Breeding Systems in Leptospermum sect Pericalymma (Myrtaceae).

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Abstract:

The three species comprising sect Pericalymma are all self fertile and capable of autogamy.

Introduction:

Leptospermum sect Pericalymma (Turcz.) Benth. is a group of species characterized by a three locular ovary, and a chartaceous urcelolate fruit. They are also distinctive in habit generally possessing a swollen stem base and a zig zag stem branching pattern. The group is endemic to Southern Western Australia, and probably deserves generic status. They appear most closely related to Agonis grandiflora Benth. and not Leptospermum s.s.

Floral Biology:

Both Leptospermum ellipticum Endl. and L. aff ellipticum are visited by a variety of bees, wasps flies and beetles during flowering. Leptospermum crassipes Lehm. receives visits from small bees and midges, but much less frequently than the preceeding species. Pollination is therefore effected by a range of small nectar feeding insects, and all species must produce a high proportion of outbred seed.

Breeding Systems:

All species (Table I) are protandrous, pollen is shed from the anthers soon after flower opening. Pollen falls from the dehisced anthers onto the stigmatic surface (fig. 1) and the hypanthium. The style then elongates and becomes receptive, but pollen that fell previously onto the style germinates during elongation and can effect selfing.

Capsules with viable seed results from these self pollinations.

Table I : Populations Studied.

Taxon Leptospermum	Locality	Voucher.
L. crassipes Lehm.	Canebreak Rd, Scott River.	GK 1875
L. ellipticum Endl.	Canning Vale	L 5787
L. aff ellipticum	Molloy Island Road, Kudardup	GK 1567

Biological Notes:-

All species occupy winter wet swamps, generally of peaty sands over clay. Often they are a major component of the flora of such regions, and may form dense nearly monspecific stands. The capsules harden and are retained on the adult plant for many years without dehiscing.

All species are killed by fires which periodically sweep such habitats. The capsules dehisce after death of the plant, and a new crop of seedlings result.

Fig. I : A/B : Leptospermum crassipes

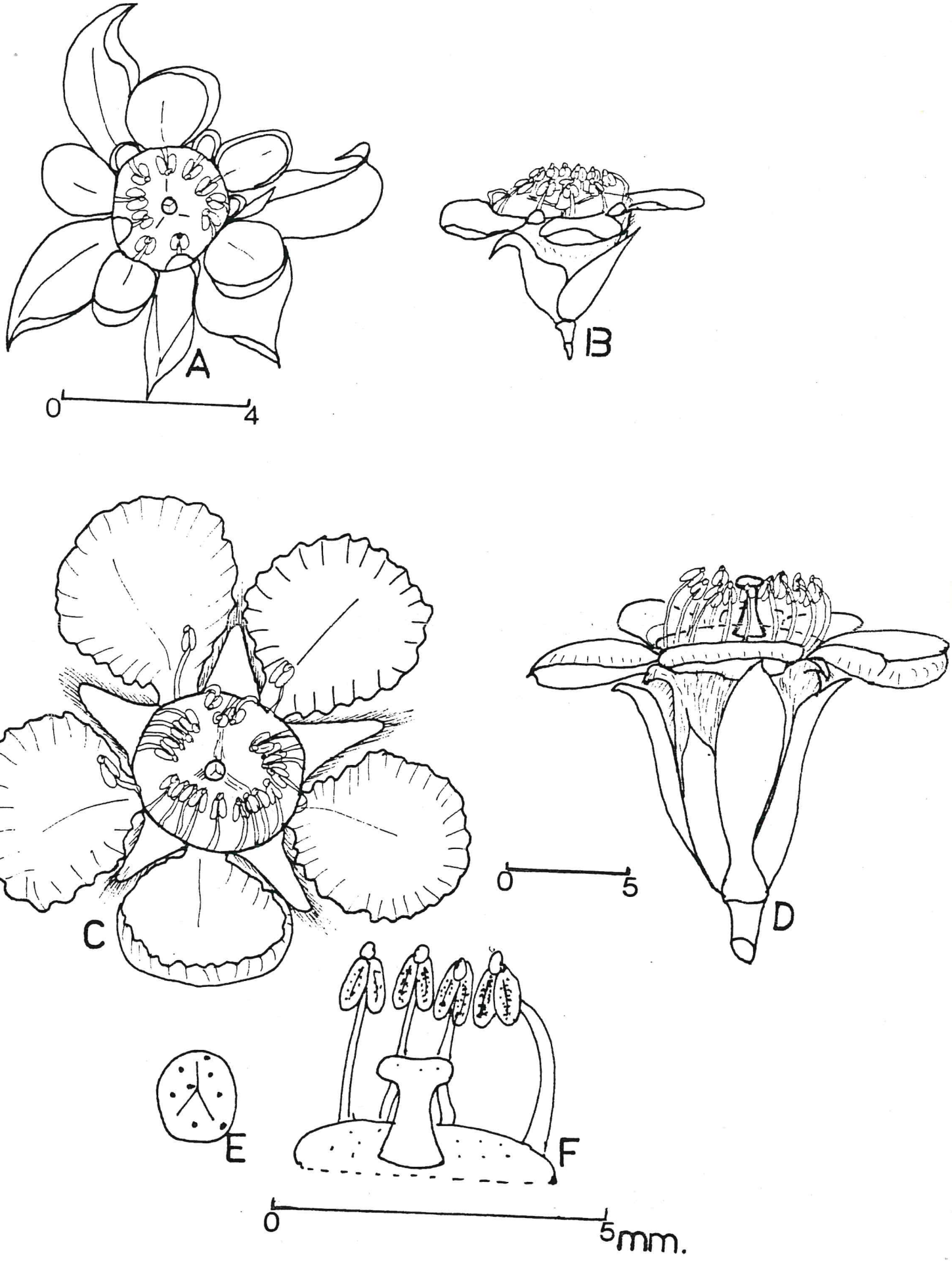
C/F : Leptospermum ellipticum

E : Pollen on stigma from anthers in F.

F : Relation of stigma/anthers.

To be quoted as Keighery G.J. (1979) Breeding Systems of the Western Australian Flora Part VI Leptospermum.

sect Pericalymma Kings Park Unpub. Report 5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