ADDITIONS TO FUNGI OF MADRAS—XII

By T. S. Ramakrishnan, F.A.Sc.
(Agricultural Research Institute, Coimbatore)

Received March 16, 1951

Endodothella kanarensis Ramakrishnan and Sundaram sp. nov.

Stromata black, epiphyllous, 1–2 mm. across, isolated or clustered, irregular, raised, clypeate, shining, pluriloculate, occupying three-fourths of the thickness of the leaflet; locules globose or flattened, 110–250 μ high and 110–270 μ broad, ostiolate; asci clavate, thin walled, wall gelatinising, 82 × 14 μ (60–105 × 9–18), paraphysate, paraphyses filiform; ascospores irregularly biseriate, spindle-shaped, 2-celled, hyaline, constricted at the septum, 16 × 6 μ (12–21 × 6–9).

Stromata nigra, epiphylla, 1–2 mm. lata, dispersa vel aggregata, irregularia, elevata, clypeata, micantia, pluriloculata, tres quartas partes crassitudinis foliolorum occupantia; loculi globosi vel applanati, 110–250 μ alti atque 110–270 μ lati, ostiolati; asci clavati, tenuiter parietati, parietibus gelatinosis, 82 × 14 μ (60–105 × 9–18), paraphysati, paraphysibus filiformibus; ascosporæ irregulariter biseriatæ, fusiformes, 2-cellulatæ, hyalinæ, constrictæ ad septa, 16 × 6 μ (12–21 × 6–9).

On living leaflets of *Albizzia odoratissima* Benth. (Mimosoideæ), S. Kanara, 2–2–1951, N. V. Sundaram.

The stromata occur on the upper surface of the leaflets as raised black shining formations. They are of varying shapes and sometimes neighbouring stromata fuse together. One to five loculi have been observed in each stroma. The ascus wall gelatinises early and the ascospores are found loose in the loculi. The spores taper towards the two ends and are surrounded by mucilage. Theissen and Sydow (1915) have described *E. albizziæ* on *Albizzia marginata* from the Philippines. But the fungus differs from it in the structure of the stroma and the size and other characters of the asci and ascospores.

Phyllachora hugoniæ Theiss. and Syd.

Theissen, F. and Sydow, H., *Ann. Myc.*, 1915, **13**, 512.

On leaves of *Hugonia mystax* L. (Linaceæ), Tirupathi, 8–2–1951, T. S. Ramakrishnan.

Physalospora clerodendri sp. nov.

Spots foliicolous, small upto 2 mm. in diam. yellowish, thickened, with one perithecium in the middle of each spot; perithecium black ostiolate, deep seated upto 530 μ wide and 320 μ high; asci cylindric clavate, hyaline, 8 spored, 50 × 17 μ (44–60 × 12–20), gelatinising, paraphysate, paraphyses filiform; ascospores elliptic to oblong, hyaline, one-celled, uniseriate, 9 × 7 μ (5–14 × 5-8).

Maculæ foliicolæ, parvæ, usque ad 2 mm. diam., luteolæ, crassiusculæ, uno perithecio in medio uniuscuiusque maculæ; perithecium nigrum, ostiolatum, alte insitum, usque ad 530 μ latum et 320 μ altum; asci cylindrici, clavati, hyalini, octospori, 50 × 17 μ (44–60 × 12–20), gelatinosi, paraphysati, paraphysibus filiformibus; ascosporæ ellipticæ vel oblongæ, hyalinæ, 1-cellulatæ, uniseriatæ, 9 × 7 μ (5–14 × 5–8).

On living leaves of *Clerodendron infortunatum* L. (Verbenaceæ), Mundaje (S. Kanara), 12–12–1950, T. S. Ramakrishnan.

The spots are thickened and circular with one perithecium embedded in the centre. At the top and the base of the perithecium black stromatic tissue is evident but the sides are not coloured. The perithecium occupies almost the entire thickness of the leaf. Crowding on the sides and near the ostiole are numerous filamentous paraphyses with orange coloured contents. The asci gelatinise early and the ascospores are seen in groups in the loculus or escaping through the ostiole embedded in mucilage. The ascus can be seen clearly only in the young perithecia.

Ustilaginoidea oplismeni Ramakrishnan and Sundaram sp. nov.

