

EREMOPHILA STUDY GROUP NEWSLETTER NO. 7 JUNE 1977

As you will have read in Newsletter no. 6, Ken Warnes has relinquished the leadership of this study group, but remains an active member and friend to many of us. I think Ken has done an excellent job in organising promoting and achieving much of material value. Unfortunately, due to his other responsibilities he can no longer produce that newsy Newsletter, consequently this Newsletter has been produced in a new format.

Some features which we hope will be regular items are: general news, letters, articles by members, observations or reports on field trips, description of species, and propagation notes or problems.

Obviously the above list requires your active participation. After all, we are a Study Group, and unless you personally contribute, material will be scarce and the Newsletter will be of less value to you and others. Please write something for inclusion under one of the above headings. If they are insufficient then we will create further sections. On this aspect if you would like to see other features, let me know.

G.N.

PLANT IDENTIFICATION

Geoff Needham

Since August 1975, all cutting material received in Adelaide from field trips has been given a number prefixed by the letter E for Eremophila. This has been necessary to distinguish between plants of the same species which come from different locations. Also those unnamed when received or as yet not described are identifiable, e.g. E. gilesii (W.A. and Central Australia) and also Dr. Barlow's No. 1706 and 1710, E. drummondii. After years in cultivation we can now identify No. 1706 as E. drummondii var. brevis. So if you wish to know which particular form the plant is, where the parent plant is located accurately, or what the habit of growth, colour of flower, etc. is, then retain the E numbers on your plants and use them when propagating the species. To enable the list of E numbers of plants, which have been struck successfully, to be published in this Newsletter, would you please communicate promptly giving the list of numbers included with the cuttings together with any other information relating to plant growth.

