

ADDITIONS TO FUNGI OF MADRAS—XIV

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Balansia claviceps Speg.

Sprague, R., Diseases of Cereals and Grasses in North America, Ronald Press Co., New York, 1950, pp. 54-55.

Infecting the inflorescence of *Cyrtococcum oxyphyllum* Stapf (*Panicum pilipes* Nees et. Arn.) (Gramineæ), Malabar, 26-11-1915, C. E. C. Fischer.

The inflorescence is completely damaged. The loose panicle becomes converted into a spike-like cylindrical structure with all the spikelets glued together by a smoky brown hyphal growth. The ascostromata are sessile, subglobose and black. A large number of them develop on each inflorescence. They measure 0.5 to 1.5 mm. in diameter and possess a collicular surface.

Balansia sclerotica (Pat.) Hoebin

Saccardo, P. A., *Syll. Fung.*, 1891, 9, 1002, as *Epichlæ sclerotica*.

On axillary shoots of *Urochloa reptans* Stapf (Gramineæ), Burliar, 23-2-52, N. V. Sundaram. On axillary shoots of *Paspalidium flavidum*, A. Cam. (Gramineæ), Coimbatore, 15-7-22, C. S. G. Rao.

Black sickle-shaped ascostromata develop embracing the leaves and culm of axillary shoots produced from the lower nodes. The dimensions of these structures vary according to the host. On *Urochloa* they are 3-6 mm. long and 1 mm. thick. On *Paspalidium* they measure 25-30 mm. in length and 1.5-3 mm. in thickness. But for this difference in size the two resemble each other. The ascostromata of the same species occurring on *Brachiaria distachya* Stapf in Coimbatore, are intermediate in size. The ascostromata are black, sickle-shaped and collicular on the convex side.

The ephelidial state occurs as a white deposit on the upper surface of the top leaves. These leaves especially in *Paspalidium* become distorted. Inflorescences are formed in the affected plants but these remain mostly sterile. Ascostromata were not in evidence on the ears.

Epichla cinerea B. et Br.

Saccardo, P. A., *Syll. Fung.*, 1883, 2, 579.

On the inflorescence of *Eragrostis willdenoviana* Nees (Gramineæ), Livestock Research Station, Hosur, 15-1-38, K. M. Thomas.

The stromata develop as ash coloured to black cylindrical structures enclosing all the spikelets of the panicle. These are up to 40 mm. long and 3 mm. broad with collicular surface.

Aphysa rhynchosia (Kalchbr. and Cke.) Theiss. and Syd.

Theissen, F. and Sydow, H., *Ann. Mycol. Berl.*, 1917, 15, 134.

On living leaves of *Rhynchosia cyanosperma* Benth. (Papilionatæ), Ootacamund, 26-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

The perithecia are arranged in groups of varying sizes producing a black-dotted patchy appearance on the upper surface of the leaves. These may be separate or a number of them fuse together. In the early stages there is a distinct small ostiole, but later an irregular wide opening is formed by the bursting of the wall. The perithecia are broad-based and develop under the cuticle. The asci are 8-spored, hyaline and cylindrical clavate measuring $40-72 \times 10-15 \mu$. The ascospores are two-celled, oblong and light brown when mature. They measure $16 \times 6 \mu$ ($12-19 \times 5-7$).

Didymosphæria jambolana sp. nov.

Spots rounded, amphigenous, yellowish, thickened, 3-4 mm. in diameter; perithecia separate, hypophyllous, gregarious, globose, innate, erumpent, ostiolate, orange red to dark brown. $196-465 \times 154-448 \mu$; asci cylindrical, $170 \times 19 \mu$ ($112-240 \times 12-22$), shortly stipitate, 8-spored; paraphyses and periphyses present with orange coloured granular contents when young; ascospores elliptical, rounded at the ends, 2-celled, constricted at the septum, olive brown when mature, monostichous, $19 \times 12 \mu$ ($16-25 \times 9-16$).

Maculæ circulares, amphigenæ, luteolæ, crassæ, 3-4 mm. diam. perithecia separata, hypophylla, gregaria, globosa, innata, erumpentia, ostiolata, aurantiaco-rubra vel fusce brunnea, $196-465 \times 154-448 \mu$; asci cylindrici, $170 \times 19 \mu$ ($112-240 \times 12-22$), breviter stipitati, octospori; paraphyses atque periphyses adsunt, contentis granularibus aurantiacis in juvenili statu; ascosporæ ellipticæ, rotundatæ ad apicem, bicellulatæ, constrictæ ad septum, olivaceo-brunneæ ad maturitate monostichæ, $19 \times 12 \mu$ ($16-25 \times 9-16$).