Ovaricolous, elliptical, greenish black, upto 2 mm. long and 0·75 mm. broad, centre white to orange brown; conidia globose, olive brown, verrucose, 6 μ (5–7) in diam.

Ovariicola, elliptica, virido-nigra, usque ad 2 mm. longa, 0·75 mm. lata, centro albo vel brunneo-citreo; conidia globosa, olivaceo-brunnea, verrucosa, 6 μ (5–7) diam.

Infecting ovaries of *Oplismenus burmannii* Beauv. (Gramineæ), Walayar (Malabar), 16–12–1950, N. V. Sundaram.

Complete infection of all spikelets of the panicle is common. The spores germinate readily producing germ tubes which branch freely and give rise to clusters of hyaline, one-celled, elliptic conidia.

Sorosporium brachiariæ-ramosæ sp. nov.

Sori ovaricolous, infecting all the spikelets, covered by a false membrane, columella 3–4 branched from the base, spores in semi-permanent globose masses, 42 × 31 μ (26–63 × 17–50) in diam. having many spores in each mass; spores globose or angular, 12 × 11 μ (10–15 × 9–13) diam., reddish brown, epispore finely verrucose.

Sori ovariicoli, spicules omnes efficientes, operte membrana falsa quæ nempitur, præditi columella tribus vel quattuor ramis ornata quæ surgit ex basi; sporæ in globulis semipermanentibus, 42 × 31 μ (26–63 × 17–50) sporarum numero constantibus; sporæ globosæ ad angularos, 12 × 11 μ (10–15 × 9–13) diam., rufescentes brunneæ, episporio subtiliter verrucoso.

In ovaries of *Brachiaria ramosa* Stapf (Gramineæ), Pollachi, 20–8–1912, S. Sundararaman.

This smut affects all the spikelets in the panicle. The sori protrude as dirty grey sacs from between the lemma and the palea. The false membrane covering the sorus splits irregularly from the tip exposing the dark brown mass of spores. The spores are agglutinated into semi-permanent masses. In immature sori the spore masses are surrounded by layers of thin hyphæ. Many of the spore masses have persisted as such for over 38 years in the herbarium material. Projecting from the base of the sorus are three to four columellar branches united at the base. The characters of the smut indicate that it belongs to the genus *Sorosporium*. This differs from other smuts on *Brachiaria*.

Sphacelotheca erythraciens (Syd.), Clint. in *N. Am. Flora.*, 1939, **7**, 996.

On the inflorescences of *Hackelochloa granularis* O. Ktz. (*Manisuris granularis* L.) (Gramineæ), Chittoor, 12–11–1950, G. S. Reddy.

All the ears of a plant are infected. The spikes are converted into long dark brown sori enclosed in sheaths. A central columella is present; this is usually simple but sometimes short lateral branches are present at the upper half.

Sphacelotheca fagopyri Syd. and Butl.

Sydow, H. and P., and Butler, E. J., *Ann. Myc.*, 1907, **5**, 486.

In ovaries of *Fagopyrum esculentum* Moench. (Polygonaceæ), Keti (Nilgiris), 2–10–1950, N. V. Sundaram.

The sorus wall splits at the apex and becomes reflexed exposing the violet black mass of spores. There is a stout central columella. All the

ovaries are infected and mycelium is present in the tissue of the stem also, indicating systemic infection.

Ustilago operta Syd. and Butler

Sydow H. and P., and Butler, E. J., *Ann. Myc.*, 1906, **4**, 426.

In ovaries of *Brachiaria ramosa* Stapf (Gramineæ), Chittoor, 11-11-1950, G. S. Reddy.

The infection is confined to some of the spikelets in the inflorescence. The sori are greenish, smooth and provided with a short blunt, columella. The sorus wall is composed of 3–4 layers of host cells with an internal lining of fungal tissues.

Cerotelium fici (Cast.) Arth.

Butler, E. J. As *Kuchneola fici* (Cast.), Butl. in *Ann. Myc.*, 1914, **12**, 76.

On leaves of *Morus indica* L. (Moraceæ), Kallar Fruit Gardens, 1-1-1951, N. V. Sundaram.

Small brown spots are formed on the leaves. On the lower surface of these are numerous minute conical uredia, isolated or in groups. White spore masses can be seen collected on the burst sori. Uredia alone were present and these resembled the uredia of *C. fici*.

