

BRACHYCHITON AND ALLIED GENERA STUDY GROUP

Newsletter No. 9 May 1994

Leader:
Kerry Rathie
5 Salston Road
Greenbank 4124.
(07)2000268

MEA CULPA: My apologies once again for a belated newsletter. This time I'll blame the weather ; a year of drought until Feb. 28th., then a month of rain every day. As I'm not on town (reticulated) water, and my creek dried up for the second time in 13 years, watering involved rationing small amounts of bought (by the truckload) water to my 500-odd pots {I'm a compulsive propagator}. Then the rain brought up 2 years supply of weeds. And then I lost the first version of this newsletter when my computer's hard disc died.

MEMBERSHIP: I'm not sure whether some people want to be in this study group. If I do know, a tick will follow the question mark on the line below:

? If there is no tick, please advise if you want to be in the group.

Our financial year ends June 30th. Sub remains at \$5. Next newsletter should be in early July. Welcome to new Qld. members Merv Hodge, Albert Grilanc, Jan Glazebrook, Dennis Cox, & Joy & Fred McKew. All have joined only recently, so their subs I'll take as paid for '94-'95.

BRACHYCHITON DISTRIBUTION MAPS: I have omitted these for those people who I know have copies of Guymer's article from which they were taken.

LIVING PLANT COLLECTION: As usual, a month of hot humidity killed all my *Thomasias* save one small-leaved species, which looks fine. The following are thriving:

Brachychiton australis, *acerifolius*, *diversifolius* ssp. *orientalis*, *populneus*, *rupestris*, *discolor*, *bidwillii*, *vitifolius*, *garrawayae* (I think), *grandiflorus* (I think), *megaphyllus*, *x roseus*, *x vinicolor*, *x incarnatus*.

Commersonia bartramia. *Lysiosepalum involucreatum*.

Rulingia dasyphylla, *hermannifolia*, sp. Miles (pink-flowered groundcover).

Sterculia quadrifida, *shillinglawii*, *holtzei*, *laurifolia*.

Keraudrenia hillii, *collina*, *integrifolia*, sp. Miles.

Argyrodendron actinophyllum, *peralatum*, *polyandrum*, sp. Big Tableland, sp. Stewart Creek, sp. Mt. Lewis; sp. aff. *trifoliatum*.

A couple of *Lasiopetalum* species -names uncertain- are also doing well.

Established in Brisbane, but a bit small to raid for grafting material as yet, are *B. chillagoensis* & *B. muellerianus*, while a group of Brisbane SGAPers are currently in the Kimberleys & should not return entirely empty-handed.

SLIDE COLLECTION: This has grown quite rapidly, but most shots are of the small northern *Brachychiton*s (like *vitifolius*), *Brachychiton* hybrids with good forms available in Brisbane - x *roseus* Turner's & Jerilderie Red, x *vinicolor* Canungra & Butt's, x *incarnatus* Griffith Pink - and *Keraudrenias*.

SEED BANK: Starting to build up. Write if you want anything, with a s.a.e. & a stamp. Available at present:
Brachychiton acerifolius, *australis*, sp. from Darwin (probably *diversifolius* ssp. *diversifolius*)[limited].
Commersonia bartramia. *Keraudrenia hillii*.

GRAFTED PLANTS: Even I can graft *Brachychiton*s, but our local Logan River group contains several excellent grafters (including Merv Hodge, Brent Vieritz, Dennis Cox & Jan Glazebrook), & between us we intend to produce grafted plants of the *Brachychiton* hybrids mentioned above, plus several of the small-growing northern spp. like *vitifolius* & *garrawayae* which flower well here. Cost will be around \$8. Probably about once a year I'll be heading south by car & could bring some then, & of course courier services are now not too exorbitant.

SEEDLINGS: Recent humid weather lead to substantial losses of recently germinated *B. megaphyllus* & *B. diversifolius*. A group of N. Qld seedlings, probably *B. grandiflorus*, survived our relatively mild last winter with zero casualties.

EXCURSION TO PILCHER'S MOUNTAIN, DUNGOG: By Peter Vaughan.

This is a report of a trip to Pilcher's Mountain, near Dungog, on the 18th. of December 1993. This is a very interesting & significant patch of dry rainforest. It was declared a public reserve in 1889 as its significance was obvious even then.

It is not the mountain that is the feature, but a large box canyon approximately 3 km long, about 50 metres wide & with walls about 50 metres high. It is thought that an earthquake tore the mountain apart, creating the canyon. The canyon was originally much deeper but large boulders (up to 15 metres across) have fallen from the walls & cover the floor. This boulder floor has 3 effects, viz:

-there is no surface water. Any water present would be flowing below the boulders.

-there is virtually no soil. Leaves & other debris are washed down through the rocks. Consequently there is no understorey of shrubs.

-the lack of ground debris & shrubs means there are no fires in this area. This has allowed rainforest species to survive.

All this adds up to a dry rainforest that is easy to walk through (if we can call boulder hopping easy. Actually, it does tend to be fun.). The trees are well spaced & there is a great diversity of species.

Pilcher's Mountain is the southern limit of quite a few plant species. Of interest to us is the southernmost occurrence of the lacebark (*Brachychiton discolor*). Other species with their southern limit here include the elkhorn fern (*Platycterium superbum*) [staghorn in Qld -Ed.] & the raspy-root orchid (*Rhinerrhiza divitiflora*).

I was particularly interested in the presence of the flame tree (*B. acerifolius*) & the lacebark together. On a previous visit I found the hybrid *B. x vinicolor* (i.e., *B. acerifolius* x *B. discolor*) growing at the abandoned homestead on the mountain. I intended to search the mountain for this hybrid to see if it occurred naturally. A visit in late October indicated to us that the *Brachychitons* would be flowering in December & therefore this was the best time to examine them.

On the 18th. of December Bill Dowling (an expert on the local natural history), Phillip Strong (SGAP member & rainforest enthusiast), myself & 2 others set out to search the canyon & examine the *Brachychitons*.

When we arrived at the homestead we were pleased to see the *B. x vinicolor* flowering beautifully. The homestead had been abandoned for about 50 years & I estimate this tree to be at least 100 years old. Was it from a natural occurrence, or is it a man-made hybrid?

To start the canyon we walked to the hilltop. The hills are rolling hills, not the sort of place one would expect to find a box canyon. Near the hilltop we walked into a small clump of trees. The most unlikely start to a canyon that anyone could imagine. However once inside the trees the canyon can be seen falling away inside the hill.

Common trees in the upper reaches of the canyon include *Pittosporum undulatum* (with trunks 60 cm & more in diameter), stinging trees, whalebone trees & 5 species of fig tree.

The canyon has thousands of caves. They exist between the boulders on the floor, & they have formed from wind erosion of the walls. A pair of peregrine falcons was making use of one high cave for a nest. Not all users of the canyon have been so noble though. The bushranger Thunderbolt often hid in this canyon. His last robbery (including a quantity of silver) was nearby. He was captured shortly after leaving this canyon but the silver was never recovered. The locals believe it is still hidden in this canyon. If it is it may never be recovered as I don't believe all the caves could be searched.

Unfortunately we saw no evidence of Thunderbolt's occupation. We had a pleasant rest however watching a black face monarch collecting the fluffy seeds of the silkpods (*Parsonsia* sp.) to line her nest.

At this stage we saw many flame trees, but no lacebarks.

One third of the way down the canyon, we climbed out to view what lay ahead. Standing on the flat hilltop we were amongst *Brachycome multifida* & native jasmins, all flowering profusely. Looking over the valley we saw numerous *Brachychitons* flowering. With binoculars we could differentiate them as flame trees or lacebarks. Both species were common in the lower reaches, mainly to the sides of the canyon.

