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RHAMNACEAE STUDY GROUP

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Hello members. As I write this, the temperature is 34 degrees, there is a strong blustery wind, and it feels more like mid-summer than the end of spring. The weather has been pretty unpredictable recently (we actually had a light snowfall two weeks ago!), but, overall, it is just extremely dry here. The Pomaderris I've planted have all survived and flowered this year. Some are now bearing seed capsules, but several other species flowered during very hot and windy periods and the flowers dried up before any pollination could occur to produce seed.

The Study Group did a couple of trips to local Pomaderris hot-spots in spring. The Mulloon Fire-trail (from Forbes Creek to Bombay (near Braidwood, NSW)) is home to nine species of Pomaderris (See Newsletter Number 14). We found them all, but they were suffering the effects of the hot weather, and flowering was less than profuse. The Cullulla Road-Willow Glen Road area near Tarago was in slightly better condition, with *Pomaderris elliptica* and *P. ferruginea* putting on a good display. There was, however, a disappointing downside to this visit: one of only two known populations of *P. delicata* was growing in a rather tenuous position along the side of a dirt road, almost opposite a quarry. It had suffered previously from damage during roadworks, from a fallen tree and from the drought. Now, for some reason, the local council had decided to widen and re-route the road, diverting it through the floor of the quarry and moving vast amounts of rock and rubble. Unfortunately, a substantial quantity was dumped on *P. delicata* and we found only two or three small, shattered plants surviving. A NSW Department of Environment and Conservation compliance officer is to investigate – but, of course, this won't bring the plants back again. Fortunately, a short distance down the road, a few plants are surviving just inside the fence-line of a private property, and, in spite of the drought, seem quite healthy.

On to a more encouraging item. Ros Cornish, one of the founding members of our Study Group was pictured on the front page of the "Bungendore Mirror", a local newspaper, leading the Carwoola Landcare Group through local bushland on private property on Wanna Wanna Road. And what were they looking at? Well, the group was half hidden by a magnificent Anchor Plant (*Discaria pubescens*). It was covered in clusters of pale cream flowers, and looked an absolute picture. Ros, of course, made the Landcare Group aware that it was in the Rhamnaceae family. From the photo, they all seemed rather impressed by this hardy plant.

Before the next Newsletter (in March or April 2007) I would like to hear from members about what Rhamnaceae they are growing or about any of these plants seen on members' travels. Please put pen to paper, even if it is only a few informative lines!

Rhamnaceae Study Group Website

Earlier this year, ANPS Canberra Region offered the Study Group a separate space on their website and has been helping Ros Cornish to get it set up. So far, it contains some general observations on the Rhamnaceae family and descriptions of some of the genera. Eventually, we hope to get photographs of all the *Pomaderris* species and information about them onto the website. Although the emphasis will probably be on *Pomaderris* to begin with, we will also cover the other genera as photos and information become available. Digital cameras are about to be busy, but we've found that we can copy some of our better-quality photos taken in the pre-digital era. Any suggestions about material we could use, or information about specific plants, would be welcome. If you would like to look at the Rhamnaceae Study Group website, it can be found at <http://nativeplants-canberra.asn.au/RSG>

Pomaderris reperta nominated for listing as an endangered species

In May this year, *Pomaderris reperta* was nominated under the Environment Protection and Biodiversity Conservation Act 1999 to be listed as an endangered species. The Rhamnaceae Study Group was contacted by the Department of Environment and Heritage, Australian Government, to provide some additional information for the assessment by the Threatened Species Scientific Committee and to make suggestions about the conservation of the species. I provided what information we have about the species, and suggested that possibly the best way of conserving it would be to undertake a re-location exercise, i.e. to propagate sufficient plants to establish several populations elsewhere. The Study Group and ANPS Canberra are willing to assist in any such program.

Two small populations of *P. reperta* were originally found on a single ridgeline close to Denman, NSW, and the species was described by Neville Walsh and F. Coates in 1997. In December 2002, it was gazetted as an endangered species under the NSW Conservation Act 1995 on the advice of the NSW Scientific Committee.

Later, another larger population of *P. reperta* was found at Limb of Addy Hill, an area near Denman that had been designated as a site for Centennial Coal to develop an open-cut coalmine. Travis Peake, the environmental consultant who had done surveys of the area, took Natalie Peate and me out to see this population last year.

Extensive searches of the Goulburn River and Wollemi National Parks, Manobalai Nature Reserve and nearby Crown Land by S. Bell in 2001 failed to find any other populations of *P. reperta*. So, the only *P. reperta* plants known are in an area with a radius of 4 km – some on the Myanbat Logistics military area and the others on the site of a future coalmine which will involve the clearing of some 2000 hectares of nearby bushland. How critically endangered can you get?

