

## NEOTTIOSPORA CURCUMÆ SP. NOV.

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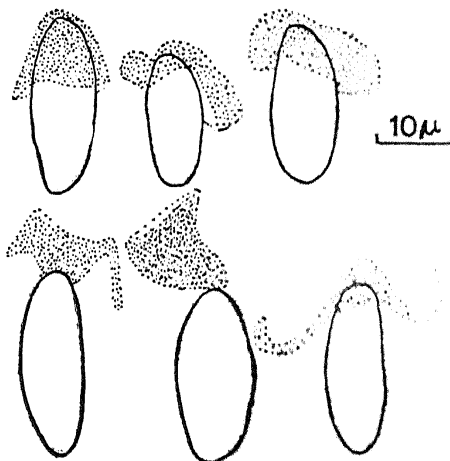
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Received February 8, 1957

(Communicated by Prof. T. S. Sadasivan, F.A.Sc.)

THE fungus which forms the subject of this paper was collected on leaves of *Curcuma amada* Roxb. at Tambaram (Chingleput District, Madras State). It causes extensive drying of the leaves, sometimes involving the entire lamina. The pycnidia of the fungus are visible mostly on the upper surface of the leaves as very minute, black dots barely perceptible to the naked eye. They are ostiolate, more or less globose, immersed and occupying nearly half the width of the leaf tissue and slightly erumpent near the ostiole. The wall of the pycnidium is membranous and made of 2-3 layers of dark brown, pseudo-parenchymatous, polygonal cells. The conidia are produced all over the inner wall of the pycnidium. They are acrogenous on short, stout, somewhat clavate conidiophores. The conidia are thin-walled, hyaline, one-celled, cylindrical with rounded ends. Each conidium is provided with a mucoid, somewhat funnel-shaped appendage at its tip. This appendage is directed downwards in the earlier stages and forms a sort of cap which reaches half way down the length of the conidium. Various stages in the eversion of the appendage were observed. The appendage gets dissolved when the conidia are mounted in lactic acid but is clearly visible in aqueous mounts stained with methylene blue. It is also visible as a bright halo at or near the top of the conidium when it is mounted in dilute India ink. The development of the appendage seems to be as in *Neottiospora caricina* (Desm.) Hoehnel, as described by Subramaniam and Ramakrishnan (1953, 1957).

From the above description the fungus is easily identified as a species of *Neottiospora* Desm. Recent studies by Subramaniam and Ramakrishnan (1953 and 1957) have clearly shown that the appendage in the genus *Neottiospora* is mucoid, evanescent and in the form of an inverted hollow cone. The description of the genus has therefore been emended by these authors so as to conform with this new interpretation of the spore appendage. Our fungus fits in very well with this emended concept of the genus. According to the same authors there are only three good species of *Neottiospora*, i.e., *N. caricina* (Desm.) Hoehnel, *N. paludosa* Sacc. and Fiori & *N. schizochlamys* Ferd. and Winge. We have compared our fungus with these three species. While the conidia of our fungus measure  $16-25 \times 5-8 \mu$ , those of *N. caricina* are



TEXT-FIG. 1. *Neottiospora curcumæ*, conidia (from type, Herb. Mycol., No. 2857).  
 $10-17 \times 2-4 \mu$ , those of *N. paludosa* are  $24-49 \times 4-8.5 \mu$  and those of *N. schizochlamys*  $23-39 \times 5-8.3 \mu$ . It is seen, therefore, that the conidia in our fungus are much larger than those of *N. caricina* and much smaller than those of the other two species. Moreover, while the three former species are saprophytic on dry leaves of members of the Cyperaceæ, the present fungus is parasitic on the leaves of a member of the Zingiberaceæ. It is, therefore, considered necessary to assign our fungus to a new species.

*Neottiospora curcumæ* sp. nov.

Follicola, inducens dissectionem foliorum; pycnidia amphigena, ut plurimum epiphylla, minuta, nigra, immersa, tenuiter erumpentia, ostiolata, plus minusve globosa,  $105-155 \mu$  alta,  $74-140 \mu$  lata; parietes pycnidiales constant duplici vel triplici serie cellularum fusce brunnearum, pseudoparenchymaticarum; conidiophori emergunt ex pariete interno pycnidii, breves, robusti atque nonnihil clavati; conidia acrogena, unicellulata, tenuibus parietibus prædita, hyalina, cylindrica, apicibus rotundis,  $19 \times 6 \mu$  ( $16-25 \times 5-8 \mu$ ), ornata appendice mucoidea apicali coni vacui inversi instar,  $9-19 \times 9-16 \mu$ .

Typus lectus in foliis *Curcumæ amadæ* Roxb., in familia Zingiberacearum, in loco Tambaram (Chingleput District, Madras State) die 9 mensis februarii anni 1956 a N. V. Sundaram, et positus in Herb. Mycol. Gubernii, Coimbatore sub-No. 2857.

We are thankful to the Rev. Fr. Dr. H. Santapau, S.J., for having rendered the diagnosis into Latin.

REFERENCES

- Subramanian, C. V. and Ramakrishnan, K. "On the nature of the spore appendage in *Neottiospora* Desm.," *Proc. Indian Acad. Sci.*, 1953, 37 B, 228-31.  
 .. "Neottiospora Desm.," *J. Indian bot. Soc.*, 1957 (in press).