

Studies on some Fungi of Maharashtra-India-II.

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With Plate V.

This paper is in continuation of our previous studies on fungi collected in different parts of Maharashtra State. In the present work, an account of some interesting species of smuts which have been collected and studied is presented.

Types of new species are deposited in Herb. Crypt. Ind. Orient. New Delhi, Herb. C. M. I., Kew, England, and National Fungus Collections, A. R. S. Beltsville, M. D. *Doassansia hemigraphiae* is deposited only at Herb. crypt. Ind. Orient.

1. *Sphacelotheca cymbopogonis* Yen. Rev. Myc. N. S. 3: 7, 1938.

Sori in the ovaries, 5—10 mm. in length. Spore mass black, pulverulent, surrounding a central columella. The development of the spores is acropetally centripetal forming a false membrane of sterile cells on the outer side. Sterile cells from the decomposed membrane scattered throughout the spore masses, mostly subglobose, hyaline, thick-walled, 10—15 μ in diam. Spores globose to ellipsoidal, 5—10 μ in diam. with a mean of 7 μ ; epispore 0.5—0.7 μ thick, reddish brown, finely verruculose; endospore wall hyaline and 0.5 μ thick.

Hab. In ovaries of *Cymbopogon martinii* Wats., Pashan, Maharashtra, 17th Oct. 1962, Leg. P. V. Patil, HFM No. 1370.

Previously *S. cymbopogonis* was described on *Cymbopogon proximus* Stapf. from Africa; and *C. martinii* is a new host record.

2. *Sphacelotheca tanglinensis* (Tracy & Earle) Zundel. Mycologia 36: 406, 1944.

On *Sehima nervosum* (Rottl.) Stapf., Khandala, Maharashtra, Leg. B. V. Patil, HFM No. 1353.

This is a new host record for the smut. Spore diam. is 7—14 μ .

3. *Ustilago kyllingiae* sp. nov.

Ovaricolous, a few ovaries in the inflorescence affected, smutted ovaries inconspicuous but with slight dark tinge, otherwise normal in size. Sori deep brown, covered by glumes and without columella; Spores smooth, pale brown, irregularly globose to ellipsoidal or angled, epispore

not much thick, 8—14 μ in diam. with a mean of 11 μ . Germination by means of septate promycelium with lateral and terminal sporidia.

Ovaria inflorescentiae pauca infecta, vix mutata, parum obscurius tantum colorata; sori obscure brunnei, glumis tecti; sporae pallide brunneae, irregulariter globosae, vel ellipsoideae, interdum plus minusve angulosae, episporio crassiusculo, 8—14 μ , plerumque ca. 11 μ diam., promycelio septato, sporidia lateralia et terminalia gignente germinantes.

Hab. In the inflorescence of *Kyllingia triceps* Rottb. (Cyperaceae), Malegoan, Nasik, Maharashtra, 12th Aug. 1960, Leg. B. V. Patil. (Type) HFM No. 1320.

4. *Pericladium grewiae* Pass. Nuovo G. bot. ital. vii, p. 185, 1875.

On *Grewia villosa* Willd., Malegoan, Nasik, 20th Dec. 1960; Katayani, Kolhapur, Maharashtra, 5th Jan. 1962, Leg. B. V. Patil.

Germination of the spores by means of a septate promycelium with a single terminal sporidium was observed.

5. *Sorosporium apludae-aristatae* sp. nov.

Sori in ovaries covered by glumes, inconspicuous, chocolate-brown covered by host membrane. Spore-balls subglobose to elliptical, 37—102 μ ; Spores numerous, compacted together and breaking apart with difficulty. Spores ovate, ellipsoid to spherical, outer spores dark brown and inner ones ochre-yellow, 7—14 μ in diam. with a mean of 11 μ . Free surface of outer spores echinulate and thick-walled and contiguous surfaces flat and smooth; Inner spores smooth and thin-walled.

Sori in ovaris sub glumis evoluti, inconspicui, brunnei membrana matricis tecti; sporarum glomeruli subglobosi vel ellipsoidei, 37—102 μ diam.; sporae in quoque glomerulo numerosae, cohaerentes et aegre fatiscentes, ovoideae, ellipsoideae vel globosae, 7—14 μ diam., plerumque ca. 12 μ diam. metientes, exteriores obscure brunneae, in superficie libera echinulatae, crasse tunicatae, ceterum applanatae et leves, interiores ochraceo-luteae, leves et tenuiter tunicatae.

Hab. In spikes of *Apluda aristata* L., Mangitungi, Nasik, Maharashtra, 10th Dec. 1961, Leg. B. V. Patil. (Type) HFM No. 1347.

S. apludae Mishra forms witch's broom like symptoms and all the spores in the spore-ball are smooth walled.

6. *Sorosporium dimeriae* sp. nov.

Sori in ovaries, about 2—5 mm. long, surrounding a short columella, covered with a thin false membrane which flakes away at maturity, sterile cells, 5—10 μ in diam., in groups; Spore-balls subglobose to oblong, 50—145 $\times$ 34—90 μ , opaque, evanescent at maturity. Spores globose to broadly ellipsoid, often polygonal, 7—12 μ in diam. with a

mean of 9 μ ; the outer layer of spores dark brown, verruculose, the inner ones light brown and smooth.

