Two new Species of Alternaria on economic Hosts from India.

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(With 2 Figs.)

During the course of his investigations on the genus *Alternaria* occurring in the State of Bombay-Maharashtra (India) the writer collected two species of *Alternaria* inciting severe leaf spots and blights of Sannhemp *(Crotalaria Juncea* L.) and onion *(Allium cepa* L.) which are of great economic importance in this country. A critical and comparative study of the two collections with other known species proved that they were new taxa, on the basis of morphological characters, dimensions of conidiophores and conidia and host relationship and are therefore offered here as new species with the following Latin diagnosis.

(1) **Alternaria crotalaricola** Vasant Rao, Sp. nov. Infection spots epiphyllous, oval to irregular, pale dirty brown, scattered with a clear-cut margin, mostly marginal, sometimes resulting in shot-holes. Conidiophores dark-brown solitary or in fasicles of 2—3, emerge through stomata or rupturing the epidermis, septate (2—5), slightly bulged at the base, rounded and scared at the apex, rarely branched, measure 50,4—84 × 4,2—6,3 μ. Conidia pale to olevaceous brown, clavate to obclavate with a muriform body, and a short to medium sized septate beak, scared at the base and apex, in short chains of 2 to 5, with 5—12 cross septa and 1—5 longitudinal septa with few oblique septa, constricted at septa, cellwall smooth, measure 46,2—170 × 13,65—21 μ (with beaks) and 37,8—63 × 13,65—21 μ (without beaks).

Incites leaf blotch and shot-holes in living leaves of *Crotalaria juncea L.* collected by Vasant Rao, September 1962, Poona (India), M. A. C. S. Herb. No. 175 (Type).

Maculae dispersae, epiphyllae, ellipticae vel irregulares pallide brunneae, distincte marginatae, saepe and folii marginem, interdum etiam in vaginis foliorum evolutae; conidiophora obscure brunnea, solitaria vel 2—3 fasciculata, e stomatibus vel per epidermidem erumpentia, 2—5 septata, ad basin plerumque leniter inflata, in apice rotundata et cicatricosa, raro ramosa, 50,4—84 × 4,2—6,3 μ; conidia pallide

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vel olivaceo-brunnea, clavata vel obclavata, transverse 5—12-longitudinaliter vel oblique 1—5-septata, ad septa plus minusve constricta, antice in rostrum breve vel subelongatum, septatum transcuntia, utrinque obtusa vel truncata, plerumque 2—5-catenulata, levia, 46,2—170 × 13,65—21 (cum rostro) et 37,8—63 × 13,65—21 (sine rostro).

No species of *Alternaria* has so far been described on Sannhemp although two species viz. *A. tenuis* Auct. and *A. cyamopsidis* Rang and Venkat. have been reported on other legume hosts. The Sannhemp *Alternaria* does not agree with either of these two species.

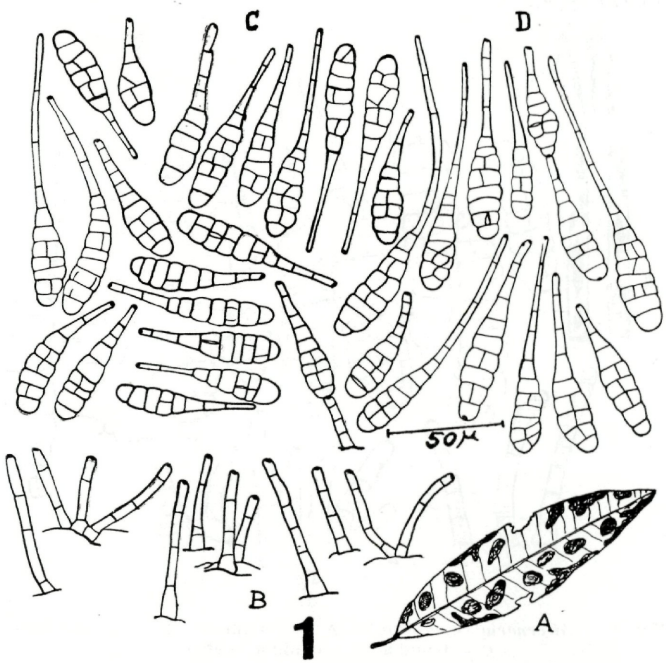

Fig. 1. *Alternaria crotalaricola.* A Symptoms. — B Conidiophores — C Conidia. — D Conidia in chain.

