

1. JOSEPHINIA, Vent.

Calyx divided to the base into 5 segments. Corolla tubular, the lobes spreading, short, the lowest rather larger than the others. Stamens didynamous, included in the tube; anther-cells parallel, the connectivum usually tipped with a small gland. Ovary of 4, 6 or 8 cells, each with 1 erect ovule; stigmatic lobes 2, 3 or 4. Fruit hard and indehiscent, armed with conical prickles, shortly or not at all beaked. Seeds 1 in each cell, oblong, erect.—Herbs with the habit of *Sesamum*. Leaves opposite, entire, toothed or divided. Flowers in the upper axils on short pedicels without bracteoles.

The genus extends into the Archipelago. Of the three Australian species, one is also in the Archipelago, the two others are endemic. The solitary erect ovules and seeds connect this genus with *Verbenaceæ*, but the habit and corollas are those of *Pedalinea*.

Leaves glabrous or nearly so, quite entire. Ovary usually 8-celled.

Fruit with a small terete or conical beak 1. *J. grandiflora*.

Leaves pubescent underneath, the lower ones coarsely toothed. Ovary usually 6-celled. Fruit with a triangular truncate beak 2. *J. imperatricis*.

Plant densely villous. Lower leaves divided into 3 distinct segments. Ovary usually 4-celled. Fruit not beaked 3. *J. Eugeniæ*.

Josephina .

3. **J. Eugeniæ**, *F. Muell. in Hook. Kew Journ.* ix. 370. t. 11. Stems procumbent ascending or erect, attaining 2 ft. or rather more, every part of the plant densely villous with articulate simple or branched hairs. Lower leaves on long petioles mostly divided into 3 petiolulate segments, the segments as well as the upper simple leaves oblong or lanceolate, coarsely toothed, 1 to 2 in. long; the uppermost floral ones small, lanceolate and entire. Flowers pink, very small, on short pedicels in the upper axils. Calyx-segments linear, obtuse, very hispid, scarcely above 1 line long. Corolla about 3 lines long, hirsute outside, the 4 upper lobes short and broad, the lowest one larger. Ovary 4-celled; stigmatic lobes 2, oblong-linear. Fruit ovoid, very hirsute, about $\frac{1}{4}$ in. long, the prickles small, often not exceeding the hairs, without any beak, but slightly raised ribs across the summit.

N. Australia. Upper Victoria river, *F. Mueller.*

Queensland. Suttor river, *Bowman.*

S. Australia. Near Cooper's Creek (*Herb. F. Mueller.*)

2. ***J. imperatricis***, *Vent. Jard. Malm. t. 67 (not 103)*. An erect herb of 2 or 3 ft. Leaves petiolate, the lower ones cordate-ovate, coarsely toothed, 3 or 4 in. long, the upper ones much smaller, broadly lanceolate, entire or nearly so, all minutely but rather densely pubescent underneath. Pedicels shorter than the petioles. Calyx-segments nearly equal. Corolla "with a short tube, much dilated upwards, the lower lobe not much larger than the others." Ovary in the specimens seen 6-celled. Fruit ovoid, villos, hard, armed with conical prickles as in *J. grandiflora*, but terminating in a thick obtuse or truncate, very prominently 3-angled beak, as long as or longer than the prickles.—R. Br. Prod. 520.

N. Australia. N.W. coast, *Baudin (Herb. Banks)*. I have also a Timor specimen, sent by Decaisne, probably from the same Expedition, and a specimen in the Hookerian herbarium from Java sent by Miquel (probably *J. celebica*, Blume) appears to be the same species. In Ventenat's plate the fruit, fig. 4, is reversed, as in Endlicher's, the beak appearing as a stipes. I have not yet seen good corollas, but, besides Decaisne's description, the above quoted figure shows them to be much shorter and broader than in *J. grandiflora*.

NSB

PEDALIACEAE

Josephina papillosa
W. V. Fitzc.