On living leaves of *Syzygium jambolanum* DC. (Myrtaceæ), Coimbatore, 1-4-52, N. V. Sundaram.

The fungus produces thickened yellowish spots. A number of perithecia are found in a spot. These open hypophyllously. The asci are very long and above the topmost spore there is a disc-like formation of the protoplasm.

Guignardia rugosa sp. nov.

Spots isolated or confluent, varying in size, irregular, amphigenous, but more prominent on the upper surface, greyish brown bounded by a purple margin; perithecia globose, 140–210 μ high and 112–192 μ broad, black, immersed in the tissues, ostiolate, peridium made up of 1–2 layers of dark brown cells; asci broadly clavate, hyaline, 78 \times 22 μ (62–109 \times 16–31), 8-spored, spores irregularly arranged; paraphyses absent; ascospores hyaline, 1-celled, ovate to oblong, 16 \times 8 μ (13–19 \times 6–9).

Maculae separatae vel confluentes, magnitudinis variae, irregulares, amphigenae, griseo-brunneae, circumdatae margine purpureo; perithecia globosa, 140–210 μ alt., 112–192 μ lata, nigra, immersa in textura plantae hospita, ostiolata, ornata peridio constanti ex una vel duplici serie cellularum fuscae brunnearum; asci lateclavati, hyalini, 78 \times 22 μ (62–109 \times 16–31), octospori, sporis irregulariter dispositis; paraphyses nullae; ascosporae hyalinae, unicellulatae, ovatae vel oblongae, 16 \times 8 μ (13–19 \times 6–9).

On living leaves of *Rubus rugosus* Sm. (Rosaceae), Ootacamund, 24–2–52, T. S. Ramakrishnan and K. V. Srinivasan.

The absence of paraphyses and one-celled ascospores indicate that the fungus should be included under *Guignardia*. The leafspots are very prominent and may sometimes involve the major part of the leaf.

Hypoderma viburni sp. nov.

Patches irregular, amphigenous, foliicolus, brown; apothecia epiphyllous, dark brown, elongate, simple or branched irregularly opening by a fissure all along the length, erumpent, subcuticular, upto 6 mm. long and 1 mm. broad; asci broadly clavate, 8-spored, 68 \times 12 μ (56–78 \times 11–16), hyaline, paraphysate, paraphyses numerous, filiform, longer than the asci, hyaline; ascospores cylindrical, 22 \times 4 μ (16–25 \times 3–6), subhyaline, one-septate when mature and obliquely arranged.

Maculae irregulares, amphigenae, foliicolae, brunneae; apothecia epiphylla, fuscae brunnea, elongata, simplicia vel irregulariter ramosa, aperientia per totam longitudinem fissura quadam, erumpentia, subcuticularia, usque 6 mm. longa atque 1 mm. lata; asci late clavati, octospori, 68 \times 12 μ (56–78 \times 11–16) hyalini, paraphysati, paraphysibus pluribus, filiformibus,

longioribus quam asci, hyalinis; ascosporeæ cylindricæ, $22 \times 4 \mu$ ($16-25 \times 3-6$), subhyalinæ, uniseptatæ ad maturitatem, atque oblique dispositæ.

On living leaves of *Viburnum erubescens* Wall. (Caprifoliaceæ), Ootacamund, 24-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

The infection patches are usually big and the leaves become thin and dry up. The apothecia are usually developed along the veins. They may be very long or become broken up into a number of disconnected formations along the vein. The apothecium develops subcuticularly with a brown covering which splits longitudinally and exposes the hymenium. The hypothecium is poorly developed. The tissues of the leaf are fully invaded by hyphæ. The asci and ascospores are normally hyaline but in old apothecia the spores are subhyaline.

Mycospharella meliosmæ sp. nov.

Spots amphigenous, circular, upper surface whitish with brown margin, 2-13 mm. broad; perithecia epiphyllous, carbonaceous, subepidermal, round, ostiolate, $68-109 \times 78-116 \mu$; asci cylindric-clavate, with rounded apex, hyaline, 8-spored, aparaphysate, $50 \times 12 \mu$ ($40-60 \times 9-15$); ascospores biseriata, cylindric, hyaline, 2-celled, with rounded ends, $16 \times 2 \mu$ ($12.5-19.0 \times 1.5-3.0$).

