ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

HIBISCUS AND RELATED GENERA STUDY GROUP

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Image - D. Hockings

Image - D. Harrison

Above – Hibiscus viterfolius L Below – Hibiscus burtonii Bailey

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As promised in the last newsletter, the images of **H. vitifolius L.** appear on the front page along with **H. bortonii** Bailey acquired by Dion Harrison on a field trip to Longreach. Both of these species probably only appear when rainfall has occurred, therefore in order to observe them it is a matter of being in the right place at the right time.

Thank you to study group members for rejoining for another year.

Ornamentals within the Malvaceae family in Australia have been virtually overlooked or forgotten. This is partly due to being swamped by the enormous number of cultivars contained within the **Lilibiscus** section or as they are better known – the **H. rosa-sinensis** complex made up of several Indo/Pacific species. None of these species are known to be indigenous to Australia. Hybridizing of the compatible species and forms belonging to the **Lilibiscus** section commenced 200 years ago and to this very day improved cultivars are being produced in Florida U.S.A., Australia, Hawaii and many other countries. In Australia we have more than 60 species of **Hibiscus** alone with a wide range of morphological diversity. There appears to be a huge variety of character complexes available within the **Furcaria** section presenting unlimited prospects for breeding. Given enough time and concentrated effort our native varieties could be bred to rival the best of the exotic hybrids. The suitability to local conditions especially adaptability to drought conditions and less fertile soils would favour our breeding prospects for Australian gardening. This and other factors within **Hibiscus** and related genera provide the breeder with unlimited possibilities, both with starting material for the cross and with the subsequent varieties obtained in order to get the best forms suited to gardening and landscaping conditions.

As I live in a prime area for the growing of **Furcaria** section **Hibiscus,** my growing, observation and writing favours this section. Here on the coastal fringe, I have had little success with **Alyogyne, Gossypiums** (except for **G. sturtianum**) and most species of the section **Bombicella.**

The Study Group needs members in Townsville or north of, to deal with the tropical species, likewise Darwin or equivalent locality to deal with the many species from the Kimberleys and Arnhem Land, a suitable location e.g. Alice Springs to deal with the arid zone plants and somewhere to the dry south of the continent to contribute with **Alyogynes, Radyera** etc. It is not a good thing that most of our membership is concentrated in the south east corner of Queensland.

The aims and activities of our Study Group as outlined in Newsletter No 1 of June 2003 were as follows :-

(1) To research, record and exchange information on all aspects of Australian species, varieties and hybrids included within the plant family Malvaceae.
(2) To record distribution, habits, flowering periods etc of the species.
(3) Selection of superior forms, hybrids etc for cultivation.
(4) Selection of superior forms for horticultural purposes, especially breeding programmes.
(5) Record cultural techniques including propagation trials, propagation methods, nutritional requirements, pest and disease control, cultivation, weed potential etc.
(6) Encourage a comprehensive breeding programme aimed at definite objectives for improvement.
(7) Conduct trials of promising hybrids, with the intention of making the very best available to native plant nurseries, collectors etc.
(8) Maintain a seed bank and source of properly identified propagating material.
(9) Investigate all plant uses e.g. food, medicine etc., as well as ornamental purposes.
(10) Liaise and confer with botanists, herbaria, professional plant people and gardeners to ensure accurate and up to date information is obtained and recorded.
(11) Assess and describe cultivars for registration with the "Australian Cultivar Registration Authority" in accordance with the International Code of Nomenclature for Cultivated Plants.
(12) Conduct field trips to observe plants in their natural habitat. Assist with scientific study if requested to do so.
(13) Produce at least 3 newsletters per year.
(14) Record and preserve information, especially photographic images that may be used for future publication.

Many of these objectives have been addressed and recorded in the 8 newsletters printed to date.

A good photographic record is coming together, a seed bank, a collection of printed material dealing with the various species and a good rapport with people and organizations interested in Hibiscus. Member, Dion Harrison made the following suggestions :

(1) Breeding Experience –

e.g. * interspecies cross compatibility and incompatibilities
* tips on pollinating by hand for different species
* inheritance of specific traits e.g. prickles; hairyness

Perhaps we could get a running discussion on coming up with an evaluation sheet/method for assessing ornamental potential of species, forms and hybrids.

(2) Field trip observations and reports; distribution of species

It we have members interested in the above your thoughts and suggestions would be appreciated To make the Study Group and newsletters work well we need plenty of feed back and contributions.

Field Trip : October 15th 2006.

It was a pleasure to catch up with new member Dion Harrison and visitors to our Study Group Doug and Ayako Phillips. A big thank you to Olive and David Hockings for morning tea and a look around their splendid garden and nursery. Unfortunately time ran out and we didn't get to Mt. Tinbeerwah to see the **Hibiscus splendens** or the Maroochdore Bushland Botanical Gardens, where various **Hibiscus** species were in full bloom. There is plenty left to see and do for another field trip next spring.

