

## A new species of *Physalospora* from India.

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With one text-figure

*Alternanthera sessilis* Br. (fam. *Amaranthaceae*) commonly known as 'matikaduri' or 'senchi' is used for culinary and medicinal purposes by the people of Assam. From 1964 onwards during the rainy season the author observed a leaf spot on it, the incitant of which seem to be an undescribed species of *Physalospora* Niessl (Saccardo, 1882). This genus is represented in India by another 15 species (Saccardo, l. c.; Subramanian and Ramakrishnan, 1956; Butler and Bisby, 1960) including one on *Achyranthus*, belonging to the same family *Amaranthaceae* (Ramakrishnan, 1951).

Symptoms appear as minute diffuse purple spots which gradually increase in size but usually do not extend beyond 4 mm. and well demarcated at the margins. Spots may be a few or numerous per leaf blade and in severe case of spotting the tissues become yellow and the leaves fall off. In the middle of the spots black dot like minute perithecia develop which are partially immersed in the host tissues. They arise solitary or in groups. The following is a brief description of the fungus.

### *Physalospora alternantherae* A. K. Roy, sp. nov.

Maculae primum minutae, punctiformes, paulatim accrescentes, orbiculares purpureae, zonula lutescente marginata, usque 4 mm diam., postea in centro canescentes; perithecia amphigena sed plerumque epiphylla, innata, solitaria vel 2—3 plus minusve aggregata, globosa, ostiolata, 78—132  $\mu$  diam.; pariete brunneo, pseudoparenchymatico; asci clavati, breviter stipitati, 8-spori, 30—60  $\times$  6.6—13  $\mu$ ; sporae ovoideae vel oblongae, inaequaliter distichae, continuae, 8.5—14  $\times$  4—7  $\mu$ , hyalinae, plasmate granuloso farctae; paraphyses tenerrimae, 28—35  $\times$  2.5—4.2  $\mu$ .

Spots first appear as minute dots on the leaves which gradually increase in size, globose, purple, generally with yellowish hale at the begining, upto 4 mm. diameter; centre becoming greyish on which very minute black dot like perithecia develop. Perithecia ampigenous but

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mostly epiphyllous, innate erumpent, solitary or occasionally 2 to 3 in groups, globose, ostiolate, brown, pseudoparenchymatous, 78—132  $\mu$  diameter; asci, clavate, short stalked, octosporous, packed closely, 30—60  $\times$  6.6—13  $\mu$ ; ascospores hyaline, oval to oblong, single celled, granular, arranged irregularly biseriate, 8.5—14  $\times$  4—7  $\mu$ ; paraphyses hyaline, delicate, 28—35  $\times$  2.5—4.2  $\mu$ .

On the leaves of *Alternanthera sessilis* Br., Borbheta, Assam, 27. 7. '65, leg. A. K. Roy, deposited in the Herbarium Cryptogamiae Indiae Orientalis, New Delhi, accession No. 29150.

This fungus to some extent is akin to *P. cynadontis* G. Delacroix occurring on *Cynodon dactylon* Pers. (Saccardo, 1891) and *P. mimosaceae* Rehm. on *Mimosa* sp. (Saccardo, 1902) in the measurement of asci and ascospores but disagrees in the size of perithecia and some other characters. *Laestadia cephalariae* (Awd.) Sacc. var. *alternantherae* Sacc. recorded on the same host agrees much with the present fungus but on the nature of aparaphysate character of perithecia, this genus is separated from *Physalospora* (Saccardo, 1882). Clements and Shear (1954) in making *Laestadia* Auersw. a synonym of *Phomatospora* Sacc. have also emphasized on this character. Ramakrishnan (l. c.) described *P. achyranthis* Ramakr. on *Achyranthus aspera* L. from Kodaikanal Hill which is differentiated from the present fungus on the following characters.

| Fungus                   | Leaf spot  | Perithecia     | Asci                        | Ascospores                |
|--------------------------|------------|----------------|-----------------------------|---------------------------|
| <i>P. achyranthis</i>    | Indefinite | upto 200 $\mu$ | 80—95 $\times$ 21—26 $\mu$  | 17—22 $\times$ 6—10 $\mu$ |
| <i>P. alternantherae</i> | Definite   | 78—132 $\mu$   | 30—60 $\times$ 6.6—13 $\mu$ | 8.5—14 $\times$ 4—6 $\mu$ |

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