56. liaison

A.S?G?A.P. CYCAD, ZAMIAD , andPALM STUDY GROUP I S S N 0131419

NEWSLETTER NO. 66 JULY AUGUST 95

LEADER LPP BUTT. 07 38483515 YERONGA
ASST. LEADER B. RUNNEGAR

MY APOLOGIES FORTHE DIFFERENT FORMAI OF THE NEWSLETTER, BUT MANY THINGS HAVE NOW CHANGED,MY ACCESS TO COPYING FACILITIES HASFADED, SO UNTIL A NEW LEADER IS FOUND FOR MY OTHER GROUP ..INDIGENOUS ORCHID IT WILL TEMPORARILY CE CEASE TO FUNCTION.

HOWEVER, THIS GROUP WILL HOPEFULLY CARRY ON AS USUALMODIFIED ONLY BY MATERIAL THAT BECOMES AVAILABLE TO ME AND HOPEFULLY THE MESSAGE THAT NO STUDY GROUP IS WORTH ITS SALT AITHOUT ACTIVE MEMBERS AND FINANCIAL MEMB MEMBERS, FINANCIES WERE DUE 1st JUNE WITH A LEEWAY OF 30days.

THE NEWSLETTER CONTINUES FROM NO.65 WITH INFORMATION GIVEN BY AUSTRO BAILEYA DON STALLARD, WHO IN THE PAST HAS BEEN ONE OF THE FEW, AN ACTIVE MEMBER, EX N.T. PERTH, AND NOW IN TOWNSVILLE HAS ALREADT WRITTEN IN WITH INFORMATION FROM HIS NEW TERRITORY.16 SEAWARD COURT PALLARENDA TOWNSVILLE 4810 his new address, PERHAPS IF A FEW OF MY "old faithfuls" GOT TO KNOW EACH OTHER BETTER MORE IMPORTANT CYCAD/PALM INFO WOULD EMERGE?

FOLK LIKE IRENE CHAMPION OF 20SWIFT ST, MACKAY 4740 and Bob Dinte of P.O. FINCH HATTON 4756 to name a few.

PALMS IN MY OWN QUARTER A RE CONTINUE TO THRIVE TO THE POINT THAT THE FALLING FRONDS FROM NATIVE SELF CLEANERS LIKE THE ARCHOENTOPHOENIX GROUP DRIVE US BATTY! NOT SO MUCH FOR THE WORK OF MULCHING T EM, RATHER FROM THE DAMAGE THEY CAUSE TO GARDEN PLANTS AND FOLIAGE DIRECTLY BELOW.

CYCAD AND ZAMIADS FOR ME STILL HAVE GROWING PROBLEMS, MAINLY AS OUR GARDEN IS IN RAINFOREST STYLE, AND IS IN A DRY AREA OF BRISBANE.

ONE TENDS TO HAVE PLANTS OVERWATERED BY MY MAIN GARDENER, MY WIFE, IN UTTER FRUSTRATION FOR THE LACK OF NATURAL RAIN ON THE REST OF THE GARDEN Ido have too many species still potted ,but Iran out of space years ago.

JUST WHEN

JUST WHEN WE ALL THOUHT ALL THE CYCADALES WERE AT LAST TABULATED, THE NEWER DISCOVERIES, OR RATHER SEVEN MORE NOT PREVIOUSLY BOTANICALLY CHECKED, INCREASE THE NUMBER WE NOW KNOW LAST ISSUE AND THE NEXT THREE WILL BE ABOUT THEM BUT LOCALITIES AS YOU WILL OBSERVE ARE NOT REVEALED

LEN BUTT

3. Macrozamia crassifolia P. I. Forst. & D. L. Jones **sp. nov.** *M. pauli-guilielmi* W. Hill & F. Muell. affinis, sed foliolis textura multo crassiore obscura atro-virentibus, foliolis basi callosis minus conspicuis, et strobilorum masculorum et femineorum sporophyllis majoribus, differt. **Typus**: Queensland. BURNETT DISTRICT: Mundubbera, 10 Jan 1992, *P.I. Forster* 9384B & *P. Machin* [male plant] (holo: BRI [3 sheets, carpological & spirit]; iso: CBG).

Macrozamia sp. (Mundubbera P.I.Forster 4674); Forster (1994).