As we climbed back down into the canyon we found seedlings of both species growing in crevices in the rocks. I was amazed at the dry situations these seedlings tolerated. They also

frequently occurred growing side by side.

I was examining every specimen I could for sign of hybrids. Hybrids between these species are common in cultivation. I determine a plant to be a hybrid if it displays any one of the following criteria:

-leaves like *B. acerifolius* but covered with the short brown hairs (tomentum) of *B. discolor*.

-leaves like *B. discolor* but less hairy & no hairs under the leaf.

-adult leaves intermediate in shape between the two species or unusual in shape.

-unusual juvenile leaves. *B. acerifolius* does not have different juvenile leaves, whereas *B. discolor* has markedly different juvenile leaves. It is interesting that the hybrid commences life as a seedling with adult *B. discolor* leaves (but usually glabrous).

On our trip through the canyon we found many of each species, but no hybrids. In the lower reaches we again found the two species growing in dry situations, often only metres apart. Bill Dowling demonstrated an interesting feature. If we knock on the trunk of the flame tree it sounds hollow (or full of water). The lacebark sounds a bit more solid. No other tree in the forest sounds the same as these species. So, if in doubt about what tree it is, knock on the trunk. It must have looked like a scene from *The Lord of the Rings*. Five of us clambering through this seemingly enchanted forest, knocking on all the trees & smelling the stumps & fallen logs.

Why were we smelling the stumps? Well, rosewoods & red cedar were common in the lower reaches. Even though the rosewoods had been down for 50 to 100 years or more, if we scraped them back to fresh wood they still smelt of roses. There was a lot to be appreciated in this forest.

Well we had an enjoyable & very interesting day. But what conclusion could we come to? We saw no evidence of hybrids occurring naturally in this area. The homestead hybrid was almost certainly planted. It occurs along with other rainforest trees, some of which do not occur naturally in this area. It is interesting that both parents also occur in the garden area.

I believe the hybrid was planted 100 or more years ago. I also believe the owner knew he was planting a hybrid & he knew the tree was special. I also suspect the source of the tree was the Royal Botanic Gardens in Sydney. That will however be another article.

Pilcher's Mountain is a fascinating area to visit. I recommend it to everyone. Walks vary from 1 to 4 hours, easy to medium grade (with some climbing).

HELICTERES: The *Helicteres* sp. that I commented on in the last newsletter may be a plant for the tropics only. The plants I brought back from Darwin failed to make it through winter. A single *Brachychiton megaphyllus*, adult but smallish, did survive, unlike a couple of juveniles.

THE GENUS STERCULIA: I am growing the rainforest trees *S. holtzei*, *S. quadrafida*, *S. laurifolia* & *S. shillinglawii*. The first two occur in the N.T., & appear in Brock's book 'Top End Native Plants'. The latter two are North Queenslanders. *S. quadrafida*, the 'peanut tree', is the best known, & is widely distributed - N.T., eastern Qld, N-E NSW, W.A., & New Guinea. It has edible black seeds (best peeled; eat raw or roasted) in striking red-orange capsules which open to display the shiny black seeds. Seedlings rot easily if over-watered during winter dormancy. My plants don't go deciduous until (lightly) frosted. I've not dared let the other 3 spp. get frosted. There are one or two other Australian species in the genus, while overseas there are 300 or so. The four I've tried are all fast growing in warm weather, & have fairly nondescript greenish to yellow flowers. *S. quadrafida* makes a nice shade tree, & I'm told the others do too. Eventual size is in the small tree range (Jones' rainforest book gives 12 m height), although I've seen a few *quadrafidas* near Darwin that might be a shade taller, & were quite wide.

Yuruga nursery on the Atherton Tableland, a very good source of northern rainforest plants, listed *Sterculia* sp. Weipa, described as a small deciduous tree, in 1989.

Can any of our southern members comment on performance of these trees (or any other *Sterculiaceae* spp.)? I will do a brief outline of the genus *Argyrodendron* for the next newsletter.

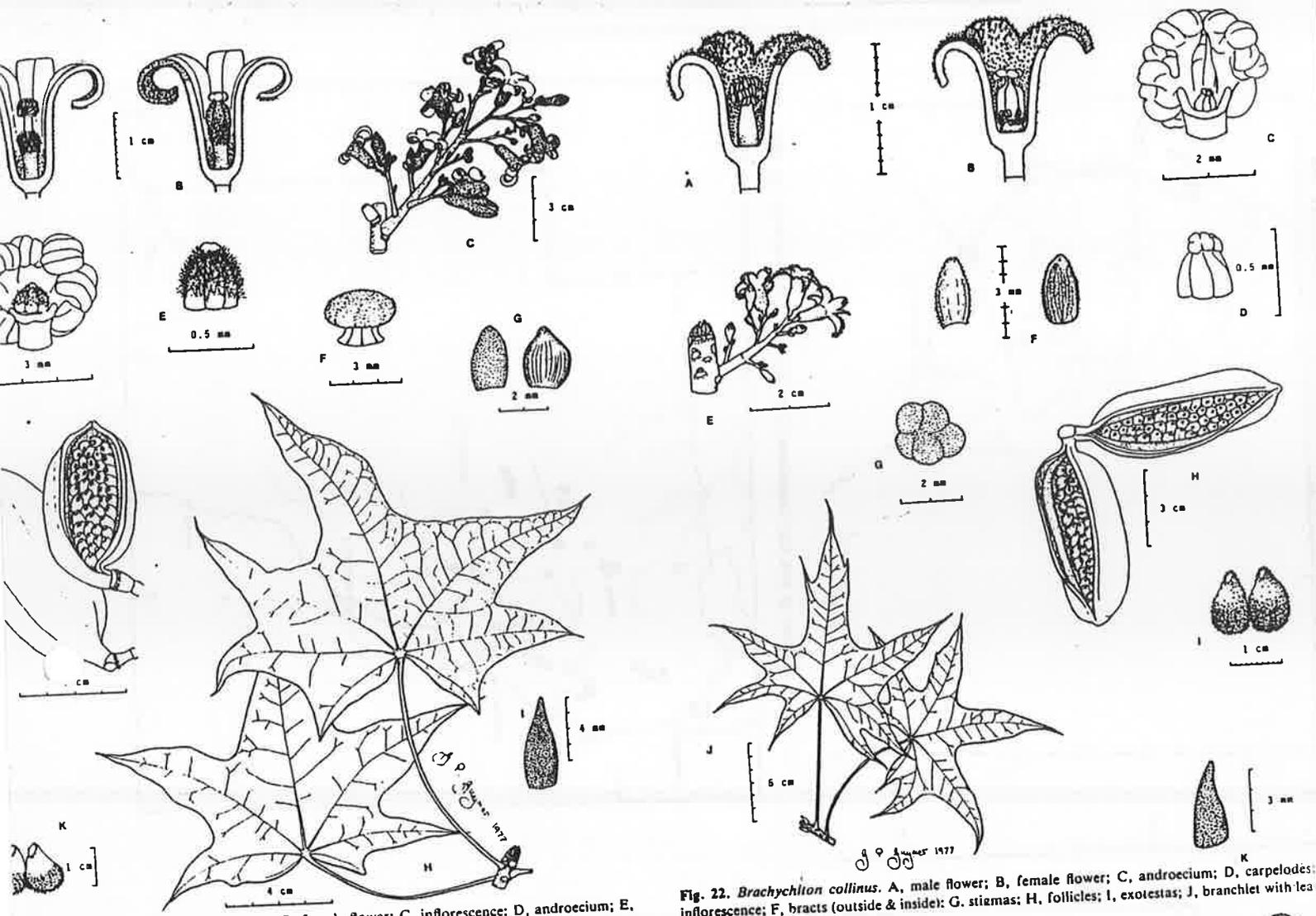


Fig. 22. *Brachychiton collinus*. A, male flower; B, female flower; C, androecium; D, carpelodes; E, inflorescence; F, bracts (outside & inside); G, stigmas; H, follicles; I, exotestas; J, branchlet with leaves; K, stipule.

