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Taxonomy of *Oxyporus vellereus* Comb. Nov.

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Detailed observations on morphological and cultural characters of *Irpex vellereus* Berk. & Br. are given and in the light of these observations the taxonomy of the fungus is discussed. The new combination *Oxyporus vellereus* (Berk. & Br.) Roy & De is proposed.

Key words : Taxonomy, *Oxyporus vellereus*

INTRODUCTION

In India *Irpex vellereus* Berk. & Br. grows on dead wood of *Bambusa arundinacae* Willd. and *Shorea robusta* Gaertn. f. where it causes a white rot. The fungus also occurs in Sri Lanka. The present paper reports the results and cultural characters of *Irpex vellereus*. The toxonomy of the species is also discussed in the light of these findings.

MATERIALS AND METHODS

Observations were based on fresh specimens collected by the author. Microscopic characters of the basidiocarps were studied from free-hand sections mounted in 10% KOH and stained with 1% Cotton blue. Cultures were established from context tissues of these basidiocarps and studied following the methods of Nobles (1948, 1965). Oxidase reactions were tested by the Bavendamm method as described by Davidson *et al.* (1938). Voucher specimens and cultures are maintained in the Mycological herbarium of the Visva-Bharati University (VBMH).

DESCRIPTION OF BASIDIOCARP

Oxyporus vellereus (Berk. & Br.) Roy & De, comb, nov. = *Irpex vellereus* Berk. & Br., J. Linn. Soc. London 14 : 61, 1875 (Basionym).

Basidiocarp resupinate to effused-reflexed, mostly solitary, thin, leathery to corky, pileus up to 5.0 x 1.5 x 0.5 cm; margin thin; pileus surface glabrous or tomentose to hirsute, pinkish buff when fresh, greyish brown when dry, faintly zonate; context yellowish to greyish brown, up to 2 mm thick; hymenial surface pinkish when fresh,

brown on drying, pores circular near the margin, irpiciform elsewhere, 1-2 per mm, pore tubes up to 3 mm long.

Hyphal system monomitic. Generative hyphae simple septate, branched (Fig.1), hyaline to pale brown, 2.2 - 6.5 µm wide, mostly thick-walled to subsolid (Fig. 2), few thin-walled and collapsed, occasionally encrusted. Basidia (Fig. 3), long clavate, 18.7 - 20.0 x 4.2 - 6.5 µm. Basidiospores (Fig. 4) hyaline, thin-walled, oblong-ellipsoid, 5.2 - 7.0 x 2.0 - 3.0 µm. Cystidia (Fig. 5) thick-walled to subsolid, long, club shaped, encrusted at the upper end and projecting above the hymenium, 40.0 - 48.0 x 4.2 - 5.2 µm.

Specimen examined : VBMH 80451, 80452, 84453, growing on dead wood of *Bambusa arundinacea;* VBMH 84454, 85455, growing on dead wood of *Shorea robusta.*

Distribution in India : H.P., U.P., W.B. and Maharashtra

Growth characteristics : Growth moderately rapid, plates covered in 3 weeks. Advancing zone hyaline, even and appressed. Mat white, floccose in the younger region followed by almost transparent thinly appressed mycelium in the older part and developing fine radiations and zonations. Reverse bleached.

Oxidase reactions positive on both gallic acid and tannic acid agar, colony 3-4 cm in diameter on both.

