AUSTRALIAN NATIVE PLANT SOCIETY

HIBISCUS AND RELATED GENERA STUDY GROUP

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In this newsletter we are looking at ***Hibiscus meraukensis,*** which is the most common species found throughout tropical Australia. It has a long history dating right back to Captain Cook's voyage along the Australian east coast during 1770.

The Captain Cook image + vest image on the cover page accompanied a news article written by Suzanne Dorfield appearing in the Courier – Mail Newspaper last September.

It was reported that the 18th century vest was made by James Cook's wife, Elizabeth for her husband's return to England and is embroided with Cape York Hibiscus flowers. David Hockings and myself looked at an enlargement of the image and decided that the Hibiscus was most likely ***Hibiscus meraukensis.*** Experts believe that she looked at drawings of the flowers by Joseph Banks from the ships landings, making it a rare piece of Queensland's history. This important artefact was put up for auction in New Zealand and was apparently 'passed in'.

The second image depicts ***Hibiscus meraukensis*** on an Australian postage stamp issued on 12th March 1986.

Spring Meeting

Planning is underway for a Study Group Meeting on Saturday 29th of September.

Beverley Kapernick of 188 Allen Road, Chatsworth, Gympie 4570 has kindly offered to host this meeting. Please try and arrive between 10 and 10.30 am. She has proposed a BBQ lunch at $5.00 per head to follow on from a short meeting in the morning. Please bring salads or sweets. Bev wants to take us for a drive between 12 noon and 3 pm to see *H. splendens* and *H. heterophyllus* in her area. Many of you will probably need to get away by 3 pm. I will try and get this information printed in the Bulletin.

Victorian Newsletter "Growing Australia".

Lachlan Garland, the Editor of Growing Australia, the newsletter of the Australian Plant Society, Victoria has requested a contribution about Hibiscus and our Study Group. He states that the column of about 500 words is a way of presenting each Study Group to our members who may not be Study Group Members, and hopefully raise interest and aid in increasing membership in the Study Group. I will attend to this request to meet the deadline for the September Issue being 1st August.

Hockings/Harvey Field Trip to Cape York

This undertaking planned for early August, has once again been put on hold due to health issues. We are still thinking of a shortened trip to Mackay and inland to replenish seed supplies and take images.

Study Group Subscriptions

Subs. for 2012/2013 are now due. A few subs. for 2011/2012 are still outstanding. As we are now sending about half of our Newsletters by email, those people or groups need only pay $5-00. If hard copies are required a sub. of $10-00 applies. A subscription form is attached to this Newsletter.

Content of Newsletter

I try to include a wide coverage of material that hopefully will appeal to members as a whole. Contributions on any aspect of Hibiscus growing, observations etc would be most welcome as would suggestions on what to write about.

Our membership, including groups remains at 50 +. We would like to have members from tropical Western Australia and the Northern Territory where many of the Australian species are to be found. The same applies to the southern regions where the Alyogynes grow as well as ***Malva australiana, Howittia trilocularis*** and ***Radyera farragei.***

With best wishes to members –

Geoff Geoff Harvey, Study Group Leader

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HIBISCUS TRIONUM RE-EVALUATION

Lyn Craven et al. recently completed "A taxonomic re-evaluation of *Hibiscus trionum* (Malvaceae) in Australia" that was published in the New Zealand Journal of Botany vol. 49, N0 1. March 2011, 27-40.

It was concluded that there are three indigenous species in this complex. One of these species *Hibiscus richardsonii,* occurs in coastal regions of New South Wales and the north-eastern half of the North Island of New Zealand. *Hibiscus tridactylites* Lindley is found in inland southern and eastern Australia. The third species *Hibiscus verdcourtii* Craven occurs widely in inland Australia extending into the tropical north. It was previously known to the Study Group as *Hibiscus trionum var. vesicarius,* the wide leaf bladder ketmia.

The trionum complex was extensively covered in our Newsletter N0 12, including an image of *Hibiscus richardsonii* printed with permission of Peter de Lange, one of the authors of this taxonomic evaluation.