Maculæ amphigeane, circulares, superficie superiore albida, margine brunneo, 2-13 mm. latæ; perithecia epiphylla, carbonacea, subepidermalia, rotundata, ostiolata, $68-109 \times 78-116 \mu$; asci cylindrico-clavati, apice rotundato, hyalini, octospori, aparaphysati, $50 \times 12 \mu$ ($40-60 \times 9-15$); ascosporeæ biseriatae, cylindricæ, hyalinæ, bicellulatae, apicibus rotundis, $16 \times 2 \mu$ ($12.5-19.0 \times 1.5-3.0$).

On living leaves of *Meliosma wightii* Planch. (Sabiaceæ), Ootacamund, 24-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

Large numbers of whitish round spots develop on the leaves. Each spot is bounded by a brown ring. On the lower surface the spot is brown with a deeper coloured margin all round. The perithecia appear as black dot-like projections on the upper surface.

Aecidium cuspidatum sp. nov.

Rust spots yellow to yellowish brown on the upper surface, more or less irregular. Pycnia hypophyllous, subepidermal, honey coloured, $140-350 \times 140-255 \mu$ with long and stout protruding neck measuring up to 154μ ; æcia mostly hypophyllous, clustered, cupulate, up to 1.25 mm. tall and 0.4 mm. broad, peridium white, recurved and lacerated at the tip, peridial

cells of one layer, highly verrucose, hyaline, $34-60 \times 12-34 \mu$; æciospores subglobose, bright orange contents, wall hyaline, verrucose, $25 \times 22 \mu$ ($22-28 \times 19-25$), catenulate.

Rubiginis maculæ luteæ vel iuteolo-brunneæ in pagina superiore, plus minus irregulares. Pycnia hypophylla, subepidermalia, mellea, $140-350 \times 140-255 \mu$, ornata collo longo atque emergente magnitudinis usque ad 154μ ; æcia ut plurimum hypophylla, aggregata, cupulata, ad 1.25 mm. alta, 0.4 mm. lata, peridio albo recurvato atque lacerato ad apicem, cullulis peridialibus in unam seriem dispositis, conspicue verrucosis, hyalinis, $34-60 \times 12-34 \mu$; æciosporæ subglobosæ, contentis nitentibus aurantiacis, parietibus hyalinis, verruculosæ, $25 \times 22 \mu$ ($22-28 \times 19-25$), catenulatæ.

On living leaves of *Strobilanthes cuspidatus* T. And. (Acanthaceæ), Burliar, 23-3-52, N. V. Sundaram.

The rust is of common occurrence on this host. It is very conspicuous on account of the bright colour of the spores. This rust comes very close to the æcial state of *Puccinia polliniæ* Barc. recorded on *Strobilanthes dalhousianus* Clark. from Upper India (the Himalayan region). But certain differences are evident which have necessitated its inclusion under a new species. In the rust under study the pycnia are only hypophyllous but in *P. polliniæ* the pycnia are amphigenous and caulicolous. Furthermore the æciospores are only $16-18 \mu$ in diameter in the latter fungus whereas in the rust under study they average $25 \times 22 \mu$.

Aecidium nummulare Berk.

Saccardo, P. A., *Syll. Fung.*, 1888, 7, 809.

On leaves and stem of *Ceropegia intermedia* W. (Asclepiadaceæ), Kallar, 26-1-52, N. V. Sundaram.

Circular yellowish spots slightly convex on the upper surface are formed on the leaves, measuring up to 6 mm. in diameter. In these spots, numerous, bright orange æcia develop hypophyllously. The position of the æcium can be seen as a raised dot on the upper surface. Aecia are formed in groups on the vines also in irregular slightly raised patches. They measure 140 to $208 \times 148-310 \mu$. Each æcium has a definite peridium of one layer of cells, which is whitish and lacerated at the apex. The æciospores are subglobose to angular and measure $19 \times 16 \mu$ ($16-22 \times 12-19$). They are orange coloured with slightly verrucose wall. *A. nummulare* Berk. has been described as having smooth spores. As there is a very close resemblance between the rust under study and *A. nummulare* in all other respects it is identified as such.

