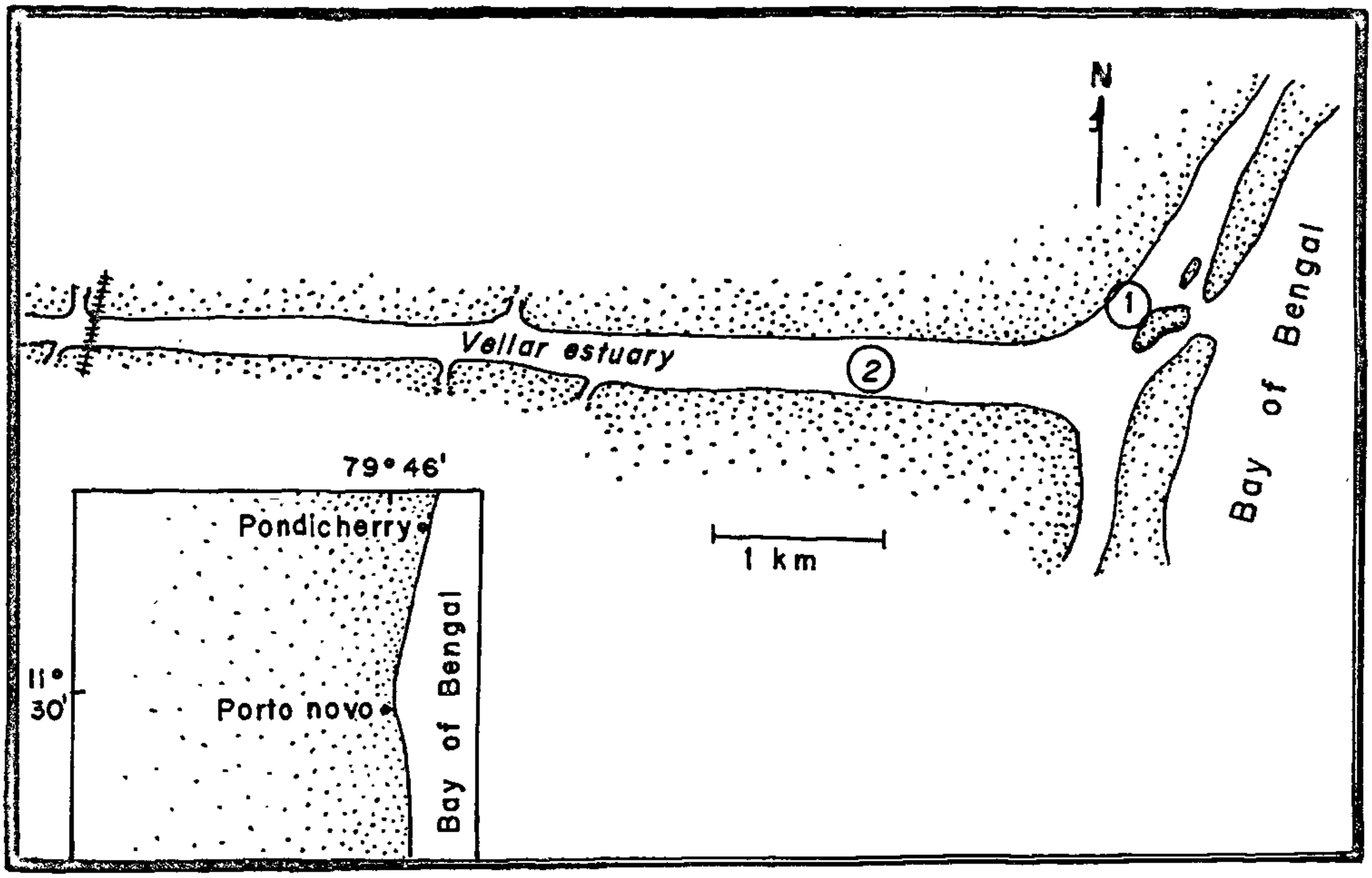

Figure 1. Showing sampling locations.

and adjoining sea and mangrove waters signifies that these environs are suitable for their existence and propagation.

