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S.G.A.P. EUCALYPTUS STUDY GROUP
Newsletter No. 5 - March 1984

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Dear Members,

Hello again. Most members have reported above average rainfall and excellent growing conditions this summer. Too good to last? There has been plenty of correspondence recently, and several people have sent specimens. Most members reacted calmly to the proposed changes in eucalypt classification, but a few expressed outrage or frustration. The slide library goes well, and both lots are presently on loan, and on order for the next few months. Welcome to the following new members who have joined since November.

A Summary of Info received on the 20 spp listed in the November newsletter

E.viridis (Green Mallee) 12 reports. Successful in all eastern states, but performance in WA unknown. Slow growing, always less than one metre per year. Grows equally well in sandy or clay soils. First flowers generally appear at three years of age. Fls February (Yarra Glen). Forms a slender tree up to 8 metres high. Very drought and frost tolerant.

E.curtisii (Plunkett Mallee) 11 reports. Widely grown in Qld, also NSW and Victoria. Frost tolerant (growing well at Canberra Bot Gardens). Growth rate moderate. In colder climates eg. Canberra, Melbourne , it does not grow much higher than 3 metres, but still flowers well. Flowers first in the second or third year. Prefers sandy soils, but will grow in very heavy clay, in which case however, the leaves are often yellowish. Tolerates drought and poor drainage.

E.pruinosa (Silver Box) 6 reports. A slow growing small tree, grown in many parts of Qld, and also successful in Sydney. Growth rate ½ metre/year or less, except in the tropics; straggly. May flower when only a metre high. Flowers showy, cream. Starts to flower in the 2nd or 3rd year. Tolerates heavy clay soils. Very drought tolerant. Subject to insect attack.

E.pyriformis (Pear-fruited Mallee) 6 reports. Successful in southern Aust except where frosts are heavy. Marginal in Sydney and further north. Reported to be successfully growing at Atherton. Rather slow growing species and often straggly. Flowers red or pink.

E.salubris (Gimlet) 5 reports. Growth rate slow to moderate, forming a shapely tree. Cultivated in southern states, as far north as southern Qld. Very frost and drought tolerant, but does not appreciate waterlogging. 8 years to first flowering (Sandalwood,SA).

E.orgadophila (Mountain Coolibah) 4 reports. Qld and NSW. Suitable for Qld and NSW at least as far south as Sydney. Fast growing. Prefers clay soils and will tolerate black cracking clays where many other species fail. Very resistant to heat, drought and frost. Performance in other states unknown.

E.viminalis (Manna Gum) 4 reports. Reported as successful in all eastern states. Fast to very fast growing. 6 years to first flowering. Frost and drought tolerant.

E.sargentii (Salt river Mallet) 3 reports. Vic and WA. Commonly grown around Melbourne. Moderate growth rate; becomes a very bushy tree with dense foliage. Tolerates light frosts. Very salt tolerant and widely used where soil is salt-affected.

E.coccifera (Tasmanian Snow Gum) 2 reports. NSW and Tas. Slow to moderate growth. Soil clay and sandy loam. No significamt pests. Drought and frost tolerant. One of the most frost resistant of all eucalypts.

E.fasciculosa (Pink Gum) 2 reports. Vic and Qld. Slow growing but tolerant tofrost, waterlogging and drought. Adaptability to various climatic conditions unknown.

E.longicornis (Red Morrel) 1 report. western Vic. Slow growing. Fairly frost resistant, but cut back by severe frosts.
E.rugosa (Kingscote Mallee) 1 report. Qld. Moderate growth rate in shaly clay soil. Rather spindly.
E.terminalis (Desert Bloodwood) 1 report. Qld. Fairly easy to raise, but rather slow growing.
E.triflora (Three-flowered Ash) 1 report. Melbourne. 6 metres in 8 years, slender. Has not yet flowered.
E.cooperiana (Many-flowered Mallee) 1 report. Melbourne. 2 metres high in 6 years, single stemmed. 4 years to first flowering.
E.gillenii (Mt Gillen Mallee) 1 report. Melbourne. Growth rate about ½ metre per year; healthy. Flowers from the 3rd year onwards.