Colleen and Geoff Keena have spotted a lemon coloured **H. heterophyllus** growing in a gully near Kenilworth and took the photographic image reproduced below. There is an abundance of the white form in this area and up in the range some are pink.

Radyera ferragei (F. Muell.) Fryx. & Hashmi

The 'Bush Hibiscus' also 'River Hibiscus' or 'Knobby Hibiscus' grows in the southern half of the continent in W.A., N.S.W., Vic. and S.A. There is a population surrounding Alice Springs in the N.T. which is significantly disjunct from those elsewhere in Australia.

I have three fine containerised seedlings, 10 months old, grown from seed obtained from the West MacDonnell Ranges 60 km from Alice Springs. They came through winter very well, but seemed to be going backwards as spring advanced. The commercial potting mix was considered to be too loose and dry, so I put them in some new 8inch pots with about 10 cm of red basalt soil in the bottom of the pots. They picked up significantly and I am hopeful of getting blooms and seeds. The plants I have observed grow along seepage areas often amongst Red River Gums. As these localities ca be wet at times, this long lived perennial may survive in our coastal climates. It is reported to die down when weather conditions are unfavourable e.g. too dry or cold, coming back to life when rain falls. Gardeners at Ulura N.T. tell me that their cultivated **Gossypium sturtianum** die down during winter with the perennial root system shooting up again in the spring.

The **Radyera** flowers are large, funnel shaped, deep lilac in colour with a dark purple petal spot. It is a handsome bush 1 to 2 meters tall with large floppy leaves.

Obviously it will tolerate cold conditions as well as dry periods and therefore has the potential to be an excellent garden plant.

Seed is commercially available. We would be interested in hearing from anyone who has had experience in growing this interesting plant.

(There is one other species in this genus known as **Radyera urens** L. f. (Bullock) from South Africa.

Report from Geoff and Colleen Keena.

"When visiting Mt. Gravatt (Brisbane area) recently, we were pleased to find that **Hibiscus heterophyllus** had been planted alongside a waterway, near a busy intersection." (See Geoff's image below left – **Radyera ferragei** bloom is on the right.)

Query :

What is a **Pentapetes**? It is not one of Pete's plants.

Clue : It grows on the northern coast of the Northern Territory as well as south east Asia, India and the Philipppines.

WILD COTTONS :

Extract from S.G. Newsletter No. 4

"**Gossypium hirstatum** (Upland Cotton) comprises 90% of the world plantings. The other cotton species of some importance is **G. barbadense** (Pima or Long – Staple Cotton) ---------- Both **G. hirsutum and G. barbadense** grow wild as naturalised or feral populations in northern tropical Australia, particularly along coastal rivers and beaches. Botanist P. Fryxell speculates that these 'primitive' cottons lacking the modern 'breeding' of commercial cottons, may have been introduced by ocean currents from the Americas. Study Group Member, David Hockings recently photographed **G. hirsutum** at the back of a beach in Temple Bay north-east of Weipa on Cape York Peninsula – (identification was confirmed by Paul Fryxell, Research Geneticist from Texas U.S.A.)"

Extract from Desert Roses The Wild Cottons of Australia by Paul A. Fryxell

---------"Of note also are the little-known cottons that are found along the river banks in parts of Arnhem Land, apparently established as a part of the natural vegetation. These are plants representative of the cultivated species, **G. hirsutum** L. (which derives ultimately from Middle America), but how or when or by what agency these plants arrived in Northern Australia is not clear. They bear handsome white cotton."

Extract of a letter to David and Olive Hockings from Dr. John Rogers, Research Connections and Consulting, Toowong, Queensland – dated 12th October 2006

-----"I still have three of the Cape York cotton plants. I repotted them a while ago into bigger pots and they are just about to have their first flowers. Yesterday they were tested for the Monsanto Bt gene constructs and came up as not containing them, as expected. A while ago I had email contact with Paul Fryxell in the US ----he's one of the cotton taxonomy gurus, now retired -- over American cotton distribution for our modelling work. In response to your pictures he said "Thanks for the pictures of the Cape York Cotton. I have heard of it but had never seen it. This is clearly a representative of **G. hirsutum,** but the relatively few teeth in the floral bracts and the hint (in the photo) of red spots at the base of the petals, suggest it is one of the wild cottons rather than an escape from cultivation. It would be interesting to have figures on its lint percent." I'll do the lint % once I get seed. I've also had contact with the curator of the US cotton germplasm collection and he gives me the descriptors they use for cotton germplasm, so from these I can get a better idea of just how primitive the plants are. Once I get seed I'll also lodge seed with the Tropical Crops & Forages Collection, at Biloela if that is OK with you. This seems to be germplasm worth preserving."