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EFFECT OF THE JUVENOID, HYDROPRENE ON THE OVARIES OF SWEET POTATO WEEVIL, *CYLAS FORMICARIUS* F. (COLEOPTERA: CURCULIONIDAE)

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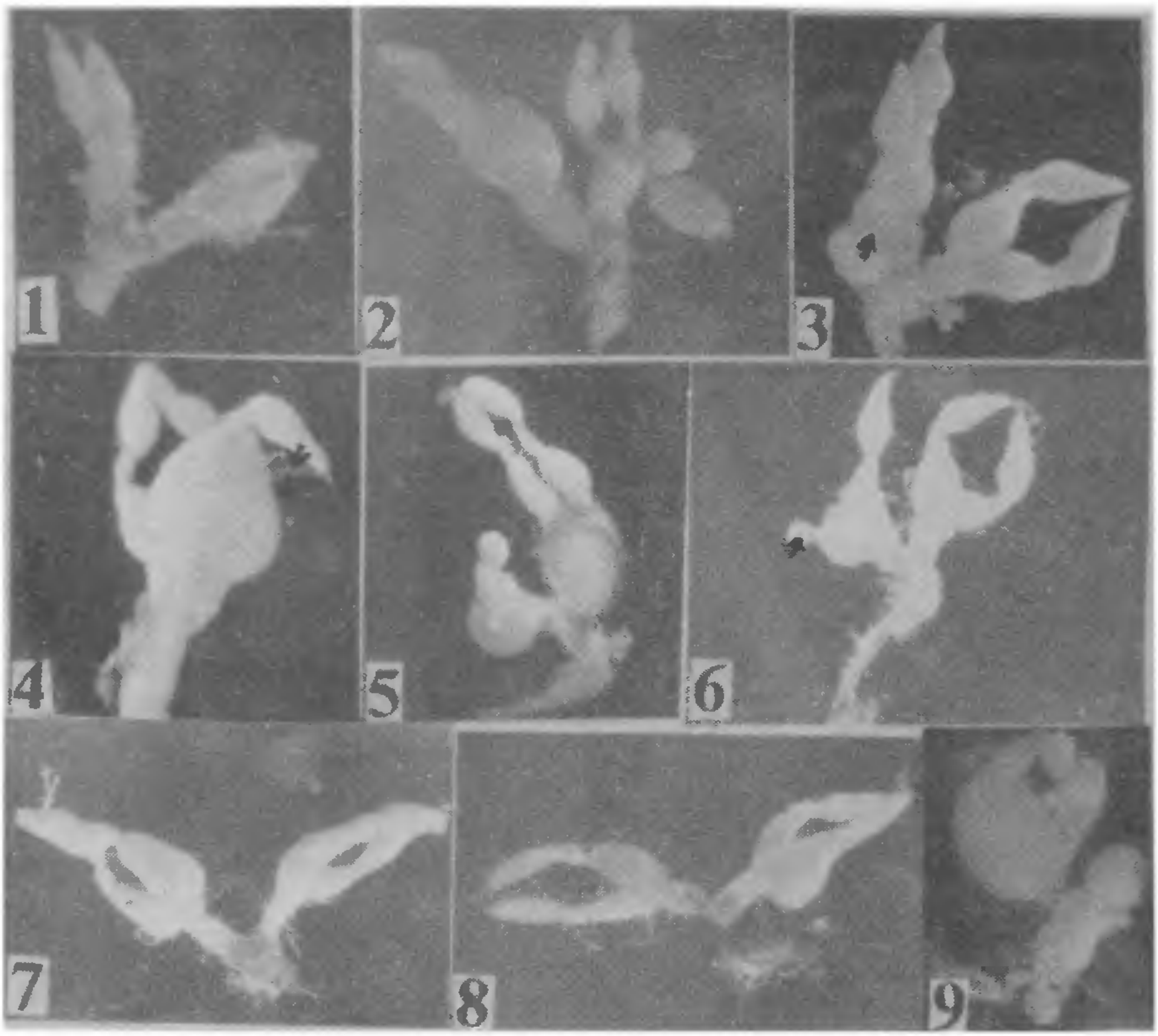
THE action of juvenoids brings about the disruption of