SYMBIOSIS

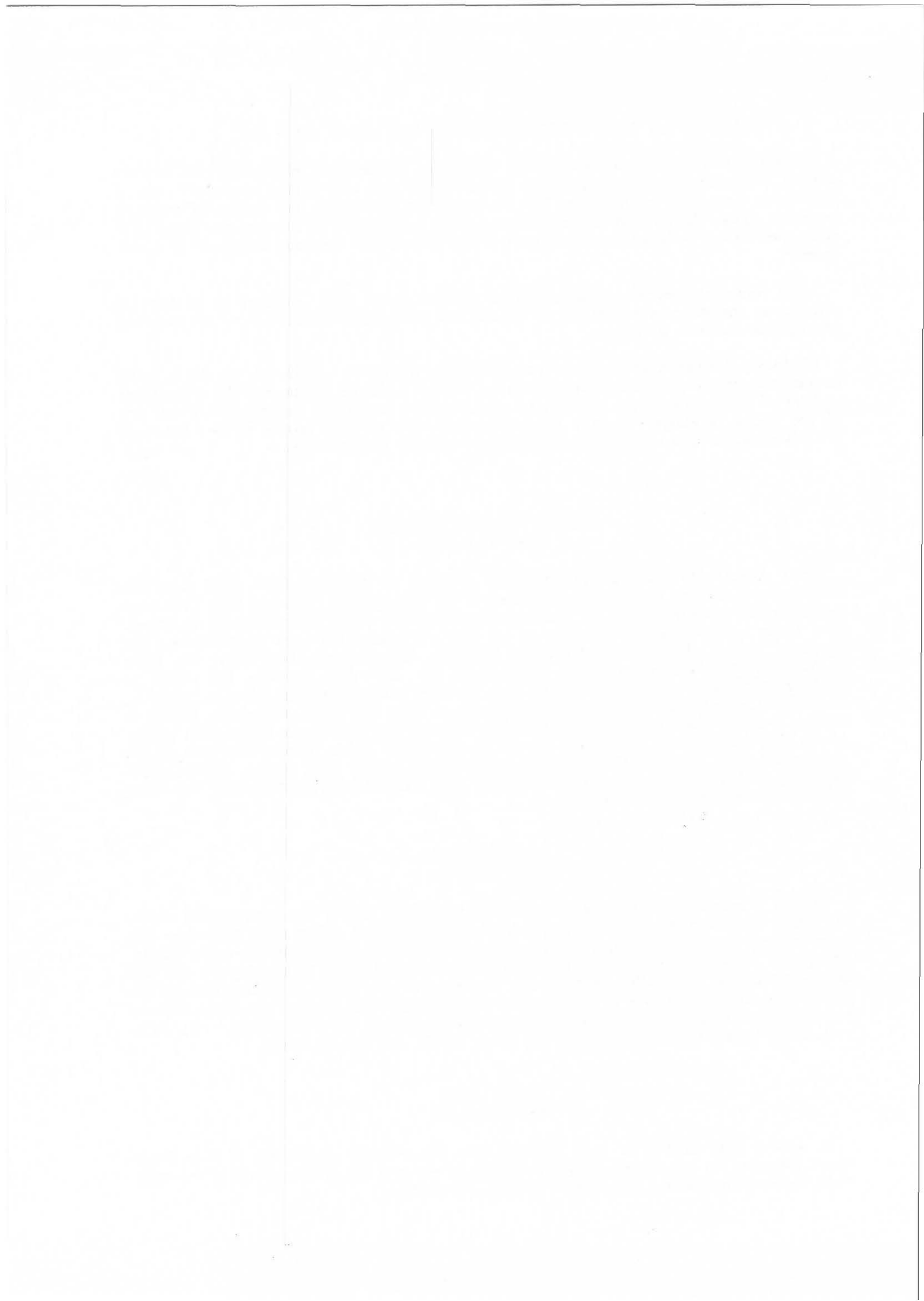
Geoff Needham

This is a method you may use to strike cuttings from plants that have eluded you in the past. Take a cutting of the plant you wish to strike and at the same time take one from a plant you have had good results with previously, **preferably in the same family**. Using your normal potting material and technique, make a **single** hole and place the two cuttings touching each other in this hole. Repeat as many times as required to fill the pot. One cutting appears to induce the formation of roots on the other, possibly by hormone transference. When roots have appeared, separate them, or if this is too difficult, cut off the unwanted plant and pot up as usual. Try this, it works.

FIELD TRIP

Bob Chinnock

In June I took part in a field excursion to the extreme north-west of New South Wales (bounded by lat. 30°S, and long. 144°E) to make a list of the plants in the area. While there I was able to have a look at the eremophilas.



The most common species were Eremophila sturtii, E. duttonii, and E. bignoniiflora and these became more common south-eastwards, the first and second being common on the red plains and the last in dry watercourses and their flood plains. Eremophila polyclada also occurred in this latter situation and I was fortunate to make a good collection of four native bees, two wasps, and one moth species, feeding on the nectar of this plant. I can assure you that there is nothing more delightful than darting around a large bush catching bees without getting stung. So far I have been lucky!!

Eremophila oppositifolia var. rubra was found in two locations along watercourses. One plant from which I took cuttings stood 4.2 metres high and, with its thick trunk and broad lanceolate leaves, it bears little resemblance to the forms of E. oppositifolia found in Victoria, S.A. and W.A.

Eremophila bowmanii var. latifolia was found growing at 91 Mile Bore in great profusion forming dense white shrubs about 1-1.25 m high. Flowers were pale to deep blue. I found one interesting form which had purplish calyx segments and deep reddish-purple fruits (the typical form has green fruits and calyx).

Two distinct forms of E. longifolia were observed. In the drier parts I found the typical desert form which tended to be clonal (root suckering) and had broad greyish-green pubescent leaves. The other form which occurred in the wetter south-eastern corner of the area tended to be solitary, had long, narrow, linear, deep green leaves, (very sparsely pubescent), and usually formed a small tree up to 5 m high with a well developed trunk.

The other eremophilas seen on the trip were: E. maculata, E. gilesii, E. goodwinii, E. latrobei var. latrobei, and E. freelingii. All species with the exception of E. latrobei were seen in flower.

COLLECTING AND DOCUMENTING EREMOPHILAS

Bob Chinnock

There have been many interesting eremophilas introduced into cultivation through the work of our Study Group and many of these have been rare or undescribed species. Although many of the cuttings sent back to Adelaide have been well documented, others have been received with vague details on where they were from, and subsequently any plants derived from these cuttings are of limited scientific value.

Now that I have committed myself to revising the genus Eremophila, I would welcome assistance in the collection and documentation of this genus.

