

CONIOPHORA CEREBELLA PERS., A DRY ROT FUNGUS ON BUILDING TIMBER IN INDIA

By

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(With PLAE I and 1 TEXT-FIGURE)

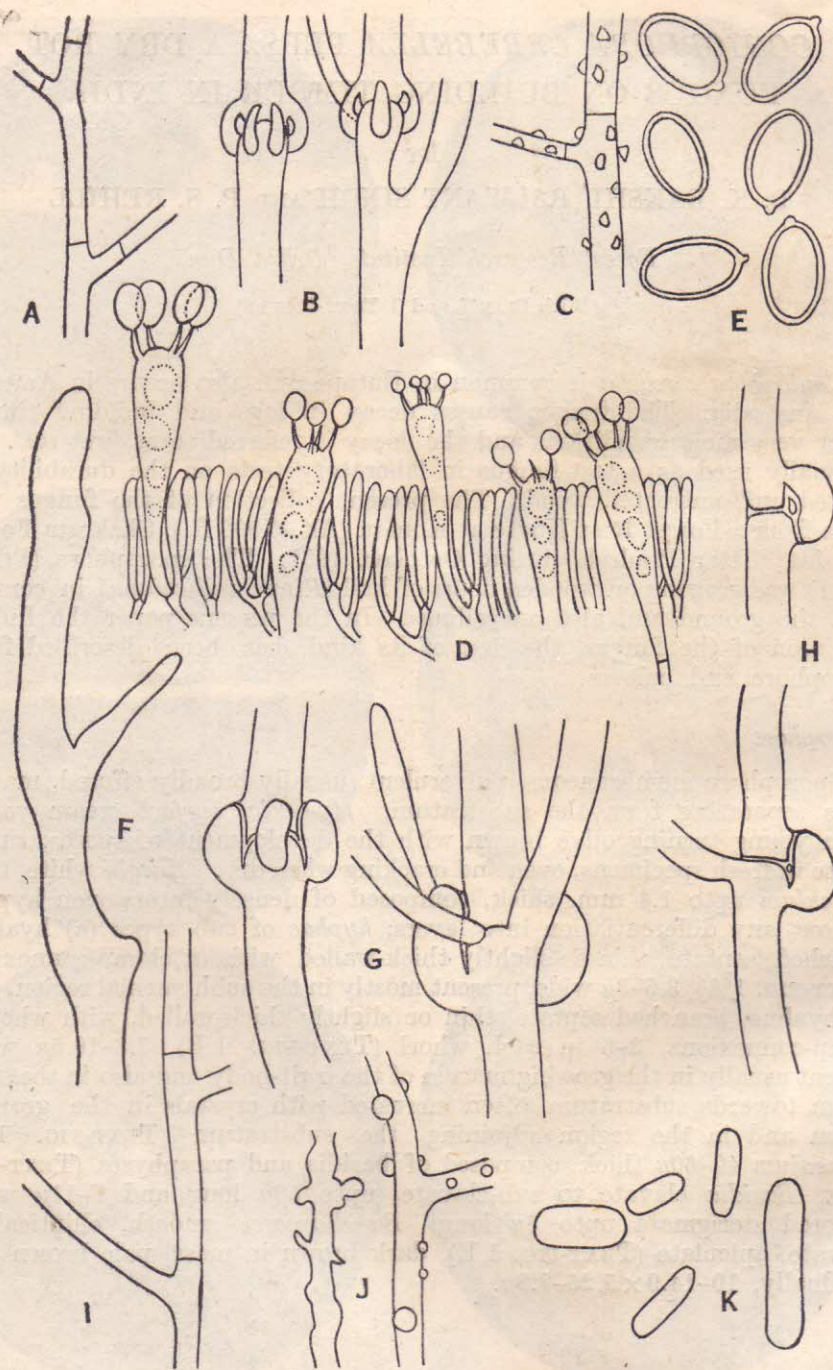
Coniophora cerebella is common in Europe and also occurs in America and Australia. The fungus causes decay in logs and building timber under very moist conditions and the decay is referred to as 'wet rot'. It is usually used as a test-fungus in laboratory tests on the durability of treated and untreated wood. The present collection of the fungus was made from a Forest Rest House at Konain (Alt. 6,500 ft.), Chakrata Forest Division, Uttar Pradesh, during October, 1957. The sporophore (PL. I, FIG. 1) was growing on wooden floors of kail (*Pinus wallichiana*) in contact with the ground and also on ceilings. In the present paper the Indian collection of the fungus, the first of its kind, has been described from sporophore and culture.