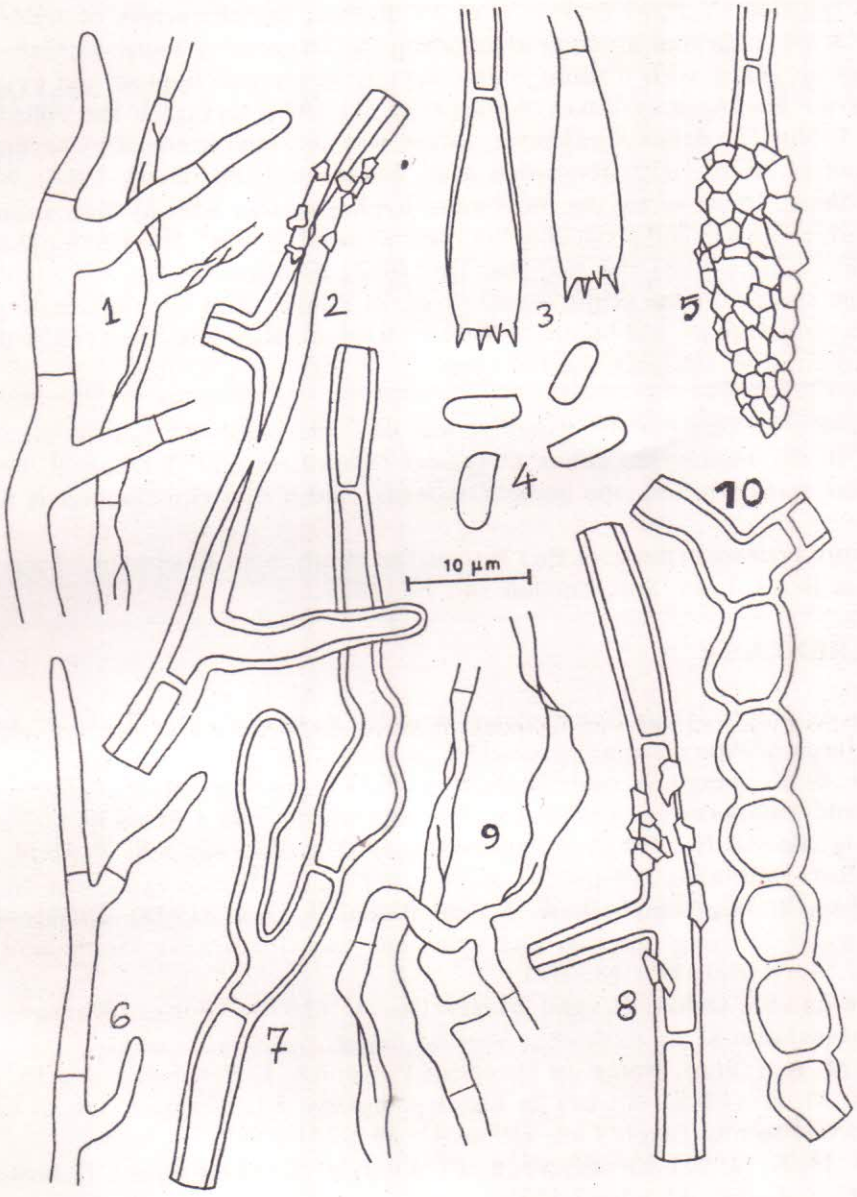
Microscopic characteristics : Advancing zone - hyphae hyaline, thin-walled, simple septate, branched, 2-3 µm wide (Fig.6). Aerial mycelium - (a) hyphae as in the advancing zone; (b) hyphae hyaline, thick walled, simple septate, branched, with terminal or intercalary swellings (Fig. 7), occasionally encrusted, 2.6 - 4.5 µm wide (Fig. 8); (c) hyphae hyaline, thin-walled, septate, mostly collapsed, 2.2 - 5.0 µm wide (Fig. 9), abundant in the translucent part of the mat; (d) hyphae hyaline, slightly thick-walled, septate, monilioid, 4.5 - 7.8 µm wide (Fig. 10) .

Species Code : 2.6.7.26.32.36.40.43.54 [following the system of Nobles (1965)].

Cultures examined : VBMH 80451, 80452, 84453.

DISCUSSION

The foregoing descriptions indicated that this species is monomitic with thin - to thick-walled simple septate generative hyphae, thus agreeing with the views of Bakshi (1971). However, he failed to note the presence of profuse crystalline deposits on the thick-walled generative hyphae, and thick-walled basidia which are noteworthy anatomical features of this fungus. Sen (1973) who studied the species in culture did not note the abundant encrustations on the hyphae, the occurrence of slightly thick-walled moniliform hyphae, nor the thick-walled twisted and collapaed hyphae, which occur profusely in the translucent part of the mat.



Figs. 1-10. *Oxyporus vellereus* : Microscopic structures from basidiocarp. 1. Thin-walled generative hyphae. 2. Thick-walled generative hyphae showing crystalline deposits. 3. Basidia. 4. basidiospores. 5. Cystidia. Microscopic structures from culture. 6. Thin-walled hypha from advancing zone. 7. Slightly thick-walled hyphae with terminal and intercalary swellings. 8. Slightly thick-walled hyphae with crystalline deposits. 9. Thin-walled collapsed hyphae. 10. Slightly thick-walled monilioid hypha.

This monomitic species should not be placed in the genus *Irpex* Fr. which is a dimitic genus typified by *Irpex lacteus* (Fr.) Fr. Rather, the characters of *Irpex vellereus* Berk. & Br. indicated a nearer relationship to *Oxyporus* (Bourd. et Galz.) Donk, a monomitic genus with hyaline simple septate generative hyphae and cylindrical to subclavate encrusted cystidia (Domanski *et al.*, 1973; Ryvarden and Johansen 1980; Donk 1966). The genus *Rigidoporus* Murr. was also characterised by several workers (Domanski *et al.*,1973; Ryvarden and Johansen 1980; Donk 1966; Wright and Deschamps, 1974) as having monomitic hyphal system with hyaline simple septate generative hyphae and producing tubular encrusted cystidia. But Cunningham (1965), Bakshi *et al.*, (1963) and Roy and De (1983) described *Polyporus zonalis* Berk., the type species of the genus *Rigidoporus*, as dimitic with simple septate generative hyphae and septate unbranched skeletal hyphae. Roy and De (1983) drew their conclusion after studying the holotype.

All these evidences therefore suggest that the right place of *Irpex vellereus* Berk. & Br. is in the monotypic genus *Oxyporus* (Bourd. et Galz.) Donk. *I. vellereus* is therefore transferred to the genus *Oxyporus* and a new combination is made.

Oxyporus vellereus (Berk. et Br.) Roy et De, comb. nob. Basionym : *Irpex vellereus* Berk. et Br., J. Linn. Soc. London 14 : 61, 1875.

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