

Two new Species of *Elsinoe* from India

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With Plate XXXV

The genus *Elsinoe* Racib. includes several well known parasites causing the scab or anthracnose diseases of plants. In the course of phytopathological survey of Maharashtra State, two interesting species of *Elsinoe* were collected which appear to be undescribed.

A scab disease of *Hippocratea indica* Wall. a climbing shrub, has been collected near Pratapgad. The conidial stage, *Sphaceloma*, becomes manifest as tiny dots first on the leaves and later on the stem and fruits. These infection spots slowly enlarge and coalesce with each other forming bigger patches which become ash-coloured with a dark-center when mature. The ascomata are developed much later and that too especially on the fruits. Due to heavy defoliation caused by infection during the conidial stage no ascomata on leaves could be collected. Ascstroma are formed as slightly raised dark bodies in the middle of the *Sphaceloma* spots with very little hypertrophy. The fungus is different from *E. salicis* Bit. et Jenk.

Elsinoe hippocrateae sp. nov.

Infection spots numerous usually on fruits, circular to irregular, 3—4 mm in diameter, enlarging and becoming confluent with one another, greyish-white with the black pin-points in the middle, slightly raised.

Ascomata intraepidermal, dark, 90—450 μ broad and 40—140 μ in height; asci in two layers, embedded within the stroma, subglobose to spherical, double walled, 12—28 μ in diam. and 8-spored; ascospores, ellipsoidal, broader at the apex, thin-walled, 2—3 septate in the early stages, later on becoming muriform due to the formation of vertical septations and measuring $8-14 \times 3-6 \mu$.

Infection spots of the *Sphaceloma* associated with ascomata, erumpent and not hypertrophied; sori intraepidermal, $30-70 \times 21-30 \mu$ with palisade layers of conidiophores rupturing the upper wall of epidermis, conidiophores cylindric, 18—27 μ long, conidia not seen.

On fruits of *Hippocratea indica* Wall. (Hippocrateaceae) Pratapgad (Maharashtra) 15th November 1959. Leg. B. V. Patil (Type) Figs 1 and 2.

Maculae numerosae, plerumque in fructibus, orbiculares vel irregulares, 3—4 μ diam., paulatim accrescentes et plus minusve confluentes, griseo-albidae, parum prominulae; ascomata in epidermide evoluta, obscura, 90—450 μ lata, 40—140 μ crassa; asci distichi, stromati innati, subglobosi vel globosi, crasse tunicati, 12—28 μ diam., 8-sporei; sporae ellipsoideae, tenuiter tunicatae, primum 2—3-septatae, postea septis longitudinalibus praeditae et tunc muriformes, 8—14/3—6 μ . — Maculae *Sphacelomatis* proprii cum ascomatibus evolutae, nec hyperthrophicae; acervuli in epidermide evoluti 30—70/21—30 μ ; conidiophoris cylindraceutis, 18—27 μ longis, dense stipatis, epidermidem disrumpentibus; conidia non visa.

Yet another scab disease was collected at Umred, in Nagpur division of Maharashtra State. *Melochia corchorifolia* L. is a common weed found by the bunds of the rice-fields and around the banks of the lakes. The *Sphaceloma* first appears as tiny dots on the leaves and spreads on to the stem and fruits in the later stages. The infection spots enlarge coalescing with each other and forming larger greyishwhite patches. Ascomata are formed only on the stem. They first arise as dark raised bodies in the middle of the conidial spots and later large galls are formed on the stem. The gall formation is prominent and in many plants almost the entire stem surface is covered by cancerous outgrowth. The individual galls are 2—5 mm broad and 1—2 mm high and due to coalescence from continuous raised patch. Infected plants are dwarfened and fail to produce flowers and fruits.

Elsinoe melochiae sp. nov.