Imported, reputedly improved varieties of *H. trionum* were widely available through seed companies during recent times and I have grown most of them in containers. *H. tridactylites* and *H. verdcourtii* are serious weeds of cotton and summer sown cereal crops in Australia.

FURTHER READING

http://www.tandfonline.com/doi/abs/10.1080/0028825X.2010.542762

http://www.cottoncrc.org.au/industry/Publications/Weeds/Weed_IdentificationTools/Weeds_by_common_names/Narrow-leaf_bladder_ketmia

http://www.cottoncrc.org.au/industry/Publications/Weeds/Weed_IdentificationTools/Weeds_by_common_names/Wide-leaf_bladder_ketmia

***Hibiscus meraukensis* Hochr. – Part 1**

By Geoff Harvey

Author's Publication : Annuaire Conserv. Jard. Bot. Geneve xi & xii 8 (1907).

The name meraukensis refers to the Merauke area on the south coast of Irian Jaya (formerly Dutch New Guinea), where the type specimen was collected. The author was B.P.G. Hochreutiner (1873-1959) a Swiss Botanist and plant Taxonomist, whose name is abbreviated to HOCHR. for botanical purposes. He is best known for his "Revision of the Hibiscus Genus" in 1900.

Natural Distribution – The tropical regions of Queensland , Northern Territory and Western Australia extending into the sub-tropics e.g. Childers in Queensland 25-15-762 S. long 152—15-396; Curtis Island 24-S., Dawson Highway 20k from Moura lat. 24-01-710, long. 148-55-075, and at Springsure Lookout lat. 24-05 S., 148-03 E.

I saw my first *H. meraukensis* near Daru, Papua New Guinea in 1967 and later when visiting Thursday Island in the Torres Straits.

H. meraukensis is not an Australian endemic species as in addition to the southern parts of Papua New Guinea and Irian Jaya it is also found in the Molucca Islands, Malay Archipelago, Malesia Floristic Region. In Australia *H. meraukensis* is known as a native species. Being widespread in Australia, this species is probably the most common Hibiscus species. It was collected by Banks and Solander during Cook's voyage along the east coast of Australia in 1770. In the early days, prior to it being named *H. meraukensis* in 1907, it was known as *H. radiatus,* being confused with that species considered to be of Indian origin.

During my 2002 field trip through the Kimberley's Gibb River Road, *H. meraukensis* was found mainly on alluvial sandy soils particularly wet season flood-ways. Its habitat differs to other species of section Furcaria in W.A., N.T. mostly favouring sandstone ridge country.

Whilst on our field trips to Central Queensland and the Gulf Region *H. meraukensis* was often found growing in association with *Gossypium australe* and on land that had been burnt. Most of these plants of the dry monsoonal regions are the single stem types that may set seed when only 15 cm in height. Flower colour is generally white with varying shades of pink or mauve. All pink flowers are reported – see web link: *http://static.panoramio.com/photos/original/486408.jpg*. Stigma pads can be white or red and the petal spot can be larger and more intense in the most northern parts of the Northern Territory.

H. meraukensis readily crosses with other section Furcaria species – see Colleen Keena's article in this issue. Some natural hybrids have been recorded from the North Kennedy Pastoral District of Queensland. In the same region some bushy specimens were encountered on our field trips (**See Figure 1**) as well as blooms with attractive shades of pink (**See Figure 2**). When crossed with the yellow *H. heterophyllus* from near Mackay, the results were very promising in that the F1 seedlings were less than 2 m in height, perennial, with almost constant flowering. There is a huge potential here to develop some very good varieties for horticultural/gardening purposes. One object of the Study Group is to obtain seed of the most attractive natural variations found in *H. meraukensis* so that they and their hybrids can be evaluated under cultivation.

