NOTES ON SOME FUNGI

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In December, 1956, I visited Ranchi in Bihar and Hirakud in Orissa. Among the collections of fungi made during my stay there some were new and others not previously recorded from these localities. These are described in this communication.

Phyllactinia heterophragmitis sp. nov.

Mildew growth hypophyllous, forming effuse white patches or sometimes covering the whole surface of the leaflets; conidia broadly clavate, apex obtuse, hyaline, 36–52 × 16–25 μ. Perithecia numerous, dark brown, globose, sometimes depressed, 185–200 μ in diameter, with an equatorial ring of appendages 14–18 in number, appendages 140–215 μ long, bulbous base 40 μ broad. Most of the perithecia were immature.

Hypophylla, efformans maculas albas effusas, vel aliquando totam superficiem foliorum cooperiens; conidia late clavata, apice obtuso, hyalina, 36–52 × 16–25 μ. Perithecia plura, fusce brunnea, globosa, nonnumquam depressa, 185–200 μ diam., ornata annulo aequatoriali appendicum 14–18; appendices vero 140–215 μ longæ, bulbousaæ ad basim 40 μ latim. Peritheciorum plurima immatura.

On living leaves of *Heterophragma roxburghii* DC. (Bignoniaceæ), Namkum (Bihar), 22–12–1956, T.S.R.

The mildew was noticed on most of the leaves. The upper surface of the leaflets in the affected portions was yellowish in colour. The perithecia were numerous and varied in colour according to age from yellow to orange or reddish brown. The bulbous base of the appendage was thin-walled while the upper portion was either thin or thick-walled.

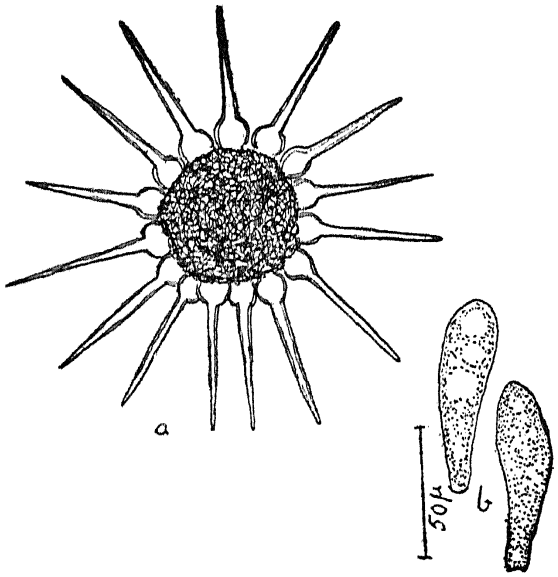
Phyllactinia terminaliæ sp. nov.

Hypophyllous, mycelium sparse or thick, in white patches of different sizes or covering the whole surface. Conidia hyaline, broadly clavate, rounded at the apex, rounded or truncate at the base, 45–60 × 15–24 μ. Perithecia scattered on the lower surface, honey coloured to dark brown according to maturity, 170–200 μ in diameter, globose or spherical, appendages in a ring of 16–18 structures, hyaline, 120–210 μ long, with a bulbous base.

Penicillate cells numerous. Asci brief pedicellate, 2–3 spored, with yellowish contents, 50–60 × 24–28 μ.

Hypophylla, mycelium sparsum vel densum, in maculas albas magnitudinis variæ vel in totam paginam dispersum. Conidia hyalina, late clavata, ad apicem rotundata, ad basim rotundata vel truncata, 45–60 × 15–24 μ. Perithecia dispersa per inferiorem paginam, mellea vel fusce brunnea colore, pro statu ad maturtatem, 170–200 μ diam., globosa vel spherica. Appendices 16 vel 18, structurarum in annulum coactæ, hyalinæ, 120–210 μ longæ, basi bulbosa. Cellulæ penicillatæ plures. Asci breviter pedicellati, 2–3 spori, contentis luteis, 50–70 × 24–28 μ.

On living leaves of *Terminalia chebula* Retz. (Combretaceæ), Ranchi (Bihar), 20-12-1956, T.S.R.



TEXT-FIG. 1. *Phyllactinia terminaliæ* sp. nov.—(*a*) Perithecium (enlarged). (*b*) Conidia.

This tree is common here and is sometimes planted in the road avenues. Most of the trees were infected in December. Tender leaves were free while the older ones carried the mildew. Since the mycelium penetrated the mesophyll, the infected portion could be recognised from the upper surface by the yellow colour, owing to loss of chlorophyll. Numerous perithecia of different ages could be seen scattered on the lower surface. The youngest ones were almost yellow while others were orange, honey coloured or dark brown.

Phyllachora malloti sp. nov.

Leaf-spots of different shapes. Stromata amphigenous, round or irregular, one or more in a spot, black, raised, shining, with mammiform projections on the surface, multiloculate; asci numerous, hyaline, cylindrical, shortly

stipitate, apex rounded, 100–125×8–10 μ, paraphysate; ascospores 8, monostichous, oval to spindle-shaped, 9–12×4·5–6 μ, hyaline.

Maculæ foliorum figuras variabilis. Stromata amphigena, rotundata vel irregularia, singula vel plura in singulis maculis, elevata, nitentia, pr jectionibus mammiformibus ad superficiem, multiloculata; asci plures, hyalini, cylindrici, breviter stipitati, ad apicem rotundati, 100–125×8–10 μ, paraphysati; ascosporæ 8, monostichæ, ovales vel fusiformes, 9–12×4·5–6 μ, hyalinæ.

