AUSTRALIAN NATIVE PLANTS SOCIETY AUSTRALIA

HAKEA STUDY GROUP NEWSLETTER No. 84

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Dear members,

Welcome to a new year. As in previous years we have learnt that the weather can be very unpredictable and this summer is no different with cyclones and heavy rains down the east coast and hot and dry in the west. Fortunately our flora has adapted to these conditions whether it has been long droughts or flooding rains as we have seen in the Cape York region recently.

In this issue I have decided to write about the Hakeas from the northern areas of Australia where the climate is subtropical or tropical. The species from these areas tend not to be grown by members because they are considered not to be cold or frost tolerant. However, with a bit of protection they may prove to be successfully grown in many members gardens. Peter Thomas from Townsville has been very active in discovering where they occur and noting some of the soil and environmental conditions they grow in. In a recent trip in the first week of November 2023 Peter travelled out to the Barkly tableland west of Mount Isa in the Northern territory. The cattle stations out there are extremely large and when bush fires occur they are usually left to burn themselves out as there are not the resources to fight them. It was in this scenario that Peter found himself when trying to photograph Hakeas chordophylla, lorea, macrocarpa and arborescens. He did note the Hakeas have that corky blackish fissured bark which helps them reduce the damage caused by fire to their trunks and regrowth comes from nodes within the bark which allow regrowth after fire. He also noted that those burnt the previous year tend to flower earlier and release seed earlier than November. As none of these retain their seed it is always difficult to know exactly when to go out to collect seed. Thanks Peter for your efforts.

Hakea macrocarpa

This species occurs north of Alice Springs and extends to north of Tennant Creek and east towards the Queensland border. It is quite common along the Barkly and Plenty Highways. It grows in sandy gravelly soils as well as soils that are a mixture of clay and gravel. The conditions are harsh, from flooding rains to hot dry periods, so when conditions are right for germination it has to germinate quickly and get its penetrating roots down into moisture-bearing soils. Its bark is corky and the flat strap-like and somewhat recurved leaves 5- 350mm long x 3-15mm wide, which makes it easy to identify. The flowers are in long racemes in winter of 40-200 yellowish inflorescences. The fruit is up to 40mm long, not very wide and with a smoothish surface.

In warm temperate to tropical areas where frost is low this plant should grow very well. I know Peter is growing it in Townsville but it is only being tried by members now from seed and it will be sometime before we are able to establish its hardiness. There are mature plants in Olive Pink gardens at Alice Springs.

Hakea arborescens

This species is found in northern Australia extending from the Kimberley across to Cape York in open forest. In its natural tropical environment it is a shrub or tree to 7m growing in stony soils where summers are hot and wet and winters dry and warm. Its leaves are green to greyish, flat, linear, 50 to 170mm long and 2 to 9mm wide with a tapering tip. Its flowers are on a peduncle 4-13mm long with 50-60 cream flowers in axillary clusters. It flowers from January to June. Its fruit is ovate to 55mm long with a recurved terminal beak. The surface is smooth.

Hakea chordophylla and Hakea lorea

These two species are very similar and can be difficult to identify in the wild. For this reason I will go to some length describing their features. Peter Thomas in his trip to the Barkley tablelands observed they did not grow together.

Environment.

Chordophylla. From about Onslow in Western Australia through the Kimberleys and Pilbara, from Katherine south to around Alice Springs in the Northern Territory and spasmodic through central Queensland. A shrub to small tree, 2-6m tall and apparently lignotuberous. Grows in subtropical climate to warm temperate in sandy or loamy soils and also in stony laterite from grassland to woodland. The winters are generally dry and mild and summers hot with varying degrees of rainfall.

Lorea. From Exmouth and through the Pilbara and south to about Hyden in the more arid parts of Western Australia, very prominent in the Northern Territory extending from Tennant Creek south to below the border with South Australia and from the Atherton Tablelands along and just to the west of the Great Divide in Queensland right down to the NSW border. It can be near the coast around Rockhampton. The climate varies from arid to subtropical and it grows in a variety of soils from sandy to clayey soils.

Trunks and shape.

Chordophylla. A small shrub to a tree, 2-6m high and apparently lignotuberous. Trunk has corky fissured bark. Branchlets often glaucous, sometimes glabrous or with sparsely to moderately dense simple glandular hairs or sometimes with appressed eglandular hairs only around the leaf base.

Lorea. A shrub to tree 2-10m high. Bark corky. Lignotuberous. Branchlets and leaves densely appressed-pubescent to woolly tomentose. Hairs on branchlets can be persistent but ultimately glabrescent.

Leaves

Chordophylla. Leaves terete and usually simple 30-42cm long x 1.6-2.9mm diameter, appressed eglandular-pubescent when very young, apex porrect.