Caudex more or less ovoid, 10–20 cm diameter, subterranean, branching with up to 4 caudices in a clump. Mature leaves 50–110 cm long, dark green, erect, 1–5 in a sparse crown; expanded leaf base 5–16 cm × 1–2.5 cm, densely covered with thick, brown, felty wool; petiole (including the woolly expanded base) 5–26 cm long, dark green, dull, 7–20 mm across at the first leaflet, flat to slightly convex on the adaxial surface and strongly convex abaxially; rhachis spirally twisted 1–4 times, dark green with white markings between the bases of the leaflets but not in a continuous band, the cross-section similar to that of the petiole. Leaflets narrowly linear, arising at about 45 degrees to the rhachis, porrect to arcuate, drooping in the distal third, 15–55 cm × 2–3.5 mm, hypo-stomatic, dark green and dull above, bright green beneath, strongly concave adaxially in cross-section, thick-textured, not twisted, 104–172 per leaf, arranged more or less in 2 ranks but not always in opposite pairs, crowded (3–24 mm apart), the longest leaflets found towards the middle of the leaf, distal and proximal leaflets shorter, apex acuminate; callous base white to greenish-white. Male cones more or less cylindrical, 10–16 cm × 3–4.5 cm, straight or curved with age; peduncle 10–16 cm × 1–1.4 cm, elliptical in cross-section; microsporophylls broadly cuneate, 1.7–2.2 cm × 1.3–1.6 cm, those in the proximal two-thirds with vestigial spines, distal ones with stiff, pointed spines to 1.3 cm long. Female cones more or less ovoid, 11–15 cm × 6–8 cm, green; peduncle 10–28 cm × 1.2–1.6 cm, elliptical in cross-section, furrowed; megasporophylls with stipe 1.6–2.3 cm long, the outer face transversely elliptical to transversely ovate, 2.5–3.5 cm × 1.2–1.5 cm, with a prominent depression just below the apical spine; spines increasing in length towards the apex of the cone, the longest c. 4 cm long. Seeds oblong to ovoid, 1.9–2.6 cm × 1.8–2.2 cm, the sarcotesta orange to red when ripe. **Figs 3, 10B.**

***Specimens examined*: Queensland.** BURNETT DISTRICT: [all from type locality or near Eidsvold] Nov 1984, *Forster* 1952 (BRI); Aug 1988, *Forster* 4659 (BRI); 4674 (BRI); Jan 1992, *Forster* 9384A & *Machin* (BRI, CBG); May 1992, *Jones* 9363, *Jones & Forster* (CBG); Sep 1992, *Forster* 11197A & B *et al.* (BRI); Aug 1993, *Halford* 1791 (BRI).

***Distribution and habitat*:** *M. crassifolia* occurs in two small areas near Mundubbera and Eidsvold in south-east Queensland. Plants grow at altitudes between 340 and 420 m among granite rocks and boulders on rugged slopes under open forest dominated by *Allocasuarina inophloia* (F. Muell. & F.M. Bailey) L.A.S. Johnson, *Eucalyptus dura* L.A.S. Johnson & K.D. Hill, *E. petalophylla* Brooker & A.R. Bean, *E. trachyphloia* F. Muell., *E. watsoniana* F. Muell. and *Lysicarpus angustifolius* (Hook.) Druce.

***Phenology*:** Cones mature October–January; seeds ripen February–April.

***Notes*:** *M. crassifolia* was first collected in 1984 by the junior author, at which stage it was considered to be an aberrant form of *M. pauli-guilielmi*. Further collections have revealed it to differ from that species in having much thicker-textured, darker green leaflets, male cones with prominent apical spines on the upper sporophylls (very short or vestigial in *M. pauli-guilielmi*) and larger female cones.

***Conservation status*:** Known from 6 populations all on private land within two restricted areas, but locally common. A conservation coding of R was given by Forster (1994).

***Etymology*:** The epithet derives from the Latin *crassus*, thick and *folium*, a leaf, in reference to the thick leaflets of the species.