Nothing on capitellata, chapmaniana, fraseri or michaeliana.

Below is the list of 20 species for consideration before the July 84 newsletter.

annulata	baeuerlenii	camaldulensis	cambageana
collina	cullenii	desmondensis	exilis
fastigata	goniantha	griffithsii	gunnii
leucophloia	maidenii	orbifolia	paniculata
radiata	robusta	tetragona	uncinata

If you have grown any of these species, or have knowledge of specimens in your neighbourhood, please let me know. Remember to tell me about your failures as well as your successes. I continue to receive comments like "fast growing and adaptable". This information is virtually useless, as it relies entirely on concepts held by each individual. Much more useful would be "has reached 4x2m in 3 years in heavy black clay, and experiences about 15 frosts per year". Try to include the following information:-

1.Climatic/soil data - rainfall,frost ; slope,aspect,drainage,soil type,salinity.
2.Physical data - age,height x width, age to flowering, flowering period,vigour, tolerance to drought,frost,waterlogging,salinity;appearance (healthy or sickly).
3.Cultural data - fertilization,supplementary watering,insect or fungal problems.

Revegetation at Weipa

The largest single bauxite mine in the world is situated at Weipa, on the Cape York peninsula. Millions of tonnes of the orange bauxite have been removed in mining operations which commenced in 1963, and millions of tonnes still await removal. The bauxite occurs in the form of pebbles, in thick pure layers below one or two metres of overburden. The "open cut" mining methods necessitate the total removal of the native vegetation. Happily, Comalco has not ignored the need for revegetation, and research into suitable species and methods for regeneration has been going on since 1966.

Once an area has been "mined out", the mine floor is graded for drainage where necessary and the area is contoured so that it merges with the surrounding landscape. Overburden, taken from an area due to be mined, is spread to a depth of about half a metre throughout. The final stage of the preparation is the deep ripping, which is a very necessary task as the mine floor is invariably highly compacted after months of usage by heavy trucks and loaders.

The climate there is hot monsoonal, with an average annual rainfall of 1600 millimetres, the vast majority of which falls between November and April. The natural vegetation of the Weipa area is Open forest, dominated by three main eucalypt species, namely E.tetrodonta (Darwin Stringybark), E.polycarpa (Long fruited Bloodwood) and E.nesophila (Melville Is Bloodwood).

To date, about half of the mined areas have been restored to Open forest, similar to the natural forest. Other land uses are Plantation timbers, tropical pastures, Research trials, amenity planting and agricultural crops. In 1980/81, over 80% of the total area was returned to Open forest. Eucalypts feature prominently in the species used. Some are raised in a nursery and planted out at the beginning of the wet season, while some are direct-seeded. In the latter case, seed and fertilizer are mixed with rock phosphate and water to produce a dough. The dough is extruded into pellets, which break down at the beginning of the wet season, allowing germination to commence.

Several eucalypt species are now used in the regeneration programmes. The three (indiginous) species mentioned above are all used, as are E.alba, E.camaldulensis, E.cloeziana, E.confertiflora, E.papuana, E.pellita and E.ptychocarpa. Other genera are also used - notably Acacia, Casuarina, Grevillea and Melaleuca.

Mottlecah

With its large grey leaves and crimson flowers, the Mottlecah (Eucalyptus macrocarpa) is one of the most striking ornamental mallees in the Western Australian wheatbelt.

It is also of great botanical interest, having the broadest fruits and largest flowers of the eucalypts. Although some geographical variation in size is evident, the plant's flowers can be as large as eight centimetres in diameter. Most flowering takes place between late winter and early summer. Despite the size of its flowers and fruits, the plant itself grows no taller than about five metres, and is often much smaller.

The range of the plant is limited to a narrow zone of open sandheath from just north of Geraldton, via the Hill River, Piawaning, Meenaar, Tammin and Bruce Rock to Kulin, where it usually occurs in small patches.