Puccinia kalchbrenneri De Toni.

Doidge, E. M., *Bothalia*, 1926, 2, 57-59.

On living leaves of *Helichrysum buddleioides* DC. (Compositæ), Ootacamund, 25-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

Both uredia and telia were present, the former being more predominant and conspicuous. The sori are hypophyllous and scattered or in groups. Uredia are yellowish orange. Telia are separate or teliospores develop in old uredia also. When separate the telia are dark brown and are long covered by the epidermis. On the periphery of the sori the host tissue is slightly hypertrophied and two to four layers of vertically elongated cells are formed. The urediospores have 4 equatorial germ pores. The teliospores are cylindric clavate with the apex thickened up to 12μ , and are pedicellate with concolorous broad stalk. Mesospores are occasionally found. The rust closely resembles *P. kalchbrenneri* and is identified as such. No rust has been recorded on this host from India.

Puccinia kunthiana sp. nov.

Uredia hypophyllous, crowded or sparse, subepidermal, erumpent, dark brown; urediospores stalked, subglobose or elliptical, vinaceous buff, with coloured wall, $25 \times 20\mu$ ($19-31 \times 16-25$), echinulate, with 4 prominent equatorial germ pores; telia hypophyllous, almost black, erumpent; teliospores oblong, chestnut brown, $37 \times 23\mu$ ($28-47 \times 19-28$), rounded at the apex, apex thickened up to 6.5μ , constricted at the septum, pedicel persistent coloured, up to 53μ long; paraphyses sparse, capitate, up to 65μ long, with brown swollen terminal portion up to 19μ broad, present in both uredia and telia.

Uredia hypophylla, aggregata vel dispersa, subepidermalia, erumpentia, fusce brunnea; uredosporæ pedicellatæ, subglobosæ, vel ellipticæ, bubulinæ, parietibus coloratis præditæ, $25 \times 20\mu$ ($19-31 \times 16-25$), echinulatæ, ornatae 4 germinationis poris equatorialibus; telia hypophylla, fere nigra, erumpentia; teliosporæ oblongæ, castaneo-brunnæ, $37 \times 23\mu$ ($28-47 \times 19-28$), rotundatæ ad apicem, apice incrassato usque ad 6.5μ , constrictæ ad septum pediculo persistenti, colorato, ad 53μ longo; paraphyses sparsæ, capitatæ, ad 65μ longæ, portione apicali brunnea incrassata ad 19μ lata; paraphyses adsunt inter uredia atque telia sparsæ.

On living leaves of *Isachne kunthiana* W. & A. (Gramineæ), Ootacamund, 25-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

This rust is common on this grass. The telial stage is found only occasionally. Telia are either separate or teliospores are formed mixed with

the urediospores in old uredia. The paraphyses are few in number and are developed mostly near the periphery of the sori.

Puccinia levis (Sacc. and Bizz.) Magn.

Sydow, P. and H., *Monograph. Ured.*, 1904, 1, 759.

On living leaves of *Digitaria marginata* Link. (Gramineæ), Kallar, 23-3-52, N. V. Sundaram.

Both uredia and telia are present. Many of the teliospores have vertical walls. The pedicel is attached obliquely in a large number of the spores.

