1867), "*R. napi* Westendorp" (Saccardo, Syll. Fung. 14: 1176. 1899), and "*R. napeae* Westendorp" (Oudemans, Enum. Syst. Fung. 3: 252. 1921), all of them referring to one and the same herbarium specimen.

Considering the economic importance of the taxon, the number of publications per year using the name *Rhizoctonia solani*, and the confusing and scant mention of *R. napaeae*, we formally propose conservation of the name *R. solani*, with a conserved type, against *R. napaeae*.

Our two proposals have been officially endorsed by the *Rhizoctonia* Taxonomy Committee of the International Commission for Fungal Taxonomy (ICTF) at their meeting in Noordwijkerhout, June 1995.