Kuehneola trichosanthes (Petch) Ramakrishnan and Sundaram comb. nov.

Pycnia and æcia not seen. Uredia hypophyllous, minute, 0·1–0·2 mm. in diam., subepidermal, erumpent, orange coloured; urediospores obovate to globose, short stalked, sparsely echinulate, wall hyaline and contents orange coloured, 25–34 × 22–28 μ, germpores 2, paraphysate, paraphyses peripheral, cylindric, subhyaline; telia hypophyllous, minute, whitish, subepidermal, erumpent, aparaphysate; teliospores catenulate, forming chains of 4–5, almost hyaline, each cell oblong with a projection on one side at the top, 25–43 × 11–15 μ, germinating *in situ*; basidium 4-celled, basidiospores elliptic to globose.

Pycnia atque æcia ignota. Uredia hypophylla, minuta, 0·1–0·2 mm. diam., subepidermalia, erumpentia, aurantiaca; uredosporæ obovatæ vel globosæ, breviter pediculatæ, sparse echinulatæ, parietibus hyalinis atque contentis aurantiacis, 25–34 × 22–28 μ, germinationis poris duobus ornatæ, paraphysatæ, paraphysibus peripheralibus, cylindricis, subphyalinis; telia hypophylla, minuta, albida, subepidermalia, erumpentia, aparaphysata; teliosporæ catenulatæ, catenas 4–5 cellularum efformantes, prope hyalinæ, singulis cellulis oblongis, atque in apice ornatis lateraliter projectione

quadam, 25–43 × 11–15 μ; teliosporæ germinant *in situ*, basidiis 4-cellulatis, basidiosporæ ellipticæ vel globosæ.

On leaves of *Trichosanthes palmata* Roxb. (Cucurbitaceæ), Kallar (Coimbatore), 1-1-1951, N. V. Sundaram.

Numerous sori develop on the lower surface of the leaves. Uredia and telia are mixed together but can be easily distinguished by the difference in colour. Urediospores are produced singly on short stalks. On the margins of the sori thin-walled paraphyses can be seen. The teliospores germinate *in situ* the topmost cells germinating first. The germinating spores contribute to the colour of the telia. The chains are not laterally united.

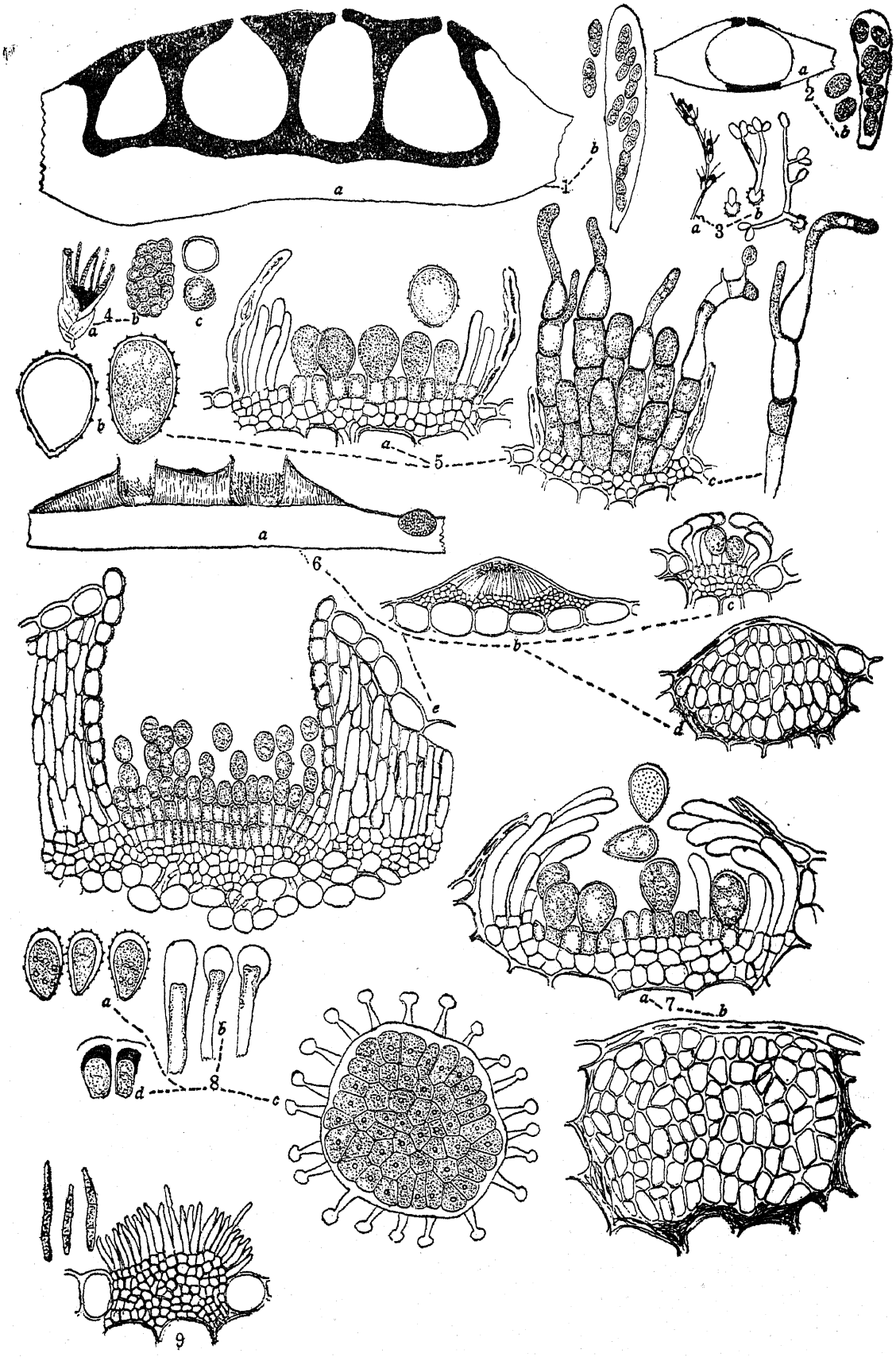
Though this genus was originally described as being confined to Rosaceous hosts its occurrence on Malvaceæ and Anacardiaceæ have been recorded from Africa and Ceylon respectively. The present rust is on another host belonging to *Cucurbitaceæ*. Thus the genus has a wider host range than originally contemplated.

