OCCURRENCE OF *AVRAINVILLEA NIGRICANS* DECAISNE ALONG INDIAN COAST

DURING the study of the marine algal flora of Saurashtra coast, the authors came across an alga answering the description of *Avrainvillea nigricans* Decaisne. It is interesting to find this Atlantic species along the Indian coasts. The description of the Indian specimen is given below :

Avrainvillea nigricans DECAISNE

Boergesen, F. 1908, P. 30; 1913-20, Taylor, W. A., 1950, pp. 67-70.

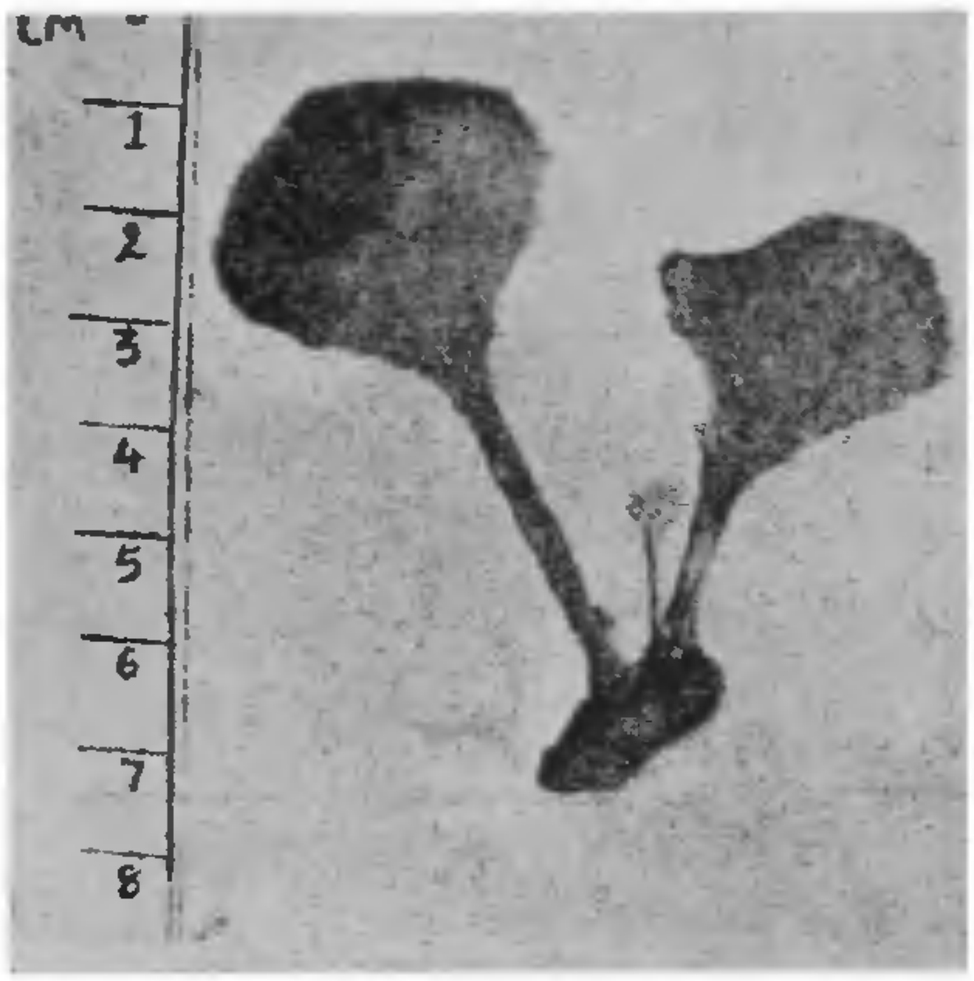

FIG. 1. Habit of *Avrainvillea nigricans* Decaisne from Adatra (Okha).

Plants 4-9 cm tall, arising gregariously from a basal mass of rhizoids and sand, stalked. Rhizoidal filaments less regularly moniliform, dichotomously branched, 28-99 μ diam.; yellowish in colour, with few to plenty starch grains; stipe 2·0-3·5 cm long, 3-5 mm thick, slightly terete below, flattened above and transitional into the flabellum. Flabellum oblong-reniform with more or less cuneate base, 1·0-6·0 cm long, 2·5-5·2 cm broad, soft leathery, faintly zonate with rounded or lacerated margin. Structural filaments moniliform, 33-79·3 μ diam. to the interior, upto 14 μ at the peripheral portion, dichotomously branched, with non-clavate apical ends; chromotophores numerous, oval to elongate, having one pyrenoid each; light brown colour, becoming slightly dark on drying, not adhering well to paper.