Brachychiton australis. A, male flower; B, female flower; C, inflorescence; D, androecium; E, carpelodes; F, stigmas; G, bracts (outside & inside); H, branchlet with leaves; I, stipule; J, follicles; K, exotestas.

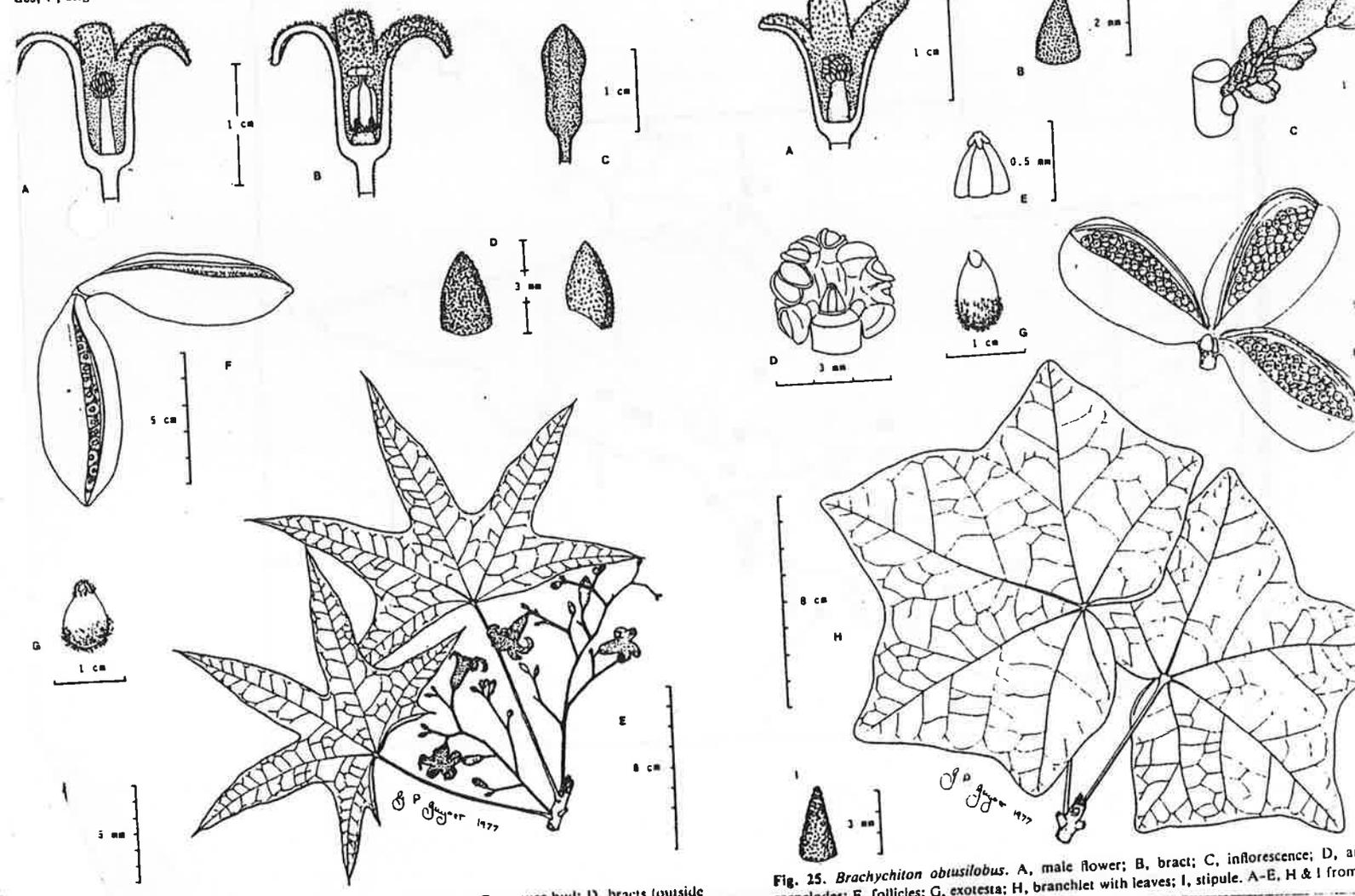


Fig. 25. *Brachychiton obtusilobus*. A, male flower; B, bract; C, inflorescence; D, androecium; E, carpelodes; F, follicles; G, exotesta; H, branchlet with leaves; I, stipule. A-E, H & I from ...

Brachychiton acuminatus. A, male flower; B, female flower; C, mature bud; D, bracts (outside & inside); E, branchlet with leaves; F, follicles; G, exotesta; H, branchlet with leaves; I, stipule.

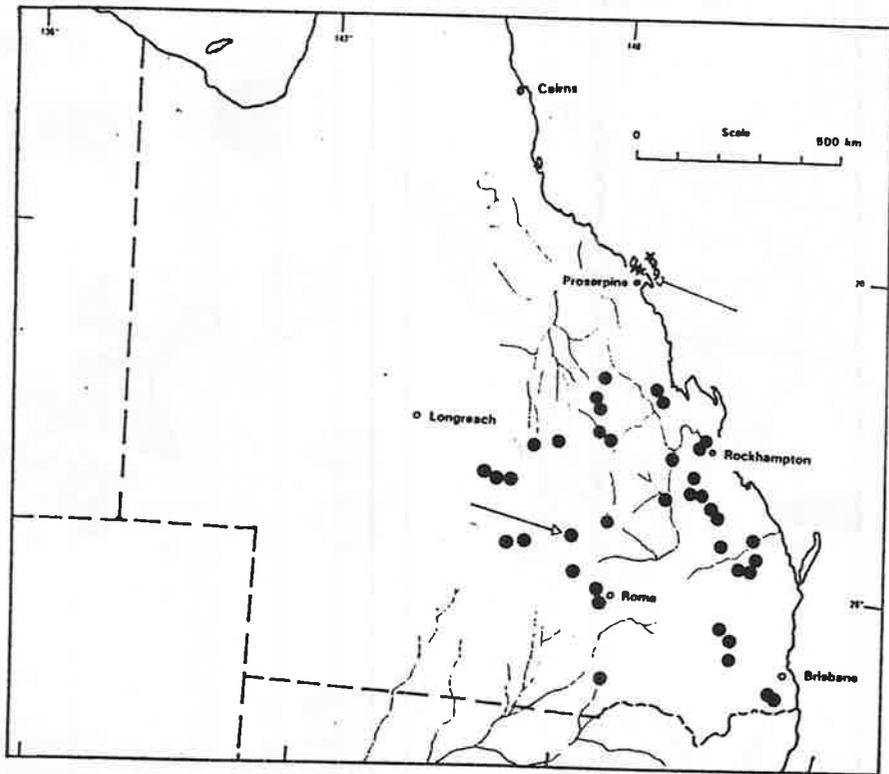


Fig. 18. Distribution of *Brachychiton compactus* (★) and *B. rupestris* (●).