Petch (1912) has described *Uredo trichosanthes* on this host from Ceylon. It has not been possible to obtain type specimens of this material for comparison but its description is in agreement with the uredial stage of the rust under study. Therefore a new combination has been effected.

Phakopsora chorisandræ Ramakrishnan and Reddy sp. nov.

Pycnia minute, dark, subcuticular, amphigenous, hemispherical or conical, 100 μ broad and 33 μ high (68–200 × 20–48); aecia hypophyllous in clusters of 6–10, whitish, cupulate, subepidermal, 205 × 200 μ (160–254 × 144–254), peridiate, peridium of one layer of cells which are polygonal, prominently verrucose, hyaline, 17 × 12 μ (12–24 × 8–14); æciospores catenulate, elliptical or oblong, thin and smooth-walled, subhyaline, 15 × 14 μ (10–19 × 8–17); uredia few, hypophyllous, white, pulverulent, subepidermal, erumpent, paraphysate, paraphyses incurved, clavate, subhyaline; urediospore subhyaline, subglobose, subsessile, thin-walled, finely echinulate, 10–12 μ diam.; telia numerous, hypophyllous, minute, lenticular, dark, subepidermal, 60–100 μ wide and 62–100 μ high; teliospores sessile, many layered, not catenulate, polygonal, reddish brown in colour, 16 × 11 μ (11–20 × 9–13), smooth-walled.

Pycnia minuta, fusca, subcuticularia, amphigena, hemisphærica vel conica, 100 μ lata, 33 μ alta (68–200 × 20–48); æcia hypophylla, 6–10 aggregata, alba, cupulata, subepidermalia, 205 × 200 μ (160–254 × 144–254), peridiata, peridio constanti unica serie cellularum polygonaliam, fortiter



