NOTES ON SOME FUNGI FROM SOUTH INDIA—IX

By T. S. Ramakrishnan, F.A.Sc.

Received February 5, 1965

During the course of my tours in the planting districts of Kerala, certain interesting fungi were found infecting new hosts. Three of these are described hereunder.

Erysiphe periyarensis sp. nov.

Mycelium mainly epiphyllous, whitish; haustoria oval or rounded in the epidermal cells; conidia borne in short chains, two to four in each chain, elliptical, hyaline, one-celled and 45–56 × 19–23 μ in size. Ascocarp dark brown, spherical, scattered, epiphyllous, with 16–20 appendages; appendages erect, non-septate, hyaline, unbranched with obtuse apices, thin-walled but sometimes irregularly thickened near the base and 120–45 μ long. Ascocarp 110–40 μ in diameter and readily bursts to liberate the asci. Asci hyaline, elliptical, with a short stalk, 80–120 × 70–80 μ in size. Ascospores 4–6 in each ascus, hyaline, thin-walled and 35–50 × 15–30 μ (Fig. 1).

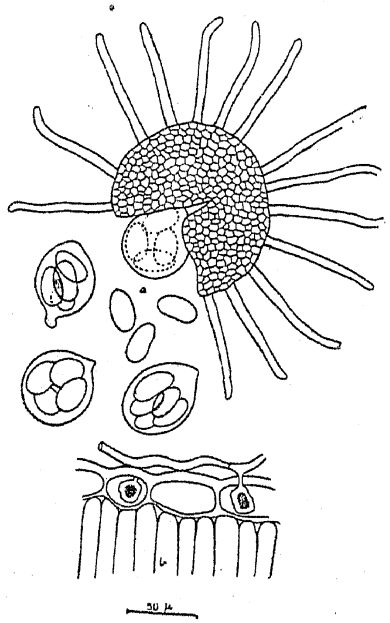


Fig. 1. *Erysiphe periyarensis*. (*a*) ascocarp, asci and ascospores, (*b*) haustoria in epidermal cells.

Mycelium vulgo epiphyllum albidum; haustoria in cellulis epidermalibus, ovalia vel rotundia; conidia breviter catenulata, bina-quaterna in singulis catenis, elliptica, hyalina, unicellularia, 45–56 × 19-23 μ magnit. Ascocarpia fusce brunnea, spherica, dispersa, epiphylla, appendicibus 16-20 ornata; appendicis erectae, non-septatae, non-ramosae, obtusae ad apicem, parietibus tenuibus praeditae, interdum irregulariter incrassatae ad basin, 120–45 μ longae. Ascocarpia 110–40 μ diam., faciliter explodentia ad liberandos ascos. Asci hyalini, elliptici, stipite brevi ornati, 80–120 × 70–80 μ magnit. Ascosporae 4–6 in singulis ascis, hyalinae, ellipticae, parietibus tenuibus praeditae, 35–50 × 15–20 μ.

In foliis viventibus *Sterculiae villosae* Roxb., Vandiperiyar, Kerala; leg. T. S. Ramakrishnan and P. N. Radhakrishna Pillay, die 6–3–1962; typus positus in *Herb. Crypt. Indiae Orient.*, New Delhi, sub numero 27351.

The host grows wild round about Vandiperiyar. The bark is used for making ropes for tying elephants. The mildew is prevalent during the months of February–March. Numerous ascocarps can be seen embedded in the mildewy growth on the leaves. They are easily shed and when the specimens are stored in the herbarium many of the ascocarps are lost in a few months. Old specimens may be lacking in these bodies.

Other mildews have been recorded on the genus *Sterculia*. These however belong to the genus *Uncinula*, viz., *U. nishidana* on *Sterculia platanifolia* and *U. sterculiae* on *S.* sp. (Yadav, 1963). The mildew under report however is not *Uncinula* but *Erysiphe*.

Uraecium nothopegiae **Ramak. T. S. and K.,** *Proc. Ind. Acad. Sci.*, 1948, **28 B,** 59–60.

Cinnamomum zeylanicum growing wild in Vandiperiyar was found affected by a rust in February 1962. The infection was confined to the tender bright-coloured pinkish-red vegetative shoots. Witches-broom-like malformations were formed. Numerous short branches with reduced thickened leaves were produced (Fig. 2 *a*). The affected shoots were very conspicuous and could be readily distinguished even at a distance from the normal ones. On the reduced leaves numerous sori were present appearing as raised convex structures (Fig. 2 *b*). In older shoots the sori had ruptured and the spores formed a powdery covering over the leaves. On account of this, these shoots assumed a dusty brownish-pink colour,

Uredia alone were present. These were subepidermal and deep-seated. The spores were oblong and sometimes the lateral walls were slightly concave producing a sort of reniform shape of the spore. They were one-celled, pedicellate, verrucose, light-brown in colour and 12–20 × 5-10 μ in size. The morphological characters of this rust resemble those of *U. nothopegiae* recorded on *Nothopegia* sp. from the Nilgiris earlier (1948). It is interesting to note that this rust also causes malformations similar to those occurring on *Nothopegia*. Hence the rust is identified as *U. nothopegiae*.

