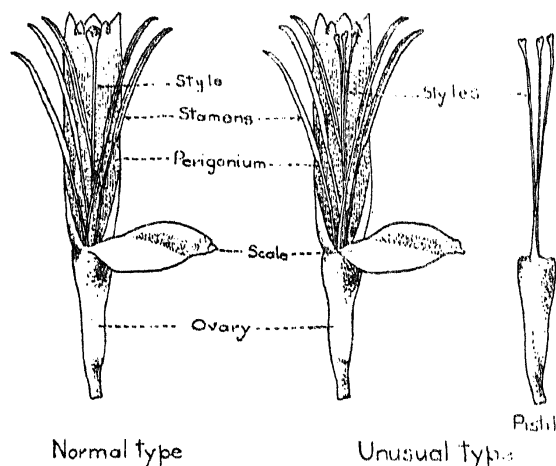


perigonium representing five perianth lobes, and the scale representing the sixth. Variations in number and shapes of the perianth parts have been recorded by K. C. Jacob.\* Besides the five stamens which are usually found, the sixth rudimentary or fully developed one has been very often met with. Of the gynoecium, the ovary is three-carpelled and syncarpous, style single and stigma also single with undulating surface.

An unusual type with flowers having three styles was met with in one plant of the local variety, Ney Mannan (*vide* Fig.). Many of



the flowers in the inflorescence of this plant were of this unusual type mixed with the normal single styled flowers. Except for the division of the styles to the base, there was no other variation.

Transverse sections of the styles of the normal type and the unusual type were compared. While the normal style has three vascular strands running up to the stigma, there was only one vascular strand in each of the styles of the unusual type, thus showing it to be a simple division of the style into three.

Madras Herbarium, S. N. CHANDRASEKHARAN.  
Coimbatore, D. DANIEL SUNDARARAJ.  
December 16, 1946.

\* Jacob, K. C., *Monograph on Madras Bananas* (Unpublished).

#### A NEW RECORD FOR *FRITSCHIELLA TUBEROSA* IYENG.

*Fritschiella tuberosa* Iyeng., a rare member of the order Chætophorales, is a subaerial alga which grows on drying cakes of mud in fresh-water ditches. Its peculiar habit and occurrence point the way to the land habit as has been suggested by Iyengar (1932), and also by Singh (1942).

Singh (1941) who worked the autoecology and life-history of the species mentions the relevant literature and also the various situations in which it is found to occur. Iyengar "reported the plant growing on moist silt of drying rainwater pools in Madras, as well as at Talaguppa in the Mysore Province". Randhawa "records its growth in a drying pond and on the banks of the River Sarju", as well as from "fields lying fallow in the Fyzabad District". Singh found it on alkaline land some distance from the Benares Hindu University.

Recently, the author came across this alga in a similar situation to that described by Iyengar. At first it was found growing in association with *Protosiphon* and *Botrydium* as dark-green clusters on sloping ground by the side of a drying ditch seven miles south of Bangalore; and again in a drying pool near Malleswaram, Bangalore. In view of the very few localities in which this species has previously been found the present is an interesting record of its occurrence. What struck the author most, however, was the fact of its occurrence at two places in Mysore State which are situated in climatically diverse regions, Bangalore and Talaguppa being in the *Maidan* and *Malnad* parts of the State respectively.

I thank Dr. M. O. P. Iyengar, who found the genus and species, for confirming my determination; and Dr. L. N. Rao for kind encouragement.

Central College,  
Bangalore,

BASHEER AHMED RAZI.

December 12, 1946.

1. Iyengar, M. O. P., *New Phytologist*, 1932, **31**, 329-35.
2. Singh, R. N., *ibid.*, 1941, **40**, 170-82.

#### CHROMOSOME NUMBERS IN *SESBANIA* SPP.

RECENTLY two notes<sup>1,2</sup> have been published in this *Journal* giving chromosome number counts in the Indian cultivated species of *Sesbania*. The notes showed that there was some discrepancy between the counts made by different observers. Further counts were made at the Agricultural College, Coimbatore, to find out if there was chromosome number variation within a single species of *Sesbania*. Either mitotic or meiotic chromosomes were counted in five varieties of *Sesbania*. Comparing the present results with previous records, the deductions are, (a) autopolyploidy occurs in *Sesbania aculeata*, and (b) *S. grandiflora* is probably constant in its chromosome number. The table given below brings out these points.

(a) The polyploid numbers in *S. aculeata* may be natural. Mr. Haque's new data<sup>2</sup> may be used to give this interpretation—the Andhra variety of *S. aculeata* is a diploid, and Benares and Coimbatore varieties are autopolyploids.

(b) Considering the general consistency in the genus, it is difficult to explain the count recorded by Krishnaswamy, *et al.*<sup>1</sup> In the pollen mother-cells of *S. grandiflora*, there is a considerable amount of secondary pairing and this feature will cause a reduction in the apparent number of bivalents counted at first metaphase. The present counts were made at diplotene, first anaphase, and at second telophase stages, in the P.M.C. in which stages the chromosomes are freer spatially.

Three varieties of *S. grandiflora* were grown at the Millet Breeding Station for this study. The varieties showed differences in vigour and rate of growth. The economic aspect of varietal differences will be studied and published later.

I am indebted to the Millet Specialist, Government of Madras, for facilitating and supervising this work.