On living leaves of *Mallotus* sp. (Euphorbiaceæ), Namkum (Bihar), 24–12–1956, T.S.R.

The leaves were covered with numerous tar spots. The stromata were formed in light green necrotic areas.

Masseella putranjivæ sp. nov.

Pycnia minute, reddish brown, subcuticular, amphigenous, often closely associated with æcia, 70–95×34–46 μ.

Aecia hypophyllous, in groups, subepidermal, 250–300×100–170 μ; æciospores catenulate, hyaline, oval oblong or subglobose, minutely verrucose, 17–21×11–14 μ, Uredia mostly hypophyllous, white, in groups or solitary, subepidermal, erumpent, powdery; urediospores hyaline, elliptical to subglobose, 18×14 μ, echinulate.

Telia epiphyllous, reddish brown, hair-like, curved or coiled, 1·5–2 mm. long and 0·1–0·2 mm. thick, subepidermal in origin; teliospores oval or subglobose, dark brown, smooth, one-celled, pointed or rounded at the tip, wall thickened up to 2·5 μ, embedded in a colourless gelatinous matrix, 21–33 ×14–19 μ, with a prominent germ pore.

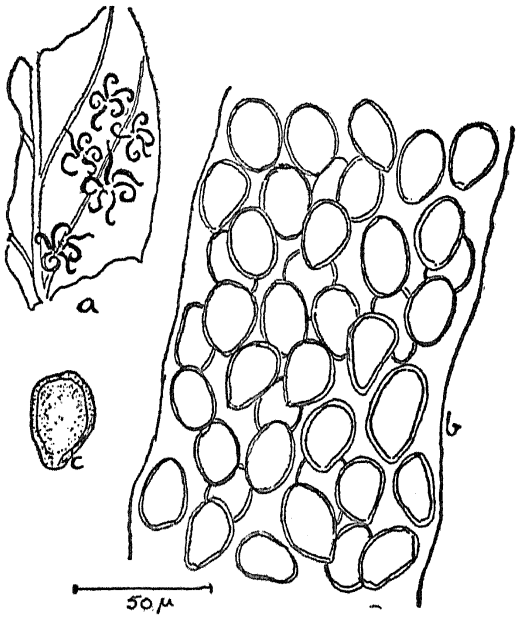
Pycnia minuta, rubro-brunnea, subcuticularia, amphigena, sæpe in æcia associata, 70–95×34–46 μ.

Aecia hypophylla, aggregata, subepidermalia, 250–300×100–170 μ; æciosporæ catenulatæ, hyalinæ, ovatæ oblongæ vel subglobosæ, minute verrucosæ, 17–21×11–14 μ. Uredia ut plurimum hypophylla, alba, solitaria vel aggregata, subepidermalia, erumpentia, pulverulenta; urediosporæ hyalinæ, ellipticæ, vel subglobosæ, 18×14 μ echinulatæ.

Telia ut plurimum epiphylla, rubrobrunneis, capillaceis, curvati vel circumvolutis, 1·5–2×0·1–0·2 mm., subepidermalibus origine. Teliosporæ ovatæ, ellipticæ vel subglobosæ, fusce brunneæ, leves, semel-cellulatæ, acutæ vel rotundatæ ad apicem, parietibus crassis usque ad 2·5 μ, infixæ in matricem

haud coloratum gelatinosum 21–33 × 14–19 μ, germinationis poro unico eminente.

On living leaves of *Putranjiva roxburghii* Wall. (Euphorbiaceæ), Ranchi (Bihar), 24–12–1956, T.S.R.



TEXT-FIG. 2. *Masseella putranjivæ* sp. nov. (*a*) A bit of leaf with telia (enlarged). (*b*) Bit of telial filament. (*c*) One teliospore.

Severe infection of all the plants in the area had occurred. The upper surface of the leaves had become reddish brown owing to the presence of numerous telial filaments. The æcia were empty in some instances and appeared as open clusters of cups. Peridia were not prominent. Uredia were often mealy with the whitish powdery urediospores strewn about in the neighbourhood.

Ravenelia clemensæ Syd.

Sydow, H. and Petrak, F, *Ann. Mycol.*, **20**, 418, 1928.

On leaves of *Albizzia* sp. Hirakud Dam (Orissa), 12–12–1956, T.S.R.

This rust was prevalent to a moderate extent on some of the trees planted in the avenue. Both the uredial and telial stages were present.

Uredo tephrosiicola P. Henn.

Sydow, H. and P. .. *Mongr. Uredin*, 1923–24, **4**, 485.

McRae, W. .. Rept. of the Imperial Mycologist in *Repts. of the Agric. Res. Inst. and Coll. Pusa*, 1927–28, **69**, 1928.

On living leaves of *Tephrosia candida* DC. (Papilionaceæ), Ranchi (Bihar), 15–12–1956, T.S.R.

This rust was prevalent on almost the entire crop of this plant grown by the Forest Department on a hill in the city. McRae had recorded this rust on the same host but the exact locality has not been given in the Fungi of India by Butler and Bisby.

Cercospora zinniæ Ellis and Martin

Ellis, J. B. and Martin .. *J. Mycol.*, 1885, **1**, 20.
Chupp, C. .. *Monograph on the Fungus Cercospora*, 1953, p. 168.

On living leaves of *Zinnia elegans* (Compositæ), Hirakud Dam (Orissa), 12–12–1956, T.S.R.

This leaf-spot affected most of the plants in a bed. The spots were circular to irregular with the centre whitish to grey and margin reddish brown. The conidiophores were mostly epiphyllous. The conidia were hyaline and acicular and multiseptate.

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