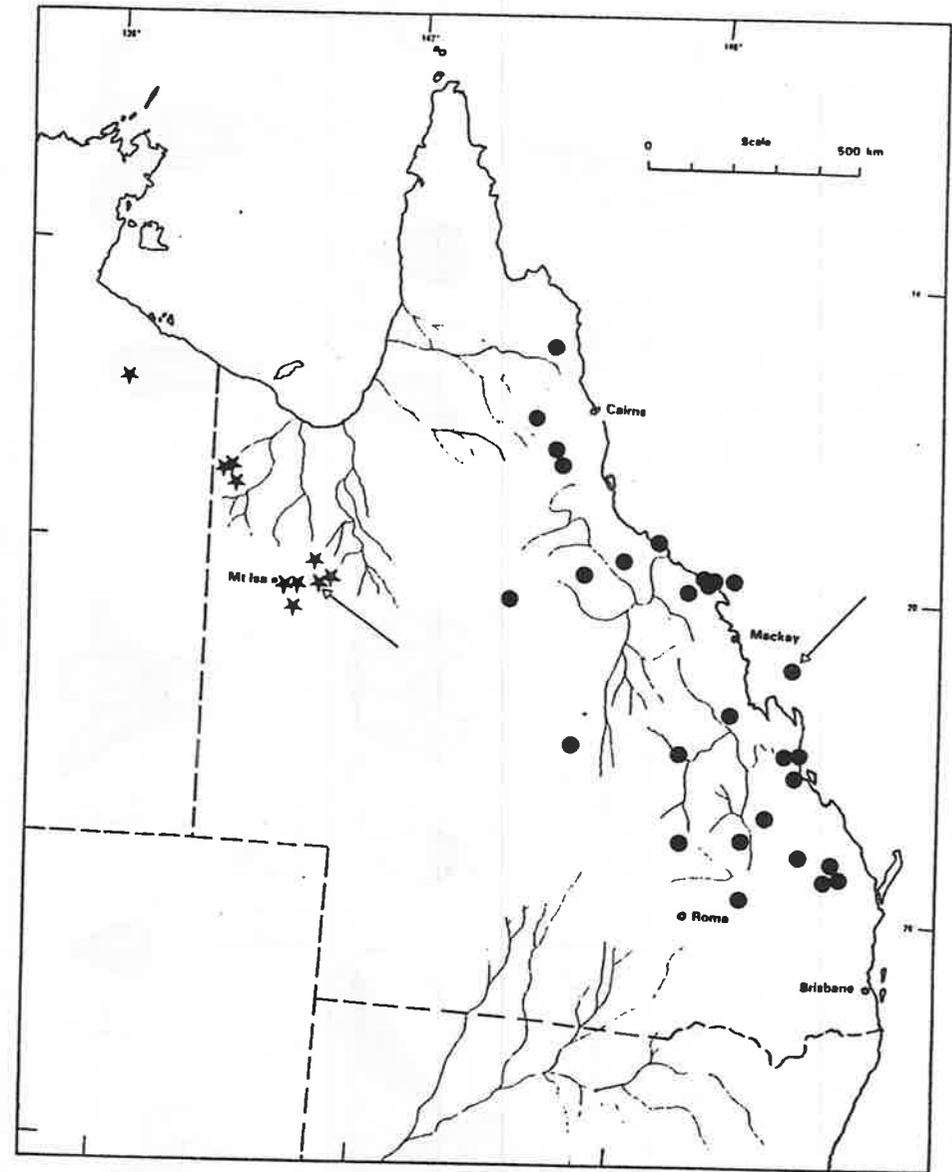


Fig. 21. Distribution of *Brachychiton australis* (●) and *B. collinus* (★).

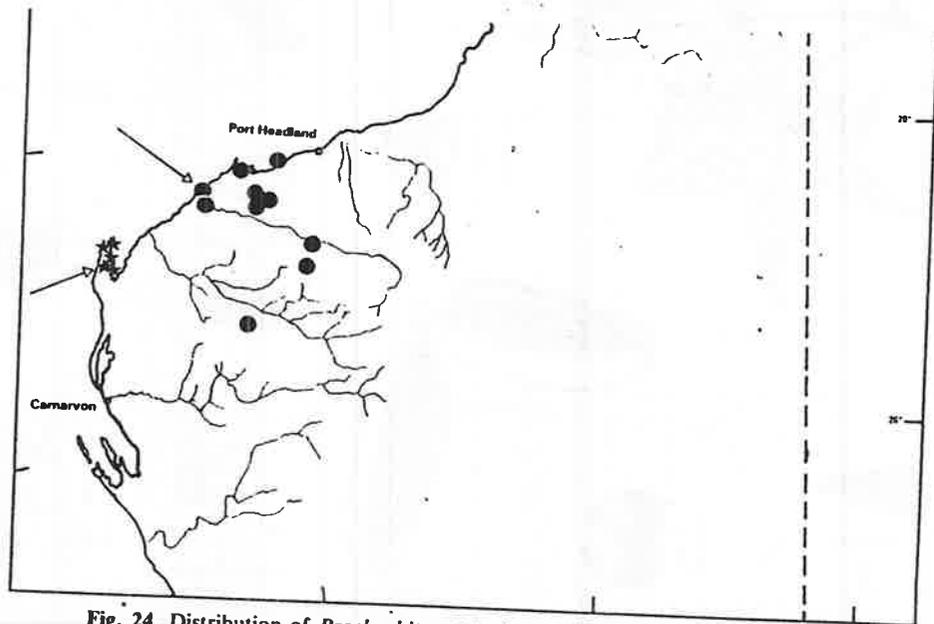


Fig. 24. Distribution of *Brachychiton acuminatus* (●) and *B. sp.* (★).