The *P. reperta* on the coalmine site have had a temporary reprieve. Last week, approval for Centennial Coal to mine the area was rejected by the Land and Environment Court – not because of *P. reperta*, but because the company had not included greenhouse gas emissions in their estimates of the environmental effects. I believe they are to appeal the decision.

Field trip to Eyre Peninsula, South Australia (Jo Walker)

During August, I travelled across to the Eyre Peninsula to see how the Rhamnaceae had fared after the devastating fires there two years ago. Seeing the aftermath of the fires on television at the time – acres of pale ash and blackened, bare tree trunks – I wondered if anything could survive such a fierce conflagration. The area worst affected was the country around Wanilla and North Shields and south to Port Lincoln. Certainly, the country was barely recognizable because the trees were still only bushy basal growth and most of the other plants re-establishing themselves were, as yet, still small seedlings. There were *Xanthorrhoea semiplana* in flower though, and the beautiful little *Boronia coeruleascens* had survived and flourished, its beautiful pale blue or mauve flowers brightening up the roadsides in places.

But, back to the Rhamnaceae. My first stop was near Rudall on the unburnt Darke Peak Road (this is not a spelling mistake - although my computer is trying to tell me it is: Darke was an explorer, and the peak is named after him) as I'd seen *Spiridium erymnochladum* there on a previous visit. There are only a few plants – one on the roadside and three along the railway line growing alongside *Spiridium bifidum* – and they looked in a slightly better condition than when I'd last seen them two years ago. They are smallish plants, about 60 cm tall, with dark grey-green foliage and small heads of cream flowers.

Travelling south along the Tod Highway, I turned off for a while onto Tillers Lake Road and found *Spiridium bifidum*, a beautiful species with pale greyish bifid leaves and whitish floral leaves around the dense flowerheads. The whole bush has the appearance of a pale cloud. At Cummins, the *Pomaderris obcordata* along the roadside had just about finished flowering.

At Wanilla, I turned east towards North Shields – a very depressing journey, as this area was badly burnt. The Wanilla Conservation Park lies along this road, but I reached North Shields without noticing any sign of it because the fire had changed the scenery so much – although there was lots of low re-growth, mostly seedlings. North Shields was badly burnt, but the people seem to be coping as well as the plants – lots of new houses and sheds have been built after the fires. I nearly had my own disaster on that road – I skidded on some loose gravel strewn across the road on a sharp bend and fish-tailed the car in an effort to miss a sign that informed “Road Hazard Ahead”! I think someone had put the sign up the wrong way round!

I stayed at Port Lincoln for three days to visit the surrounding areas, and next morning went out to Lincoln National Park and climbed Stamford Hill to see if the *Pomaderris flabellaris* had survived. The burnt mallees still looked a bit stark, but were coming back bushily from their lignotubers. And there were masses of small plants of all kinds - *Alyogyne huegelii*, *Correa reflexa*, *Calytrix tetragona* and a few orchids to name a few. And *Pomaderris flabellaris*, which was really good to see. The plants were still very small: some had probably regenerated from unburnt basal stems, but some were obviously seedlings. One or two had started flowering.

The following day, I went back to find what was left of Wanilla Conservation Park. It had certainly been badly burnt, but there were lots of the little blue *Boronia* plants, plus Pimeleas, Hibbertias, Grevilleas and Duck and Spider Orchids. At first, there seemed to be no sign of Rhamnaceae. Then I found three small *Cryptandra*

leucophracta, almost certainly seedlings, and a small group, right on the edge of the road, of *Spyridium bifidum* var. *wanilla* (the non-bifid form of the species).

Altogether, there were masses of little seedlings and small plants of all sorts of species – they had come back fantastically from the featureless and grey, ashen landscape left by the fires.

The next stop was Murrunatta Conservation Park on Settlers Road. One *Burnettia nigricans*, the Red Beak Orchid, was in flower and lots of leafy rosettes of this species were covering the ground in places. I found one *Cryptandra leucophracta* and some healthy *Spyridium nitidum* and *S. spathulatum* seedlings growing strongly amongst the ashes. Then it was over to Coffin Bay National Park, a small peninsula in its own right, jutting out into the sea on the west coast of the Eyre Peninsula. This area wasn't affected by the fires. Spring seemed to have been a bit earlier than when I last visited, and there was not a lot in flower. I did see a few *Spyridium phyllicoides*, the low-growing, dense form that grows along the coast – a very attractive little plant and one that is more easily grown than some of the other *Spyridium*s.