Sesbania variety	2 n.	n.	Author
<i>S. speciosa</i> .. .. .	12	—	Present count.
<i>S. aculeata</i> , Benares var. .. .. .	24	12	Haque.
do. Coimbatore var. .. .. .	24	—	Present count.
do. Andhra var. .. .. .	—	6	Sundar Rao.
<i>S. grandiflora</i> Benares var. .. .. .	24	12	Haque.
do. Andhra var. .. .. .	24	12	Sundar Rao.
dc. Madras var. .. .. .	24	—	Present count
do. Coimbatore var. .. .. .	—	12	do
do. from Paddy Breeding Station, Coimbatore .. .. .	—	12	do
do. do. ? .. .. .	—	7	Krishnaswamy, et al.

Millet Breeding Station,  
Coimbatore,  
December 11, 1946.

S. SAMPATH.

1. Haque, A., *Curr. Sci.*, 1946, 15, 78. 2. —, *ibid.*, 1946, 15, 287. 3. Sundar Rao, Y., *ibid.*, 1946, 15, 78, 4. Krishnaswamy, N., and Rangaswamy Ayyangar, G. N., *ibid.*, 1935, 3, 488.

**HEMILEIA JASMINI KRISHNAMURTHY  
AND RANGASWAMI SP. NOV. ON JAS-  
MINUM RITCHIEI CLARKE**

DURING the month of September 1946 wide-spread incidence of a rust was observed on *Jasminum Ritchiei* growing wild at Yercaud, Shevaroy Hills, Salem District. Mr. K. M. Thomas, Government Mycologist, Madras, had collected a rust on the same host from Coorg in 1925. This specimen was compared with the present collection and the two rusts are found to be the same.

Light orange yellow powdery formation of the sori was present on the lower surface of the leaves. Urediosori were observed in plenty. The sorus was extra-stomatal; a fasciculate mass of hyphæ had developed through the stoma and borne the spores outside the surface of the leaf on short projections (Fig. 1). The spores were sub-globose or resembling the segments of an orange (Fig. 2). The wall was hyaline thicker and echinulate on all sides except the flattened or concave side. The contents were yellowish. The spores measured  $24 \times 18 \mu$  ( $17.5-29.8 \times 14-24.5 \mu$ ).

Teliospores were very few. They were irregular, more or less hyaline, thin-walled, smooth and measured  $27 \times 22 \mu$  ( $16.5-38.5 \times 14-31.5 \mu$ ). Some of them were hemispherical with the remnant of the stalk on one side; others were angular or other irregular forms (Fig. 3).

Several rusts have been recorded on *Jasminum* spp. from India. They are: *Chaconia* Butleri (Syd.) Mains.,<sup>1</sup> on *J. malabaricum* W.; *Uromyces hobseni* Vize,<sup>2</sup> on several species of *Jasminum*; *Uromyces comedens* Syd.<sup>3</sup> on *J. pubescens* Willd., and *Puccinia chrysopogi* Barclay<sup>4</sup> on *J. humile* L. and *J. Ritchiei*. The last was collected by Mr. Thomas from Coorg in 1925.

The rust now recorded is different from all the above in the peculiar formation of the uredio and teliosori and the characteristic shape of the spores. It is a *Hemileia*.

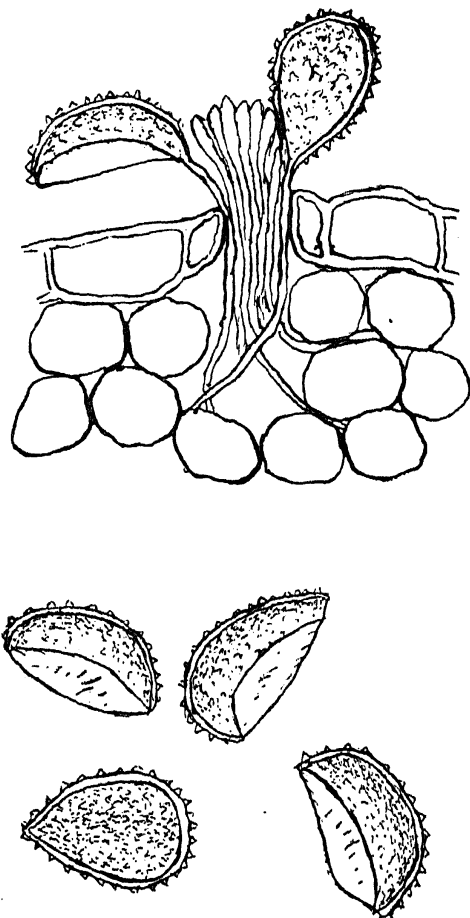


FIG. 1. Section of leaf showing the urediosorus  $\times 660$ .

FIG. 2. Urediospores.  $\times 660$ .

No species of this genus has been observed on *Jasminum* or allied genera of Oleaceas till now and, therefore, it is proposed to name this fungus *Hemileia jasmini* sp. nov.

*Hemileia jasmini* sp. nov. Urediosori Hypophyllous, gregarious, pulverulent, pale orange yellow, minute; urediospores sub-globose to orange-segment shape,  $24 \times 18 \mu$ , unicellular, wall hyaline, thicker and echinulate except on the flattened or concave side. Contents light yellow; telia mixed with uredia; teliospores irregular, smooth, hyaline  $27 \times 22 \mu$ .

On living leaves of *Jasminum Ritchiei* Clarke. Yercaud, Shevaroy Hills (Salem District), 27-9-'46 (C. S. Krishnamurthy and G. Rangaswami) type deposited in the Herbarium of the Government Mycologist, Coimbatore, and Herb. Crypt. Ind. Orient., New Delhi.