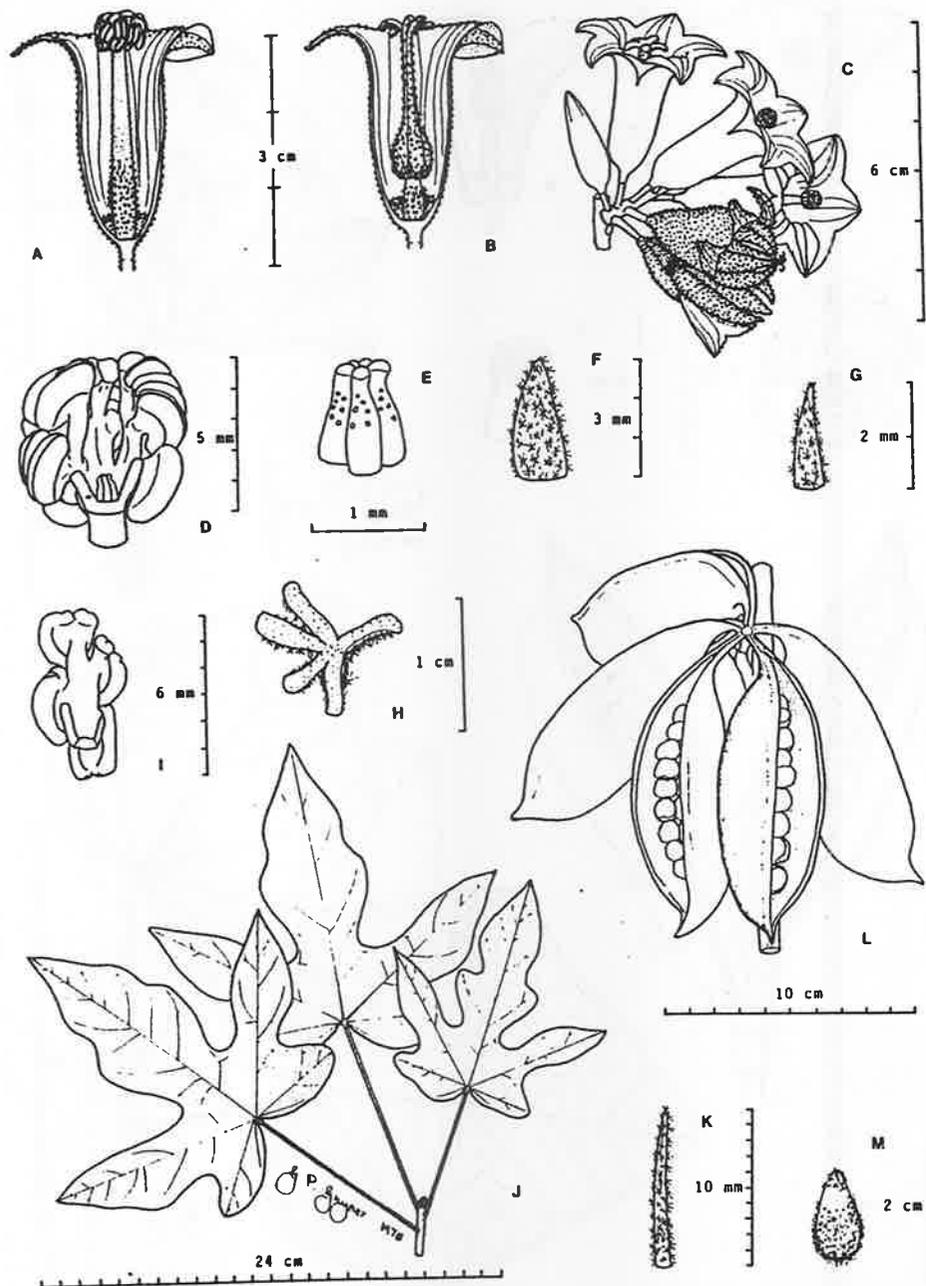


Fig. 31. *Brachychiton bidwillii*. A, male flower; B, female flower; C, inflorescence; D, androecium; E, carpelodes; F & G, bracts; H, stigmas; I, stamens; J, branchlet with leaves; K, stipule; L, follicles; M, exotesta. A, B, H & L from Guymer 1272; C-G, I & K from Guymer 770; J from Guymer 284; M from Guymer 727.

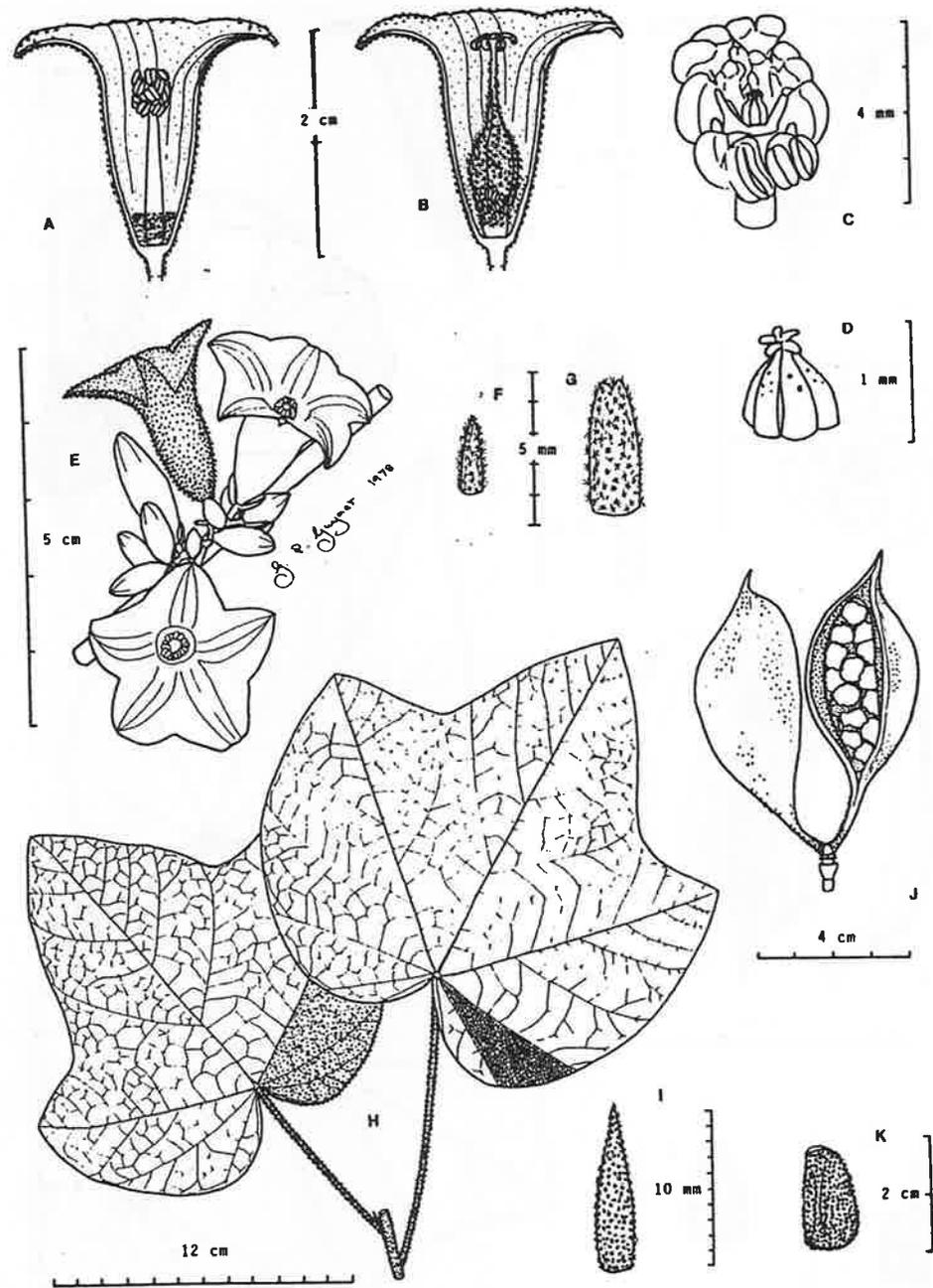


Fig. 32. *Brachychiton vitifolius*. A, male flower; B, female flower; C, androecium; D, carpelodes; E, inflorescence; F & G, bracts; H, branchlet with leaves; I, stipule; J, follicles; K, exotesta. A, C-E & K from Guymer 437; B, F-H & J from Guymer 229; I from McConnell [BRI 064001].