A recent survey located 191 populations of this plant distributed through 18 shires over a maximum range of 500 kilometres. However, of these, less than seven percent occurred in Nature reserves or National Parks. The greatest number of populations occurred on road verges and private land, and the majority of individual plants also occurred on private land. Much of the emphasis for the conservation of these plants in their natural habitat must be placed on the owners of private land and the general public.

Eucalyptus macrocarpa was first noted in 1840 by botanist James Drummomd who described it as "a shrubby eucalyptus with large glaucous(coated) coriaceous (leathery) foliage and conspicuous red flowers, succeeded by large seed vessels".

A scant 48 years later, the species was considered threatened by new settlers and in danger of disappearing forever. Botanist Ferdinand von Mueller claimed that "as this bush is only sparsely distributed in its own region, it is to be feared that, in the course of time, by the methodical burning-off to which the scrublands are subjected by the settlers, it will pass altogether out of natural existance like so many other local plants of Australia, to make space for the upgrowth of pastoral vegetation."

Fortunately von Mueller was inaccurate with his forecast that this species would disappear. However, it is still in danger and will need particular attention to ensure its future survival. A recent survey detailing E.macrocarpa's geographical variation revealed that with few exceptions, populations in the so-called near coastal northern heathlands were different from the inland wheatbelt populations. Northern heathland plants were usually smaller in stature. They had fruits smaller in diameter with staminal rings and discs that projected less above the rim, they had longer pedicels, and their leaves were shorter, more rounded and less glaucous. However there were some populations with characters intermediate between the two races. It was also found that the northern heathland race was far less common than the central wheatbelt race, being represented by only nine percent of the total individuals counted and 25 percent of the known populations.

As a result of the survey, the Department of Fisheries and Wildlife has lodged several applications for land to be set aside as Nature reserves at sites where suitable populations of E.macrocarpa occur, particularly the northern heathland race. Where populations or individual plants occur on private land, the owners will be asked to exercise due consideration to the plants' future survival.

Members Letters

It seems that several ESG members have been overseas lately! Barbara Henderson has been to Nepal, and saw some very large eucalypts in Kathmandu, as street plantings. Mick Richardson has been to southern China, where eucalypts are now very widely planted (anywhere that is not used for crops). Most common are E.citriodora(Lemon scented Gum) and E.umbellata(Queensland Peppermint). Kevin Rule observed occasional Tasmanian species in Britain, such as E.gunnii, E.coccifera, E.cordata and E.urnigera. Kevin commented that they appear to flourish.

Warwick Bates from Bendigo recently spent a day with a local forestry overseer who made some interesting comments on hollow trees vs "solid" trees with regard to timber quality. Hollow trees by definition have experienced tough conditions, and hence grow slowly, so that the grain of the timber is tighter. This means that the timber is stronger and more durable than a similar healthy faster growing tree. Fence posts from a hollow tree are superior (longer lasting) than ones from a "solid" tree. The same can be said of a tree growing on a poor site vs a tree growing on a favourable site. The poor-site tree has timber which is harder and longer lasting and with much less sapwood.

Staking of young trees

a) Eucalypt seedlings, if planted in their prime state of development, before rootbinding and leggy plants result, should be able to stand up readily without the aid of stakes. However, stakes are often desirable as markers rather than supporting structures,eg. to stop people walking on plants or to mark the position for future reference.

In many cases, trees are leggy and therefore stand limp when planted out. This is usually because they are held for too long in the nursery and because of the density of storage of the plants, they compete with each other for light by growing taller. In this situation, it may be necessary to prune the top growth to two-thirds, but generally there is no benefit in tieing such plants to a stake.

b) Advanced plants ie. containerised plants up to 2m high. In this case, the top growth/soil volume ratio is very high, and the root volume/soil ratio is also high. These high ratios are not advantageous. The comment is made by the author that "many times I have seen, and had reported to me by others, the outstripping of advanced plants by tubestock of the same species within a year or two of planting".

Staking is often required for advanced trees, but staking should be only a temporary support aid during the first year or two after planting. Rigid ties are unsuitable, as they either allow no movement, or they allow free movement, then a jolt at the end of the travel, which can result in wounding of the bark.