a variety of processes such as larval development, metamorphosis, reproduction and embryonic development[1]. The most apparent effects of the juvenoids on insect reproduction are those on growth and development of the ovaries[2-4]. In the present communication, the effect of the juvenoid, Hydroprene on the ovaries of the sweet potato weevil, *Cylas formicarius* F., a serious pest of sweet potatoes is investigated and reported.

The weevil was mass cultured in the laboratory under controlled conditions (28 ± 1° C; 70 ± 5% relative humidity and 12 hr photoperiod). Late pupae were segregated from the infested tubers and adults were separated from them as soon as they emerged. The adults were kept in 4" petridishes containing moist cotton and a filter paper above it, pieces of sweet potato tuber served as food. Different age group females (0, 1 and 3-day) were topically treated with 0.01 μ g insect of hydroprene and untreated males of the same age were added to them. The ovaries were dissected at different intervals and were observed under a stereobinocular microscope.

The female reproductive organs were affected variously. They are as follows: (a) The inhibition of vitellogenesis, (b) Development of only a single oocyte per two ovaries, (c) Deformed germarium, previtellarium and vitellarium, (d) Deformed ovaries in which the oocytes arise from the other side of the



Figures 1–10. **1.** Inhibition of vitellogenesis even after 7 days after emergence (× 20) **2.** Note two oocytes are abnormally attached near the proximal end of the lateral oviduct (× 26) **3.** Note the oocytes blocked in the lateral oviduct (× 25) **4.** Note the degenerated ovariole represented by a filamentous structure (arrow) (× 28) **5.** Note the deformed germaria and previtellar regions (× 25) **6.** Deformed germarium (× 25) **7.** Note the deformed vitellaria with the abnormal shape of the oocytes (× 25) **8.** Only one oocyte is seen developed in the two ovaries (× 25) **9.** Note only one oocyte developed and deformed ovarioles (× 28).

lateral oviduct instead of being followed by the previtellarium, (e) Degeneration of ovariole into a filament like structure and (f) Malformation and malfunctioning of the oviducts (figures 1–9).

The effects of exogenous juvenile hormones on female reproductive organs have been described in many insects[5–7]. Reduction in the size and shape of the germarium, variations among the terminal oocytes and the ovarioles of a single ovary, absence of demarcation between previtellarium and vitellarium regions resulting in the formation of a tube like structure, retention of oocytes in the lateral oviducts were the effects observed in the treated insects. Similar effects due to juvenoid action were also reported by various workers[8–10]. All these deformities in the ovaries led to the reduction of the number of eggs laid or even no oviposition at all. The eggs laid were unable to hatch and thus, the juvenoid, hydroprene was quite effective on the female reproductive organs in the sweet potato weevil, *C. formicarius* F.

