

KOORCHALOMA, A NEW GENUS OF THE TUBERCULARIACEÆ

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RECENTLY I collected an interesting Tuberculariaceous fungus on dead culms of paddy (*Oryza sativa* Linn.) from a private farm on the road to Poonamallee in the Chingleput District, Madras State. It was found growing as a saprophyte on the substratum, producing salmon to orange coloured sporodochia. I give below a description of the fungus.

Under a hand lens the sporodochia appear to be circular or irregular in outline, separate, and beset with dark, stiff hairs, particularly along the margins. They are saucer-shaped to cup-shaped and entirely superficial, as indicated by a study of sections. They have a maximum diameter of about 1 mm., and are 98–140 μ tall, the length of the setæ being greater and not considered in computing the height of the fructification. The setæ are simple, unbranched, dark brown in colour, paler towards the tip, long, stiff, erect, straight or bent, broader at the base and narrowing towards the tip which is usually blunt and rounded, many-septate, up to 300 μ long, and up to 15 μ broad at the base. The conidiophores are simple, hyaline, cylindrical, 2–4 μ broad, and compactly arranged parallel and close to each other to form a hymenium. They appear to arise from a substratum of loosely interwoven hyphæ rather than from any distinct stromatic tissue. The conidia are produced acrogenously and singly from the tips of the slender conidiophores, and are hyaline, one-celled and smooth-walled. In shape they are sub-cylindrical or navicular or somewhat fusiform, with the base often somewhat slightly mamillate. Each conidium has a characteristic brush-like apical appendage. The appendage can be seen clearly by simply mounting the material in lacto-phenol; it may be seen more clearly by staining with aqueous methylene blue and mounting in water. When stained with methylene blue, the conidia show 2–5 vacuoles or guttules each. In any case, the most noteworthy feature of the conidium is the brush-like hyaline apical appendage and this appendage is not evanescent when mounted in lacto-phenol; it does not appear, however, to be composed of a large number of distinct threads forming a crown at the tip of the conidium, but the general appearance and shape is unmistakably that of a brush which may or may not be spread out. The conidia are mostly 16×3.2 (8–19.2 \times 3.2–4.0) μ in size. The appendages are $4.8\text{--}9.6 \times 2.4\text{--}9.6$ μ .

The most striking characteristics of the fungus are, of course, its hyaline one-celled conidium with the peculiar brush-like apical

appendage, the bright coloured setose sporodochia and the distinct hyaline cylindrical conidiophores forming a hymenium and producing conidia acrogenously and singly. So far as I am aware, the only genus of the Tuberculariaceæ-Hyalosporæ with setose sporodochia and appendaged conidia is *Neottiosporella* von Hoehnel [= *Neottiosporis* Clements and Shear, an invalid change by the authors, for *Neottiosporella* Hoehnel] (Clements and Shear, 1931, pp. 219, 400). *Neottiosporella* Hoehnel (Hoehnel, 1923, p. 345) "is a *nomen nudum* without formal diagnosis or designation of any species" (Bisby, 1949, p. 40). It may, however, be mentioned, in passing, that the name *Neottiosporella* has recently been used by Graniti (1951) for a fungus which he has named *N. triseti*; indeed, Graniti has formally given a diagnosis for *Neottiosporella* Hoehnel and has designated *N. triseti* as the type of that genus. It is difficult to reconcile Graniti's generic diagnosis (Graniti, 1951, p. 150) with Hoehnel's brief characterisation of his genus in his "System der Fungi Imperfecti Fuckel". For, Hoehnel described the conidia of *Neottiosporella* as "oben mit einigen Cilien"; but Graniti's generic diagnosis of *Neottiosporella* Hoehnel indicates its having conidia which are "utrinque 1-ciliate". In any case, there is nothing in Hoehnel's brief characterisation of his genus to warrant my fungus being placed in that genus; and, as for *Neottiosporella* Hoehnel *sensu* Graniti, I can definitely state, on the basis of Graniti's diagnosis, that my fungus is not congeneric with *Neottiosporella triseti* Graniti. I am, therefore, proposing a new genus to accommodate my fungus. The generic name is derived from Sanskrit *Koorcha*=brush and *loma*=hair.

***Koorchaloma* Subramanian gen. nov.**

Pertinet ad Fungos Imperfectos, atque ad Hyalosporas.

Sporodochia lucide colorata, setosa, superficialia. Setæ simplices, brunneæ, longæ, septatæ. Conidiophori simplices, hyalini, efformantes seriem hymenialelem. Conidia hyalina, semel cellulata, acrogena, haud catenata, singula ornata appendici apicali penicillatæ.

Species typica sequens.

***Koorchaloma madreya* Subramanian sp. nov.**

Sporodochia salmonea vel aurantiaca, separata, setosa, superficialia, patellæ similia, figuræ variabilis, usque ad 1 mm. lata, ca. 98–140 μ alta. Setæ simplices, rigidæ, erectæ, rectæ vel curvatæ, brunneæ, pallidiores atque angustiores ad apicem, septatæ, usque ad 350 μ longæ, atque ad 15 μ latæ ad basim. Conidiophori simplices, hyalini, cylindrici, 2–4 μ lati, efformantes seriem hymenialelem. Conidia hyalina, semel cellulata, acrogena, haud catenata, sub-cylindrica, naviculata vel aliquantum fusiformia, levibus parietibus ornata, 8–19.2 \times 3.2–4.0 μ (ut plurimum 16 \times 3.2 μ), singula ornata appendici apicali penicillatæ, magnitudine appendicis 4.8–9.6 \times 2.4–9.6 μ .