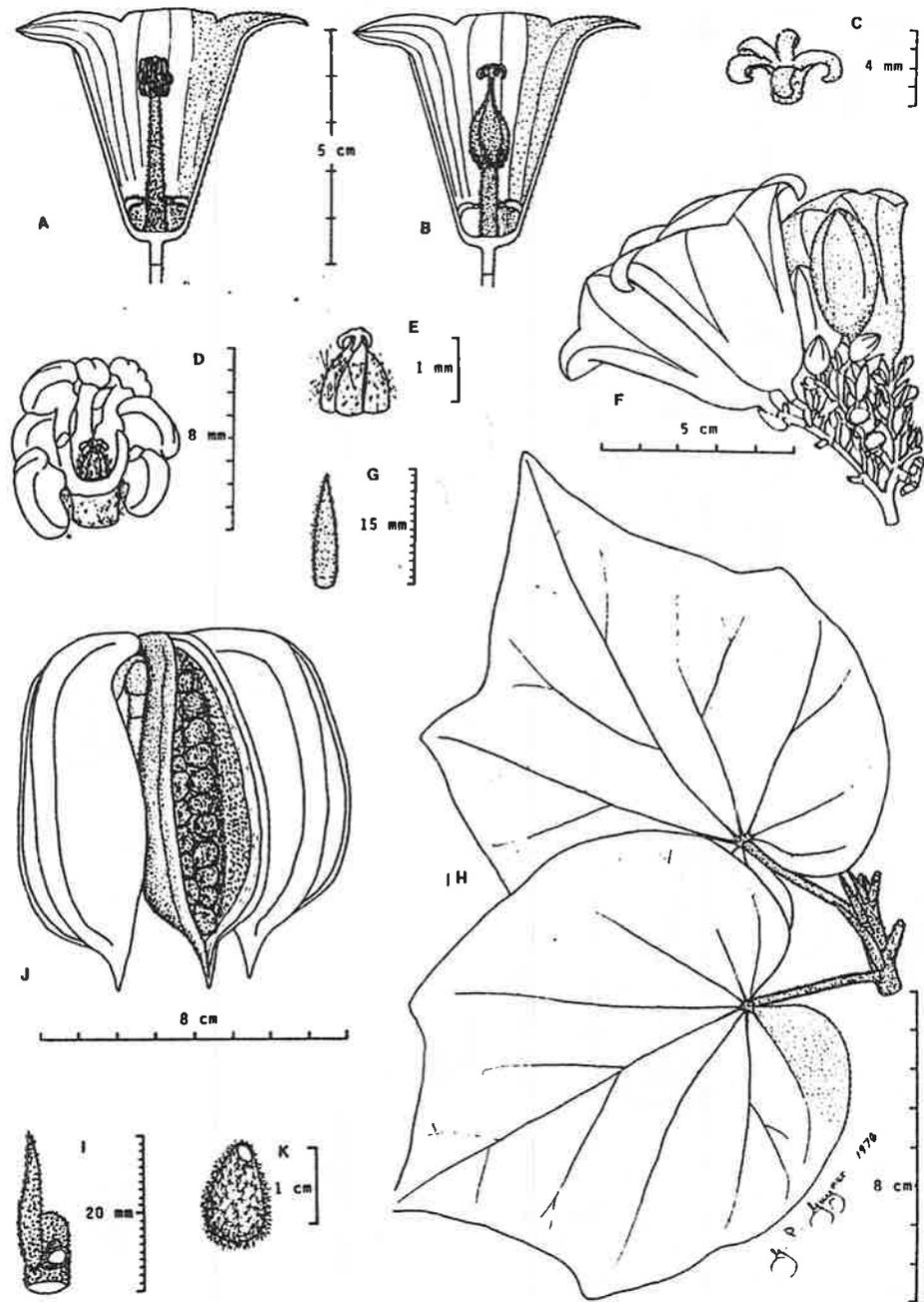


Fig. 36. *Brachychiton viscidulus*. A, male flower; B, female flower; C, stigmas; D, androecium; E, carpelodes; F, inflorescence; G, bract; H, branchlet with leaves; I, stipule; J, follicles; K, exotesta. A, D, E & H from *Must* 1633; B & C from *Must* 1636; F & G from *Guymer* 532; I from *Guymer* 519; J & K from *Guymer* 605.

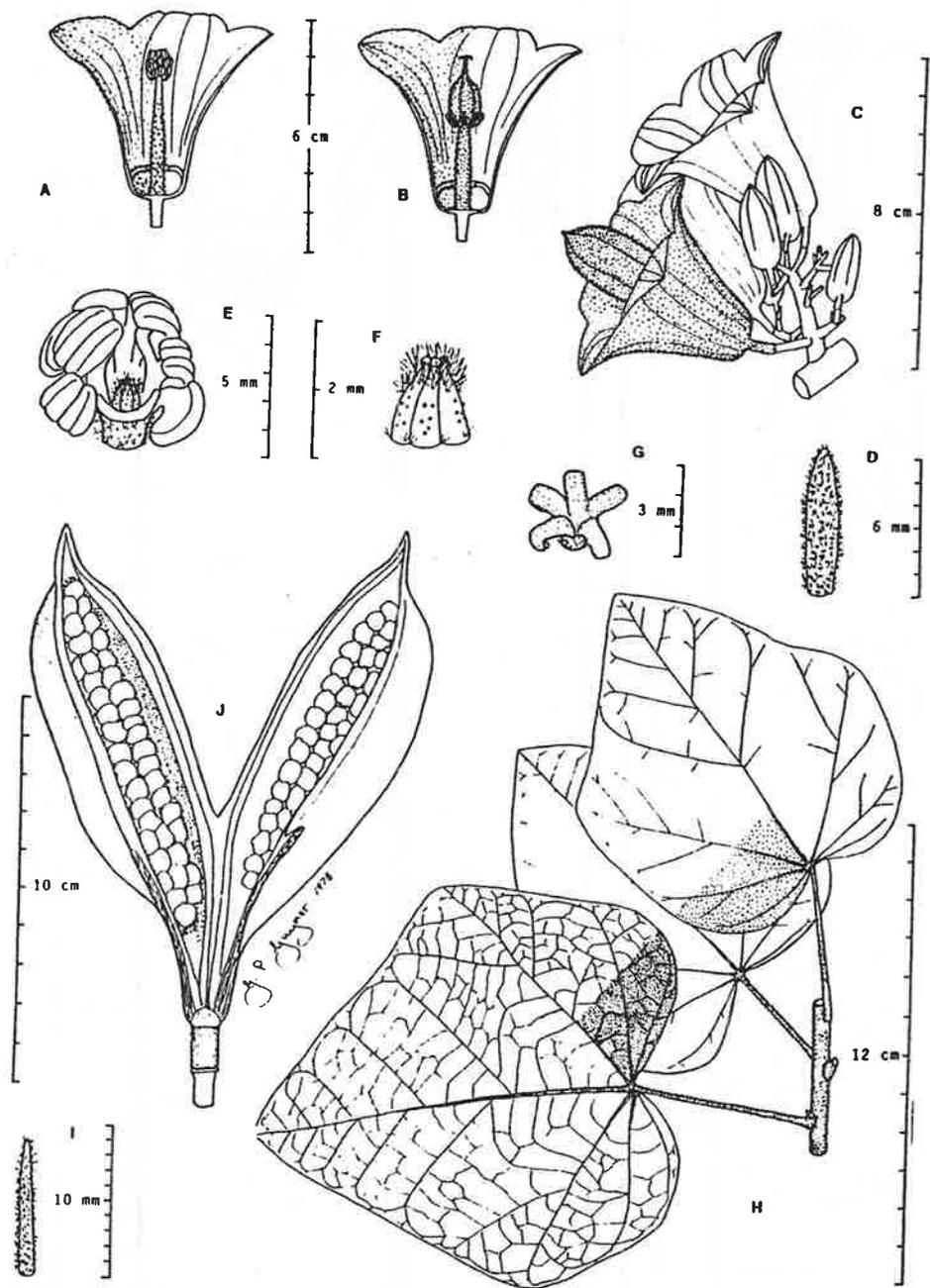


Fig. 38. *Brachychiton spectabilis*. A, male flower; B, female flower; C, inflorescence; D, bract; E, androecium; F, carpelodes; G, stigmas; H, branchlet with leaves; I, stipule; J, follicles. A-G from *Guymer* 508; H-J from *Guymer* 513.