Figure 1. Bushy form of *Hibiscus meraukensis* from our field trip, North Kennedy Pastoral District

Figure 2. An attractive form of *Hibiscus meraukensis* from near Charters Towers, Queensland

Hibiscus meraukensis – Part 2

By Colleen and Geoff Keena, South-East Queensland

If we had to choose just one hibiscus to grow in our conditions, it would be *Hibiscus heterophyllus*. The choice would be partly based on the fact that my love for this plant started when a child visiting family in the mountains behind Wollongong, NSW. Probably the main reason for such a choice however would be the choice of forms and colours available over a wide range of geographic conditions, from small white-flowered bushes with fine leaves from near Wauchope, NSW to the large bushes of bright pink or gold forms in Qld. My second choice would be *Hibiscus divaricatus*, both because of its long life in garden situations and its long period of flowering. As can be seen below, it can cross with other hibiscus in the garden situation but over 30 years, we have found that mostly seedlings are true to the parent. *Hibiscus meraukensis* would be my third * choice. I love it for its ephemeral qualities, the delicacy of its petals and its manageable size, which means it performs well in pots. Although often an annual, some forms can die down after frost yet recover in spring. As well, even up to 10 years later, seedlings can come up close to the site of the original plant. I think it is worth trying to access forms with these qualities and this is where contacts made through the Study Group can assist those wishing to grow this rewarding species. Perhaps, just as with *Hibiscus heterophyllus*, one of the main reasons for growing *Hibiscus meraukensis* in the garden situation would be because of its widespread distribution. As it is found in tropical and even sub-tropical locations in Queensland, to the Northern Territory and to Western Australia this is a hibiscus for those away from the eastern coast of Australia.

We have acquired a range of *Hibiscus meraukensis* forms from various sources. Some are beautiful but once they die, the plant does not recover and there are no seedlings. Even worse are the plants that look wonderful yet the flowers are so tiny that the plants are consigned to the compost bin (1st illustration). Many years ago, we obtained a form that we were told came from Walsh's Pyramid, south of Cairns, Qld. In the ground, this plant dies back over winter, although plants in pots in the shadehouse may survive the cold weather (to -5C). Seedlings that come up around the plant are true to the parent.

There have been two occasions when crosses have had this form of *Hibiscus meraukensis* as a parent. The first was called 'Ian's Lemon', in memory of Ian Waldron of Nielsen's Nursery, South-east Qld. We were amazed when a 1 – 2 m, white flowering, annual form of *Hibiscus meraukensis* was pollinated by a 4 m, gold flowering, perennial form of *Hibiscus divaricatus*. The colour of the blooms was intermediate between the white of the female parent and gold of the pollen parent. Furthermore, the plant was mid-way in height and longevity, living much longer than the female parent but not as long as the pollen parent. The second seedling, a cross between *Hibiscus divaricatus* and *Hibiscus meraukensis,* is a tall plant with the extended flowering throughout the warmer months of its female parent. The petals were so delicious when made into drinks and jams that it was named 'Tasty White'. I find it interesting that the lines around the flower's central splotch in *H. meraukensis* from Walsh's Pyramid are evident in both crosses (see images).

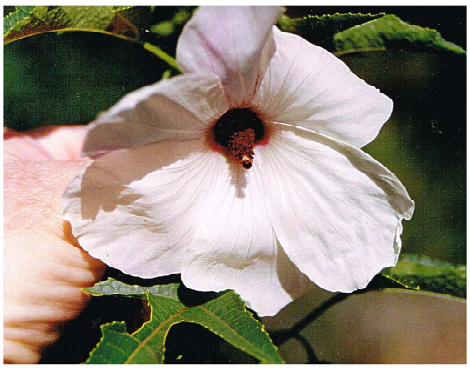
Those of us just starting to recognise the merits of this species are well behind those who noticed it a long time ago as can be seen on the first page of this newsletter. After its collection by Banks and Solander on the voyage of the *Endeavour*, it was sketched in 1770 by *Endeavour* artist Sydney Parkinson. A watercolour, based on Parkinson's sketch, was painted by Frederick Polydore Nodder in 1778 and a plate, Number 23 was engraved by Gerald Sibelius and was included in *Banks' Florilegium*.

As suggested above, good forms of *Hibiscus meraukensis* have much to offer. It performs well in a pot in a protected position and it would be interesting to see how it performs in a temperate climate. Best of all, this is yet another native hibiscus that is not confined to the eastern states of Australia.

