

NEW RECORDS OF *Phellinus* FROM INDIA

BY

P. N. GANESH AND K. M. LEELAVATHY

Mycology Research Laboratory, Department of Botany
Calicut University, Calicut 673, 635, Kerala

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Three species of *Phellinus* (Hymenochaetaceae) viz : *P. ferreus* (Pers.) Bourd. & Galz., *P. ferrugineo-velutinus* (Henn.) Ryv. and *P. gilvoides* (Petch) Ryv. are described and illustrated here.

While studying the wood decaying macrofungi of Kerala, S. India, three species of *Phellinus* hitherto unrecorded from India, were encountered. A description of these collections viz : *P. ferreus* (Pers.) Bourd. & Galz., *P. ferrugineo-velutinus* (Henn.) Ryv. and *P. gilvoides* (Petch) Ryv. is given below. The colour terminology used is that of Kornerup and Wanscher (1967). The materials are deposited in the Herbarium, Department of Botany (CALI), Calicut University, and the duplicate materials are in the Herbarium of the Division of Mycology and Plant Pathology (HCIO), Indian Agricultural Research Institute, New Delhi and in the Herbarium of Forest Pathology Branch, Forest Research Institute, Dehra Dun, India.

Phellinus ferreus (Pers.) Bourd. & Galz.

Hym. Fr. : 627, 1928. - Syn. *Polyporus ferreus* Pers. in Mycol. Eur. 2 : 89, 1825. - *Poria usambarensis* Henn. in Engl. Bot. Jahrb. 38 : 108, 1905. - *Poria ferrea* (Pers.) Overh. in Mycologia 23 : 117, 1931. - *Fuscoporia ferrea* (Pers.) G.H. Cunn. in N.Z. Dep. Sci. industr. Res. Pl. Dis. Div. Bull. 73 : 7, 1948.

Fruitbody annual to biennial, resupinate, spreading on the lower surface of the host, inseparable from the host surface, 2-3 mm thick, thickness uniform, margin adpressed or slightly elevated, woody hard, spreading in sheets of 10x5 cm or more in area. Pore surface golden (4C6) to amber yellow (4B6), reddish brown to reddish yellow towards periphery; rough and uneven, growth not uniform; pores small, visible to unaided eye, oblique, extending to the margin, not regular, round to angular, 3-4 (5) per mm; pore mouth 140-175 μ m wide; dissepiments 80-100 μ m thick; pore tubes concolorous to the pore surface, stratified,

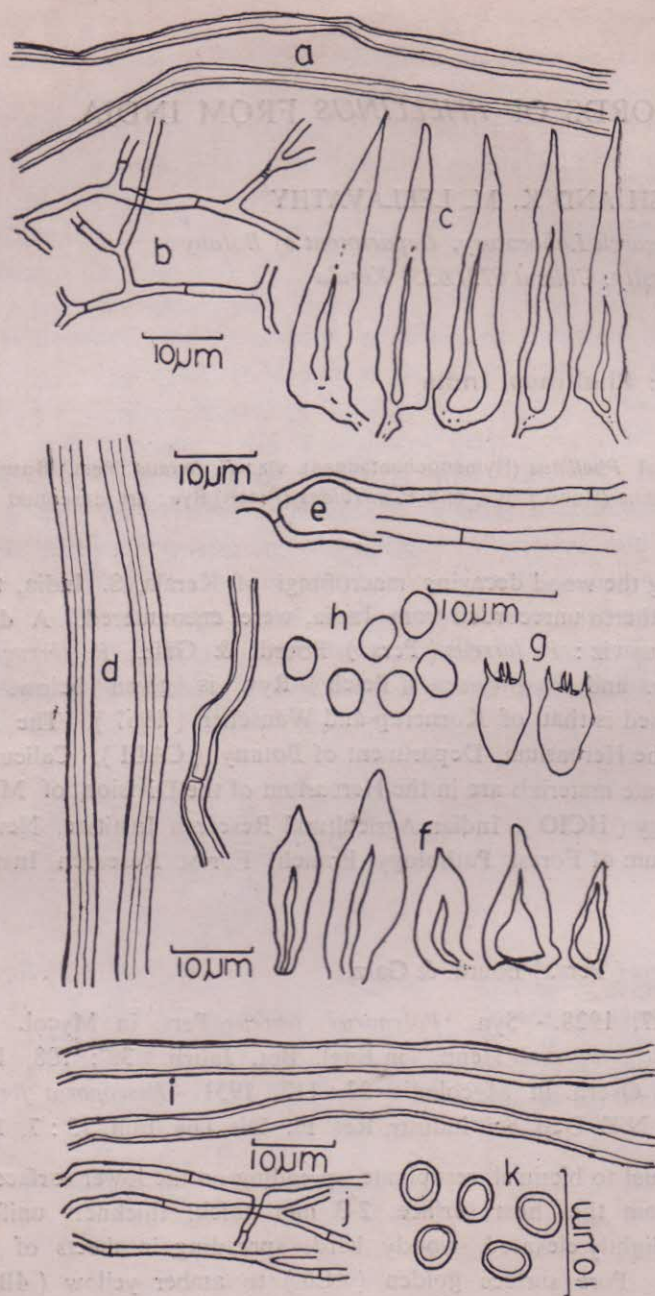


Fig.1

- a-c. *P. ferreus*—a. skeletal hyphae ; b. generative hyphae ; c. setae.
 d-h. *P. ferrugineo-velutinus*—d. skeletal hyphae ; e. generative hyphae ; f. setae ;
 g. basidia , h. basidiospores.
 i. k. *P. gilvovides*—i. skeletal hyphae , j. generative hyphae , k. basidiospores.

