

**A NOTE ON THE FLORAL ANATOMY OF
PRONAYA ELEGANS HUEGL.
(PITTOSPORACEAE)**

THE floral anatomy of Pittosporaceae is little known. Saunders³ studied the floral anatomy of three taxa with a view to support her theory of carpel polymorphism. Subsequently Schaeppi⁴ described the gynoecial vasculature in *Pittosporum tobira*. Recently Narayana and Radhakrishnaiah¹ have studied the floral anatomy of *Bursaria spinosa*. The present account deals with the floral anatomy of *Pronaya elegans* Huegl.

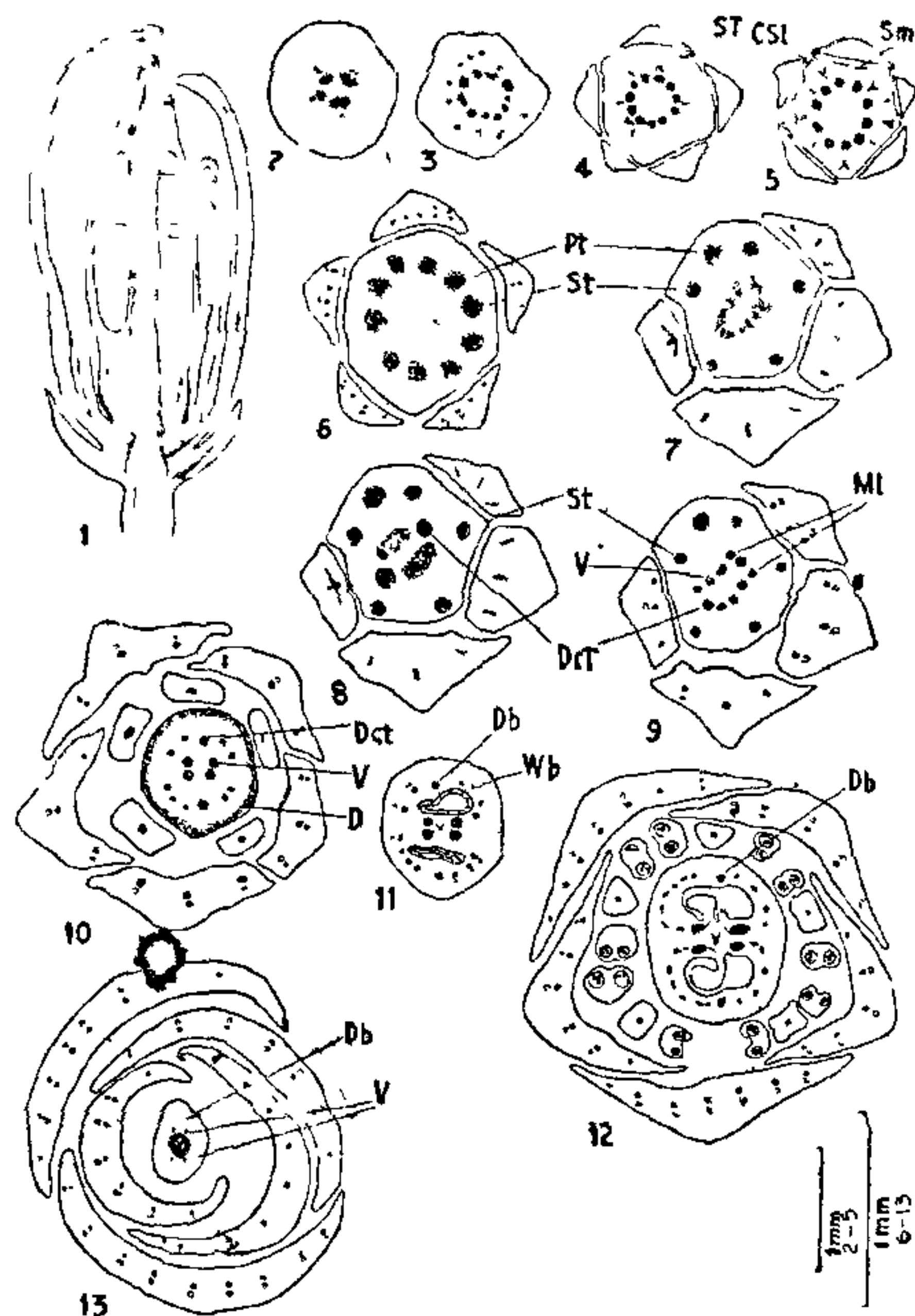
The flower is pedicellate, tetracyclic, hypogynous and pentamerous except the gynoecium (Fig. 1). The perianth is free and shows quincuncial aestivation (Figs. 4-6, 10, 12, 13). The androecium consists of five free stamens (Figs. 10, 12). The bicarpellary syncarpous ovary is bilocular throughout (Figs. 11, 12). The style is solid (Fig. 13) and the stigma is bilobed.

