

species: *R. orthostegius* Mont. from Western Himalaya; *R. declinatus* and *R. orthostegius* from Eastern Himalaya; *R. orthostegius*, *R. laevis* (Thwait et Mitt.) Par. and *R. serrulatus* (Doz. et Molk) Bosch et Lac. from South and West India. All these species show a narrow range of distribution (Gangulee¹). *R. declinatus* differs from its closely allied species *R. orthostegius* in having rough seta.

In India *R. declinatus*, an India-Burma-China-Taiwan species, is so far known only from Eastern Himalaya. The climate is much more moist in this region as compared to the Western Himalaya, owing to gradual lessening westward of precipitation. Therefore, the record of *R. declinatus* from Western Himalaya extends its range of distribution.

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1. Gangulee, H. C., *Mosses of Eastern India and Adjacent Regions*, 1978, Fascicle 7, Calcutta, India.

SAUROMATUM GUTTATUM (SCHOTT.) A FLY CATCHER AND SAMPLER AROID

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SAUROMATUM guttatum (Schott.) is a common aroid occurring in hedges of crop fields and gardens in villages, adjacent to the forests in Central India.

The species exhibits sapromyophilous pollination syndrome¹. The flowers are night blooming and emit an odour of decaying dung, deceitfully attracting a large number of flies, beetles and ants in the morning. The insects enter the spathe by crawling over the downwardly directed silky papilla and fall inside. In each flower 8 to 160 individuals of minute and large-sized insects are isolated. Such trapped flies remain inside the blossom for ca 24 hr. Odour emission then ceases and the male flowers release pollen, dusting the trapped insects. After a while the papilla on the spathe shrink and the pollen laden insects are freed to escape. These observations agree with those relating to *Arum* and *Arisarum*^{1,2}.

TABLE 1

Census of Insect Species trapped in Spathes of Sauromatum guttatum

Sl. No.	Class	Family	Genus*	No. of Species
1.	Coleoptera	Bruchidae	Caryedon	1
		Scarabaeidae	Sisyphus	1
2.	Diptera	Calliphoridae	Chrysomya	1
			Atherigona	1
			Gymnodia	4
			Musca	3
			Myospila	1
			Ophyra	1
			Orthellia	2
			Sarcophagidae	Sarcophaga
		Sepsidae		Sepsis
		Otitidae	Physiphora	1
3.	Hymenoptera	Formicidae	Acantholepis	1
			Crematogaster	1
			Pheidole	1
		Unidentified so far	18 species	18
			Total	41

* Identification received from CIE, London.

TABLE 2

The habitat potential of flies: Species and individuals trapped per flower

Sl. No.	Habitat	Flowers sampled	No. of insect species	Average No. of Insects/ Flower	Nature of insect spp.
1.	Field hedge near water course.	10	10	162	Minute flies of Sepsidae, Formicidae, etc.
2.	Fenced hedge around bungalows.	10	30	91	Minute and medium sized insects of Sepsidae, Brucidae, Muscidae, and Otitidae.
3.	Under the bushes of open grazing fields.	5	6	8	Large-sized flies of Sarcophagidae, Muscidae, Calliphoridae.

These observations agree with those relating to *Arum* and *Arisarum*^{1,2}.

It has been observed that as many as 41 species of carrion and dung flies, beetles and ants (table 1) belonging to 8 families (Bruchidae, Sepsidae, Otitidae, Formicidae, Muscidae, Sarcophagidae, Scarabaeidae and Calliphoridae) are attracted by this aroid. This is the number of insect species obtained after sampling the flowering spathes in three different habitats; viz. (a) field hedge near water courses, (b) fenced hedge around banglows and (c) under the bushes of open grazing fields (table 2).

The number of insect species can further be increased by increasing the number of habitats. As such, the plant can be used with great advantage by entomologists investigating the systematics and ecology of such insects. The plants can be grown with ease from corms and flowering can be induced by keeping dormant corms in dark during the months January and February.

These plants can be employed to divert the population of such flies as *Chrysomya*, *Sarcophaga*, *Orthellia*, *Hemipyrellia*, *Musca*, etc. from being a nuisance in cattle-sheds.

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1. Faegri, K. and Vander Pijl, L., *Pollination Ecology*, 2nd ed., Pergamon Press, (Oxford).
2. Yeo, P. F., In Emden Van H. F. (ed.), *Symposia on Insect Plant relationships*, Royal Entomological Society, Blackwells, London, 1972, p. 51.

A NOTE ON OVOVIVIPARITY IN *CULEX QUINQUEFASCIATUS* (DIPTERA: CULICIDAE)

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MOSQUITOES are oviparous and ovoviviparity¹, i.e. laying of eggs containing embryos in an advanced stage of development, has not been reported. A female *Culex quinquefasciatus*, the vector of bancroftian filariasis, was recently found with ovoviviparous condition.

The blood in the stomach was black and lasted 2½ to 3 sternites and tergites 5-6 were free from it, indicating the abdominal condition to be Sella's fourth stage². There were 10 eggs retained in the ovary. When the ovary was dissected and placed in a drop of saline, one first stage larva hatched out from one of the retained eggs and found actively moving. Another two eggs were noticed with developing embryos and contraction of the heart was observed indicating advanced stage of development. No embryo development was found in the remaining seven eggs. Physiological age was determined by Polovodova's technique³ and one dilatation was found indicating that the mosquito had completed its first gonotrophic cycle. First stage larvae of *Wuchereria bancrofti* were also found in the thorax of the mosquito. It has been reported⁴ that filarial infection could cause egg retention.

The finding of ovoviviparity in mosquitoes is reported for the first time.