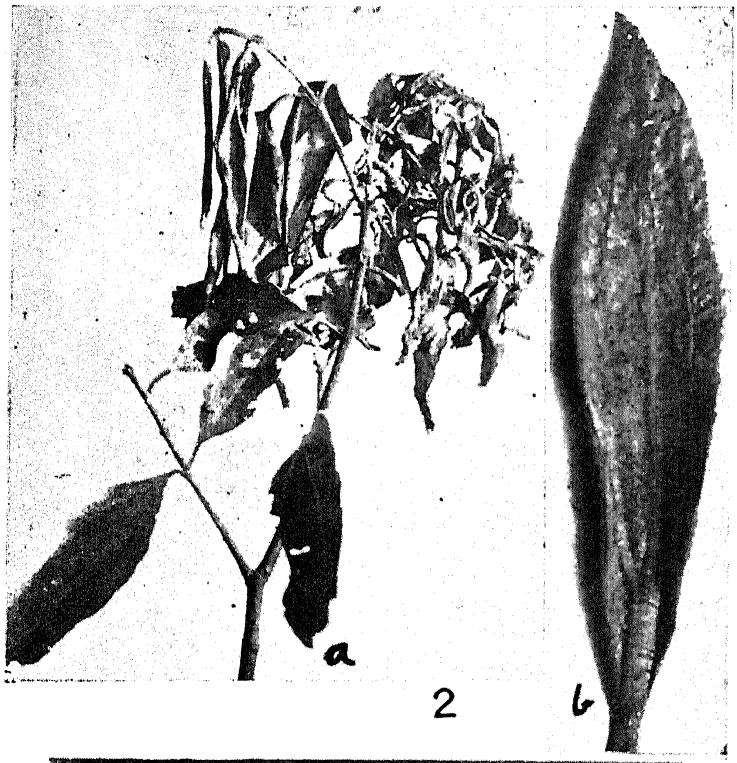
Some uredinologists are of the opinion that the genus *Uraecium* has no separate status but should be merged with the genus *Uredo*. Others however recognise *Uraecium* as a form genus distinct from *Uredo*. It seems advisable to follow the former view till other stages of the rust, if any, are obtained. If this view is adopted the name will have to be changed into *Uredo nothopegiae*.

Specimens of this rust have been deposited in the *Herb. Crypt. Indie Orient.*, New Delhi, the accession No. being 27350.

***Corticium* sp.**

Gardenia grandiflora is cultivated as an ornamental plant in several compounds in Kanjirapalli and Mundakayam (Kottayam District). During the south-west monsoon period a thread-blight affects the plants in both these areas. Some of the shoots wither bearing several rotting leaves. On the twigs white cord-like mycelial strands, closely pressed to the surface, are formed. These branch and spread to the lateral branches. From the twigs the cords continue along the petiole and then fan out over the lower surface of the leaf-blade. The whole surface is covered with a white thickish mycelial growth. Such leaves soon become discoloured and rotten. They are not however shed but are held by the mycelium (Fig. 3).

On other leaves which continue to remain green, also a white growth is developed. When wet, this growth has a reticulated appearance. On such growths basidia are formed more or less in a hymenial layer. The basidia are cylindric-clavate, hyaline and measure 10–15 × 6–9 μ in size. Four filiform sterigmata are formed on each basidium. On these the basidiospores are borne. These are hyaline, smooth, elliptic and apiculate measuring 5–7 × 3–5 μ.



FIGS. 2–3. Fig. 2 (*a*) Witches-broom on Cinnamomum. (*b*) One leaf enlarged 4 times showing sori. Fig. 3. Infected shoot of *Gardenia*.

The morphological characters of the fungus suggest that it is a species of *Corticium*. *Pellicularia koleroga* has been recorded on *Gardenia gummifera* (Butler and Bisby revised by Vasudeva, 1954). But the fungus under study does not resemble *P. koleroga* usually found on coffee in South India. A study of the literature shows that these two genera are allied and many species are transferred from one of these to the other frequently by different workers. Owing to its difference in characters from the typical *P. koleroga* it is identified as *Corticium* sp.

I am grateful to Dr. H. Santapau for kindly translating the description of the mildew into Latin.

References

Butler, E. J. and Bisby, G. R. (Revised by Vasudeva, R. S.) "Fungi of India," *Monogr. I.C.A.R.*, 1954, p. 151.

Yadav, A. S. .. "Additions to the microfungi of Bihar. 1. Erysiphaceae, *Indian Phytopathology*, 1963, **16**, 164–65.