Sori in ovariis evoluti, 2—5 mm longi, columellam breviusculam circumdantes, membrana tenui falsa in maturitate dejecta tecti; cellulae steriles 5—10 μ diam., plus minusve glomeratae; sporarum glomeruli subglobosi vel oblongi, 50—145 $\times$ 34—90 μ , opaci, in maturitate evanescentes; sporae globosae vel late ellipsoideae, saepe angulosae, 7—12 μ , plerumque 9 μ diam. metientes, exteriores obscure brunneae, verruculosae, interiores pallide brunneae et leves.

Hab. In ovaries of *Dimeria gracilis* Nees, Ramgad, Ratnagiri, Maharashtra, 2nd Jan. 1963, Leg. B. V. Patil. (Type) HFM No. 1402.

7. *Entyloma blumeae* sp. nov.

Sori in the leaves, 3 to 5 mm. diameter, tumescent, yellowish brown to dark brown at maturity. Spores inter-cellular, compactly grouped, pale yellow to hyaline, subglobose to angular, 18—25 μ in diam. with a mean of 22 μ ; epispore hyaline, smooth, 4—6 μ thick.

Sori foliicoli, 3—6 mm diam., tumiduli, luteo-brunneoli in maturitate obscure brunnei; sporae inter matricis cellulas catervatim cohaerentes, lutescentes vel hyalinae, subglobosae vel angulosae 18—25 μ , plerumque ca. 22 μ diam. metientes; episporio hyalino, levi, 4—6 mm crasso.

Hab. In the leaves of *Blumea malcolmii* Hook., Saptashruni, Nasik, Maharashtra, 23rd Sept. 1961, Leg. B. V. Patil. (Type) HFM No. 1332.

Spores are much bigger in size and epispore much thicker than in *E. globigenum* Thirum. & Safee. (Sydowia 5: 443, 1951).

8. *Melanotaenium ischaemum* Thirum & Pavgi. Sydowia 1966.

Inciting ovate to linear black spots on leaves, non-erumpent, 0.5—3 mm. long and 1 mm. broad, coalescing to form larger spots. Spores embedded in mesophyll, aggregated in groups, dark brown, irregularly globoid to angular due to mutual compression, thick walled, smooth, 7—12 μ in diam. with a mean of 10 μ ; epispore wall dark brown, 1—1.5 μ thick while endospore wall hyaline and about 1 μ in thickness.

Hab. In leaves of *Setaria pallidifusca* Stapf., Umred, Nagpur, Maharashtra, 11th Nov. 1962, Leg. B. V. Patil, HFM No. 1384.

Type of *M. ischaemum* on *Ischaemum semisagittatum* Roxb. has spores 7.5—12 μ with a mean of 10 μ and is identical with the present smut. *Setaria pallidifusca* is a new host record.

9. *Doassansia hemigraphiae* sp. nov.

Sori foliicolous, forming yellow spots which enlarge to brownish patches, 6 to 10 mm. diameter. Spore balls permanently embedded in the mesophyll, globose to polygonal due to mutual compression on the sides, 100 to 225 μ . in diameter. Sterile outer layer of cells, hyaline, to pale-

brown, smooth, rectangular, $14-21 \times 9-14 \mu$, outer wall thickened upto 2 to 4.5μ . Inner fertile spores pale yellow, subglobose to polygonal, measuring $14-18 \times 9-15$, chiefly $10-15 \mu$ in diameter, thinwalled, smooth.

Sori in maculis luteolis, interdum accrescentibus, tunc brunneolis et $6-10$ mm diam. metientibus evoluti, sporarum glomeruli in mesophyllo evoluti, globosi vel saepe e mutua pressione plus minusve applanati et angulosi, $100-225 \mu$ diam.; tegumento communi e cellulis sterilibus, hyalinis vel pallide brunneolis, levibus, rectangularibus, pariete exteriori ad $2-4.5 \mu$ crasso praeditis, $14-21 \mu$ longis, $9-14 \mu$ latis composito; sporae fertiles subglobosae vel angulosae, pallide luteae, $14-18 \times 9-15 \mu$, plerumque $10-15 \mu$ diam.; episporio levi et tenui.

Hab. In leaves of *Hemigraphis latebrosa* Nees (Acanthaceae), Khadala, Maharashtra, 20th Sept. 1959, Leg. B. V. Patil, (Type) HFM No. 1305.

Doassansia hygrophilae Thirum. on *Hygrophila spinosa* T. Anders. is also on the same host family.

We wish to record our deep gratitude to Dr. F. Petrak for rendering the Latin diagnoses of the new species.

Explanations of Plate V.

Figs. 1-4: *Ustilago kyllingae*, 1) Habitat $\times 1$; 2) sorus $\times 10$; 3) spores $\times 800$; 4) spore germination $\times 800$.

Figs. 5-7: *Melanotaenium ischaemum*, 5) Habitat $\times \frac{1}{2}$; 6) T. S. Leaf showing sorus $\times 250$; 7) spores $\times 800$.

Figs. 8-9: *Sorosporium apludae-aristatae*, 8) spore-ball $\times 500$; 9) spores $\times 800$.

Figs. 10-11: *Sorosporium dimeriae*, 10) Spore ball $\times 500$, 11) spores $\times 800$.

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Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1966/1968

Band/Volume: [20](#)

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