Lorea. Leaves simple or compound with 2-6 segments of 0.9-2.3mm diameter. Leaves can be pendulous or erect 15-68cm long or compound 14-35cm long with undivided base 4-18cm long.

Flowers

Chordophylla. Inflorescences 35-70 flowers, rachis 70-130mm long, glabrous and usually glaucous or with sparse to dense simple erect glandular hairs. Pedicels 5-10mm long, straight or curved, pollen presenter oblique. Perianth recurved in bud, 6-9mm long, cream or green yellow to golden yellow flowers. Pistil 21-29 mm long, style straight or curved. Flowers usually June to September.

Lorea. Inflorescence consisting of 15-200 flowers. Rachis 50-250mm long, pedicel 3.5-13mm long and perianth densely woolly tomentose or appressed pubescent. Perianth 5-11 mm long to apex or curved limb. Pistil 15-28mm long. Gland 1.5-2.8mm long. Flowers white to yellowish or greenish. Flowers April to September.

Fruit

Chordophylla. Fruit 26-40 mm long with long obscure to prominent beak, 1/3 -1/2 length of fruit. Valves obliquely ovate 13-20mm wide, red brown wood zone 1.5-3mm wide, pale wood zone 4-7mm wide. Seed occupying approx half of valve 23-35 mm long, 8-13 mm wide. Wing ¼-1/2 way down one side of seed body only.

Lorea. Fruit 25-42 mm long, beaked for approx half its length. Valves obliquely ovate 14-24 mm wide, red brown wood zone 1-5 mm wide, pale wood zone 4-10mm wide. Seed occupying approx. half of valve 22-38mm long, 8-17mm wide. Wing approx halfway down one side only.

Conclusion.

I have inserted a lot of botanical information which for many readers might not make much sense. There is no easy way of identification unless you happen to be there at flowering time and be equipped with lenses to observe the leaf and flower structure. Chordophylla is not in easy reach of most members and I do not know of any plants in gardens other than one in a planted out nature strip at Longreach in Queensland.

Lorea has been grown by some members to flowering and setting seed stage, Thelma Vandepeer in Adelaide, the late Max Ewer at Lucindale, South Australia, Burrendong Arboretum near Wellington, NSW, where there is a beautiful pendulous plant, and myself when we lived up near the Murray River in northern Victoria.

Peter Thomas' observations are that H chordophylla and lorea do not grow together which would prevent hybridization. However I believe in the Pilbara thy do grow together but chordophylla flowers later.

I have included photos of H chordophylla and lorea thanks to the efforts of Peter Thomas. Some of the information I have included has come from the Flora of Australia Vol. 17B, Hakeas of Western Australia by Jennifer Young and A Field Guide to Hakeas by the late Ivan Halliday. I acknowledge their contribution to the research on Hakeas.

Other Hakeas in the subtropical and tropical areas

These include Hakeas lorea ssp borealis, persiehana, pedunculata, and plurinervia. I will describe them here so that they are all grouped together as part of the northern Hakeas.

Hakea lorea ssp borealis

Occurs in the Kimberleys and across the top end of the Northern Territory north of Katherine. Has the same features as lorea ssp lorea but the fruit is much longer from 40-60mm. I grew this species in northern Victoria but each winter the leaves would fall off and new ones appear about November which to me says it is stressed by the cold weather.

Hakea persiehana

This is in the pendunculata group with arborescens and pedunculata. The group's name refers to the flower stem being on a long peduncle. Hakea persiehana is a tall shrub to tree 3-10m high with a spreading crown. It grows from the Atherton Tableland north into Cape York in open forest. The bark is grey and deeply fissured. Its leaves are simple, erect, 8-280mm long and 0.7-1.0mm diameter with a peduncle 5-18mm long. The creamy white to pale yellow flowers occur in November to February in inflorescences of 50 to 100 flowers. Fruit of medium size obliquely ovate 45-55mm long by 20-27mm wide with a recurved tip. Members are now starting to grow this species in a variety of soils and it will be interesting to see how it responds to different climates. It is also being grafted onto Hakea drupacea to increase its cold tolerance.

Hakea pedunculata

This species occurs around Cooktown and further north on Cape York in swampy or mangrove areas, which is much different to most Hakeas' requirements. I have seen it growing under large Melaleuca trees on the edge of swamps in sandy soils overlying clay. It is a shrub to small

tree 1-5m high with grey finely fissured bark. Leaves are flat, broadly obovate 50-100mm long by 8-20 mm wide with a rounded tip. Flowers of up to 40 per inflorescence are greenish white to creamy white on peduncles of 6.5-25mm in length. The fruit is obliquely obovate 20-30mm long by 10-12mm wide. Seed occupies the whole of the valve.
I grew this species for many years in Northern Victoria up against an easterly brick wall where it flowered but did not set seed. It appreciated regular watering in summer. Seedlings will shortly be grafted onto Hakea drupacea to see if this improves cold tolerance.