The best idea is to use flexible ties such as elastic, panty hose or rubber rings. Cheap rubber rings can be cut to any desired width from used car inner tubes. At first the rings are probably best placed about halfway up the tree. After a time, the rings could be lowered (without moving the stakes) and eventually removed completely. In this way, the tree can adapt gradually to the rigours of wind and rain, and its dependence on staking is gradually decreased over a period of months.

Eucalypt lovers planning a trip to W.A. should definitely include the Fitzgerald River National Park (near Hopetoun) on their itinerary.

On entering the eastern boundary of the park, East Mount Barren dominates the landscape. On this mountain, two very rare ornamental eucalypts occur, namely E.burdettiana and E.coronata. E.coronata also occurs on a few nearby hills, but E.burdettiana is totally restricted to East Mt Barren, and only on one side of the mountain! A walking track leads to the top, and both species can be seen beside the track approaching the top.

The most striking eucalypt in the park is undoubtedly E.sepulcralis (Weeping Gum). The road leading beyond East Mt Barren passes several stands of the Weeping Gum. It is a tree up to 8m in height, but has a trunk less than 10cm in diameter. The foliage is fully pendant and exceedingly sparse, while the stems are very whippy and it is possible to bend the trees right over so that the top of the tree touches the ground. The Weeping Gums are very prominent where they occur, as they stand high above the surrounding heathy vegetation.

It is an area subject to very frequent and very strong winds, and while most other plants (eucalypts included) have adopted a low shrub-like form to avoid the wind, E.sepulcralis goes straight up, in defiance, offering almost no resistance to the wind, as it has very few leaves, and admirable elastic properties. Other eucalypts in the immediate area include E.preissiana, E.tetragona and E.decurva.

Mr Richard Kostraby would like to hear from any other member who collects old books on Eucalyptus, as he would like to buy some to add to his collection. Richard's address is 17 Luly St, North Altona, 3025, Vic., or phone 03 3910298.

Seedbank

On the following two pages is the new seedlist. The species are arranged botanically, so that related species are side by side. The subgenera are listed in capitals.

2 - means that there are adequate stocks of this species at present.
1 - means that there is some seed of this species in stock, but more is needed.
0 - means that there is no seed of this species in stock.

Members are invited to request up to 15 packets of seed per order, or up to 30 packets a year. A stamped self-addressed envelope is required. I have purchased considerable seed this year, but the seedbank still relies heavily on donations from members. Please send seed whenever you are able.

Eucalyptus Study Group Seedlist and Classification - March 1984

ANGOPHORA

costata 1
floribunda 2
woodsiana 0
bakeri 0
subvelutina 0
melanoxylon 2
hispida 0

BLAKELLA

tessellaris 2
papuana 2
grandifolia 1
confertiflora 0
clavigera 0
kombolgiensis 0
gilbertensis 1
aspera 0

CORYMBIA

setosa 2
ferruginea 1
abbreviata 0
zygophylla 2
perfoliata 2
ptychocarpa 2
collina 0
bleeseri 1
foelscheana 1
latifolia 1
dichromophloia 0
erythrophloia 0
terminalis 0
nesophila 1
polycarpa 2
intermedia 2
porrecta 0
cliftoniana 1
abergiana 2
ficifolia 2
calophylla 2
haematoxylon 1
gummifera 2
trachyphloia 2
jacobsiana 0
peltata 2
ssp leichhardtii 2
bloxsomei 0
watsoniana 2
eximia 2
torelliana 2
citriodora 2
maculata 2
henryi 0

EUDESMIA

tetragona 2
erythrocorys 2
eudesmioides 1
gittinsii 0
ebbanoensis 1
roycei 0
jucunda 0
gongylocarpa 1
odontocarpa 1
gamophylla 0
tetrodonta 0
similis 2
lirata 1
baileyana 2
miniata 0
phoenicea 0