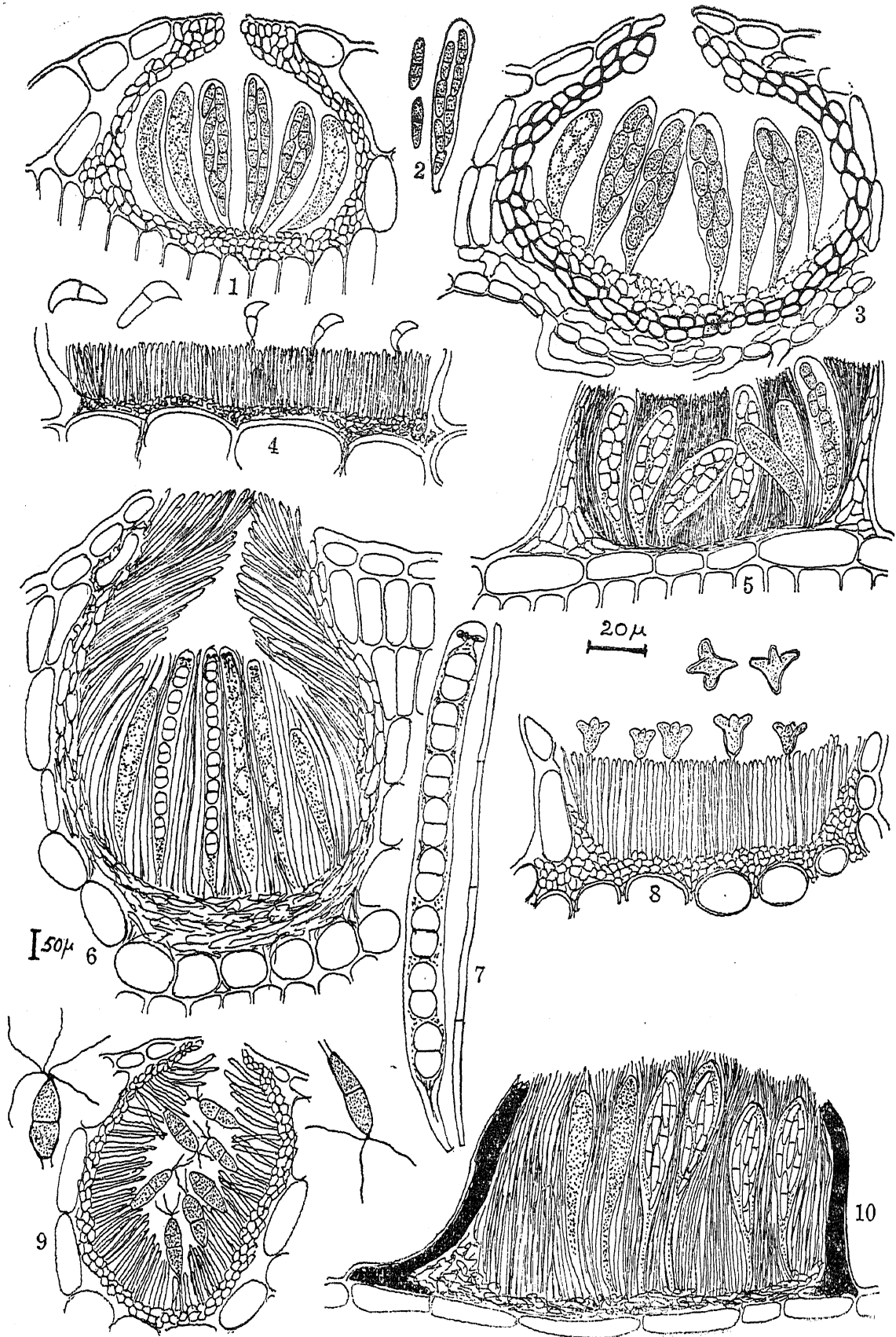
Puccinia pectiniformis sp. nov.

Pycnia minute, black, amphigenous, subepidermal, globose, paraphysate, up to $170 \times 165 \mu$, associated with primary uredia. Primary uredia brown, formed on hypertrophied portions, mostly near veins and petiole, mostly hypophyllous, in groups, subepidermal; urediospores oblong or obovate, $37 \times 22 \mu$ ($25-43 \times 16-25$), brown (wall coloured), pedicellate, verrucose, germ pores 2, equatorial; secondary uredia similar to the primary uredia but not associated with pycnia, hypophyllous, scattered; telia hypophyllous, scattered, light coloured, subepidermal; teliospores oblong to claviform, thin-walled, yellowish brown, apex with a flattened hyaline papilla, constricted at the septum, $38 \times 22 \mu$ ($31-46 \times 16-25$), pedicellate, pedicel hyaline, up to $41 \times 7 \mu$, germ pores one in each cell, germinating *in situ*.

Pycnia minuta, nigra, amphigena, subepidermalia, globosa, paraphysata, usque ad $170 \times 165 \mu$, associata urediis primariis. Uredia primaria brunnea, formata in partibus hypertrophis, ut plurimum prope nervos vel petiolos, ut plurimum hypophylla, aggregata, subepidermalia; uredosporæ oblongæ vel obovatæ, $37 \times 22 \mu$ ($25-43 \times 16-25$), brunneæ (parietibus coloratis), pedicellatæ, verrucosæ, germinationis poris duobus equatorialibus ornata; uredia secundaria similia primariis, sed pycniis haud associata, hypophylla, dispersa; telia hypophylla dispersa, pallide colorata, subepidermalia; teliosporæ oblongæ vel claviformes, tenuibus parietibus præditæ, luteolo-brunneæ, apice ornato papilla hyalina complanata, constrictæ ad septum, $38 \times 22 \mu$ ($31-46 \times 16-25$), pedicellatæ, pediculo hyalino, usque ad $41 \times 7 \mu$ germinationis poris singulis in singulis cellulis, germinantibus in situ.