At present there are 107 recognised species of Eremophila and a considerable number of these such as E. abietina, E. laanii, and E. brevifolia, are quite rare, being represented in herbaria by very few collections. By making a herbarium specimen when we collect cutting material, we can contribute valuable information on these rarer species. Where only one or two collections are known, any additional ones that we make may be significant in our understanding of the species.

A dried specimen of a collection, although not as thrilling as the live plant, has considerable value. **Firstly**, it enables one to make a positive identification and compare the plant with other individuals of the species at later dates, even if the cuttings do not establish. **Secondly**, it can show up any changes that may develop during cultivation, such as increases in leaf size, or changes in hair density. **Thirdly**, it enables us to show anyone what the plant looks like, and with the locality details send them back to the original site to re-collect if necessary. **Finally**, if we provide notes on where the plant grows it can assist greatly in successfully introducing the plant to cultivation. As you will probably know from your own experience, certain species grow better under special conditions, while others will grow in any old soil.

No matter how good you think your memory is, it will let you down. Write down details on the spot because, after one or two more localities and numerous plants later, it will be difficult to write notes on the plant or site without errors creeping in.

The following is the procedure that I follow but I have added additional comments where necessary. The amount of time involved in following this procedure is very small, but the results are very rewarding.

A. Equipment needed

1. Small notebook (approx. 16 x 10 cm)
2. Two pieces of three-ply or similar (45 x 30 cm) for a press. This will take half folded newspapers.
3. Two straps or cord to bind the press.
4. Plastic bags for individual cutting collections.

B. How to document collections

1. Number each collection made (series continuous : 1,2,3, ...50, ...365.....).
2. Fill in the locality above the number of the first collection made at a new site and note the date. The locality must be **locatable**, e.g. Sandy Creek, 7 km west of Lyndoch, S.A. 34°36'S, 138°49'E, not just Sandy Creek, because this is as meaningless as saying Australia. There are 393 Sandy Creeks listed in the Gazetteer (1:250,000 Map Series) for Australia. Although a place may be well known locally it may be neither known elsewhere by that name nor locatable.
3. Write the name of the plant next to the number if you know it, otherwise leave a blank. Write notes on the species and where it grows (see sample page) and what it is growing in e.g.alluvium, claypan, granite outcrops, etc.
4. Wrap your cuttings of the specimen in **moist** (not wet) paper and attach the collection number and place in a plastic bag.
5. Take portions of stem containing flowers (and fruits if present) and place between folded newspaper. Attach a tag with your collection number and initials to one of the specimens (e.g. BR. 69). If you fill two or more separate sheets **place a tag in each one.**
6. Proceed as above for any other collections from the same locality but do not repeat 2. When you finish at a locality draw two lines across the page to separate this and the next locality, (see sample page).
7. When you have placed all your specimens in paper for pressing, place the two parts of the press at the top and bottom of the paper and tie the press together, compressing the specimens. Change the paper once or twice and keep in an airy situation to allow air movement. A good dried specimen will remain green and the flowers should retain colour. A badly dried specimen will turn brown and often go mouldy and the flowers brown.

C. What will happen to your collections

As before cuttings are forwarded to Geoff Needham where each collection will be given an E number and your collector's number and location details filled in.

When the specimens are dry take one small piece of each and place in a scrap book. Note its number and locality - **this is your record of the plant.** Either send the dried material to Geoff or to me at the Herbarium and include your collector's book with details for a label to be prepared for each specimen, or write out the details separately and retain your collector's book.

Your specimen will be mounted on white cardboard and labelled. The label will contain your name and collector's number, location, date, and the notes you made at the time. The specimens will then be identified and placed in the Adelaide Herbarium for preservation and study (or any other herbarium in Australia if you wish). If you collect sufficient material a duplicate collection will be sent to another herbarium in Australia or overseas.