**Hibiscus splendens* would be my fourth choice as it is not long-lived in our situation.

HIBISCUS MERAUKENSIS
Form from Walsh's Pyramid, south of Cairns, Queensland

Discarded plant –
nail shows bloom size



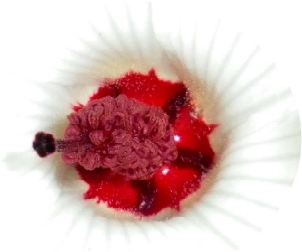
First flower -
hand shows size of bloom

Plant and adjacent seedlings -
seedlings only come up beside parent.

Stem, calyx and epicalyx

Buds, leaves and reverse of bloom

Bloom, calyx, epicalyx, stem



Hibiscus 'Ian's Lemon'
Hibiscus meraukensis x
Hibiscus divaricatus

Hibiscus meraukensis
Form from Walsh's Pyramid,
south of Cairns, Qld

Hibiscus 'Tasty White'
Hibiscus divaricatus x
Hibiscus meraukensis

Hibiscus meraukensis around Mount Isa

by Alison Fraser

Hibiscus meraukensis is sparsely scattered in this area and occurs as small groups or isolated individuals in various habitats from creek banks to red stony/clay flats and rocky hillsides. The populations wax and wane in response to seasonal variability, with poor seasons far outnumbering good ones in the arid zone.

This species is probably so well known to study group members that little description is necessary. Plants in this area are narrow upright when young and can be up to 2 m tall and openly branched when mature. Leaves are palmately divided in lower parts and narrow lanceolate above. Flowers are generally large, up to 13 cm in diameter, and mostly white with varying amounts of pink on the petals.

A notable local feature of this plant is its symbiotic relationship with large and aggressive black ants that are attracted to the foliar nectaries. They defend their host vigorously and the slightest contact with a plant initiates a frenzied attack against any would-be molester, including specimen collectors! I have been bitten many times, but fortunately the effects of the bite are shortlived and are more annoying than painful. I assume similar relationships exist in other areas of this species' range.

MALVACEAE IN MELBOURNE

By Keith and Ros Riley. IMAGES: Ros Riley

Published in Australian Plants, December, 2008, Vol. 24, No. 197, page 366.

We obtained a number of Malvaceae in the winter of 2006. These were a *Hibiscus heterophyllus* x *Hibiscus divaricatus* cross called 'Montburg Pink' (**image below**) and three forms of *Alyogyne huegelii: a cross* called *'*Carole's Choice', a pink form with a tulip-shaped bloom and *Alyogyne* 'West Coast Gem' (**see images below in the following article**).

The plants remained in pots until spring of 2007. Three plants were planted into heavy clay soil which becomes water-logged after rain. They occasionally received soil conditioner in their first summer. During the Melbourne summer of 2007/2008, there was insufficient rain to keep them alive. The only water for the hibiscus and two of the *Alyogyne huegelii* plants was washing machine grey-water. The Hibiscus plant grew rapidly to 1.5 m by 1 m. For several months, it had a couple of new flowers most days. These opened later in the day than the Alyogyne blooms and remained open till dusk. During 2008, the only fertiliser was possum droppings, which were frequent in the area of the hibiscus. The water from the washing machine now contained a eucalyptus product labelled suitable for plants. Despite the heat of summer, the hibiscus had an amazing number of blooms. It is still growing well, even in mid-winter.

Two of the *Alyogyne huegelii* had the same conditions and treatment as the hibiscus. None were sprayed. Both Alyogynes received morning sun. There was some variation in growth and flowering, with the plant that received more sun growing more strongly to 2.1 m and flowering more profusely. It is currently, in July 2009, starting to flower. The Alyogyne that was shaded from above is less dense and is 1.5 m. It blooms in spring. The third Alyogyne, *Alyogyne* 'West Coast Gem', was planted into builder's sand. It quickly reached 1 metre and had large blue flowers which were so heavy they weighed the branches down. In January 2008, the plant 'died' but was not removed. Recently the plant had many new shoots and is currently, in mid-winter 2009, in bloom. It is still 1 m high but is very bushy with many buds. It was watered with rain caught in buckets. When this was not available, the plant was watered with bath water which contained 'normal' soap. The flowers of the three Alyogynes last more than one day, in contrast to the hibiscus blooms which only last for one day.