On living leaves and petiole of *Vernonia pectiniformis* DC. (Compositæ), Ootacamund, 25-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

The primary uredia and pycnia develop on thickened yellowish brown portions usually along veins and on petioles. The pycnia possess a bunch of hyaline paraphyses projecting out of the ostiole. When fresh these radiate on all sides giving rise to a starlike appearance. In sections the pycnia



FIGS. 10-1

FIGS. 1-10.—Fig. 1. Section of the perithecium of *Mycosphaerella meliosmæ*. Fig. 2. Ascus and ascospores. Fig. 3. Section of the perithecium of *Guignardia rugosa*. Fig. 4. Section through the acervulus of *Marssonina fragariae*. Fig. 5. Section through perithecium of *Aphysa rhynchosiae*. Fig. 6. Section through the perithecium of *Didymosphaeria jambolana* (lower magnification). Fig. 7. Ascus and paraphysis. Fig. 8. Section of the acervulus of *Asteroconium nothopegiae*. Fig. 9. Section through the fructification of *Neobarclaya congesta* (lower magnification except the two spores). Fig. 10. Section of the apothecium of *Hypoderma viburni*.

appear brown. Associated with the pycnia and developed on the thickened portions are numerous deep brown primary uredia. The secondary uredia are however formed in other parts of the lamina but these are not crowded and hence appear lighter in colour. The telia are yellowish brown and even become whitish after the spores germinate. The teliospores are thin-walled and collapse after germination. The upper cell has an apical germ pore and the lower cell has a pore on one side just below the septum. The rust under study is a brachyform.

Puccinia vernoniae Cke. is a brachyform rust occurring on this host genus. But the teliospores are thick-walled, with the apex upto 10μ in thickness. The pycnia are only epiphyllous and urediospores have 3 germ pores. In these characters it differs completely from the rust under study.

Puccinia sorghi Schw.

Sydow, P. and H., *Monograph. Ured.*, 1904, 1, 830.

On leaves of *Zea mays* L. (Gramineæ), Coonoor, 22-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

The maize crops on the Nilgiris are severely infected by this rust. Both uredia and telia were present. Maize crops raised at Coimbatore were rarely affected by the rust and even when rusted, uredia alone were observed.

Puccinia wattiana Barclay

Sydow, P. and H., *Monograph. Ured.*, 1904, 1, 554.

