

AUSTRALIAN NATIVE PLANT SOCIETY (AUSTRALIA)

HIBISCUS AND RELATED GENERA STUDY GROUP

FEBRUARY 2011 NEWSLETTER NO 22 : ISSN 1488-1488

The image below is of *Lagunaria queenslandica* Craven that was photographed from a cutting brought into the Queensland Regional Meeting by Barry Jahnke on 9th November 1909. The well known sub-species from Norfolk and Lord Howe Islands is known as *Lagunaria patersonius subsp. patersonius*. As these name changes are fairly recent (ref : Blumea 51 (2006) 345-353), there is still a certain amount of confusion. The latter from Norfolk and Lord Howe is widely grown around the world, whilst the species *L. Queenslandica* was not known to be in cultivation prior to seeing these cuttings. It is found inland from Townsville, one population occurring in the Salt Water Creek locality about 100 km west of Townsville.



This Newsletter is about a month overdue due to health problems with your Study Group Leader. Recovery is going well but catching up with a multitude of jobs is a bit daunting.

It has been a horror year with flooding rains, cyclones and bush fires in the west. I do hope that each and every member has avoided the horrendous flooding and if not made a good recovery. The raising of Hibiscus seedlings this year has been a write-off due to the cool

temperatures, almost constant cloud cover and of course the never-ending rain.

Our summer rainfall at Buderim where I live comes in at no.11 top rainfall totals for Queensland towns as follows :-

TOWN	2010/11 RAINFALL TOTAL	AVERAGE SUMMER RAINFALL TOTAL	AVERAGE SUMMER – RAINFALL –
1 Babinda	2676.8	N/A	N/A
2 Daintree Village	2463.0	1394.7	176%
3 Mossman	2132.4	1162.3	183%
4 Port Douglas	1887.8	1030.1	183%
5 Maleny	1849.0	795.7	232%
6 Cairns	1795.2	1036.4	173%
7 Innisfail	1758.0	1380.6	127%
8 Weipa	1571.9	1358.5	116%
9 Ingham	1711.9	1100.7	156%
10 Eumundi	1669.0	639	161%
11 Buderim	1631	611	165%
18 Mackay	1131.6	821.2	151%

Source :- Sunday Mail Newspaper March, 6 2011 and personal records at Buderim

Gossypium sturtianum : Despite being a plant of the arid Australian interior , performance during and after the record wet summer has been exceptional. We can confidently say it will grow and bloom well under wet coastal conditions in south east Queensland. As one of my plants comes from Narrabri in N.S.W. it would be interesting to know how it would adapt to a wider climatic range in cooler climates. I have plenty of seed in the seed bank for this variety and one from near Alice Springs.

Hibiscus Oxalate Assay Results : Dr Dion Harrison has these to hand and he will write a summary article for our next Newsletter. At this stage I would venture to say there are no nasty surprises.

FRED WESTERMAN, our illustrious Study Group Member is a hugely successful breeder of the exotic *Hibiscus rosa-sinensis*. Lately he has been concentrating on breeding Australian native Hibiscus and is featured in this issue titled "The Face Behind the Names". Have a look at his new gallery at www.hibiscushybrids.com where you will see many native hybrids as well as the *Hibiscus rosa-sinensis*.

Taxonomic Work on section Bombicella : Lyn Craven has had the following to say by email as of 7 March, 2011. - "I have no idea when the work will be written up. My hope is that the basic herbarium work might be completed by the end of the year, and I will be trying to make this happen. Then there is a small amount of work to do with *Furcaria* and some of the other groups". I believe that a paper on *Hibiscus trionum* has been completed for publication.

PETER BEVAN'S report on his trip to far north Queensland is included here. It arrived just as the last Newsletter was completed.

Field Trip up-date Report : This is included for those who may be interested in growing the seed collected and to know what progress is being made in evaluating the species for cultivation purposes.

Registration of Hibiscus with the Australian Cultivar Registration Authority : the go-ahead has been clarified with the Registrar, Paul Carman. Initially I would like to look at the earlier cultivars of historical importance. The OK has been received from Lyn Craven for 'Wirruna' developed by him back in 1970-1971, and 'Pink Ice' from Jan Sked . I will require a plant of the latter in order to do a description complying with the ACRA requirements.

Presently we are still waiting for a new electronic version of the application form. Colleen Keena has provided a list of Hibiscus crosses, section *Furcaria* as at September 2010. We will hopefully deal with some of these for registration purposes later on, especially those that are being sold commercially.

Abelmoschus manihot : I am very keen to collect information on species including garden varieties known as **Aibika** that are being grown in this country, mainly warm coastal areas of Queensland. Please see details later on in the Newsletter.

Hibiscus cannabinus (Kenaf) : This exotic fibre plant has come to our attention from collections made by Glenys Johnston of Ravenshoe and Greg McDonald of Mackay. These both came from wild populations One of my specimens has just commenced to bloom – see image on the next page'

I must stop rambling on and on. We try and cover a wide range of subjects and I hope you may find something of interest.

Happy gardening to all.

Regards, Greg.

Thanks for this Greg. I notice that Mt. Isa is getting abnormal rain so it would be interesting to hear from Alison Fraser how the native dry monsoonal species have fared. As mentioned earlier we had little luck in growing them this year, but *H. meraukensis* from Mt. Isa has reached the flowering stage.

Should rare species be brought into cultivation to help ensure their survival?

Whether or not rare species – indeed any species – should be brought into cultivation has been a subject of emotional debate for decades.

There are those who see cultivation as “messing up the gene pool”; who apparently believe all natural things should be isolated in their own “purity” for eternity.