Sporophore

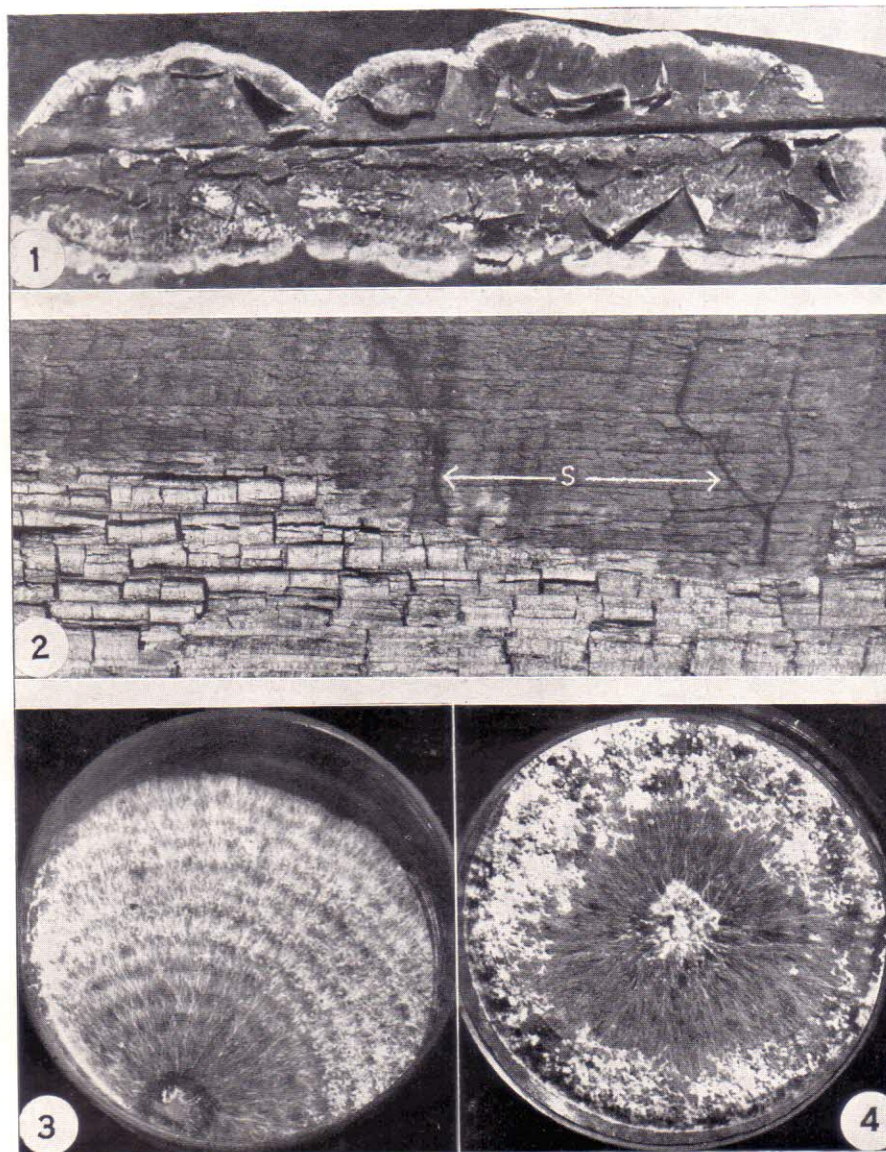
Sporophore membranous, pulverulent, usually broadly effused, mature areas separating from the substratum. *Hymenial surface* cream yellow when young turning olive brown with the development of spores, tuberculate in fresh specimens, even and cracking when dry. *Margin* white, thin. *Subiculum* upto 1.4 mm. thick, composed of densely interwoven hyphae without any differentiation into layers; *hyphae* of two types (a) hyaline, branched, septate, thin or slightly thick-walled, without clamp-connexions (TEXT-FIG. 1,A), $3.5-5\mu$ wide, present mostly in the subhymenial region, and (b) hyaline, branched septate, thin or slightly thick-walled, with whorled clamp-connexions, 3-6 in each whorl (TEXT-FIG. 1,B), $7.8-10.5\mu$ wide, present usually in the growing margin of the fruit-body and also in the subiculum towards substratum, often incrustated with crystals in the growing region and in the region adjoining the substratum (TEXT-FIG. 1,C). *Hymenium* $40-60\mu$ thick, composed of basidia and paraphyses (TEXT-FIG. 1,D). *Basidia* clavate to sub-clavate, upto 50μ long and $7-11\mu$ wide, 4-spored sterigmata upto 8μ long. *Basidiospores* smooth, elliptical or obovate, apiculate (TEXT-FIG. 1,E), dark brown in mass, pale brown individually, $10-14.9 \times 5.25-7.8\mu$.

