L. L. Narayana* & Digamber Rao**: Contributions to the floral anatomy of Linaceae (12)**


**Floral morphology** The flower is pedicellate, tetracyclic, tetramerous, heterochlamydeous, regular, bisexual and hypogynous (Figs. 1, 10-13). The calyx consists of four sepals united into a tube at the base (Figs. 6-11) and valvate above (Fig. 12). Each sepal further splits into three lobes (Fig. 13). There is adnation between the petals and stamens which form a tube at the base (Fig. 9) and at a higher level the respective organs become free (Fig. 10). The superior ovary is tetracarpellary and the loculi are double the number of carpels due to the formation of a false septum, which however, recedes from the centre at the top (Figs. 12, 13). At this level the number of loculi corresponds to the number of carpels. There are two pendulous, anatropous, bitegmic ovules in each loculus (Figs. 12, 13). The styles are free and the stigmas are capitate.

**Floral anatomy** The stele in the pedicel shows a closed ring of vascular tissue surrounding a narrow central pith (Fig. 1). In the thalamus four groups of sclerenchymatous cells appear in the cortex (Fig. 2) and they extend into the sepals also (Figs. 3-7). The traces for the sepals and petals arise in alternating whorls (Figs. 3-5). The lateral traces of sepals arise conjointly with the midrib traces (Fig. 3). The former separate from the midrib traces as the conjoint traces diverge out (Figs. 3-5).

After the demarcation of the perianth traces, the main stele is in the form of a ring (Fig. 5). Four staminal traces arise from the main stele along the sepal radii (Fig. 6) and these diverge out (Figs. 7, 8). At this level

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there are eight traces at the peripheral region of the thalamus; of these, four are petal traces and the remaining, the staminal traces (Figs. 7, 8).

A little higher the petal stamen tube separates from the thalamus (Figs. 8, 9). After the organization of the staminal traces the main stele appears in the form of a solid core (Figs. 7–9). At a higher level four dorsal carpellary traces and four common median laterals arise on the petal and sepal radii.
respectively (Figs. 10, 11). These fade away below the level of the placentae. The four common ventral bundles are formed from the remaining stele (Figs. 11-13) and these supply the ovules. The dorsal carpellary traces extend into the styles and terminate below the stigmas.

**Summary and conclusions** Flower is tetracyclic and tetramerous; bisexual, regular, hypogynous and heterochlamydeous. The gamosepalous valvate calyx shows three traced sepals, the lateral traces arising conjointly with the midrib traces. Each of four sepals is three lobed at the top. There is a basal adnation between the single traced petals and stamens and the petal stamen tube splits into respective organs at a higher level. Traces for the 4 stamens arise on antisepalous radii and enter the petal stamen tube. The placentation is anatomically parietal. The dorsal carpellary bundles extend into the free styles and end below the capitate stigmas.

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**Literature cited**


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アマ科の *Radiola linoides* の花は4数性。花弁4枚は蜜合し各片3本の維管束をもち側脈は主脈の基部から分岐する。花弁4枚は各自1本の脈をもち雌しべの筒と合着して上部で分れる。雌しべは花弁と互生の位置にある。子房は側膜胎座であり、4本の背行維管束と4本の腹行維管束をもつ。