

Polygonum type of embryo sac ontogeny, nuclear endosperm, Caryophyllad type of embryogeny and seed coat structure^{9,10}, *Stegnosperma* resembles Phytolaccaceae. Most of these features are also shared by Caryophyllaceae. *Stegnosperma*, though resembles Phytolaccaceae in anatomical characters, deviates in the anomocytic stomata and in the absence of anomalous secondary growth¹¹. In pollen characters, morphological features like the presence of petals, antipetalous carpels, sieve-tube plastids, *Stegnosperma* are close to Caryophyllaceae than to Phytolaccaceae¹²⁻¹⁴. An important chemical character shared by Stegnospermataceae and Phytolaccaceae is the presence of betalains, which are absent in Caryophyllaceae. There is no information on the cytology of *Stegnosperma* for comparison with Phytolaccaceae and Caryophyllaceae.

Thus, in the light of the available data on *Stegnosperma*, it is tentatively suggested that the genus be raised to the status of an independent family and placed in the vicinity of Phytolaccaceae and Caryophyllaceae, as has also been suggested by Thorne (1983). It may also be pointed out that these data do not justify Hutchinson's (1973) inclusion of Stegnospermataceae in Pittosporales.

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OUTBREAK OF GIANT MEALYBUG, *DROSICHA STEBBINGI* (GREEN), IN WEST RAJASTHAN (HEMIPTERA: MARGARODIDAE)

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THE giant mealybug *Drosicha stebbingi* (Green, 1903) appeared in an epidemic form in and around Jodhpur, during the last week of July 1984. The bug infested mainly ber trees (*Zizyphus mauritiana*) and a local shrub *Prosopis juliflora*, but spread over other plants in the vicinity of the above preferred hosts (figures 1, 2).

This insect pest is well known as mango mealybug in North India and the present outbreak seems to be the western periphery of its range in the country. The bug



Figures 1, 2. 1. Outbreak of *Drosicha stebbingi* on *Prosopis juliflora* bushes, 2. Heavy infestation on *Zizyphus mauritiana*.

is known in Pakistan and U.P., M.P. and Bihar in India. The present author got this material from Howrah (W. Bengal) and Karnal (Haryana), indicating that it has a wider range. However, the bug is not distributed in South India¹.

Another significant factor is its present outbreak in late summer. In North India, its eggs are hatched and the bug appeared during winter (Nov. to Jan.) and remained active till April, when reportedly the adult females descended down and entered the soil for egg laying². Subsequently, while the female died, the eggs underwent diapause which breaks in winter. Hence, the present incidence of this bug in July-August is interesting. Perhaps it is related with the showers in July in these arid areas since the humidity of soil has been suggested as a factor for hatching of eggs³.

Drosicha is a major pest of mango, and affects more than a dozen other fruit-plants including litchi, guava, citrus, apple, ber, grapevine etc. It was earlier reported⁴ on 44 host-plants to which the present record on *Prosopis juliflora* (Sw.) DC. (Mimosaceae) is an addition.

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A CASE OF LERNEOSIS AND ITS CONTROL IN AN AIR-BREATHING FISH CULTURE SYSTEM

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LERNAEA CYPRINACEA L., a parasitic copepod (Crustacea), commonly known as anchorworm, is one

of the most detrimental ectoparasites in aquaculture owing to its widespread distribution and ability to infect a variety of economically important fresh water fishes.

During the course of culture experiments on the striped murrel, *Channa striata* (Bloch), lerneosis was noticed in one of the farm ponds in March 1984. In about a month's time nearly 50% of the murrels in that pond were found to be affected.

Treatment: The pond was dewatered and all the cultured *C. striata* were retrieved and given a 250 ppm (25 ml/100 l) formalin bath in plastic pools for 15 min, and then immediately released into another pond to which lime (at the rate of 250 kg/ha) was added the previous day. No mortality occurred during the treatment.

Fifteen days after the treatment, sample-netting revealed that the infection had subsided. Two months later, when the murrels were harvested, there was no visible trace of infection. The average weight of 9.3 g, at the time of stocking, had steadily increased to 133 g in six months. But, while the weight increment per month went upto 28.9 g prior to the infection, the same had fallen to 16.4 g after the infection. Survival over the six months' culture period was 85%. It is thus evident that lerneosis, although not immediately fatal, could adversely affect normal growth and the resultant production.

Lerneosis, affecting a variety of cultured fishes, has been reported from divergent habitats, and the measures of control adopted or suggested vary widely¹⁻⁹. Available literature indicates that lerneosis in the striped murrel *C. striata* has not been reported from India. Considering the pollution that would be caused by the application of organophosphate pesticides, formalin and lime treatment was adopted, and it appears that this is the first instance of controlling anchorworm infection using this procedure.

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