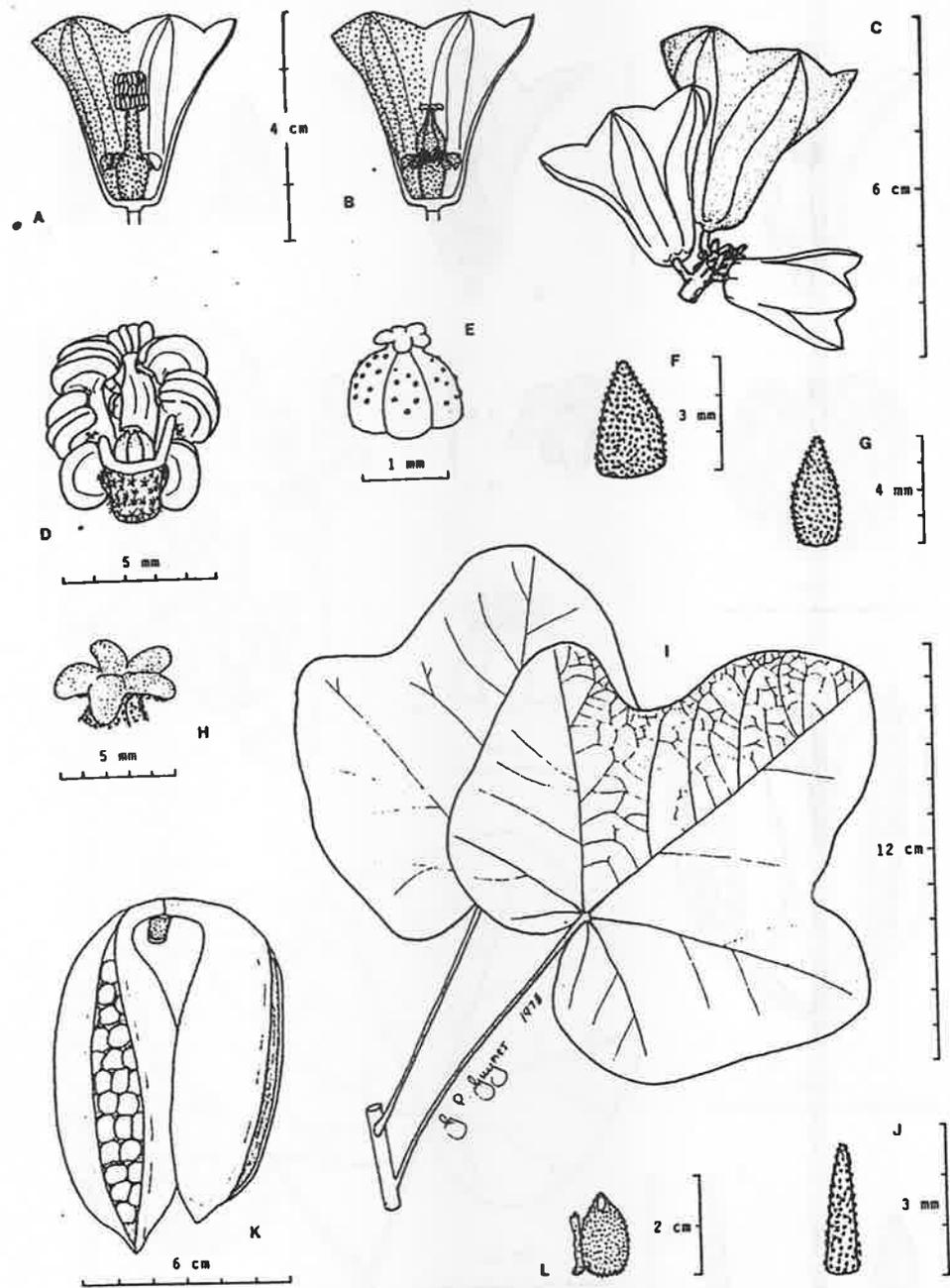


Fig. 33. *Brachychiton albidus*. A, male flower; B, female flower; C, inflorescence; D, androecium; E, carpelodes; F & G, bracts; H, stigmas; I, branchlet with leaves; J, stipule; K, follicles; L, exotesta. A-C, F-H from *Guymer 468*; D, E, I-L from *Guymer 885* (type).

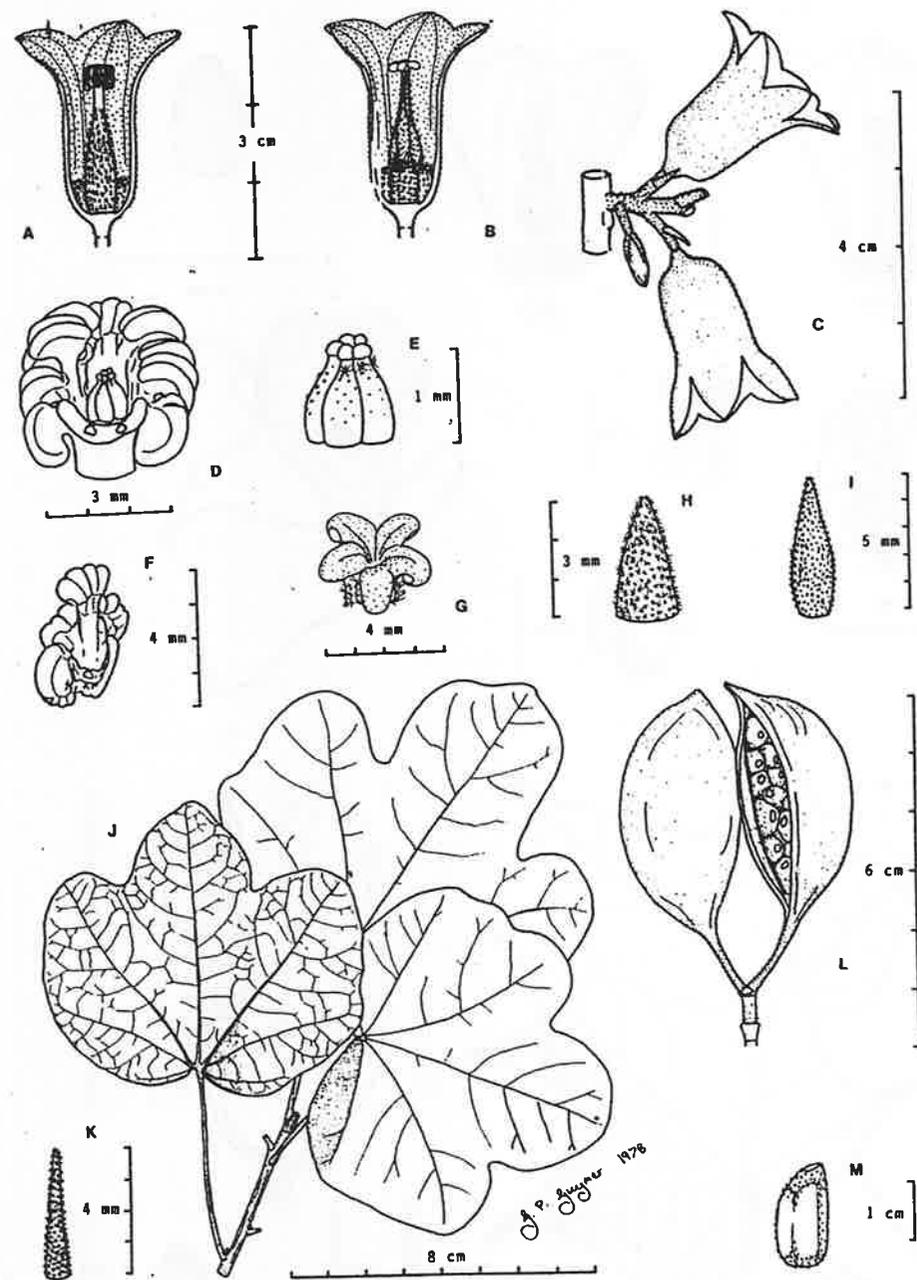


Fig. 35. *Brachychiton garrawayae*. A, male flower; B, female flower; C, inflorescence; D, androecium; E, carpelodes; F, stamens; G, stigmas; H & I, bracts; J, branchlet with leaves; K, stipule; L, follicles; M, exotesta. A, D-G from *Guymer 456*; B, C, H & I from *Guymer 452*; J & K from *Guymer 466*; L & M from *Guymer 234*.

