

## Additions to the Fungi of Jabalpur (Madhya Pradesh)-III.

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(With three text figures.)

In the first two series of the paper (listed under reference) the author has described fourteen leaf spot fungi occurring at Jabalpur and its suburbs. It is intended to record some more fungi in this paper which are either new species or new fungus records for the country or new hosts record or new record for the state.

The number of the species are the serial number of the additional fungus flora of Jabalpur.

15. *Marssonina indica* Hasija sp. nov. on leaves of *Artocarpus integrifolia* L., Jabalpur, April 1961, leg- Hasija.

Symptoms of the disease. Disease appears as dark brown spots on the upper surface of the leaf. Spots are circular to irregular, upto 12 mm. in diameter and often coalescing. The lesions often bear a light brown halo. Midrib and the chief veins are freely traversed.

The causal organism. Acervuli dark brown, discoid, superficial. 49.5—148.5  $\mu$  broad, average 89.1  $\mu$ ; conidiophores hyaline, short, simple; conidia hyaline, one septate, oval, 3.3—8.3  $\times$  1.8—2.9  $\mu$ , average 6.3  $\times$  2.1  $\mu$ . (Fig. 1).

*Marssonina artocarp*i Batista has been described on leaves of *Artocarpus integrifolia* by Batista (1954) from Pernambuco (Brazil). The spores in *M. artocarp*i measure 12.5—27.5  $\times$  2.5—5  $\mu$  and thus differs markedly from the present species. The specimen was examined by Mr. Sutton, Assistant Mycologist, Commonwealth Mycological Institute, Kew, who reports that "the only species recorded on this host is *M. artocarp*i but the spores size is too small for this species. I have been unable to trace any related fungus which might have been described in an incorrect genus." It is, therefore, being presented here as a new species *Marssonina indica*.

*Marssonina indica*, Hasija sp. nov.

Acervuli brunei, discoidei, superficiales, 49.5—148.5  $\mu$  lati, medietate 89.1  $\mu$ ; conidiophora hyalina brevia, simplicia; conidia hyalina, 1-septata, ovoidia, 3.3—8.3  $\times$  1.8—2.9  $\mu$ , mediet 6.3  $\times$  2.1  $\mu$ .

In foliis vivis *Artocarpis integrifolae* ad Jabalpur in India, mense Apr. 1961, leg- Hasija.

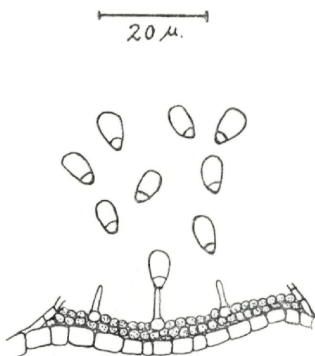


Fig. 1. *Marssonina indica*. Acervulus with conidia.

The type specimen has been deposited in the Herbarium of the Commonwealth Mycological Institute, Kew, No. 86172.

16. *Helminthosporium euphorbiae* Hansford in Proc. Linn. Soc. Lond. 1942-43, p. 49, 1943.

On leaves of *Euphorbia geniculata* orteg., Jabalpur, April; 1961, leg- Hasija.

Symptoms of the disease. The disease first appears as dark brown pin head spots only on the upper surface, starting from any region of the leaf. Spots are circular to irregular with concentric rings in the central region and a dark brown halo. Coalescence of spots often takes place. Midrib and the chief veins are freely traversed.

The Causal organism. Conidiophores brown, erect, simple, septate, with geniculations, often tips swollen,  $49.5-148.5 \times 6.6-10.9 \mu$ ; conidia light coloured, cylindrical, epispore smooth, generally 3-11 septate,  $19.8-82.5 \times 11.6-14.9 \mu$ . (Fig. 2.)

This is a new fungus record for the country. The specimen has been deposited in the Commonwealth Mycological Institute, Kew, Herbarium No. 89438.

17. *Cercospora peregrina* Chupp. in Monograph *Cercospora* by C. Chupp., p. 49, 1953.

On leaves of *Tabernaemontana coronaria* Willd., Jabalpur. (College garden), January 1961, leg- Hasija.

Symptoms of the disease. Disease starts from any part of the leaf, as dark brown spots. Lesions are dark brown with light brown central region, Conidiophores appear in the central region as

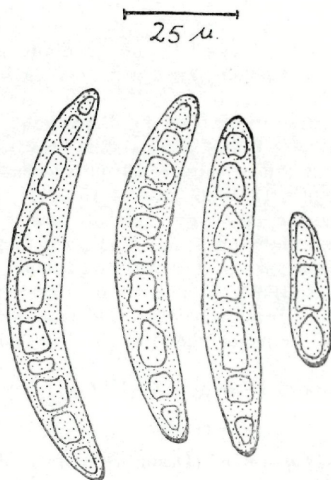


Fig. 2. *Helminthosporium euphorbiae*. Conidia only.

small brown dot like structures. Spots are circular to irregular which rarely coalesce. Leaf around the lesions turns yellow. Midrib is rarely crossed.

The causal organism. Conidiophores light coloured, short, erect, septate, in fascicles; conidia hyaline, 2–9 septate, filiform, tapering at one end, straight or curved, usually curved, with scars at the base showing the point of attachment,  $42.9-204.6 \times 3.3-4.8 \mu$ , average  $128.5 \times 4 \mu$ . (Fig. 3.)

*Cercospora tabernaemontana* Thirum. & Govindu (1955) non H. & P. Sydow (1913). has been recorded on leaves of *Tabernaemontana coronaria* by Thirumalachar and Govindu (1955) from Bangalore (India). *C. peregrina* is a new fungus record for the country.

The specimen has been deposited in the Commonwealth Mycological Institute, Kew, Herbarium No. 84690.