GAUBAEA

curtisii 2
tenuipes 2

IDIOGENES

cloeziana 2

MONOCALYPTUS

megacarpa 2
aquilina 2
preissiana 2
coronata 0
acies 2
ligulata 0
calcicola 0
pachyloma 1
diversifolia 2
patens 1
todtiana 2
buprestium 1
sepulcralis 1
pendens 1
exilis 0
johnsoniana 0
insularis 0
brevistylis 1
marginata 1
staeri 1
jacksonii 0
umbra 0
ssp carnea 1
acmenoides 2
muelleriana 1
laevopinea 1
macrorhyncha 2
ssp cannonii 1
youmanii 1
baxteri 1
alpina 1
blaxlandii 1
camfieldii 0
capitellata 2
agglomerata 2
tindaliae 2
eugenioides 1
nigra 0
phaeotricha 2
caliginosa 2
globoidea 2
cameronii 1
conglomerata 2
oblonga 1
ligustrina 1
mckieana 1
pilularis 2
pyrocarpa 2
sphaerocarpa 2
planchoniana 2
olsenii 2
obliqua 2
delegatensis 2
regnans 1
fastigata 0
oreades 1
luehmanniana 0
consideniana 2
remota 0
sieberi 1
multicaulis 0
pauciflora 2
ssp debeuzevillei 0
gregsoniana 0
stenostoma 0
fraxinoides 0
triflora 1
dendromorpha 0
obtusiflora 2
burgessiana 0
stricta 1
apiculata 0
rupicola 0
approximans 2
paliformis 0
kybeanensis 0
mitchelliana 0
stellulata 2
moorei 1
var latiuscula 0
pulchella 2
amygdalina 2
risdonii 1
tenuiramis 1
coccifera 1
nitida 1
radiata 1
ssp robertsonii 1
elata 1
willisii 0
dives 2
piperita 1
ssp urceolaris 0
andrewsii 2
ssp campanulata 2
haemastoma 1
sclerophylla 1
signata 0
racemosa 2
rossii 2

SYMPHYOMYRTUS

guilfoylei 1
diversicolor 1
deanei 2
grandis 2
saligna 2
botryoides 2
robusta 2
urophylla 1
pellita 2
notabilis 1
resinifera 2
propinqua 2
major 2
punctata 2
var didyma 0
var longirostrata 2
canaliculata 1
longifolia 2
cosmophylla 1
gomphocephala 1
cornuta 0
burdettiana 1
talyuberlup 2
megacornuta 2
newbeyi 0
lehmannii 0
conferruminata 2
occidentalis 1
astringens 2
sargentii 0
stowardii 0
macrandra 2
annulata 1
nutans 1
platypus 2
spathulata 2
ssp grandiflora 0
steedmanii 1
eremophila 1
cylindriflora 0
erythronema 2
var marginata 0
dielsii 1
cerasiformis 0
wandoo 1
redunca 0
gardneri 2
desmondensis 1
laeliae 1
accedens 1
trivalvis 0
prominens 0
grossa 1
stricklandii 2
carnei 0
salubris 2
campaspe 2
diptera 2
effusa 0
kruseana 2
brachyphylla 0
loxophleba 2
doratoxylon 1
decurva 0
goniantha 2
falcata 0
decipiens 1
micranthera 0
cneorifolia 2
angustissima 0
squamosa 0
pachycalyx 2
jutsonii 0
mannensis 0
bakeri 2
cladocalyx 2
cladocalyx 'nana' 1