SAMPLE COLLECTOR'S BOOK PAGE

Location and date	Norseman—Esperance road 6 km south of Norseman 32°17'S 121°48'E 6 July 1977
Collection No.	36 <i>Eremophila</i> sp. like <u><i>E. serrulata</i></u>
Description Ecology Soil	A sticky shrub 1 m high, branches erect; flowers (stenochilus) green Growing in <u><i>Eucalyptus</i></u> woodland. Other common shrubs <u><i>E. interstans</i></u> , <u><i>E. dempsteri</i></u> . Soil a compacted sandy clay.
	37 <u><i>E. saligna</i></u> A tall sticky shrub 2.5 m high, branches and leaves ascending; flowers creamy white with brown spots on lower inside of tube. Early flowering plant as most still in bud. Growing on gravelly sandy loam in stream bed.
	4 km E of Kimba on Ceduna road 27.8.1977
	38 <u><i>E. crassifolia</i></u> A low shrub 60 cm high; flower mauve. Growing on disturbed rocky (limestone) soils near road. Very common <u><i>Eucalyptus socialis</i></u> dominated woodland.
	Next locality
	39

PUBLICATION

Beeston G.R. & Webb, A.A. (1977). The Ecology and control of *Eremophila mitchellii*. Technical Bulletin No. 2, Botany Branch, Department of Primary Industries, Brisbane.

A detailed study covering the ecology of and control of this weed species in Queensland and New South Wales.

DESCRIPTIONS OF EREMOPHILIA SPECIES

Bob Chinnock

There are many species of Eremophila in cultivation which are not well known. Without any means of identification one is unable to check whether the plant you have is correctly named or how it differs from the species you are supposed to have. For the Eastern States, South Australia and the Northern Territory, most species are adequately covered by Black's "Flora of South Australia", and Lindsay Smith's revision of the Queensland species; however Western Australia poses a problem. The largest number of species, as well as many still undescribed ones, occur in W.A. and, although Dr. Grieve's key to Eremophila in "How to know Western Australian Wildflowers", part 4, bridges the gap, it falls far short of an adequate treatment of the species. Thus, for Western Australia, many species may only be known from their original descriptions.

In many instances these newly described species are compared by the authors with other species which are not really closely related although one must realize that in many of these cases, the comparison was made at a time when the number of species known were fewer.

In this and following newsletters, I am going to compile a series of brief but adequate descriptions of the lesser known or difficult species in cultivation, to provide information on them.

Other data, such as the author of the species and where it was published, ecological notes, distribution, and the relationships with other species, will be included where appropriate.

1. Eremophila dempsteri F. Muell. Fragmenta 10:60 (1876)

A broom-like shrub 0.8 m to about 3 m high; branchlets green, glabrous, terete, longitudinally grooved, tuberculate, viscid, eventually the epidermis splitting along the grooves and persisting as green bands in the older woody parts (unique); leaves sessile, small, 2-6 mm long, terete or slightly grooved above, uncinat; Flowers 1-2 per leaf axil; calyx segments not imbricate, oblanceolate, 3-6 mm long with long white cilia (stiff) extending from the margins; corolla blue to white, pubescent outside, lobes obtuse, the lowermost dilated; stamens included; ovary villous, ovoid; style hirsute, hooked at tip; drupe small, about 3 mm long, crustaceous.

This species is one of the first you see when you travel to Western Australia. It appears just east of Cocklebidy and becomes more frequent as you travel west. It is particularly abundant from Balladonia to Norseman in Eucalyptus woodland where it is often the major component of the understory.

Another species is often found under this name (recently I noted one nursery in Adelaide selling it) but the plant is a form of E. drummondii and has large deep bluish-purple flowers and long broad flattened leaves 1-2 cm long, with obtuse tips.