It will be interesting to hear of further developments – ed.

What happened to our Cotton Tree Hibiscus tiliaceus ?

In 2001 Paul A. Fryxell reclassified **H. tiliaceus** and some other species out of the section **Azanzae** and the genus **Papuodendron** into the new genus **Taliparitì** which now contains some 22 species.

Reference : 2001 (**Talapariti** genus (Malvaceae) a segregate from **Hibiscus**, by Paul A. Fryxell. University of Michigan Herbarium vol. 23 pages 225-270

It is hoped to do a full write-up on this interesting plant in our next newsletter. Any information for inclusion would be much appreciated.

2 varieties are listed. Does anybody know their distribution –

Talapariti tiliaceum var. **pernambucense** (Arruda) Fryxell and

Talapariti var. **tiliaceum**

You could be excused for thinking that the fine looking plant above is a **Hibiscus**?
The images were taken by David Hockings, who found the original plant 20 km east of Moreton Telegraph Station, Cape York Peninsular. The bud starts off yellow, changing to pink thence a white bloom with a red petal blotch.
Lyn Craven decided that it is probably **Decaschistia peninsularis,** the main difference being the schizocarpic fruit, whereas **Hibiscus** has a capsular fruit.
Two new species of **Decaschistia, D. peninsularis** Craven and Fryx. And **D. oxidentalis** A.S. Mitchell ex Craven and Fryx., were described and illustrated in Aust. Syst. Bot., 1989, 2, 461-8.
This malvaceous genus **Decaschistia** Wight & Arn., was previously known only from Asia constituting 15 species.
D. byrnesii subsp **byrnesii** Fryx. and **D. byrnesii** subsp. **Lavandulacea** Fryx. from northern W.A. were first recorded from Australia by P. Fryxell (1974)
The Queensland species **D. peninsularis** has also been found near Weipa and Lawn Hill. It could be an interesting plant to try in cultivation, probably container grown.

THE HIBISCUS PANDURIFORMIS COMPLEX (MALVACEAE) IN SUSTRALIA

Recently (2005), L.S. Juswara and L A. Craven revised the **Hibiscus panduraformis** Burm. f. species complex in Australia.
6 species are recognised in this revision as follows :
(1) **Hibiscus apodus** Juswara & Craven, spec. nov.. A shrub to 2 m. tall occurring in coastal country in the northwest Kimberley region of Western Australia. It is the only Australian species of the complex that lacks a peduncle, has small leaves and large yellow flowers (35-57 mm) with red basal spots.
(2) **Hibiscus austrinus** Juswara & Craven, stat. & nom. Nov with 2 varieties :
(a) **var. astrinus**
(b) **var. occidentalis** Juswara & Craven, var. nov.
H. austrinus is based upon **H. panduraformis var. australis**
As variety **astrinus** is widely distributed in the Kimberlley region of W.A. and from the Victoria River to the McArthur area in the N.T., it is almost certainly the one observed in my travels and grown successfully on the Sunshine Coast of Qld. Plenty of seed is available.
Variety **occidentalis** comes from a restricted area in the west Kimberleys of W.A.
(3) **Hibiscus calcicola** Juswara & Craven, spec. nov. Distribution is Geikie Gorge in northern Western Australia.
(4) **Hibiscus fluvialis** Juswara & Craven, spec. nov. This species has small flowers (corolla is 15-24 mm long) and usually grows in sandy soils near rivers. Distribution is across northern Australia from the Fitzroy River in W.A. to the Gregory River area in Queensland.
(5) **Hibiscus multilobatus** Juswara & Craven, spec. nov. Occurs in low-lying situations that may be seasonally inundated. Distribution is in the Katherine – upper Alligator River area of the Northern Territory.
(6) **Hibiscus panduraformis** Burm. f. Occurs over a wide area from the N.T., Gulf of Carpentaria, Charters Towers, Townsville and Rockhampton areas of Queensland. Also occurs in Africa, Asia and Malesia favouring river flood plains

The other Australian species is **Hibiscus brennanii** Craven & Fryxell, described in 1993. It is an erect woody shrub with pink flowers, blooming March to May. Its distinguishing features include velvety grey/green foliage and soft hairy leaves. It is a short lived perennial estimated to live between 4-5 years ref. – (Kerrigan 2004)
This species is known only from the Northern Territory, occurring in one population at Baroalba Creek, on the Mt. Brockman outlier of the western Arnhem Land Plateau in Kakadu National Park. The species grows on sandstone cliffs, in gullies and on broken sandstone and it is estimated that approximately 450 mature individuals exist.
Hibiscus brennanii is currently listed as vulnerable under the Northern Territory Parks and Wildlife Conservation Act 2000.

Editors note : Should this and other rare species be brought into cultivation to help ensure their survival? Any comments would be appreciated.