The pedicel shows a ring of four vascular bundles of unequal size (Fig. 2) and their number increases to ten in the thalamus (Fig. 3). The sepals are three-traced, the sepal median traces and common sepal lateral traces arising in two close alternating whorls (Fig. 4). The latter undergo radial division and demarcate the lateral traces of adjacent sepals (Fig. 5).

After the divergence of the sepal traces, the main stele shows ten prominent bundles (Fig. 6). The alterni-sepalous bundles function as petal traces and the anti-sepalous ones as staminal traces (Figs. 6-9). The traces supplying the perianth parts divide to form smaller bundles in the respective organs (Figs. 12, 13). Before functioning as petal and staminal traces they give off branches towards inside (Fig. 6), which converge to form a ring of vascular tissue (Fig. 7). From this ring of vascular tissue a pair of dorsal carpellary traces, two pairs of median lateral bundles and two pairs of ventral bundles are formed (Figs. 8, 9). The carpels are thus five-traced. The median lateral bundles, as they emerge out, divide repeatedly to form the supply to the wall of the ovary (Figs. 10, 11). Besides giving rise to the opular traces, the ventral bundles give off branches into the wall of the ovary (Fig. 12). The ventral bundles show homocarpellary pairing throughout and lie opposite the loculi (Figs. 11, 12). Judging from the position of ventral bundles, the placentation can be interpreted as axile (Puri²). The style is filled with transmitting tissue and vascularised by the ventral bundles and divided dorsal bundles (Fig. 13).

The disc-like basal peripheral portion of the ovary shows deep staining cells with vacuolated cytoplasm

and is devoid of vascular supply (Figs. 1, 10). The vascular bundles in the floral parts are accompanied by resin canals.



FIGS. 1-13. Fig. 1. Diagrammatic longitudinal section showing the course of vasculature to different floral parts. Figs. 2-13. Serial transverse sections of flower buds showing the origin and distribution of traces to different floral parts. (CSI, Common sepal lateral; D, Disc; Db, Dorsal bundle; Dct, Dorsal carpellary trace. MI, Median lateral bundle; Pt, Petal trace; ST, Sepal trace; St, Staminal trace; V, Ventral bundle; Wb, Wall bundle.)

We are thankful to Dr. J. S. Beard for the material and Prof. Swami for facilities

Department of Botany, M. RADHAKRISHNAIAH.
Kakatiya University, L. L. NARAYANA.
Warangal 506 009 (A.P.), India.

September 26, 1977.

1. Narayana, L. L. and Radhakrishnaiah, M., "Floral anatomy of Pittosporaceae—I," *Journ. Jap. Bot.*, 1976, 51 (9), 278.
2. Puri, V., "Placentation in angiosperms," *Bot. Rev.*, 1952, 18, 603.
3. Saunders, E. R., *Floral Morphology*, Vol. II, W. Heffer & Sons Ltd., Cambridge, 1939.
4. Schaeppi, H., "Zur Gestaltung des Gynoeciums von *Pittosporum tobira*," *Ber. Schweiz. Bot. Ges.*, 1971, 81, 40.