1-2 mm long in each stratum, inside tubes slightly greyish. Context a very thin layer beneath pore tubes, bright yellow to Naples yellow (3B7), brownish in KOH, less than 0.5 mm thick, consisting of radiating hyphae compactly arranged.

Hyphal system dimitic. Generative hyphae hyaline, thin-walled, well branched, simple septate, cyanophilous, 1.5-2.5 μm broad, rare in context. Skeletal hyphae yellowish, yellowish brown in KOH, thick-walled, unbranched, non septate, 3-4.5 μm broad, lumen broad and distinct. Setae present in the hymenium; brownish yellow, subulate to lanceolate, straight, thick-walled, 40-50x6-8.5 (10) μm .

Associated with white rot; yellowish, thick-walled hyphae (similar to that of context) forming a mat just beneath the bark. Both sap wood and heart wood becoming a white fibrous and brittle mass. On fallen branches of *Vateria indica* L., Aramba, Achankoil, Pathanamthitta Dist., Kerala, 18-10-1986, Ganesh G 365 (HCIO 39366).

Phellinus ferrugineo-velutinus (Henn.) Ryv.

in Norw. Journ. Bot. 19 : 234, 1972. - Syn. *Poria ferrugineo-velutinus* Henn. in Hedwigia 44 : 59, 1905. - *Fomitopsis flavomarginata* Murr. in North Am. Fl. 9 : 1. 1907.

Fruitbody perennial, resupinate, spreading on the lower surface of a fallen tree trunk, broadly effused, adnate up to 1 cm, inseparable from the host, hard woody while fresh, slightly brittle when dry; margin narrow to broad, adpressed; effused in sheets of 10x10 cm or more in area. Pore surface bronze (5E5) with a greyish shade, chamails (4C5) with a brownish tinge when dry, sepia brown (5F4) towards margin; smooth and even; pores minute, not visible to naked eye, absent towards margin, round, evenly arranged, 9-10 per mm; pore mouth 75-90 (100) μm wide; dissepiments 25-35 (50) μm thick; pore tubes yellowish brown (5D8, 5E8), stratified, 2-3 mm in each stratum, oblique or straight. Context a very thin layer in between pore layers, concolorous to pore tubes, dark brown in KOH, less than 0.5 mm thick, consisting of compact, parallel hyphae radially arranged.

Hyphal system dimitic. Generative hyphae hyaline, thin-walled, simple septate, 2-4 μm broad, occasional in context. Skeletal hyphae yellowish brown, dark brown in KOH, thick-walled, usually unbranched or with short branches towards extremities, cylindrical and flexuous, lumen narrow and distinct, 2.75-4 μm broad. Setae present in the hymenium; yellowish brown, dark brown in KOH, ventricose, thick-walled, scattered, 12-21x4.5-7.5 μm . Basidia clavate, short, 2- or 4-spored, 6.8x3.5-4.5 μm ; sterigmata up to 2 μm long. Spores hyaline, ovoid to subglobose, thin-walled, smooth, inamyloid, non dextrinoid, often with 1 or 2 oil droplets 2.5-3x2-2.5 μm .

Associated with white rot on an unidentified fallen tree branch in a semi deciduous forest, Mundakai, near Meppadi, Wyand Dist. 12-9-1985, Ganesh G 249 (HClO No. 38651).

The present collection agrees with that of *P. ferrugineo-velutinus* from Brazil (Lowe, 1963) and E. Africa (Ryvarden and Johansen, 1980). Closely related species such as *P. johnsonianus* (Murr.) Ryv. has longer and wider setae while *P. glaucescens* (Petch) Ryv. has slightly smaller pores, wider setae and longer spores than that of *P. ferrugineo-velutinus*.

Phellinus gilvoides (Petch) Ryv.

in Norw. Journ. Bot. 19 : 234, 1972. -Syn. *Poria gilvoides* Petch, in Ann. Roy. Bot. Gard., Peradeniya 6 : 138, 1916.

Fruitbody resupinate to sub effuso-reflexed, adnexed and inseparable from the host surface, spreading on the lower surface of the wood, woody hard; margin usually adpressed and spreading, rarely uplifted and forming a narrow pileus; spreading in sheets of 10x10 cm or more in area, up to 1 cm thick. Pileus rarely present, brownish black to blackish, usually crusty, uneven and rough, glabrous. Pore surface yellowish clay (5D5) to hair brown (5E4) when dry; cracking with age, cracks wavy to irregular; pores minute and not visible to naked eye, extending to the margin, round to ovoid, regular, 7-8(9) per mm; pore mouth 100-120 μ m wide; dissepiments 30-40(50) μ m thick; pore tubes concolorous to the pore surface, stratified, inside of old tubes whitish, 2-3 mm long in each stratum. Context concolorous to the pore tubes, blackish in KOH, delimited by a blackish brown layer towards the host surface, sometimes with a very thin layer (less than 0.5 mm thick) in between pore strata, consisting of compact parallel hyphae running towards the periphery (margin).

Hyphal system dimitic. Generative hyphae hyaline, thin walled, branched, rarely simple septate, 1.5-2 μ m, common in dissepiments and old tubes. Skeletal hyphae brownish yellow, yellowish brown in KOH, thick-walled, unbranched, non septate, cylindrical, lumen broad and definite, 3.5-5 μ m broad. Setae none. Spores hyaline to pale yellow, slightly more yellowish when mature, brownish in KOH; globose to slightly sub globose or broadly ellipsoid, thick-walled, smooth, 4-4.5x3-3.5 μ m.

Associated with white rot of both heart wood and sap wood, on unknown forest log, Kanoth Range, Peria Reserve Forest, Wynad Dist., 27-1-1946, K. Bagchee 4253 (FRI).

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