FIGS. 1–9

FIGS. 1–9. Fig. 1. *Endodothella kanarensis*, *a.* section of stroma (diagrammatic), *b.* ascus and ascospores (× 300). Fig. 2. *Physalospora clerodendri*, *a.* section of perithecium (diagrammatic), *b.* ascus and ascospores (× 300). Fig. 3. *Ustilaginoidea oplismeni*, *a.* infected spikelets, *b.* spores germinating (× 300). Fig. 4. *Sorosporium brachiariæ-ramosæ*, *a.* infected spikelet, *b.* spore ball (× 200), *c.* spore (× 500). Fig. 5. *Kuehneola trichosanthes*, *a.* section of uredium (× 300), *b.* urediospores (× 600), *c.* section through telium and one chain of teliospores (× 300). Fig. 6. *Phakopsora chorisandræ*, *a.* section showing æcia, telium and pycnium (diagrammatic), *b.* section through *b.* pycnium, *c.* uredium, *d.* telium and *e.* æcium (× 300). Fig. 7. *Phakopsora mangalorica*, section through *a.* uredium and *b.* telium (× 300). Fig. 8. *Ravenelia coimbatorica*, *a.* urediospores, *b.* paraphyses, *c.* telial head and *d.* teliospores (× 300). Fig. 9. *Cercospora chloroxyli*, stroma and conidia (× 300).

verrucosarum, hyalinarum, 17 × 12 μ (12–24 × 8–14); æciosporæ catenulatæ, ellipticæ ad oblongæ, tenui atque levi pariete ornatæ, subhyalinæ, 15 × 14 μ (10–19 × 8–17); uredia pauciora, hypophylla, albida, pulverulenta, subepidermalia, erumpentia, paraphysata, paraphysibus incurvis, clavatis, subhyalinis; uredosporæ subhyalinæ, subglobosæ, subsessiles, tenuiter parietatæ, leviter echinulatæ, 10–12 μ diam.; telia plurima, hypophylla, minuta, lenticularia, fusca, subepidermalia, 60–100 μ lata, 62–100 μ alta; teliosporæ sessiles, multi-seriatæ, haud catenulatæ, polygonales, rubro-brunneæ colore, 16 × 11 μ (11–20 × 9–13), parietibus levibus præditæ.

On living leaves of *Chorisandra pinnata* W., Chittoor, 12–11–1950, G. S. Reddy.

Heavy infection of the leaves of the host, *Chorisandra pinnata* had occurred. Yellowing of leaves and defoliation were evident. This rust produced all the types of sori and spores and was thus of particular interest. The sori developed near each other on the same leaf so that there was no room to doubt their relationship.

Pycnia are amphigenous appearing as dark dots scattered over the surface. They are subcuticular, hemispherical or slightly conical with reddish brown contents. Ostiolar filaments are not evident. Aecia develop in clusters hypophyllously. Circular indefinite yellowish spots on the upper surface denote the location of these sori. These are cup-shaped, white and occur in groups of 6–10 or more. The tissue of the leaf is thickened owing to the development of vertical plates of hyphæ between the epidermis and the mesophyll, all round the æcia. The æcia are typical developing subepidermally with a well-defined peridium of one layer of hyaline, polygonal, prominently verrucose cells.

Uredia are rarer but can be detected in young infections as minute, pulverulent whitish circular sori on the lower surface. The sori are subepidermal, erumpent and surrounded by several series of incurved clavate

subhyaline paraphyses enclosing a few subhyaline or hyaline elliptic urediospores.

Telia are formed in large numbers hypophyllously. They occur in groups as dark violet lenticular crusts. The teliospores are in many layers but not catenulate, one-celled, polygonal and reddish brown in colour.

The nature of the uredia and telia enables the identification of this rust as a species of *Phakopsora*. Pycnia and æcia have not been seen in the species at present included in this genus.

The present rust has both these types of sori and the æcia are typical and different from the uredinoid æcia reported for *Bubakia*. The differences in the structure of the æcia and uredia are sufficiently significant to keep the two genera distinct from each other.

Phakopsora desmium (B. and Br.) Cummins.

Cummins, G. B., *Bull. Torr. Bot. Club*, 1945, **42**, 406.

On leaves of *Gossypium arboreum* L. (Malvaceæ). S. Kanara, 9–12–1950, T. S. Ramakrishnan; on leaves of *G. arboreum* L. (Karunganni), Tirunelveli, 9–2–1951, K. Sundaram.

Phakopsora mangalorica Ramakrishnan and Sundaram sp. nov.