Next morning, I set out for the Tod Reservoir, not far from Koppio, one of the few places where *Spyridium leucopogon* is found. This is a small, spindly little plant with tiny, bright green leaves and small heads of white flowers. Although the Reservoir area was badly burnt, masses of little seedlings were covering the ashes. *S. leucopogon* was there amongst them, several of them bearing their first flowers. Then, a bit of a diversion. To find out what life was like for the early settlers on the Peninsula and to delve into the history of some of the local families, a visit to the Koppio Museum is worth the time. I'd passed it several times, but called in this time and spent nearly two hours engrossed in the local history. Then it was on to Cummins, and westward on the Bratten Highway away from the fire-damaged areas. A nice surprise was another population of *Spyridium leucopogon* by the roadside. They seemed much more robust and bushy than the Tod Reservoir population. Just before Elliston, where I planned to stay a couple of nights, I turned off onto the Cummings Memorial track (the memorial was for a young man drowned when his ship capsized in 1959). There were lots of the low, compact form of *Spyridium phyllicoides* there. It is a common coastal plant, very hardy – I saw quite a bit more of it along the Ocean Drive the next day.

My last Rhamnaceae stop on the Eyre Peninsula was along the Birdseye Highway towards Cowell when I turned off on the road to Murdinga for a morning tea stop. Another form of *S. phyllicoides* – a small, rather open shrub – was growing there amongst a profusion of other native plants. It's a place obviously worth investigating on the next trip.

The final Rhamnaceae stop of the trip was between Moombooldool and Kamarah near Ardlethan in NSW. There is a stretch of roadside vegetation there, between the highway and the railway line, on red sand country, that used to be worth a visit. It has deteriorated over the years, and, last time I visited it, Bridal Creeper had begun to invade it. This time, the vegetation nearest the railway line had been bulldozed, and old sleepers dumped on the plants nearer the road. But I did manage to find a few small *Cryptandra leucophracta*, dusty and dry but still surviving. Then I stopped a bit further down the road – on the corner where a dirt road meets the highway, there used to be a mass of plants, including a large floriferous *Cryptandra amara* plant.

Last time I was there, two years ago at about the same time of year, it was in full flower, about half a metre high and nearly a metre across and covered in strongly scented little white flowers. No longer – sadly, the bulldozer had been at work there too, and this lovely plant and the surrounding vegetation was just a heap of dried sticks. I did get some cutting previously and planted a couple of plants, but with the drought and the attentions of my friendly kangaroos and the odd rabbit these are struggling.

Apart from this disappointing vandalism at the end of my trip, the journey was interesting and encouraging. It was good to see the amount of re-growth in the burnt areas of the Eyre Peninsula and to realize again just how resilient our plants are.

Feature Plant – *Pomaderris aspera* (Hazel Pomaderris)

This is one of the larger *Pomaderris* species – it can grow into a small tree up to 10 metres tall, often multi-stemmed. It grows mostly in wet sclerophyll forest or rainforest and, occasionally, in drier situations on sheltered, steep hillsides. One rather disjunct specimen we found at Tarago NSW in open dry sclerophyll woodland. Strangely, there was also a tree fern close by. This was a very long way from where either could expect to be sighted. They were both rather stunted and were growing in a sheltered gully running down from nearby hills. Perhaps they were the last remnant of wetter times – a bit of a mystery, anyway! It is a very widespread species, distributed from south-east Queensland through New South Wales to Victoria and south-east South Australia into Tasmania.

This is one of the easiest *Pomaderris* to identify – its large, elliptic, dark green leaves with their toothed margins are often over 15 cm long and 6 cm wide and deeply wrinkled on their upper surfaces. The lower surfaces of the leaves are covered with white stellate hairs, at least some of which are stipitate (i.e. stalked). This characteristic is one of the main differences between *P. aspera* and the rather similar *P. apetala* which has sessile stellate hairs on the undersurfaces of its leaves. There are often scattered stellate hairs on the upper surfaces of *P. aspera* with less on the older leaves.

The flowers are small and yellowish-green to cream, occasionally with a reddish tinge. They lack petals and are borne in loose, elongate, terminal panicles. The capsules are mostly glabrous. The trunks of older specimens of *P. aspera* are often beautifully patterned by several species of lichens.