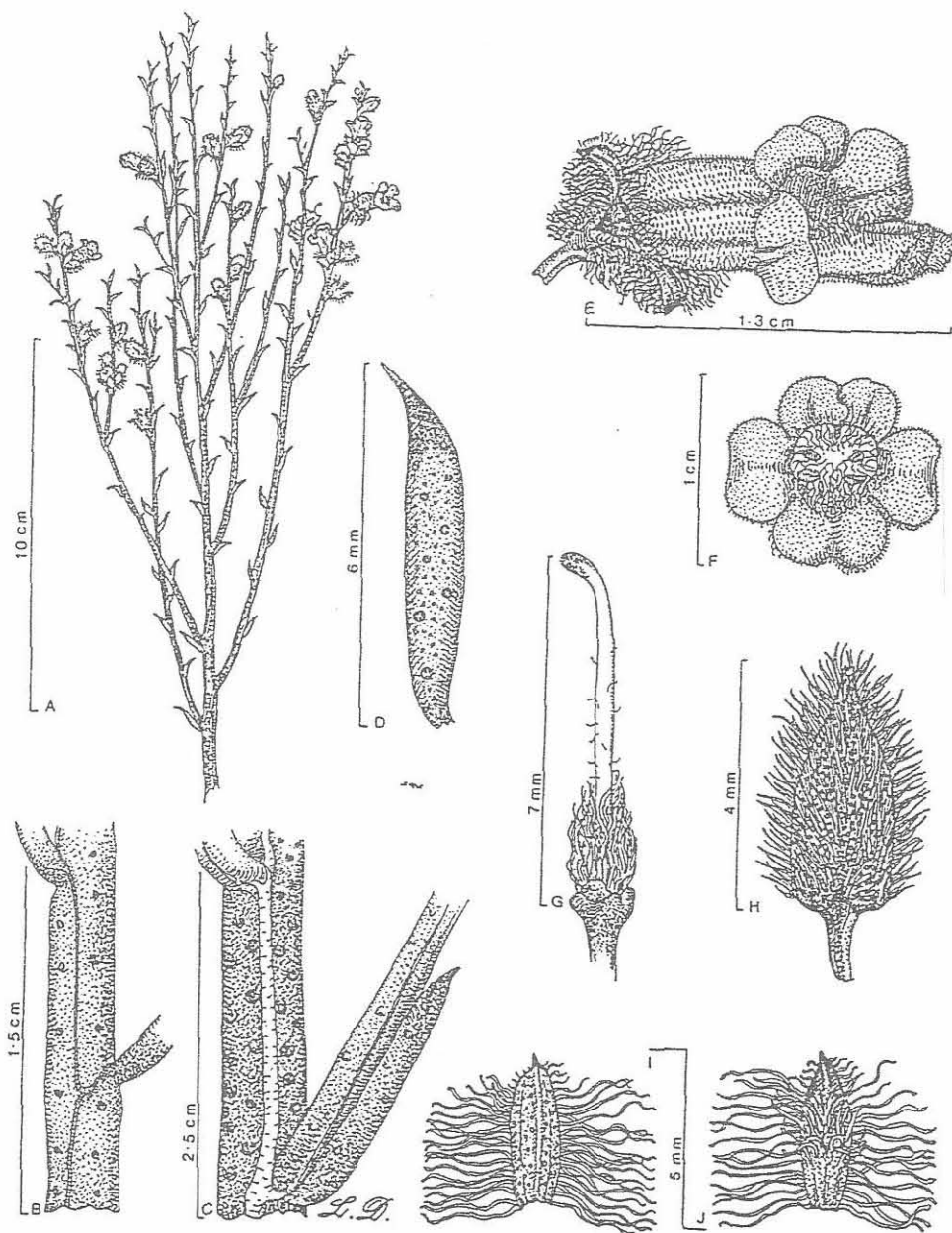
2. Eremophila saligna (S. Moore) C.A. Gardner

Described as Pholidia saligna by Spencer Moore in the Journal of the Linnean Society of London, Botany 34: 207 (1899). Transferred to Eremophila by C.A. Gardner in 1931.

A medium to tall glabrous shrub 2-4 m high with numerous erect branches; branchlets light brown, slightly compressed, with bands of

tubercles forming ridges; leaves narrow lanceolate, 40-60 mm long, 4-7 mm wide near the middle, gradually tapering to base and apex, coarsely and distantly toothed towards the apex or occasionally entire, thick, shining and often viscid; flowers 3-5 in the leaf axil; calyx small, segments triangular; corolla tubular, creamy, brown spotted inside, lobes almost equal, obtuse; anthers included; ovary glabrous, narrow conical, gradually tapering into style; style glabrous, hooked at tip; mature fruit not seen.

Eremophila saligna is restricted to Western Australia where it extends from just south of Kalgoorlie to south of Coolgardie and Norseman. It occurs on the margins and in Eucalyptus woodland, normally on stony red soils. In the vegetative state it can easily be confused with Myoporum platycarpum. It flowers during September and October. It cannot be confused with any other Eremophila.



Eremophila dempsteri

A, habit; B-C, young and old portion of branch; D, leaf; E, side view of flower; F, front view of corolla; G, gynoecium; H, fruit; I-J, outside and inside surface of sepal.