Pycnia and æcia not found. Uredia mainly hypophyllous scattered in discoloured areas, minute, 0·1 to 0·4 mm. in diam., brown, conical, subepidermal, later erumpent, bound by numerous incurved clavate paraphyses, paraphyses subhyaline, sometimes wall thickened at the upper portion. 28 × 8 μ (19–40 × 6–12); urediospores subglobose, obovate or elliptic, light brown, wall coloured, finely echinulate, short stalked, 22 × 17 μ (19–28 × 16–22), pores indistinct; telia amphigenous, scattered or clustered, 0·05 to 0·3 mm. in diam., lenticular, dark brown, subepidermal, nonerumpent; teliospores one-celled, compactly arranged in five to seven layers, not catenulate, sessile, polygonal, vinaceous brown, wall coloured, 18 × 12 μ (12–22 × 9–16).

Pycnia atque æcia ignota. Uredia ut plurimum hypophylla, dispersa per areas discoloratas, minuta, 0·1–0·4 mm. diam., brunnea, conica, subepidermalia, tandem erumpentia, circumscripta plurimis incurvis clavatis paraphysibus subhyalinis, nonnumquam parietibus incrassatis in superiore parte, 28 × 8 μ (19–40 × 6–12); uredosporæ subglobosæ, obovatæ vel ellipticæ, tenuiter brunneæ, parietibus coloratis, tenuiter echinulatis, breviter pedicellatæ, 22 × 17 μ (19–28 × 16–22), poris indistinctis; telia amphigena, dispersa vel aggregata, 0·05–0·3 mm. diam., lenticularia, fusce brunnea,

subepidermalia, non-erumpentia; teliosporæ 1-cellulatæ, compacte dispositæ in 5–7 tabulata, haud-catenulatæ, sessiles, polygonales, vinaceo-brunneæ, parietibus coloratis, 18 × 12 μ (12–22 × 9–16).

On leaves of *Desmodium triquetrum* DC. (Papilionatæ), S. Kanara, 2-2-1951, N. V. Sundaram.

This rust is common in S. Kanara. The telia are prominent on both sides of the leaves. *P. meibomiæ* Arth. has been recorded on other species of *Desmodium* from America and the Philippines. The rust under study differs from this in many respects for example in the position of the sori, number of layers of telial cells, colour and size of urediospores, etc.

Puccinia malvacearum Mont.

Sydow, P. and H., *Monogr. Ured.*, 1904, **1**, 476.

On leaves of *Malva verticillata* L. (Malvaceæ), Keti, 2–10–1950, N. V. Sundaram.

Telia were present and most of the spores had germinated.

Puccinia nepalensis Barcl. and Diet.

Sydow, P. and H., *Monogr. Ured.*, 1904, **1**, 578.

On leaves and petioles of *Rumex nepalensis* Spr. (Polygonaceæ), Ootacamund, 16–1–1951, T. S. Ramakrishnan.

Uredia alone were present. These were formed in large numbers, being located hypophyllously in the middle of red spots. Uredia were seen on the petioles also.

Ravenelia coimbatorica Ramakrishnan and Sundaram sp. nov.

Pycnia and æcia not found. Uredia amphigenous, minute, circular, clustered, subepidermal, erumpent; urediospores oblong, fusiform, broader in the upper half, apex often thickened, light brown, pedicellate, 25 × 15 μ (22–40 × 12–19), finely echinulate, with 6–8 scattered germ pores; paraphyses innumerable, surrounding and mixed with the urediospores, clavate to spatulate, the bulbous portion brown and thickened up to 16 μ, 76 × 14 μ (62–93 × 9–19); telia amphigenous, near uredia, dark, subepidermal, erumpent, aparaphysate, teliospore heads chestnut brown 74–118 μ, up to 10 cells across in the head, compound pedicel, 14 × 6 μ (9–12 × 3–6), marginal hyaline papillæ swollen at the apices; spores one-celled 30 × 18 μ (22–37 × 12–25), wall coloured, thickened up to 10 μ at the top, cysts hyaline, round and pendulous,