6. *Curvularia lunata* (Wakker) Boedijn. in Bull. Jard. bot. Buitenzorg. Ser. III, 13: 1, p. 127, 1933.

*Acrothecium lunatum* Wakker. De Ziekten van net Suikerriet op Java. p. 196, Leyden 1898.

On leaves of *Terminalia belerica* Roxb., Jabalpur (Katau), December 1961, leg. Hasija & Khatri.

Symptoms of the disease. Disease appears as brown pin head spots, starting from margin and leaf blade, only on the upper

surface. Spots are circular to irregular, with light brown central region showing concentric rings and a dark brown halo. At maturity spots increase upto the size of 17 mm in diameter. Coalescence of spots is very rare. Chief veins are freely traversed. Midrib acts as a barrier.

The causal organism. Conidiophores light coloured, septate, with geniculations, 53–128  $\mu$  long; conidia brown, oval to elliptical, slightly curved, four celled, third cell from the base usually swollen, dark, epispore smooth, 13.2–29.7  $\times$  6.6–13  $\mu$ .

*Curvularia lunata* (Wakker) Boedijn has been recorded on various hosts from Jabalpur viz- *Musa paradisiaca*, *Cymbopogon citratus* and *Pancreatium* sp. by Agarwal and Beliram (1960), Nema and Agarwal (1960). *Terminalia belerica* is another new host record for the fungus from Jabalpur. The fungus has been described in the first series of the paper, therefore its old serial number has been retained here.

The specimen has been deposited in the Kew Herbarium No. 91044.

18. *Pestalotiopsis guepini* (Desm.) Stey. in Bull. Jard. bot. Brux. 19: p. 308, 1949.

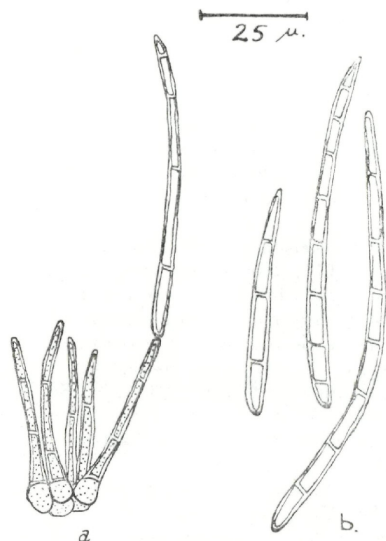


Fig. 3. *Cercospora peregrina*. a) Conidiophores with conidia. b) Conidia only.

On leaves of *Terminalia* sp., Jabalpur, August 1961, Leg- Hasija.

Symptoms of the disease. Disease first appears as decolouration of leaf, yellow in colour, which later develops into light brown spots, only on the upper surface of the leaf. Spots are irregular and at maturity acervuli appears as black dots. Coalascence of spots often takes place. Midrib acts as a barrier.

The causal organism. Acervuli brown, broad, disc shaped, 97—165  $\mu$  wide, average 100  $\mu$ ; conidia light coloured, 5 celled, with end cells hyaline, 3rd cell from the base light coloured, with cilia at apical end, 16.5—23.1  $\times$  4.2—5.8  $\mu$ , average 19.2  $\times$  4.9  $\mu$ .

*Pestalotiopsis guepini* (Desm) Stey. has been recorded on leaves of *Legerstroemia parviflora* and *Havea* sp. by Mundkur and Kheswalla 1942, from Dharwar (Bombay) and Port Blair (Andaman islands) respectively. Agarwal and Hasija 1961, have recorded *Pestalotiopsis terminaliae* Agarwal & Hasija on leaves of *Terminalia belerica* and *Pestalotiopsis japonica* (Syd.) Stey. on *Terminalia* sp. by Hasija 1962, from Jabalpur. There is no other record of *Pestalotiopsis* on any *Terminalia* sp., The present *Terminalia* sp. is a new host record for the fungus.

The specimen has been deposited in the Commonwealth Mycological Institute, Kew, Herbarium No. 89441 (b).

19. *Glomerella cingulata* (Stonem) Spauld & Schrenk in U.S. Dept. Agr. Bur. of Pl. Ind. Bull. 44: pp. 1—54, 1903.

See Von Arx in *Phytopath. Z.*, 29: pp. 413—468, 1957. On leaves of *Citrus medica* L., Jabalpur, September 1961, leg- Hasija.

Symptoms of the disease. The disease first appears as yellow spots on any part of the leaf. Spots become brown and irregular. The central region of the lesions becomes ash coloured and necrotic in which appear acervuli as black dot like structures. Midrib and the chief veins are freely traversed.

The causal organism. Acervuli brown, 85,5—198  $\mu$  wide; conidia hyaline, single celled, ovoid to cylindrical, with rounded ends, 6.6—18,2  $\times$  2.5—3.3  $\mu$ , average 13.2  $\times$  3  $\mu$ .

*Colletotrichum gloeosporioides* Penzig. has been recorded on *Citrus aurantium* and *C. medica*. from Andaman islands by Mitra (1929).

This is a new record for the state.

#### Summary.

The present paper describes Six fungi causing leaf spots at Jabalpur (M. P.). *Marssonina indica* Hasija sp. nov. on *Artocarpus integrifolia* is a new species, *Helminthosporium euphorbiae* Hansford on *Euphorbia geniculata* and *Cercospora peregrina* Chupp. on *Tabernaemontana coronaria* are the two new fungus records for the country.

*Terminalia belerica* for *Curvularia lunata* (Wakker) Boedijn and *Terminalia* sp. for *Pestalotiopsis guepini* (Desm.) Stey. are the two new hosts record. *Glomerella circinata* (Stonem) Spauld & Schrenk on *Citrus medica* is a new record for the state.

#### Acknowledgements.

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