P. aspera grows quite fast. I have two planted along the creek – one from the mountain forests south of Canberra and the other from the edge of the Goobragandra River near Tumut. The former has rather rusty flower buds and somewhat drooping flower panicles and glabrous capsules, whereas the Tumut specimen has greyish flower buds, more upright flower panicles and the capsules are fairly densely covered with stellate hairs, giving them a slightly frosty appearance. I sent it to Neville Walsh for identification and he assured me it was *P. aspera* (it certainly has stalked stellate hairs). Both of these plants are growing well, in spite of the drought, and there are about a dozen small plants coming up around them – some possibly suckers, although several seem to be seedlings. The flowers are attractive to both native insects and

honey-bees. The buzzing of the bees, a few weeks ago, could be heard from some distance along the creek.

Pomaderris aspera is a rather large shrub for small gardens, but would certainly be worth considering for re-vegetation and stabilization of creeks.

Some new *Spyridium* species for New South Wales

Until recently, there were only three *Spyridium* species listed for New South Wales: *Spyridium eriocephalum* in western NSW, *S. cinerea* on the coast near Nudgee, and *S. parvifolium* on the southern slopes and tablelands. Now we have three more, due to the naming of *Spyridium burragorang* by Kevin Thiele and the transfer of two species of *Cryptandra* (*C. scorchedii* – which had also been a *Stenanthemum* for a while – and *C. buxifolia*).

Previously, *Cryptandra* and *Spyridium* were identified as such by a single floral character:

Cryptandra: Hypothecium more or less fused to only the base of the ovary, tubular and produced above the ovary and disc.

Spyridium: Hypothecium fused to ovary and disc, only sepals free above ovary.
(Gwen Harden, Flora of New South Wales, Vol. 1, 1990)

Kevin Thiele and Judy West have found that three other morphological features can be used to separate the two genera (see illustration on next page). Using these features place the former *Cryptandra scorchedii* and *C. buxifolia* firmly within the genus *Spyridium*.

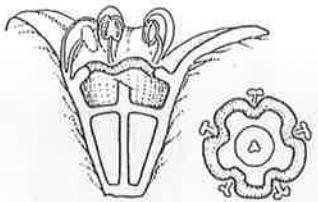
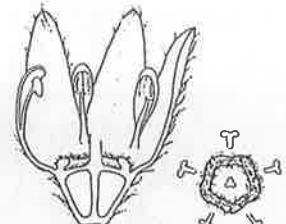
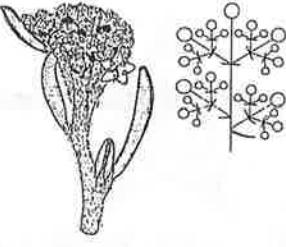
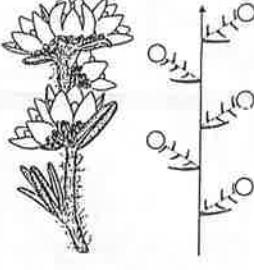
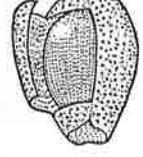
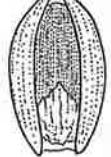
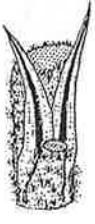
Spyridium burragorang was previously placed in *Cryptandra* but without a specific name (it was known as *Cryptandra* species A). This attractive little shrub was first discovered by George Caley during an expedition along the Wollondilly River in 1806. It then remained undisturbed until 1960 when it was collected again. A further collection was made in 1994, and now, after a very long time, it finally has a name. See page 8 for the illustration of *S. burragorang*.

I have two of these attractive plants (purchased from a Growing Friends of ANBG sale a few years ago). One is struggling because it gets trodden on occasionally by my kangaroo friends. The other one is growing slowly but steadily amongst some boulders, sheltered by a larger shrub and watered regularly.

Illustrations and information for this segment are from:

“*Spyridium burragorang* (Rhamnaceae), a new species from New South Wales, with new combinations for *Spyridium buxifolium* and *Spyridium scorchedii*.”
By K. R. Thiele and J. G. West in Telopea 10(4) 823-829 (2004).

Table 1. Diagnostic characters in *Spyridium* and *Cryptandra* s.s.. (Features in bold text are unique to the respective genera and are considered to be synapomorphies)

<i>Spyridium</i>	<i>Cryptandra</i>
 Floral disk glabrous, lining the hypanthium and forming a shelf-like projection notched adjacent to the staminal filaments	 Floral disk usually pubescent, forming a sinuate annulus around the base or summit of the ovary
 Flowers arranged in loose or dense compound cymose inflorescences, with cymose bracts	 Inflorescence comprising a single flower subtended by several to many spirally-arranged bracts
 Disseminule an indehiscent pyrene with a thin and papery (often ± translucent) wall covered with a crystal layer, the seed loose within the pyrene and lacking an aril*	 Disseminule a seed, the pyrenes ± persistent in the mature fruit, splitting along their inner face to release the arillate seed
 Stipules membranous or chartaceous, free from each other and lying between the petiole and stem	 Stipules indurate, connate around the base of the petiole

* *Trymalium* also sheds an indehiscent pyrene as disseminule, but in that genus the pyrene wall is crustaceous rather than thin and papery, and lacks the crystal layer of *Spyridium*.