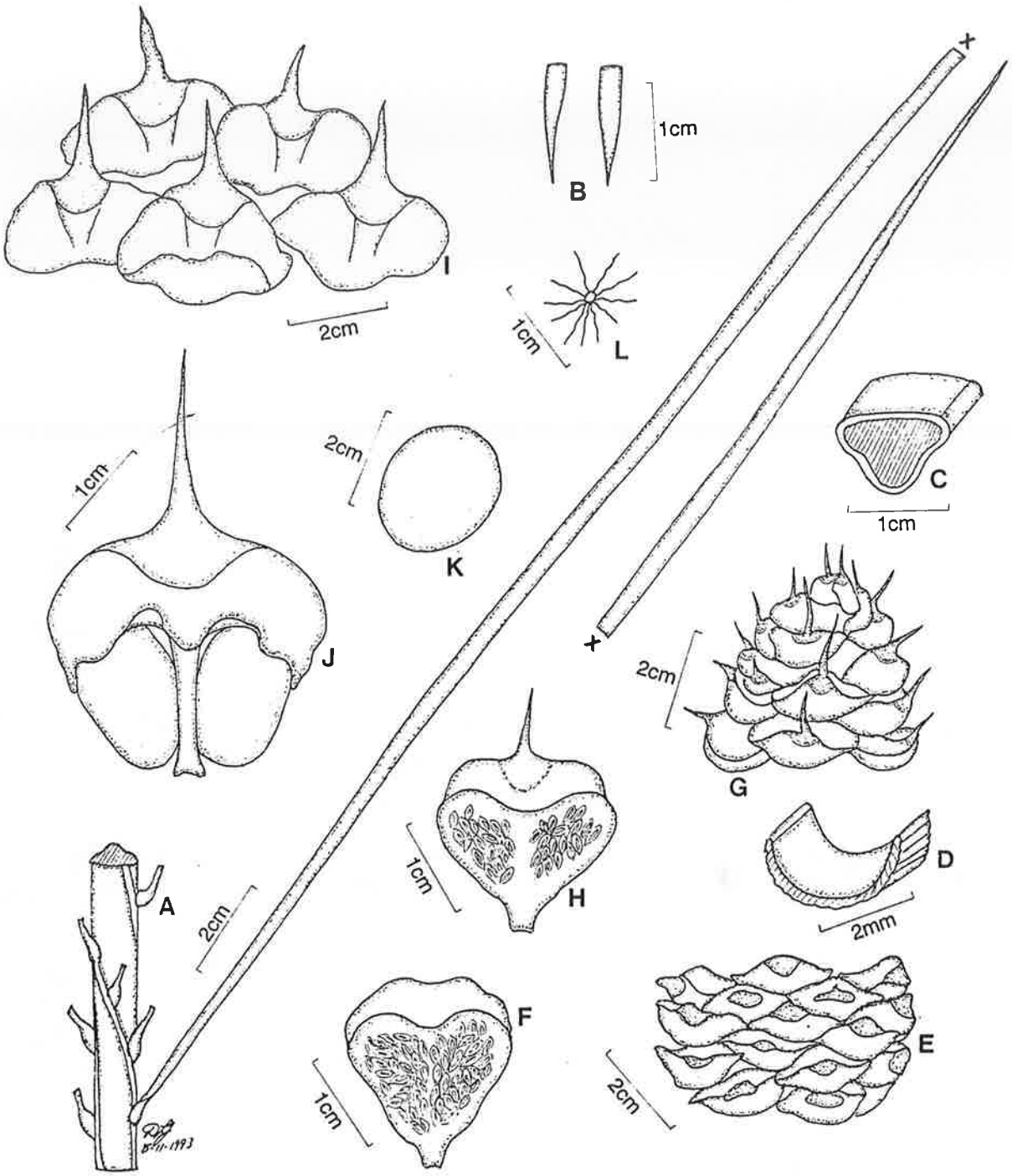

Fig. 3. *Macrozamia crassifolia*. A. portion of rhachis and one leaflet. B. tips of leaflets. C. TS of rhachis. D. TS of leaflet. E. basal portion of male cone. F. microsporophyll (abaxial view) from basal portion of cone. G. apical portion of male cone. H. microsporophyll (abaxial view) from apical portion of cone. I. portion of female cone. J. megasporophyll (abaxial view). K. seed. L. pattern on chalaza end of seed. From *Jones* 9363 *et al.* (CBG) and *Forster* 9384B & *Machin* (BRI).

4. Macrozamia machinii P. I. Forst. & D. L. Jones sp. nov. *M. plurinerviae* (L.A.S. Johnson) D. L. Jones affinis, sed foliolis textura crassiore in paginis ambobus obscure atro-viridibus, strobilis minoribus viridibus, et seminibus minoribus oblongis usque ovoideis, differt. **Typus**: Queensland. DARLING DOWNS DISTRICT: Inglewood, 11 Apr 1992, *P.I. Forster* 9767B & *P. Machin* [male plant] (holo: BRI [4 sheets + carpological]; iso: CBG).

Macrozamia sp. (Inglewood *C.T. White* AQ142073); Forster (1994).