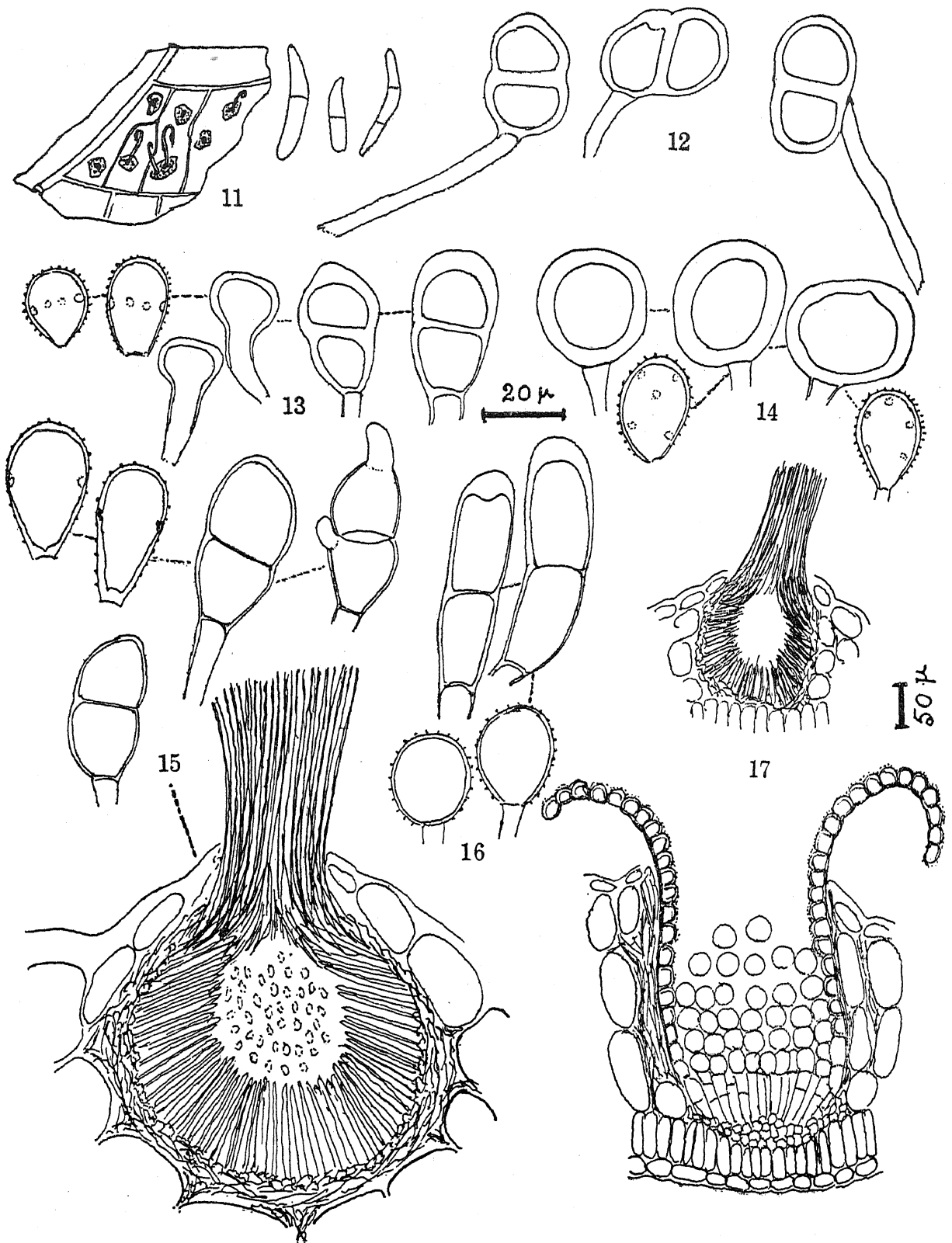
On living leaves of *Clematis wightiana* Wall. (Ranunculaceæ), Ootacamund, 24-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

Telia alone were present. Mesospores were formed mixed with the two-celled teliospores.

Uromyces clignyi Pat. et Har.

Doidge, E. M., *Bothalia*, 1939, 3, 511.

On leaves of *Eremopogon foveolatus* Stapf (Gramineæ), Coimbatore, 2-4-52, N. V. Sundaram.



FIGS. 11-17

FIGS. 11-17.—Fig. 11. A bit of leaf showing spore horns of *Stilbospora grewiae* (diagrammatic) and conidia. Fig. 12. Teliospores of *Puccinia levis*. Fig. 13. Urediospores, paraphyses and teliospores of *Puccinia kunthiana*. Fig. 14. Urediospores and teliospores of *Uromyces clignyi*. Fig. 15. Urediospores, teliospores and pycnium of *Puccinia pectiniformis*. Fig. 16. Urediospores, and teliospores of *Puccinia kalchbrenneri*. Fig. 17. Section through pycnium and æcium of *Aecidium cuspidatum* (lower magnification).

Both uredia and telia are present. The urediospores are golden brown and provided with 6 to 7 scattered germ pores. Telia are black and the teliospores almost round, dark brown with very thick wall measuring up to 9μ in thickness. The stalk is hyaline and up to 34μ in length. This rust has not been recorded from India.

Uromyces fabæ (Pers.) de Bary.

Sydow, P. and H., *Monograph. Ured.*, 1910, 2, 103.

On leaves and petiole of *Vicia faba* L. (Papilionatæ), Ootacamund, 25-3-52, K. V. Srinivasan.

This rust is very common on this host on the Nilgiris and in some years causes heavy damage to the plants.

Asteroconium nothopegiæ sp. nov.

Acervuli hypophyllous, subepidermal, erumpent, white; conidia star-shaped, continuous, pedicellate, with 4-5 arms, hyaline, $22 \times 19\mu$ ($19-24 \times 16-22$).

Acervuli hypophylli, subepidermales, erumpentes, albidii; conidia stellata, continua, pedicellata, 4-6 ramis prædita, hyalina, $22 \times 19\mu$ ($19-24 \times 16-22$).

