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EXPLANATION OF PLATE 24

Cladosporium resinae

Fig 1. Conidiophores arising from the creosoted matchsticks surrounding soil from sample 102B. ($\times 1\frac{1}{2}$.)

Fig. 2. Colonies of isolates from soil by the Bushnell-Haas-kerosene method. The isolates from left to right are from samples 81A, 102B and SEC 35A. ($\times 1$.)

NEW SPECIES OF COMATRICHA AND PARADIACHEA

***Comatricha reticulospora* sp.nov.** (Pl. 25, figs. 1-3)

Sporangia caespitosa, stipitata, cylindrica, atrofusca, 2-2.5 mm alta, 0.4-0.5 mm diam. Peridium ignotum. Hypothallus tenuis, corneus, fuscus. Stipes striatus, niger, ad 0.7 mm altus, in sporangium columella penetrans. Columella crassa, irregularis, ad apicem sporangii perveniens. Capillitium nexus confertus contortusque, filorum fuscorum ramosorum, longitudine tota columellae emersum, ad superficiem acumina libera, longa, recta, librata, tenua perveniente. Sporae globosae, per saturam purpureo-brunneae, lucem orientem versus visae dilute griseo-violaceae, (6)-8-(10) μ diam, infirme reticulatae ordinibus verrucarum minutarum, cum circa 15 maculis per hemisphaeram. Plasmodium ignotum. Habitat in ligno putrido. Typus IMI 128350, lectus a P. C. Holland, 31. vii. 1965, Pett Level, East Sussex, Anglia.

Sporangia stalked, clustered, cylindrical, dark brown, 2-2.5 mm high and 0.4-0.5 mm diam. Peridium not seen, presumably disappearing at maturity. Hypothallus continuous in cluster, thin, horny, shining brown. Stalk up to 0.7 mm long, striate, black or very dark brown, opaque, continued into sporangium as a columella, reaching the tip of the sporangium. Columella thick and irregular, giving rise to primary branches of the capillitium along its entire length. Capillitium a tangle of brown threads frequently branching and intricately anastomosing, reaching the surface as long, straight, finely pointed horizontal free ends. Spores purple-brown in mass, pale greyish violet by transmitted light, 6-10 μ diam, mostly about 8 μ , delicately reticulated with rows of minute warts, with about 15 meshes to the hemisphere. Plasmodium not seen.

The type specimen was collected on dead wood, probably of *Sambucus nigra* L. This is one of the few species of *Comatricha* with reticulate spores and it is very distinctive. It belongs to the sub-genus *Laxaria* (Nannenga-Bremekamp, 1967) by virtue of the structure of the stipe and capillitium and shows some similarities to *C. longipila* Nann.-Brem. but is much larger. In the field it might be mistaken for a dark specimen of *Stemonitis virginiensis* Rex, but under the microscope it is seen to be different from all other species.

Paradiachea anglica sp.nov. (Pl. 25, figs. 4-5)

Sporangia sessilia, sparsa vel subcaespitosa, brevi-cylindrica, apico-rotunda, 0.5-0.7 mm alta, 0.4 mm diam. Peridium simplex, membranaceum, minute rugosum, argentatum, iridescente, persistente, lucem orientem versus visae pallide ochraceum, immaculatum. Stipes nullus. Hypothallus pulvinatus, crassus rugosusque, sordide albus, sporangium ferens, peridium admiscens, sporangio trito poculum persistens. Columella nulla. Capillitium nexus filorum ramosorum pallide griseo-violaceorum, cum expansionibus membranaceis et multis acuminibus liberis, cum paucis filis transversis tanquam in *Didymium*. Sporae globosae, 9-10 μ diam, per saturam atrofuscae, lucem orientem versus dilute griseo-violaceae, minute verrucosae. Plasmodium ignotum. Habitat in corticem virgarum mortuarum pinearum. Typus **IMI** 128349, lectus a P. C. Holland, 22. x. 1966, Blackheath, Greater London, Anglia.

Sporangia sessile, scattered or in small loose groups, short cylindrical with rounded apex, 0.5-0.7 mm high, 0.4 mm diam. Peridium single, membranous, minutely wrinkled, silvery iridescent, persistent, pale ochraceous by transmitted light, without markings. Stalk entirely absent. Hypothallus a thick, wrinkled, off-white cushion on which the sporangium sits. The outer part is continuous with the peridium; when the sporangium has weathered away, apex first, the hypothallus is left as a persistent cup. Columella absent. Capillitium a tangle of pale greyish violet threads branching freely, with membranous expansions at the larger junctions, and numerous free ends. There are occasional cross threads reminiscent of the capillitium of *Didymium* spp. Spores blackish brown in mass (exactly the same colour as the spore mass of *Physarum nutans* Pers.), pale greyish violet by transmitted light, 9-10 μ diam, minutely warted. Plasmodium not seen.

The genus *Paradiachea* was erected by Hertel (1956) to accommodate those species variously placed in *Comatricha* and *Diachea* which are limeless and have a persistent peridium. The new species differs from the other three in not possessing a columella, but otherwise satisfies the generic description. The genus has hitherto been reported only from North America, with one record from Japan.

Gottsberger (1966) mentions an Austrian specimen of *P. cylindrica* (Bilgram) Hertel which may refer to this new species.

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EXPLANATION OF PLATE 25

- Figs. 1-3. *Comatricha reticulospora*. Fig. 1. Habit, $\times 14$. Fig. 2. Capillitium and spores, $\times 500$.
 Fig. 3. Spores showing reticulations in surface view and in optical section, $\times 2000$.
 Fig. 4, 5. *Paradiachea anglica*. Fig. 4. Habit, $\times 14$. Fig. 5. Capillitium and spores, $\times 500$.