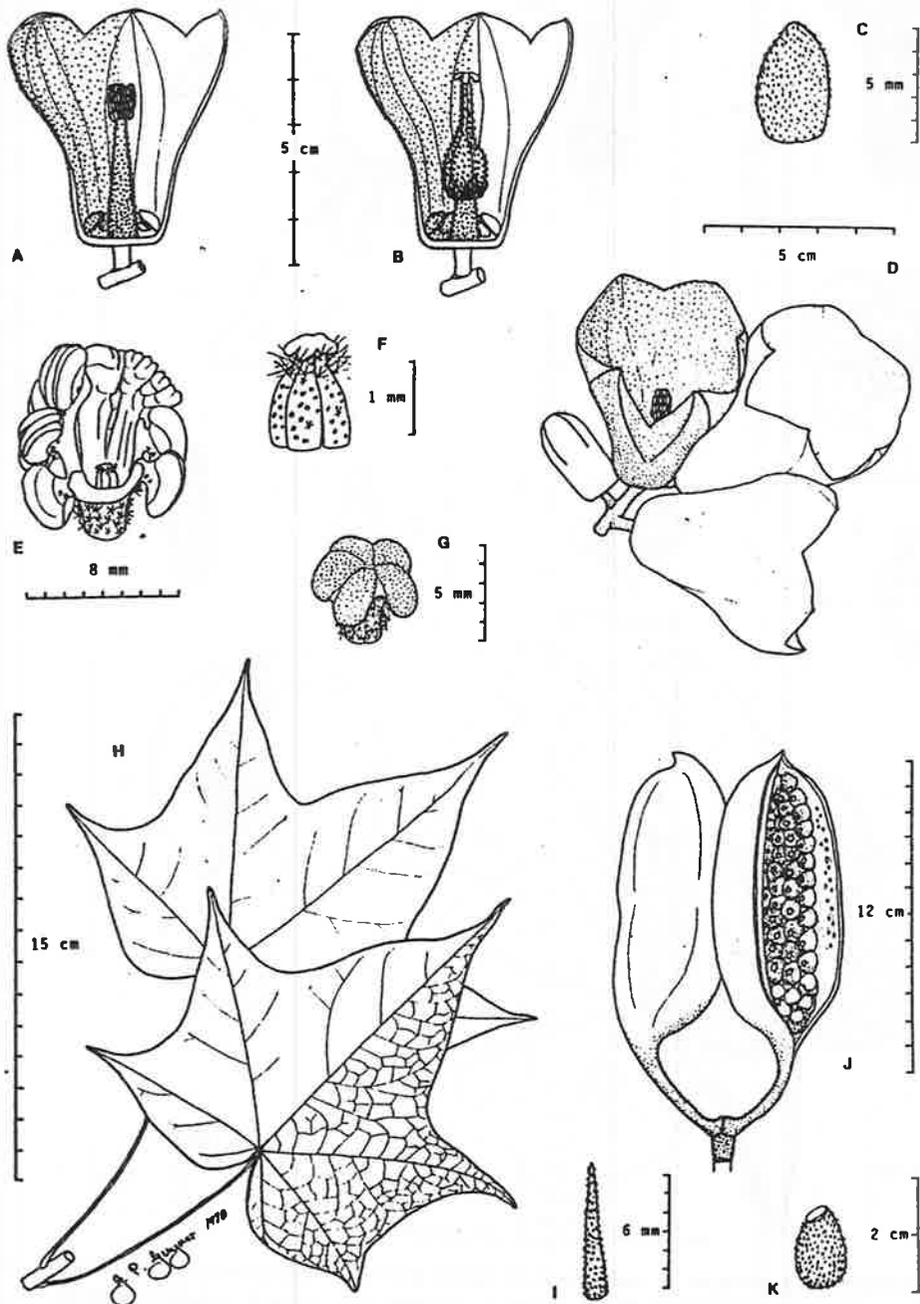


Fig. 29. *Brachychiton grandiflorus*. A, male flower; B, female flower; C, bract; D, inflorescence; E, androecium; F, carpelodes; G, stigmas; H, branchlet with leaves; I, stipule; J, follicles; K, exotesta. A, B, D-H, J & K from Guymer 257 (type); C from Guymer 463; I from Smith 11940.

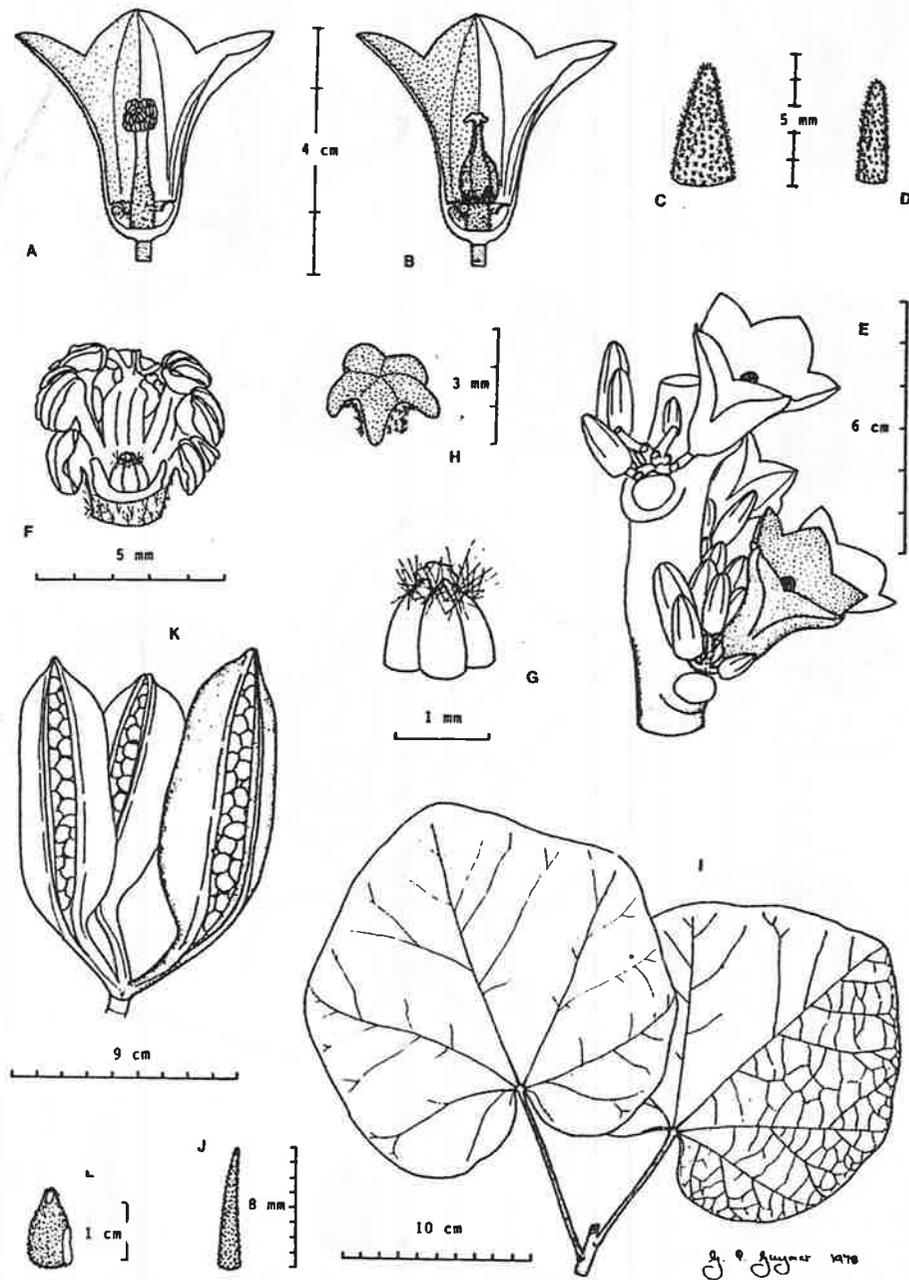


Fig. 45. *Brachychiton megaphyllus*. A, male flower; B, female flower; C & D, bracts; E, inflorescences; F, androecium; G, carpelodes; H, stigmas; I, branchlet with leaves; J, stipule; K, follicles; L, exotesta; A & B from Guymer 647; C, D, H & L from Guymer 506b; E from Parker 1091; F & G from Guymer 652; I from Guymer 650; J from Eddy 17; K from Guymer 507a.