brockwayi	1	brachycalyx	0	mannifera	2	brownii	0
longicornis	0	melanoxylon	0	ssp praecox	0	largiflorens	1
grasbyi	0	comitae-vallis	0	ssp elliptica	2	behriana	2
oleosa	2	deflexa	0	ssp gullickii	0	sparsa	0
kochii	0	concinna	0	scoparia	2	cambageana	2
plenissima	0	griffithsii	1	neglecta	0	intertexta	2
peeneri	0	corrugata	1	kitsoniana	2	orgadophila	2
transcontinentalis	2	torquata	2	sturgissiana	0	thozetiana	2
socialis	2	merrickiae	0	parvifolia	1	ochrophloia	1
yalatensis	0	platycorys	0	crenulata	2	moluccana	2
gillii	1	leptocalyx	1	dunnii	2	microcarpa	1
yumbarrana	0	pimpiniana	2	angophoroides	0	pilligaensis	1
oleosa v borealis	0	incrassata	2	bridgesiana	1	albens	1
eremicola	0	angulosa	1	banksii	2	argophloia	2
cooperiana	1	stoatei	2	goniocalyx	2	bosistoana	1
flocktoniae	1	tetraptera	2	nortonii	1	porosa	2
balladoniensis	0	forrestiana	2	cypellocarpa	1	lansdowneana	2
salmonophloia	1	ovularis	0	nitens	1	odorata	1
leptopoda	2	myriadena	0	maidenii	1	polybractea	1
synandra	0	cylindrocarpa	0	pseudoglobulus	0	froggattii	2
beardiana	0	oraria	0	bicostata	2	viridis	0
oxymitra	2	cyclostoma	0	globulus	1	fibrosa	1
ewartiana	1	brachycorys	1	globulus'compacta'	1	ssp nubila	1
orbifolia	0	dundasii	0	quadrangulata	1	decorticans	1
websteriana	0			vernicosa	0	drepanophylla	0
crucis	2	alba	2	subcrenulata	0	siderophloia	0
ssp lanceolata	0	bigalerita	0	johnstonii	1	cullenii	0
caesia	0	brevifolia	0	imlayensis	0	whitei	2
ssp magna	1	confluens	0	macarthurii	1	staigeriana	1
lanepoolei	0	umbrawarrensis	0	smithii	0	crebra	2
drummondii	1	leucophloia	1	viminalis	1	jensenii	0
macrocarpa	2	mooreana	0	ssp cygnetensis	0	melanophloia	1
rhodantha	1	houseana	0	pryoriana	1	shirleyi	1
oldfieldii	0	apodophylla	0	badjensis	0	pruinosa	1
burracoppinensis	1	herbertiana	0	baeuerlenii	1	rudderi	1
pyriformis	2	cupularis	1	benthamii	0	conica	0
youngiana	2	hallii	2	var dorrigoensis	2	baueriana	1
pachyphylla	2	seeana	2	kartzoffiana	0	polyanthemos	1
kingsmillii	0	bancroftii	2	dalrympleana	1	dawsonii	1
sessilis	0	parramattensis	2	rubida	1	fasciculosa	2
gracilis	0	pumila	2	chapmaniana	1	lucens	0
calycogona	1	amplifolia	2	glaucescens	0	melanoleuca	2
celastroides	0	tereticornis	2	gunnii	1	tetrapleura	2
rigidula	0	glaucina	2	archeri	1	paniculata	1
foecunda	2	blakelyi	1	saxatilis	0	beyeri	0
fruticosa	0	dealbata	2	morrisbyi	1	panda	2
formanii	1	chloroclada	2	urnigera	1	caleyi	0
uncinata	0	flindersii	0	perriniana	0	melliodora	1
discreta	0	sp. Mt Beerwah	2	cordata	1	leucoxylon	2
albida	0	dwyeri	1	pulverulenta	2	ssp megalocarpa	2
		gillenii	0	nova-anglica	2	sideroxylon	2
woodwardii	2	incurva	0	cinerea	2	microcorys	2
georgei	0	camaldulensis	2	cephalocarpa	1		
sheathiana	0	rudis	2			TELOCALYPTUS	
dongarraensis	0	brassiana	1	rummeryi	1		
striaticalyx	0	umbellata(exserta)	2	leptophleba	0	deglupta	1
dumosa	2	morrisii	2	patellaris	2	raveretiana	1
pileata	1	michaeliana	2	oligantha	0	brachyandra	0
calcareana	0			koolpinensis	0	howittiana	1
cyanophylla	0	camphora	2	tectifica	0		
conglobata	1	ovata	1	argillacea	2	Hybrids	
anceps	2	yarraensis	0	microneura	1		
fraseri	1	barberi	1	microtheca	2	"Torwood"	2
kondininensis	0	brookeriana	1	distans	0		
clelandii	0	aggregata	2	largeana	1		
lesouefii	1	rodwayi	1	normantonensis	1		
SLE:0 "pterocarpa"	2	aromaphloia	1	lucasii	1		
rugosa	1	acaciiformis	1	populnea	1		
		nicholii	1				