Hakea plurinervia

Also known as Hakea benthamii in Queensland. This species has proved quite cold tolerant here at Elliminyt, where it is exposed to cold westerly winds in winter. A species from the Atherton Tablelands southwards along the Great Divide and sometimes near the coast growing in loam to clay soils. It is an erect to spreading shrub 1-3m tall and probably not lignotuberous. The leaves are light green, narrowly obovate-elliptic with curvature in some cases, 80-210mm long by 9-35mm wide. There are 5-9 longitudinal veins above and below, secondary veins are reticulate. Inflorescences with 40-70 white flowers with pedicels much longer than the perianth. Fruit obovate-elliptic 25-35mm long by 12-15 mm wide, with a not very prominent beak with a tip. The surface has pustules dotted across it. The seed wing extends down both sides of the seed and around the base. It would be great if more members grew this one as it seems to tolerate quite a range of climates.

Seed bank

Thanks to Peter Thomas for seed of northern species and to a friend in Alice Springs for seed of Hakea divaricata. The seed bank has quite a few species available to members so why not have a go. I have tried germinating some twenty species this summer with most proving successful.

Financial

Brought forward	4198-53
Income New members	40-00
Expenditure	
Printing and postage Newsletter No. 83	50-40
Balance	4188-13

New members

We welcome Simon Gilliland and David Binch both from Victoria. We hope they will enjoy growing more of the Hakeas in their gardens.

Hakea excursion 2024

At this stage the probable date is the last week in July when we will explore the Fitzgerald NP and areas around Jerramungup and Lake Grace. If you are interested please contact myself.

Well I hope you enjoy this newsletter and have a go at growing the northern species. It is only by trialing that we will get a better understanding of their durability as garden plants. Just imagine having a weeping Hakea lorea in your garden. All the neighbors would stop to admire it. However the loreas I have grown did not weep as the leaves varied from upright to weeping. So perhaps we need to get some seed of the weeping forms and trial them to see if they come true to form.
I have now been growing Hakeas in Elliminyt for nine years and most have grown remarkably well despite the cool temperate climate and 700mm plus rainfall. A couple have died due to the climate and competition from other plants. Pruning is now a necessity as some have grown so large that they are covering others. The summer so far has been very mild but we have missed the heavy rains that went across northern Victoria.
Cheers, Paul.

Hakea arborescens - 2km east of Barkly Roadhouse 26th. October 2023

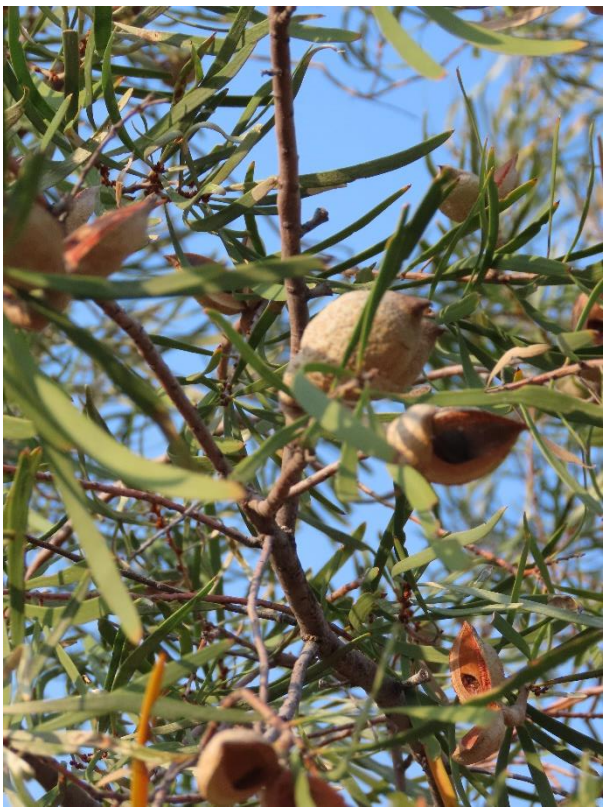
Hakea macrocarpa Barkly 26th October 2023

Hakea chordophylla - 5km west of Barkly Roadhouse 26th. October 2023

Hakea lorea – 100km west of Julia Creek, ‘Balaclava’ cattle station, 27th Oct 2023

Hakea macrocarpa

Hakea arborescens



Hakea chordophylla

Hakea chordophylla

Hakea lorea, east of Cloncurry

Hakea lorea weeping form at Burrendong Arboretum