THE OCCURRENCE OF TRI-CARPELLARY GYNŒCIA IN CERTAIN GENERA OF THE RUBIACEÆ

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THE occurrence of gynœcia with more than two carpels is rather a rare phenomenon in the Rubiaceæ. The genera *Ixora*, *Mussænda* and *Oldenlandia*, for example, are known to be characterized without exception by the possession of bi-carpellary gynœcia. During the course of certain practical classes, however, the presence of tri-carpellary gynœcia was found to be of rather frequent occurrence in these genera. The observations based on plants growing in the Botanical Garden of Annamalai University, Annamalainagar, South India, are described here.

Ixora.—Tri-locular gynœcia were observed in two species, *viz.*, *I. coccinia* Linn. and *I. finlaysoniana* Wall. In the latter, in addition, one case of tetra-locular gynœcium was also met with. In each case, when the gynœcium was tri-locular, the style was topped by a tri-fid stigma. Similarly the tetra-locular gynœcium had style topped by a tetra-fid stigma (Figs. 1 and 2), showing thereby that the gynœcia were

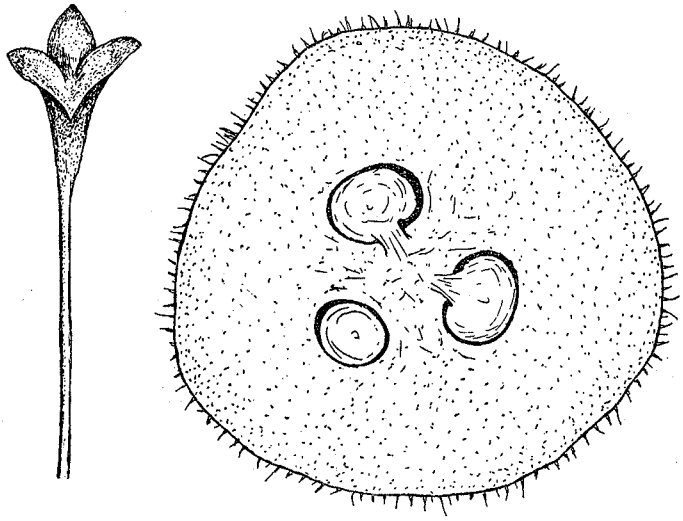

FIG. 1. *Ixora coccinia* L., showing the tri-locular gynœcium (×366·66) and its style with three-fid stigma (×13·33).

respectively tri- and tetra-carpellary. From a statistical study of the flower counts, it was found that the percentage occurrence of the tri-carpellary gynœcia was 4 per cent. in *Ixora coccinia* Linn. and 2 per cent. in *I. finlaysoniana* Wall.

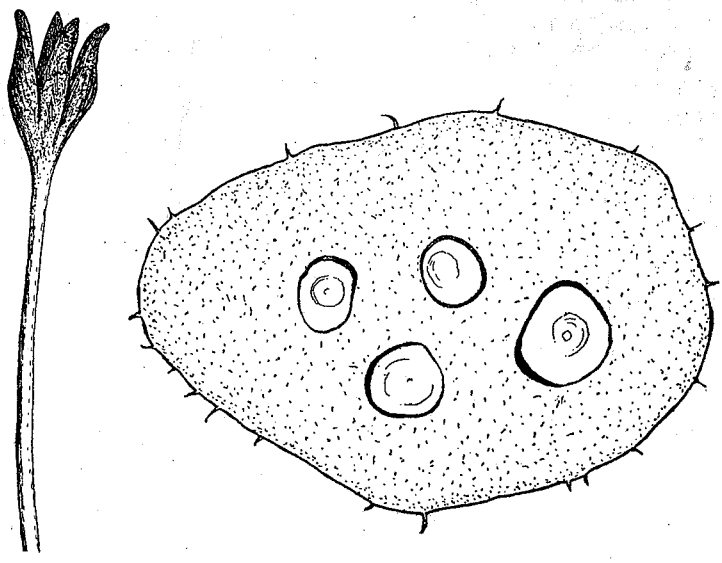

FIG. 2. *Ixora finlaysoniana* Wall., showing the tetra-carpellary gynœcium (×366·66) and its style with four-fid stigma (13·33×).

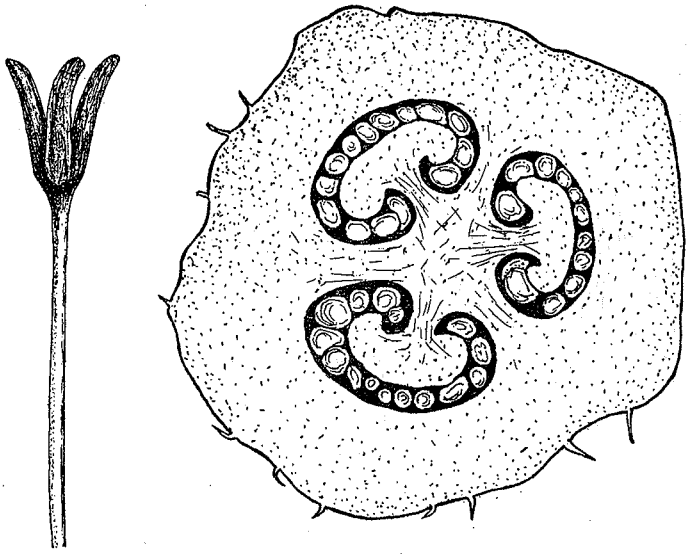

FIG. 3. *Mussænda frondosa* Linn., showing the tri-locular gynœcium (×366·66 and its style with three-fid stigma (×13·33)

Mussænda frondosa Linn.—In this case, tri-locular and tri-carpellary gynœcia were found to the extent of 2 per cent. In each such case, here also the style was topped by a tri-fid stigma (Fig. 3).

Oldenlandia umbellata Linn.—Tri-carpellary gynœcia to a frequency extent of 2 per cent. have been observed in this species also, with the difference that the stigmas are not very clearly tri-fid.

The occurrence of tri-carpellary gynœcia in *Ixora*, *Mussænda* and *Oldenlandia* in such high proportions should not be surprising ; as in several other genera of the Rubiaceæ, *e.g.*, *Fergusonia*, *Anotis*, *Adenosacme* etc., gynœcia have ordinarily more than two carpels. It appears to be quite natural to expect such aberrations because the family Rubiaceæ is closely related to families like *Caprifoliacea*, *Adoxaceæ*, *Valerianaceæ* and *Campanulaceæ*, where also the gynœcia are often composed of more than two carpels and the tri-carpellary condition is common.

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