On leaves of *Nothopegia dalzellii* Gamb. (Anacardiaceæ), Naduvattam (Nilgiris), 24-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

The fungus produces brown spots on the leaves and veins. The tissues of the leaf in the spotted region become thickened hypophyllously bearing a number of closely arranged acervuli which on spore formation assume a white colour. The conidia are characteristic and germinate by producing a germ tube from one of the arms. The conidiophores are simple and continuous and measure $28-56\mu$ long and $2-4\mu$ broad.

Marssonina fragariæ (Sacc.) Kleb.

Doidge, E. M., *Bothalia*, 1950, 5, 656.

On living leaves of *Fragaria neilgherrensis* Schl. (Rosaceæ), Ootacamund, 24-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

Reddish spots are prominently visible on the upper surface. In each spot one or more acervuli are formed. These appear as black, convex shining structures. They are subcuticular and burst irregularly. The conidia are formed on short stalks. They are hyaline, 2-celled, falcate, with a narrower lower cell and broader upper cell. The upper cell is curved and has a pointed rostrum-like apex. The spores measure $22 \times 7 \mu$ ($18-25 \times 6-9$). The fungus is identical with *M. fragariae* recorded on a number of species of *Fragaria*.

Neobarclaya congesta (Berk. and Br.) Petch

Doidge, E. M., *Bothalia*, 1950, 5, 657.

On living leaves of *Syzigium jambolanum* DC. (Myrtaceae), Coimbatore, 2-4-52, N. V. Sundaram.

The acervuli are formed on the hypertrophied portions bearing the perithecia of *Didymosphaeria jambolana*. Both these occur closely associated. The acervuli are cup-shaped or even globose and immersed in the tissues of the leaf. The spores are extruded in masses and these dry into black crusts on the surface. Each spore is stalked, 2-celled and obovate. The upper cell is bigger and has a rounded apex. From the apex hyaline cilia are given off. These are 3-5 in number and are united at the base.

Stilbospora grewia sp. nov.

Spots amphigenous, dark brown, irregular minute $0.5-2 \times 0.5-1$ mm. Acervulus one or more in each spot producing black, slender, thread-like spore horns up to 1 mm. long, hypophyllous, subepidermal; conidia fusoid, light olivaceous, 1-3 septate, $31 \times 2.5 \mu$ ($19-43 \times 2-4$), straight or curved.

Maculae amphigenae, fusce brunneae, irregulares, minutae, $0.5-2$ mm. $\times 0.5-1$ mm. Acervuli singuli vel plures in singulis maculis, producentes sporarum cornua nigra, gracilia, filo similia, ad 1 mm. longa, hypophylla, subepidermalia; conidia fusoidea, pallide olivacea, 1-3 septata, $31 \times 2.5 \mu$ ($19-43 \times 2-4$), recta vel curvata.

On living leaves of *Grewia asiatica* Mas. (Tiliaceae), Kodur, 15-2-52, T. S. Ramakrishnan.

The infection is evident by the formation of innumerable small, dark brown spots on the leaves. Sometimes the leaves dry up as a result of heavy infection. The black spore horns are characteristic and are visible only on the lower surface.

Cercospora nothopegia sp. nov.

Spots hypophyllous, olive brown, gregarious; stromata minute, brown, partly immersed and partly protruding above the epidermis. Conidiophores

hypophyllous, straight or slightly flexuous, simple, light olive brown, rarely septate, up to $36\ \mu$ long; conidia slender, slightly curved, 2–5 septate, $48 \times 3\ \mu$ ($16\text{--}68 \times 2\text{--}4$), light olive brown.

Maculæ hypophyllæ, olivaceo brunneæ, gregariæ; stromata minuta, brunnea, partim immersa and partim emergentia supra epiderma; conidiophori hypophylli, recti vel tenuiter flexuosi, simplices, pallide olivaceo-brunnei, raro septati, ad $36\ \mu$ longi; conidia gracilia, tenuiter curvata, 2–5-septata, $48 \times 3\ \mu$ ($16\text{--}68 \times 2\text{--}4$), pallide olivaceo-brunnea.

On living leaves of *Nothopegia dalzellii* Gamb. (Anacardiaceæ), Naduvattam, 24-2-52, T. S. Ramakrishnan and K. V. Srinivasan.

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