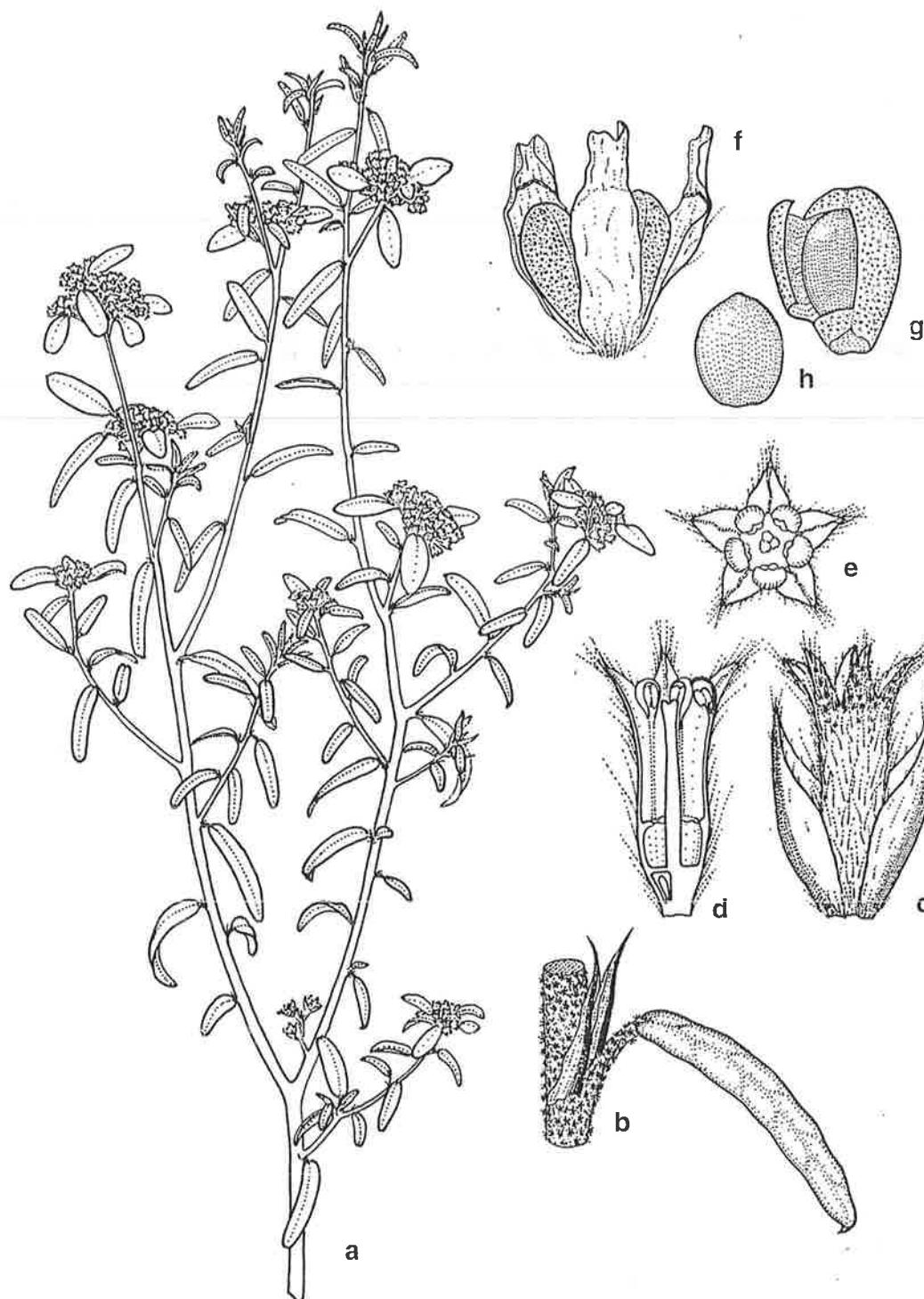


Fig. 1. *Spyridium burragorang* a, habit $\times 0.5$; b, leaf and stipule $\times 5$; c, flower with bracts $\times 10$; d, flower in LS $\times 10$; e, flower from above $\times 10$; f, fruit, showing pyrenes within the schizocarpic hypanthium $\times 10$; g, pyrene, opened to show the seed $\times 10$; h, seed $\times 10$.

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