Habitat: On mud covered rocks in pools at the midlittoral level, Adatra (Okha).

Geographical Distribution: Florida, West Indies, Brazil.

This species is characterized by the regularly moniliform filaments and in not having the numerous small openings described by Boergesen (l.c.). The present species is very closely related to *A. ascarifolia* Boergs. from which it differs in the presence of regular moniliform structural filaments and also in having the peripheral filaments.

The other species of *Avrainvillea* described from India are *A. erecta* (Berkel). Gepp., *A. amadelpha* Gepp. and *A. ridleyi* A. and E. S. Gepp. (Ref. Dixit, 1968).

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CORYNESPORA LEAF-SPOT OF COW-PEAS [*VIGNA SINENSIS* (TORNER) SAVI.,] A NEW RECORD TO INDIA

A SEVERE leaf-spot disease of cow-peas was observed by the authors during their frequent visits to the fields of the Agricultural College, Dharwar. Being a pulse crop, rich in proteins it is therefore grown in many parts of the country. As the leaf-spot disease was observed in most of the plants in severe form, it needed attention in respect of its cause and control measures. Microscopic examination of the sections through the infection spots revealed the presence of a dematiaceous hyphomycete and was diagnosed as a species of *Corynespora*. In India this genus is represented by about six species (Munjal and Gill, 1962). Referring to the literature it revealed that Olive *et al.* (1945) have reported *Helminthosporium vigniae* on leaves of *Vigna sinensis* and the same fungus has been referred to as *Corynespora cassiicola* by Spencer and Walters (1969). The comparative studies between the writers' collection and *Corynespora cassiicola* showed that they are similar in all the essential morphological characters and the symptoms produced. As this disease is ob-

served for the first time in India, a brief description of the symptoms and etiology of the causal organism are presented here for ready reference.

Symptoms (Figs. 1 and 2).—Symptoms were noticed on leaves of different ages. In the earlier stages of infection, the spots were circular, the necrotic area being white to grey. In the severely affected leaves, the spots were circular to irregular with distinct concentric rings. In the advanced stages the necrotic spots coalesce appearing as patches. Sometimes major portion of the leaf is affected and such leaves easily fall down. Severe defoliation was the marked symptom in the advanced stages of infection. No symptoms on twigs.

FIGS. 1-3. Fig. 1. Diseased leaves showing spots of different developmental stages. Fig. 2. Enlarged view of single infection spot—note concentric rings. Fig. 3. Conidia in chain obtained from culture.

Pathogenicity.—The pathogenicity of *Corynespora cassiicola*, isolated from the infection spots, was proved by artificial inoculation of healthy leaves with the culture.

Etiology.—Mycelium sub-hyaline to brown, septate, 4-6 μ broad. Conidiophores simple, come out of epidermal cells, septate, dark brown, 50-300 μ long and 4-6 μ broad. Conidia produced singly at the tip of conidiophore, broader at the base and tapering at the tip, sometimes cylindrical, sub-hyaline to brown, pheo-phragmoid, 4-18-celled, 36-240 μ long and 6-18 μ broad.

The fungus was easily brought in culture on potato dextrose agar medium at the room temperature (27-28° C.). The fungus produced conidiophores and conidia typical of *Corynespora cassiicola* without much variation in dimensions. The interesting feature observed in the culture was the production of conidia in chains (Fig. 3) although production of single conidium at the tip of each conidiosphore was not uncommon, thus agreeing with the results of Olive *et al.* (1945).

The material of the above fungus is deposited at Herb. Orientalis, New Delhi, under No. 30044.

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SWOLLEN ROOTS OF *CYCAS CIRCINALIS* L.

RIPE seeds of *Cycas circinalis* were sown in the soil and allowed to germinate. A number of them grew to seedling stages. They were examined periodically, with the idea of working out their anatomy. Seedlings of about three years showed some peculiar rootlets which arise on the tap-root but above the lateral apogeotropic coralloid roots and below the first pair of leaf-bases. Thus, their position appears to be adventitious. They vary in number from one to six per seedling. Though lateral in position they looked like *Raphanus sativus* root in appearance without its two vertical rows of lateral rootlets. Everything about these fleshy swollen roots appeared to be quite peculiar, deserving a detail description.