Despite the harsh conditions, these Malvaceae provide colour in our garden over a long period.

Hibiscus 'Montburg Pink' Bloom (left) and 'Montburg Pink' bush last December (right).

MALVACEAE IN MELBOURNE, UPDATED JULY 2012

By Keith and Ros Riley. IMAGES: Ros Riley

These Alyogynes and Hibiscus have continued to perform well in our garden. Their progress can best be summed up by saying that all have not only coped with slushy, wet conditions but are continuing to produce new growth and provide a large number of blooms over long periods. None have received any fertiliser since the previous information was written and no additional water has been needed.

The main difference since writing the above is that if large plants were growing on sloping areas of mainly clay soil, they have been unable to remain upright once the soil became saturated. This meant that two Alyogynes growing on sloping ground have fallen over. However, this has not been the disadvantage that we initially thought it would be as one tall Alyogyne was blocking sun from the smaller Alyogyne growing behind it. Since the Alyogyne in front has fallen, the Alyogyne behind has been receiving more sun and flowered up until the beginning of winter. The Alyogynes that fell have been cut back heavily and are sending up healthy new growth. Where the ground is level, the plants have remained in their original position.

This update describes a different set of harsh conditions from those noted initially and yet the word that best describes the progress of the Malvaceae in our Melbourne garden is that they are thriving. These hardy Malvaceae have proved that they are adaptable not only to extended drought but also to wet situations. As a bonus, they continue to provide a wonderful sight with the colour they bring to our garden over an extended period.

Alyogyne bushes, December 2011

Alyogyne
with pink tulip-shaped bloom

Alyogyne
'Carole's Choice'

Alyogyne
'West Coast Gem'

Pollen parent of 'Carole's Choice' is the pink flowering Alyogyne shown on the left.

Perennial Australian Shrubs provide valuable forage for grazing animals

Review by Dr Stephen Johnson, Weed Ecologist,
New South Wales Department of Primary Industries, Orange

A recently released report from the Future Farm Industries Cooperative Research Centre (FFI CRC*) details how perennial Australian shrubs can provide forage for both profitable and sustainable grazing.

The 44 page report was designed for farmers and farmer groups, farm advisors and natural resource or catchment management groups and contains a summary of the 'Enrich' project. The document explains the benefits of planting and maintaining forage shrubs in mixed farming systems (where both livestock and cropping are used, often in temperate climatic areas).

Malva preissiana (Australian or native hollyhock)** had the second highest crude protein content of all species examined (25%) and was one of the top 15 species listed in terms of mineral content (calcium, magnesium, phosphorus, sulphur, copper and zinc were analysed).

Other Malvaceae species examined included:

Desert lantern (*Abutilon otocarpum*) which was high in crude protein and many minerals but low in palatability and digestibility;
Corrugated sida (*Sida corrugata*) which had low digestibility; and
Twiggy sida (*Sida intricata*) which was highly digestible.

A key finding of the report is that:

> "Perennial Australian shrubs, grown in a mixture, can provide out-of-season feed, contribute to protein and mineral nutrition, improve the efficiency of livestock digestion, help control gut parasites, and provide shelter and shade. And there is a suite of other NRM [natural resource management] benefits, such as controlling dryland salinity, wind erosion and improving biodiversity"

Since 2004 the project has evaluated 101 species that are perennial in lifecycle, have a woody growth, are native to temperate or semi-arid Australia and show evidence of being palatable by sheep. The project evaluated information such as edible biomass, palatability and nutritive value (including crude protein and digestibility)among others at Condobolin (New South Wales), Monarto (South Australia) and Merridin (Western Australia), ranging from 314-427 mm mean annual rainfall.

A .pdf copy of the report titled 'Perennial forage shrubs providing profitable and sustainable grazing. Key practical findings from the *Enrich* project' is available for download from the following internet site: *www.futurefarmonline.com.au/LiteratureRetrieve.aspx?ID=88398*

*The Future Farm Industries Cooperative Research Centre was formerly known as the Cooperative Research Centre for Plant-based Management of Dryland Salinity.
**The scientific and common names used in this review are those used in the report.