



93 FRANKENIACEAE ¹

Dennis I Morris ²

Salt-tolerant herbs or small shrubs. Leaves opposite, decussate, sessile or petiolate, simple, entire, often united by the expanded and sheathing base of the petiole or lamina. Inflorescence terminal or axillary, a bracteate cyme, or flowers solitary. Flowers 4–7-merous, actinomorphic, usually bisexual. Calyx a pleated lobed tube, shortly 4–7-lobed, persistent. Petals usually pink or white, rarely red or purple, usually free, imbricate, usually long-clawed with a ligular scale at the base of the claw. Stamens usually 6, in 2 whorls; filaments often flattened, of unequal length; anthers versatile, dehiscing longitudinally. Ovary superior, unilocular, placentation basal or parietal, placentas 1–6, as many as the style-branches; styles 1, usually branched. Fruit a capsule enclosed within the persistent calyx, splitting lengthways into valves. Seeds ovoid or cylindrical; embryo straight.

A monogeneric family with about 90 species, almost cosmopolitan but mostly in subtropical and temperate areas. 1 genus and about 50 species in Australia. An additional 1–4 genera (outside Australia) are sometimes recognised (eg. see Barnsley 1982) though these are now considered to be congeneric with *Frankenia* (see Kubitzki 2003; Stevens 2007). Frankeniaceae are most closely related to Tamaricaceae (Eurasia & Africa) in the Caryophyllales (Kubitzki 2003).

External resources: accepted names with synonymy & distribution in Australia (APC); author & publication abbreviations (IPNI); mapping (AVH, NVA); nomenclature (APNI, IPNI).

Key references: Barnsley (1982); Whalen (1987); Kubitzki (2003).

1 FRANKENIA

Frankenia L., *Sp. Pl.* 1: 332 (1753).

Branches usually differentiated into long (primary) and short (axillary) shoots. Leaves on short shoots crowded, commonly shorter than the leaves on long shoots. Flowers subtended by a whorl of 2 bracts and 2 bracteoles, all leaf-like but shorter than the leaves and fused at base. Calyx 4–6-lobed; margins usually ciliate. Petals 4–6, spatulate, clawed or sometimes ribbon-like. Stamens 4–8. Ovary of 3 carpels; ovules 1-many per placenta; style branches usually 3.

A genus of about 90 species in temperate and sub-temperate regions; about 50 species in Australia.

1 *Frankenia pauciflora* DC., *Prodr. (Candolle)* 1: 350 (1854) var. **gunnii** Summerh., *J. Linn. Soc., Bot.* 48: 366 (1930) *Southern Sea Heath, Sea Heath*

Illustrations: Entwisle, *Fl. Victoria* 3: 373, fig. 77b (1996); Corrick & Fuhrer, *Wildflowers of Victoria* 106, fig. 375 (2000); Harris *et al.*, *One Hundred Islands: the Flora of the Outer Furneaux* 157 (2001); Whiting *et al.*, *Tasmania's Natural Flora* 183 (2004).

Low, sprawling to erect shrubs, much-branched; internodes on main branches 1.5–9 mm long, lightly to densely puberulous, the hairs short, white, spreading or recurved. Leaves on long shoots petiolate; petiole 0.5–1.5 mm long, expanded and connate at the base, upper margins ciliate; lamina 2.5–7 mm long, 0.6–1.2 mm wide, elliptic or oblong, grey-green, margins tightly revolute, usually glabrous but young leaves occasionally with scattered

¹ This work can be cited as: Morris DI (2009) 93 Frankeniaceae, version 2009:1. In MF Duretto (Ed.) *Flora of Tasmania Online*. 2 pp. (Tasmanian Herbarium, Tasmanian Museum & Art Gallery: Hobart). ISBN 978-1-921599-29-3 (PDF). www.tmag.tas.gov.au/floratasmania

² (deceased) formerly Tasmanian Herbarium, Tasmanian Museum & Art Gallery, Private Bag 4, Hobart, Tasmania 7001, Australia.

minute hairs, frequently salt-encrusted, midrib on abaxial surface hidden by the revolute margins except at the base. Leaves on short shoots similar or slightly shorter than those of long shoots. Inflorescence terminal or axillary, 2–3 flowered dichasia or flowers solitary. Calyx usually reddish, 5-lobed, 5–6mm long, 1.2–1.7mm wide, furrows hairy in the lower half. Petals 5, white or pink, 7–9 mm long, blade obovate. Stamens 6. Ovary unilocular with 3 parietal placentae, each with 2–10 ovules; style-branches 3. Capsule c. 3 mm long. Flowering & fruiting Nov.-Dec.

Tas. (FLI, KIN); also SA, Vic. Found on rocky and sandy shores and estuarine mud-flats in the northern parts of the state including the islands of Bass Strait. Leaves and flowers of Tasmanian plants do not reach the sizes recorded for material from other states. *Frankenia pauciflora* is a very variable species with 5 varieties (Barnsley 1982) that are, apart from var. *gunnii*, restricted to Western Australia and/or South Australia.

REFERENCES

- APC (Australian Plant Census) <http://www.chah.gov.au/apc/about-APC.html>
- APNI (Australian Plant Name Index) <http://www.anbg.gov.au/cgi-bin/apni>
- AVH (Australia's Virtual Herbarium) (Council of Heads of Australasian Herbaria) <http://www.anbg.gov.au/avh.html>
- Barnsley B (1982) Frankeniaceae. *Flora of Australia* **3** 112–146.
- IPNI (International Plant Name Index) <http://www.ipni.org/index.html> or <http://www.us.ipni.org/index.html>
- Kubitzki K (2003) Frankeniaceae. In K Kubitzki, C Bayer (Eds) *The Families and Genera of Vascular Plants. V, Flowering Plants, Dicotyledons: Malvales, Capparales and non-betalain Caryophyllales*. pp. 209–212. (Springer: Berlin)
- NVA (Natural Values Atlas) (Department of Primary Industries and Water: Hobart) <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/LJEM-6TV6TV?open>
- Stevens PF (2007) Angiosperm Phylogeny Website. Version 8, June 2007. <http://www.mobot.org/MOBOT/research/APweb>
- Whalen MA (1987) Systematics of *Frankenia* (Frankeniaceae) in North and South America. *Systematic Botany Monographs* **17**.
- NOTE: Web addresses can and do change: a list of current web addresses will be maintained on the *Flora of Tasmania Online* website [www.tmag.tas.gov.au/floratasmania].

INDEX

C		S	
Caryophyllales	1	Sea Heath	1
F		Southern Sea Heath	1
<i>Frankenia</i>	1	T	
<i>Frankenia pauciflora</i>	1	Tamaricaceae	1
<i>Frankenia pauciflora</i> var. <i>gunnii</i>	1		
Frankeniaceae	1		
H			
Heath	1		