Typus lectus in culmis emortuis *Oryza sativa* Linn., in loc. Poonamallee High Road, Chingleput District in Statu Madras, die 24 februarii anni 1953, a C.V.S., et positus in Herb. M.U.B.L. sub numero 853.

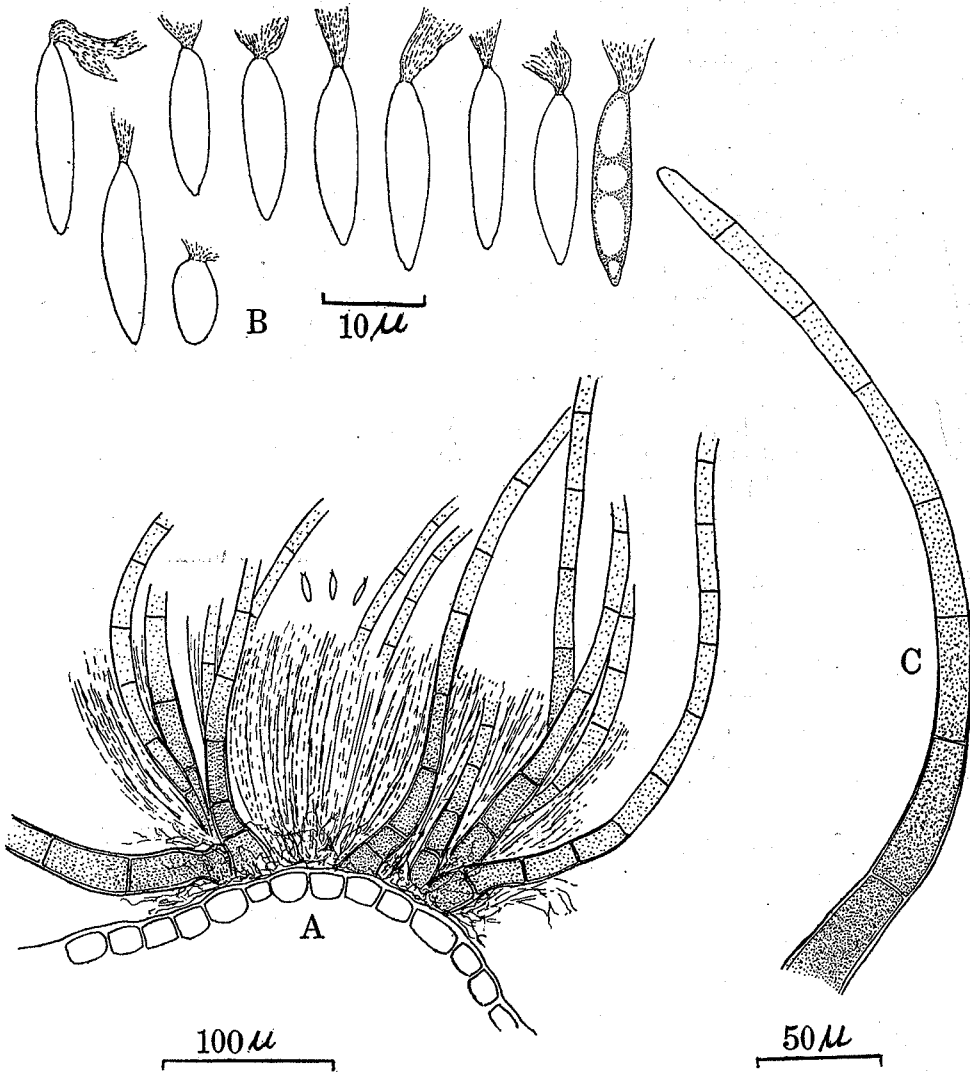


FIG. 1. *Koorchaloma madreya* from type collection, Herb. M. U. B. L. No. 853. A, section of a sporodochium; B, conidia; C, seta.

***Koorchaloma* Subramanian gen. nov.**

Fungus imperfectus, hyalosporæ.

Sporodochia bright-coloured, setose, superficial. Setæ simple, brown, long, septate. Conidiophores simple, hyaline, forming a hyme-

nial layer. Conidia hyaline, one-celled, acrogenous, non-catenate, each with a brush-like apical appendage.

Type species:

Koorchaloma madreeya Subramanian sp. nov.

Sporodochia salmon to orange coloured, separate, setose, superficial, saucer-shaped, of variable outline, up to about 1 mm. broad, about 98–140 μ tall. Setæ simple, stiff, erect, straight or bent, brown, paler and narrower towards the tip, septate, up to 350 μ long, up to 15 μ broad at the base. Conidiophores simple, hyaline, cylindrical, 2–4 μ broad, forming a hymenial layer. Conidia hyaline, one-celled, acrogenous, non-catenate, sub-cylindrical, navicular or somewhat fusiform, smooth-walled, 8–19.2 \times 3.2–4.0 μ (mostly 16 \times 3.2 μ), each with a brush-like apical appendage, the appendage measuring 4.8–9.6 μ \times 2.4–9.6 μ .

Habit: on dead culms of *Oryza sativa* Linn., Poonamallee High Road, Chingleput District, Madras State, 24–2–1953, coll. C.V.S., Herb. M.U.B.L. No. 853.

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