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<i>P. rangacharii</i>	Perennial	Leaf serrulate elliptic-lanceolate Bracts coarsely hairy	Ribbed, 2 mm long	Very few, short	6 pairs 'm' type 3 pairs 'sm' type No satellite in chromosomes	Tirunelveli and Anamalai Hills
<i>P. ritchiei</i>	Annual	Leaves elliptic-ovate, serrulate outer Bracts cordate	Ribbed, 2 mm long	Copious, long	3 pairs 'm' type 6 pairs 'm' type Linera satellite in 2 pairs of chromosomes	Concan and Canara only
<i>P. sengaltherianum</i>	Perennial	Elliptic-lanceolate Bracts hirsute	Ribbed, 2 mm long	Very few, short	7 pairs 'm' type 2 pairs 'sm' type No satellite in chromosomes	Tamil Nadu Tirunelveli Sengaltheri
<i>P. tenue</i>	Annual	Elliptic-lanceolate serrate, Bracts with moniliform hairs	Turgid not ribbed	Copious, shorter	7 pairs 'm' type 1 pair 'sm' type 1 pair 'st' type microsatellite in one pair	Concan, Mahabaleshwar Khandala and Western Ghats

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OVICIDAL EFFECT OF DIFLUBENZURON ON ASH WEEVIL

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DIFLUBENZURON [Dimilin (R), 1-(4-Chlorophenyl)-3-(2, 6-difluorobenzyl) urea], popularly known as the moulting inhibitor is known for its inhibitory action

on chitin synthesis and deposition in insects, causes difficulty in moulting¹⁻³. Subsequently diflubenzuron was widely reported to have larvicidal activity^{4,5}, contact activity and to cause pupal mortality^{6,7}. Sterilizing effect of diflubenzuron was recently reported on *Anthonomus grandis* Boh.⁸, *Musca domestica* F.⁹ and *Spondoptera littoralis* Boisd¹⁰. The effect of diflubenzuron was tested on the adult ash weevil (*Myloccerus undecimpustulatus maculosus* Desb.), the larvae of which cause economic damage to varieties of *Gossypium barbadense* L. in southern India¹¹.

The full-grown larvae and pupae were collected from cotton fields and maintained in the laboratory for adult emergence; the freshly emerged adults were fed with cotton leaves sprayed with 0.1% (1000 ppm) aqueous formulation of diflubenzuron (Dimilin 25% WP). Also ash weevil adults of unknown age and mating status were collected from cotton fields and fed with the treated leaves after one day of starvation. Twenty-four pairs of adults were studied with three replications for each experiment along with control.

Diflubenzuron partially inhibits oviposition but completely inhibits fertility in freshly emerged and virgin females, whereas the females of unknown age and mating status collected from the field laid both fertile and sterile eggs after feeding on the treated leaves (table 1), however, it does not interfere with courtship and mating.

Freshly emerged females fed with diflubenzuron-treated leaves laid significantly lower number of eggs (10.7 eggs/female) than freshly emerged ones fed with untreated leaves (436 eggs/female). The females of unknown age and mating status also showed a similar reduction in oviposition when fed with treated leaves and laid 52 eggs/female while those females fed with

TABLE I
Effect of diflubenzuron on oviposition and fertility

Mating status	Total No. of* eggs laid	Fertile# eggs	Sterile# eggs
I. Fed with diflubenzuron-treated leaves			
(a) Virgin	256 (10.7)	0.0 (0.0)	256 (100)
(b) previously mated	1260 (52.5)	123 (9.8)	1137 (90.2)
II. Fed with untreated leaves			
(a) Virgin	10464 (436)	10293 (98.4)	171 (1.6)
(b) Mated	5601 (233.4)	5495 (98.1)	106 (1.9)

*Total for 24 pairs, eggs/female given in parentheses.

#Percentage vales given in parentheses.

untreated leaves laid 233 eggs/female, for the rest of the oviposition period, indicating inhibitory action of diflubenzuron on ovulation in both the virgin and previously mated females. The inhibitory action is however only partial.

The virgin and mated females fed with untreated leaves laid 98.4 and 98.1% eggs respectively, while all the eggs laid by the virgin females fed with treated leaves did not hatch. These eggs showed normal development on the first day, subsequently they shrank and failed to hatch. It may be that the larvae did not develop further to hatch due to the deficiency of cuticle in the developing larva inside the egg shell. The mated females fed with treated leaves laid 90.2% sterile eggs and 9.8% fertile; perhaps the fully developed eggs were fertile and they were formed prior to contact with the insecticide; later due to the contact action of diflubenzuron in the ovary, subsequently developing eggs were contaminated with the insecticide, resulting in interference with the metabolism of the developing egg and arresting further development of the larva. Similar egg mortality in one-day old eggs of *S. littoralis*¹² was reported, when dipped in aqueous diflubenzuron formulation. Ovicidal action was reported to be due to the decrease in the respiratory metabolism of the developing egg.

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EUPATORIUM CAPILLIFOLIUM (L.) SMALL (ASTERACEAE — EUPATORIEAE) : A NEW RECORD FROM INDIA

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DURING taxonomic studies in Asteraceae, a rare species was noticed from Saugar which has been identified as *Eupatorium capillifolium* (L.) Small. There seems to be no record of this plant from India. As no description was available in the literature, a fresh detailed description together with the diagrams (Figs. 1-10) of various parts of the plant is presented.

A perennial odoriferous herb or bushy under-shrub. Root tuberous. Stem cylindrical, pubescent; branches crowded in the lower part of stem, becoming lesser branched above, pubescent. Leaves sessile, simple coriaceous and scarcely pubescent on abaxial surface, alternate below, opposite above, linear, acute, entire, midrib not prominent. Each capitulum arising in the axil of small leafy bract, pedicellate, pedicel 1-2 mm long, pubescent, one or two bracteole like structures present on the pedicel just below the involucre bracts. Inflorescence an open panicle or raceme with 6-15