(2) **Alternaria cepulicola,** Vasant Rao, sp. nov. Infection spots dark-purplish brown with a paler outer zone, scattered, oval to irregular, resulting in blight and withertip. Conidiophores dark-olevaceous brown, short, simple, solitary or in fascicles of 2 to 5, emerge

through rupturing the diseased tissue, septate (1—7), bulbous at the base and rounded and distinctly scared at the apex, rarely geniculate, measure 29,4—90,3 × 8,4—12,6 μ. Conidia olevaceous palebrown, mostly double-walled, scared at the base, generally solitary, rarely in short chains of 2 to 3, short beaked obclavate to muriform, broader at the base, with 2 to 7 longitudinal septa and 6 to 15 cross septa, thick-walled, smooth, deeply constricted at septa, measure 58,8—184,8 × 21—46,2 μ.

Inciting leaf-blight and withertip of *Allium cepa* L. collected by Vasant Rao, September, 1962, Poona (India), M. A. C. S. Herb. No. 176 (type).

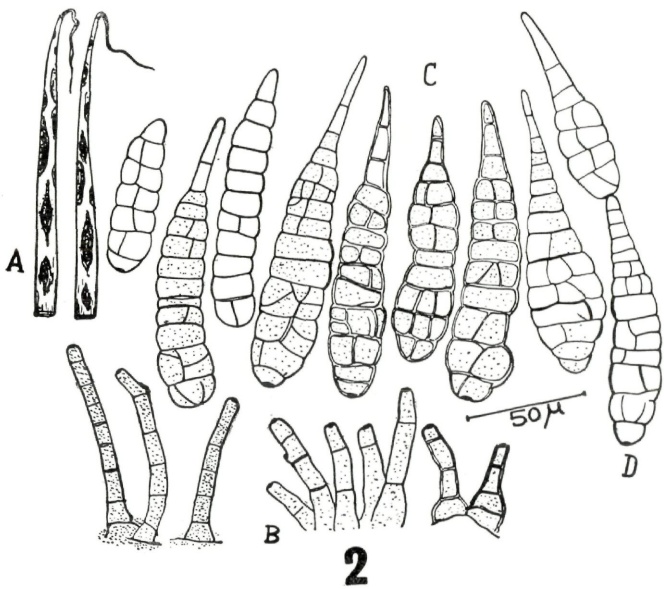

Fig. 2 — *Alternaria cepulicola.* — A — Symptoms, B — Conidiophores, C — Conidia, D — Conidia in chain.

Maculae obscure purpureo-brunneae, margine pallidiores, dispersae, ellipticae vel irregulariter angulosae; conidiophora obscure olivaceo-brunnea; brevia, simplicia, solitaria vel 2—5 fasciculata, erumpentia, 1—7-septata, ad basin bulboso-incrassata, in apice rotundata et distincte cicatricosa, raro geniculata, 29,4—90,3 × 8,4—12,6 μ; conidia pallide olivaceo-brunnea, plerumque bitunicata, ad basin truncata, plerumque solitaria, raro 2—3 catenulata, breviter rostrata,

obclavata, prope basin latiora, transverse 6—15-longitudinaliter 2—7-septata, crasse tunicata, ad septa valde constricta, 58,8—184,8 × 21—46,2 μ.

Remarks: Three species of *Alternaria* have been so far described on this host. The present collection is significantly distinct in its conidial morphology, dimensions of conidiophores and conidia (vide table 1) and is therefore accommodated as a new species.

Table 1.

Comparison between species of *Alternaria* affecting *Allium cepa* L.

Alternaria species	Conidiophores in μ	Conidia in μ	Authority
A. palandui Ayyangar	—	10,5 — 77 × 3,5 — 14	Ayyangar — 1928.
A. allii Nolla	20—180×4—18	105 — 320 × 12 — 24 (long beak, often branched)	Nolla — 1927.
A. porri (Ell) Neerg.	27—45 in length.	105 — 220 × 17,5 — 26	Angell — 1929.
Poona sp.	29,4 — 90,3 × 8,4 — 12,6	58,8 — 184,8 × 21 — 46,2 (Short beak, un--branched)	Author.

The two types are being deposited at the Herb. Crypt. Orient. New Delhi (India) and Herb. of C. M. I. Kew, Surrey, England.

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