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AN UNCOMMON PSYLLID GALL OF *FICUS BENGALENSIS*

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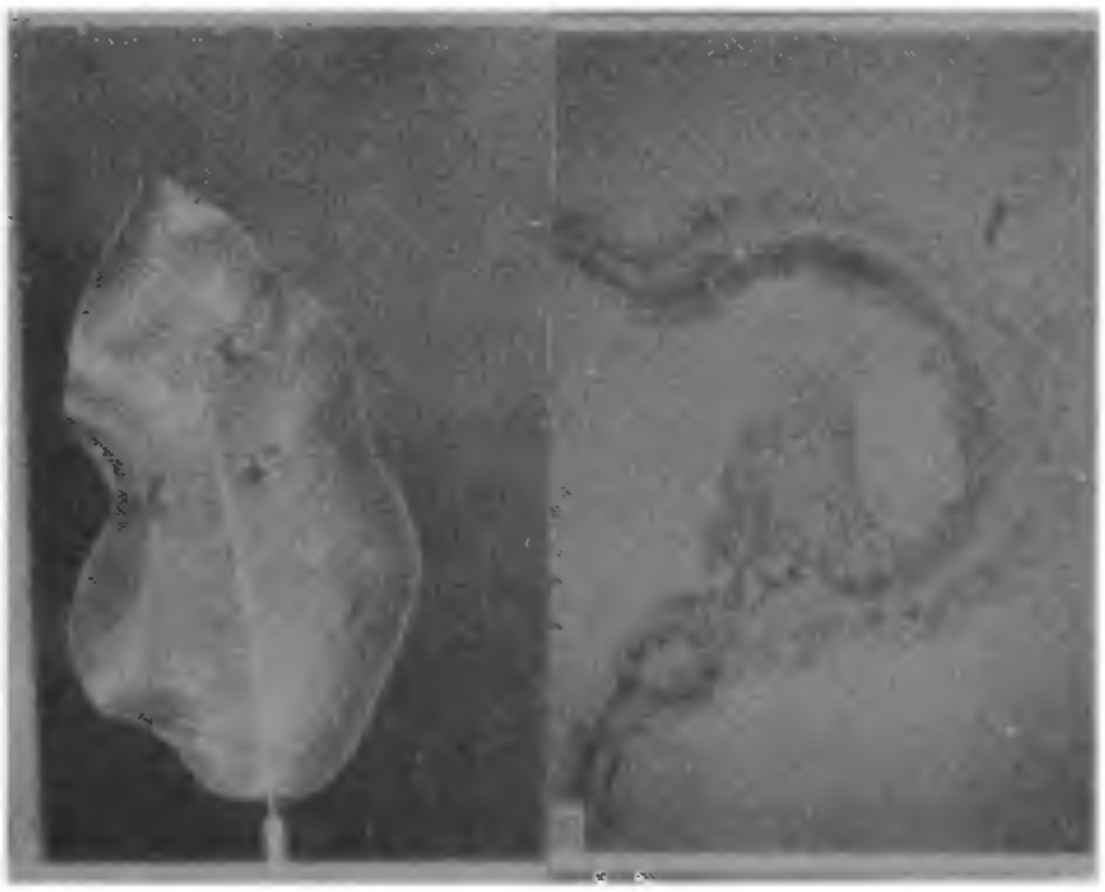
AMONG the homopteran families of Insecta, psyllidae is well known for its gall making habit. A total of 41 gall forming species belonging to various subfamilies of psyllidae have been recorded so far from the Indian subcontinent[1]. Psyllids are known to induce galls in several species of plants belonging to Anacardiaceae, Burseraceae, Combretaceae, Ebenaceae, Euphorbiaceae, Lauraceae, Malvaceae, Moraceae, Myrtaceae, Rutaceae, Symplocaceae and Vacciniaceae of which the maximum number of plant species are recorded from Moraceae[2]. Among the members of the genus *Ficus*, eight species are reported to be susceptible for gall formation and the present discovery of the leaf galls on *Ficus bengalensis* was made during the recent survey of psyllid galls from South India. This report is new to cecidology.

These leaf galls, caused by *Trioza hirsuta* Craw. (Homoptera psyllidae), were collected from both Maruthamalai hills (Coimbatore) and Jawad hills (North Arcot) (figure 1). The host plant was identified by the Botanical Survey of India, Coimbatore and the identity of the gall psyllid was confirmed by the British Museum (Natural History), London.



Figures 1, 2. 1. Leaf galls of *Ficus bengalensis* **2.** Transverse section of the gall through the 'lip-like growth' region.

The epiphyllous, unilocular, green, pouch galls on the leaves vary in number from 1–8. Depending on the maturity of the galls; the diameter of the gall-chamber ranges from 1.5 to 4.5 mm. Each gall encloses only one nymph. In spite of the presence of the basal aperture of the gall, the nymph never attempts to come out of the