Rot

The fungus causes brown cuboidal rot (PL. 1, FIG. 2). Dark brown slender strands are present on the surface of the decayed wood and also in the crevices of the rot.



TEX-FIG. 1. Microscopic characters of *C. cerebella* : A-C & E-K ($\times 1250$), D ($\times 540$).
(For explanation vide text)



Coniophora cerebella

Bakshi, Singh & Rehill

Fungus in culture

GROWTH CHARACTERS. Growth rapid, in one week radial growth on malt-agar in darkness 3.5–4.2 cm. at 26°C., 4.0–4.5 cm. at 24°C., 2.8–3.4 cm. at 18°C. and nil at 5°C. (but 0.5 cm. in 4 weeks). Advancing zone hyaline, even. Mat white, or cartridge buff, maize yellow and cream buff, colour more prominent in young culture, tints of 'tawny olive' developing at places when old, cottony, raised, forming concentric zones, zones more prominent when inoculum placed on one side of Petri dish (PL. I, FIG. 3) than that when placed at its centre (PL. I, FIG. 4), frequently forming condensed patches along the sides of Petri dish, mature region becoming adpressed and showing radiating strands; reverse changing to chamois or honey yellow and later 'cinnamon brown'. Odour strong, unpleasant. On gallic and tannic acid agars no diffusion zones, radial growth 3.5–4.0 cm. in the former and 1.5–2.0 cm. in the latter. On gentian-violet-agar growth fast and medium not discoloured.

HYPHAL CHARACTERS. *Advancing zone.*—Hyphae hyaline, thin to slightly thick-walled (TEXT-FIG. 1,F), usually with multiple clamp-connexions forming whorl of branches at the nodes (TEXT-FIG. 1,G), 5–12 μ wide, rarely with single clamp-connexion (TEXT-FIG. 1,H), frequently branched with simple septa, branches 1.5–4.5 μ wide. *Aerial mycelium.*—Hyphae broad, with whorled clamp-connexions and narrow branches with simple septa (TEXT-FIG. 1,I) as in the advancing zone. Brown hyphae, slightly thick-walled with small protuberances (TEXT-FIG. 1,J), 2–4.5 μ broad also present; oidia (TEXT-FIG. 1,K) of variable width (2–5 μ). *Submerged mycelium.*—Hyphae hyaline, branched with simple septa as in aerial mycelium.

The identification of the present collection as *C. cerebella* was confirmed by Dr. Mildred Nobles, Ottawa, Canada, from culture and by Dr. L. K. Weresub from sporophore. Our sincere thanks are due to them.

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EXPLANATION OF PLATE

- FIG. 1. Sporophore of *Coniophora cerebella* ($\times 0.36$).
FIG. 2. Brown cuboidal rot with strands (s) ($\times 1$).
FIG. 3. 2-weeks-old culture showing concentric zones, ($\times 0.6$).
FIG. 4. 2-weeks-old culture with zones not evident ($\times 0.6$).