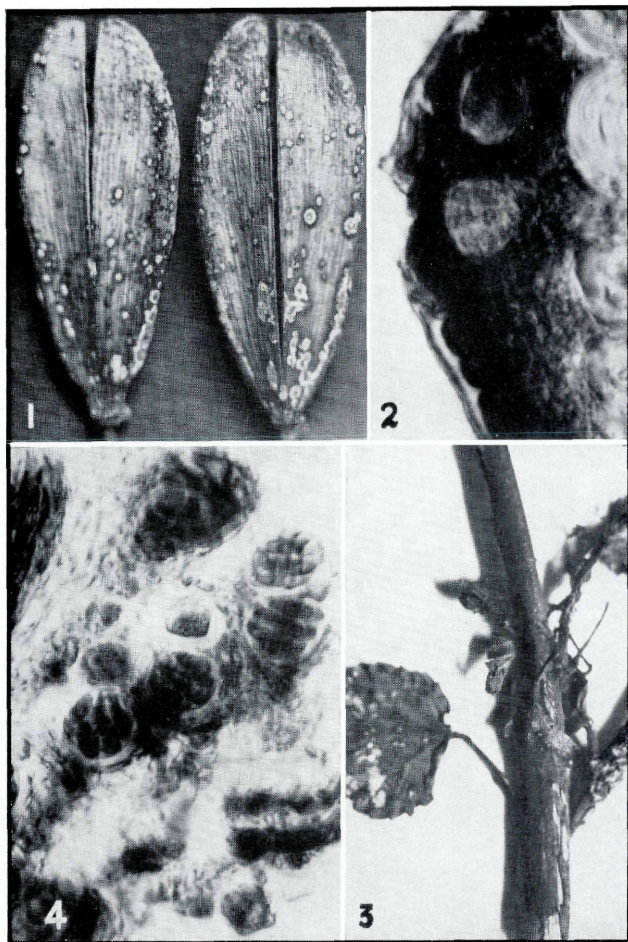
Infection spots numerous, on leaves, stem and fruits, circular to irregular, 1—3 mm in diam. enlarging and becoming confluent with one another, greyish-white with the black pin-points in the centre, slightly raised on the leaves but swollen and warty on the stem forming thick galls about 2—5 mm broad and 1—2 mm raised.

Ascomata intraepidermal, dark, erumpent, 90—210 μ broad and 45—120 μ high. Asci numerous, globose to oval, thick-walled 13—21 μ in diameter (mean 18 μ) and eight-spored; ascospores, ellipsoidal, thin-walled, muriform, 2—3 septate, 10—15 \times 4—6 μ .

Acervuli intraepidermal, erumpent, dark brown, 17—50 μ broad and 13—24 μ high. Conidiophores in compact palisade layer, septate, dark, rounded at the tips, 7—13 μ long and 3—4.5 μ broad. Conidia ovoid, thin walled, subhyaline, 3—5 μ in diameter.

On leaves, stem and fruits of *Melochia corchorifolia* L. (Sterculiaceae), Umred (Nagpur), Maharashtra, 11th November 1962. Leg. B. V. Patil, (Type). Figs 3 and 4.

Maculae in foliis, ramis et fructibus numerosae, orbiculares vel irregulares, 1—3 mm diam., postea accrescentes et plus minusve confluentes,



griseo-albidae, in foliis parum prominulae, sed in ramis tumidae et verrucas 2—5 mm latas, 1—2 mm crassas formantes; ascomata in epidermide evoluta, erumpentia, 90—210 μ lata, 45—120 μ crassa; asci numerosi globosi vel ovoidei, crasse tunicati, 13—21 μ , plerumque ca. 18 μ diam., 8-spори; sporae ellipsoideae, tenuiter tunicatae et transversae 2—3-septatae et ob septa longitudinalia muriformes, 10—15/4—6 μ . — *Acer-vuli Sphacelomatis* proprii obscure brunnei, 17—50 μ diam., 13—24 μ crassi: conidiophoris dense stipatis, septatis, obscuris, antice rotundatis, 7—13 / 3—4.5 μ ; conidia ovoidea, tenuiter tunicata, subhyalina, 3—5 μ diam.

In conclusion, the writers wish to acknowledge their deep debt of gratitude to Prof. Dr. Franz Petrák, for kindly giving the latin diagnosis of the new species.

Explanation of Plate XXXV.

Figs. 1—2. *Elsinoe hippocrateae*. — (1) Infection on fruits ($\times 2$); (2) Asci and ascospores in the stroma ($\times 800$).

Figs. 3—4. *Elsinoe melochiae*. — (3) Natural habitat ($\times 2$); (4) Asci and ascospores in the stroma ($\times 800$).

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