Pycnia atque æcia ignota. Uredia amphigena, minuta, circularia, aggregata, subepidermalia, erumpentia; uredosporæ oblongæ vel fusiformes, latiores in superiore parte, apice sæpe incrassato, pallide brunneæ, pedicellatæ, 25–15 μ (22–40 × 12–19), tenuiter echinulatæ, germinationis poris 6–8 dispersis ornatæ; paraphyses innumeræ uredosporas circumdantes vel cum eisdem mixtæ, clavatæ vel spathulatæ, parte bulbosa brunnea atque incrassata ad 16 μ, 76 × 14 μ (62–93 × 9–19); telia amphigena, prope uredia, obscura, subepidermalia, erumpentia, aparaphysata; teliosporarum capitula castaneo-brunnea, 74–118 μ, 10 cellulis in diametro capituli positis; pediculus compositus, 14 × 6 μ (9–12 × 3–6), ornatus marginalibus papillis hyalinis incrassatis in apice; sporæ 1-cellulatæ, 30 × 18 μ (22–37 × 12–25), parietibus coloratis, incrassatis usque ad 10 μ in apice, cystis hyalinis, rotundis atque pendulis.

On leaves of *Phyllanthus urinaria* L. (Euphorbiaceæ), Kallar, 1-1-1951, Sri. N. V. Sundaram.

Uredia occur in groups and are reddish brown in colour on small dark brown spots. Each uredium is almost round with a raised ring of densely arranged paraphyses along the margin and depressed centre. The urediospores are stalked and mixed with the paraphyses. Telia are formed close by the uredia but appear darker. The telium is surrounded by a ring of ruptured epidermis. This rust differs from *R. phyllanthi* Mund. and Thirum. (Mundkur and Thirumalachar, 1946) in having fusiform and bigger urediospores.

Uredo artocarpi B. and Br.

Petch, T., *Ann. Roy. Bot. Gard., Peradeniya*, 1912, **5**, 252.

On leaves of *Artocarpus integrifolia* L. (Moraceæ), Adathorai estate, Nilgiris, 16-1-1951, T. S. Ramakrishnan.

Numerous minute brown irregular spots are formed on the leaves. These are visible on both sides of the leaves. Uredia are formed as minute raised sori hypophyllously, one to three in a spot.

Uredo elephantopodis Petch.

Petch, T., *Ann. Roy. Bot. Gard., Peradeniya*, 1912, **5**, 249.

On leaves of *Elephantopus scaber* L., Mangalore, 12-12-1950, T. S. Ramakrishnan.

The uredia have incurved uniseptate marginal paraphyses.

Uromyces andropogonis-annulati Syd. and Butl.

Sydow, H. and P. and Butler, E. J., *Ann. Myc.*, 1907, 5, 492.

On leaves of *Andropogon longipes* Hack. (Gramineæ), Ootacamund, 15-2-1950, T. S. Ramakrishnan.

This rust was common on this grass in many places on the Nilgiris. Uredia alone were present. Dr. Cummins of Purdue University to whom specimens were sent places the rust in this species.

Cercospora chloroxyli Ramakrishnan and Reddy sp. nov.

Spots irregular, amphigenous, light brown; clusters of conidiophores hypophyllous, originating from a subepidermal stroma, dark; conidiophores cylindric, usually nonseptate, sometimes with one septum, olivaceous brown, 21 × 5 μ (12–33 × 5–7), numerous in each cluster; conidia cylindric, rounded at apex, 1–4 septate, subhyaline to light brown, 45 × 5 μ (31–62 × 3–7).

Maculæ irregulares, amphigenæ, pallide brunneæ; conidiophororum acervi hypophylli, ex subepidermali stromate obscuro originates; conidiophori cylindrici, ut plurimum non-septati, nonnumquam uno septo ornati, olivaceo-brunnei, 21 × 5 μ (12–33 × 5–7), plures in singulis acervis; conidia cylindrica, rotundata in apice, 1–4-septata, subhyalina vel pallide brunnea, 45 × 5 μ (31–62 × 3–7).

On leaves of *Chloroxylon swietenia* DC. (Rutaceæ), Kallar, 1-1-1951, G. S. Reddy.

The spots are straw coloured and studded with numerous dark conidiophore clusters on the lower surface. These are usually arranged in concentric rings.

I am indebted to Dr. G. R. Bisby for valuable suggestions and to Rev. Fr. H. Santapau for the Latin translations.

Literature Cited

Mundkur, B. B., and Thirumalachar, M. J. .. *Comm. Myc. Inst. Myc. Pap.*, 1946, No. 16.
Petch, T. .. *Ann. Roy. Bot. Gard. Peradeniya*, 1912, **5**, 249.
Theissen, F., and Sydow, H. .. *Ann. Myc.*, 1915, **13**, 590.