Caudex more or less ovoid, 20–30 cm diameter, branching with up to 10 caudices in a clump. Young leaves sericeous. Mature leaves 60–90 cm long, dark green, dull, erect, 1–8 in a sparse to dense crown; expanded leaf base 5–10 cm × 2–3.5 cm, densely covered with soft, grey wool; petiole (including the expanded woolly base) 13–21 cm long, green to yellow-green, dull, 9–14 mm across at the lowest leaflet, flat to slightly convex on the adaxial surface and strongly convex abaxially; rhachis spirally twisted 2–6 times, green to yellow-green, dull, the cross-section similar to that of the petiole. Leaflets linear, arising at about 50 degrees to the rhachis, obliquely erect to spreading, 8–32 cm × 2.5–10 mm, hypo-stomatic, dark green and dull on both surfaces, concave adaxially in cross-section, thick-textured, not twisted except at the base, 80–140 per leaf, arranged more or less in 2 ranks but not always in opposite pairs, moderately crowded (3–35 mm apart), the longest leaflets towards the middle of the frond, distal and proximal leaflets shorter, apex asymmetrically acuminate; callous base yellow to orange or reddish, the colour frequently extending along the rhachis margin between the leaflets. Male cones more or less cylindrical, 8–20 cm × 4–6 cm, straight or curved with age; peduncle 9–15 cm × 1.5–2.2 cm, elliptical in cross-section, furrowed; microsporophylls narrowly- to broadly cuneate or obovate, 1.5–2.4 cm × 1.2–2.4 cm, those in the proximal third to half of the cone with vestigial spines, distal ones with stiff, pointed spines to 1.4 cm long. Female cones ovoid to ovoid-cylindrical, 8–18 cm × 5–7 cm, erect, green to glaucous; peduncle 15–25 cm × 1.3–1.8 cm, elliptical to round in cross-section, furrowed; megasporophylls with stipe 2–2.5 cm long, the outer face transversely ovate, 2.5–5 cm × 1.5–2 cm, with a prominent depression just below the apical spine; spines increasing in length towards the apex of the cone, the longest c. 2 cm long. Seeds oblong to ovoid, 2–2.5 cm × 2–2.3 cm, the sarcotesta orange to red when ripe. **Figs 4, 8A, 9A, 10C.**

Selected specimens: Queensland. DARLING DOWNS DISTRICT: [all from type locality] Nov 1922, *White* [AQ142073] (BRI); Apr 1992, *Forster* 9767A & *Machin* (BRI, CBG); 9782 (BRI, CBG); 9783A & B (BRI, CBG); 9787 (BRI, CBG); 9790A (BRI), 9790B (BRI, CBG); 9794 (BRI); May 1992, *Jones* 9445 & *Jones* (CBG); Sep 1992, *Forster* 11631 & *Machin* (BRI); April 1993, *Jones* 11527 *et al.* (CBG, NSW); Oct 1993, *Machin* 27A & B (BRI); Oct 1993, *Halford* Q1978A & B (BRI).

Distribution and habitat: *M. machinii* occurs in at least eight populations near Inglewood in the Darling Downs district, south-east Queensland. Most populations occur in sandy soils in flat areas of open forest dominated by *Angophora leiocarpa* (L.A.S. Johnson & G.J. Leach) K.R. Thiele & Ladiges, *Allocasuarina inophloia*, *Callitris glaucophylla* Joy Thompson & L.A.S. Johnson, *Lysicarpus angustifolius* and *Acacia conferta*; however, one population occurs on a red lateritic ridge with *Callitris endlicheri* (C.Parl.) F.M. Bailey, *Eucalyptus panda* S.T. Blake and *E. apothalassica* L.A.S. Johnson & K.D. Hill. Altitude of the populations ranges from 320 to 460 m.

Phenology: Cones mature September–December; seeds ripen February–April.

Notes: This species appears to have been first collected in 1922 by C.T. White but was not relocated until 1991 by Peter Machin. *M. machinii* has been confused with *M. plurinervia* but differs from that species by its thicker leaflets which are dull green on both surfaces (grey-green to glaucous in *M. plurinervia*), smaller cones and smaller, oblong to ovoid seeds (broadly ovoid to oblong-ellipsoid in *M. plurinervia*). These taxa grow in different habitats, with *M. plurinervia* occurring in hilly country with large granite outcrops prominent and gravelly loam soils, whereas *M. machinii* grows in flat plains and breakaways on deep sandy soils.

Conservation status: Most populations of this species occur in State Forests, however, plants may be subject to poaching. A conservation coding of R was given by Forster (1994).