Then there are those who do not see the world as static: who recognise the world has always been wildly dynamic – that the species themselves have been and are continually evolving – even hybridizing – to produce new species, new forms – or else they may disappear because they are unable to adapt to changing environmental conditions.

Having rare species in cultivation allows closer study without endangering the existing plants, also the opportunity to reintroduce the species into the natural habitat or new habitats should this ever become necessary. The human population has very successfully manipulated naturally, occurring plants over the thousands of years of it's history, to better feed and clothe its self and to enhance its surroundings with attractive flowering or foliage plants.

The classical example of cultivation ensuring the survival of species is *Ginkgo biloba* – thought to have been extinct for thousands of years, but discovered planted in a monastery garden – and now available for everyone's enjoyment as a garden plant.

This also has a bearing on another anti cultivation argument – that cultivation originating from one or a limited number of individuals, dangerously reduces the genetic diversity of the species. It has yet to be shown how this has disadvantaged the ginkgo. Cultivation has meant the difference between still having it, or not having it. Those believers in Noah and the great flood would have to believe that all existing animal life originated from just two individuals of each species.

A further very important spin off from cultivation of a species is the inevitable isolation or development of improved forms – bigger flowers, more flowers, better colours, better plant form, easier to grow plants etc. The commercial world, you see, runs on improved varieties, not species. This sometimes despised, “development”, plays a most important part in taking pressure of exploitation off wild populations – it ensures their survival.

David Hockings

6.

FEBRUARY 2011: HIBISCUS AFTER FLOODING

Colleen and Geoff Keena, Glamorgan Vale, Qld

This summer we have seen rain beyond anything we have previously experienced since moving to south-east Queensland in 1975. On 9th January, we had so much rain that the road below us was flooded almost to our driveway. Everywhere was saturated and no further moisture could soak into the ground and so creeks overflowed. On Tuesday 11th January, it started to rain heavily at 7.15 a.m. There was a brief lull at 9.30 and then the heavy rain returned and continued until 2.15 p.m. The rain was so heavy that it was dark inside the house and it was difficult to be heard when speaking. For seven hours, the rain was accompanied by thunder and lightning, other than for the short period at 9.30 a.m.

When we purchased here almost 11 years ago, we checked the flood map prior to buying and found that the lower area of the one acre block had the possibility of flooding once in 100 years. In fact, this area has now flooded several times, with the water rising to around 1 metre but usually draining away within a day or so. This time, debris indicated that the flood almost reached the top of the gate.

We noted that the original vegetation coped well with damp conditions, especially the then named *Callistemon viminalis*. We added other plants that liked wet conditions to the flood-prone lower section of the block. These included forms of *Hibiscus tiliaceus* and also *Thespesia populnea*, both of which can be found in south-east Queensland. *Hibiscus insularis* and *Lagunaria patersonia* are growing above the area where flooding occurs but in lower areas where they experience a lot of runoff.

After some years, we experienced drought conditions and added plants which tolerated limited watering, especially *Westringia*, *Grevilleas* and native *Hibiscus*, such as *Hibiscus divaricatus*, *Hibiscus splendens*, *Hibiscus heterophyllus* and crosses between them. Not only did we experience ongoing drought but we had four winters with temperatures from -5 C to -6 C. The plants we chose to cope with these harsh conditions were *Gossypium sturtianum* and selected small forms of *Melaleuca linariifolia*.

In the weeks following inundation on 11th January, the *Hibiscus tiliaceus* (forms), *Thespesia populnea*, *Hibiscus divaricatus*, *Hibiscus splendens*, *Hibiscus heterophyllus* and their crosses, *Gossypium sturtianum* and *Hibiscus diversifolius* have flourished. *Melaleucas* and *Grevilleas* have continued to prove their hardiness however many of the various forms of *Westringia* have shown they cannot cope with sitting in flood water. Some *Westringias* died quickly, others died section by section. These non-hibiscus are mentioned for their contrast with hibiscus and hibiscus-like plants.



Tuesday 11th January, 2011: flood water inundates hibiscus plants to centre left



Small plant of Hibiscus 'Citrus Mist' 3 weeks after being submerged

While we haven't been surprised by the way the plants have performed, we have been amazed that even very small plants of native hibiscus have survived and even thrived after inundation. We had become used to species such as *Hibiscus syriacus* which can tolerate extremes when established but are unable to cope with hard conditions when young and/or small. I did not expect to find small cutting-grown plants such as *Hibiscus* 'Citrus Mist' (see image of 'Citrus Mist') and young seedlings of native hibiscus crosses coping with being totally under water and even putting on new growth afterwards.

We also noticed that there was a change in flowering and growth patterns in the native hibiscus, depending on the amount of water they encountered. Firstly, we observed that the greater the amount of water, the fewer the blooms. Plants in the lower areas which either stood in water or were in beds designed to capture runoff, have had few blooms. In contrast, plants at the top of the slope did not stand in water. These hibiscus continued to flower as would be expected in mid-summer, that is, there were blooms most days, although as expected not as many as the plants would carry in spring.

Secondly, there was also variation in new growth. The plants that had experienced either flooding or were in beds designed to trap and store water, showed new growth all over. We don't recall seeing plants covered in such lush new growth in mid-summer. It seemed to us that the plants were so busy putting out new growth that flowering was of secondary importance. The new shoots all started to show buds and some of these are now starting to flower, although there are still fewer blooms than we would normally expect. The plants at the top of the block on sloping ground showed little new growth, other than where they had previously been pruned to reduce height.

At the time of writing, three weeks after the flooding, it appears that only one hibiscus will die. Although on a slope near the top of the block, this hibiscus is in an area that develops a spring in wet weather. This plant was in ground that did not dry out for at least a fortnight. The plant hasn't yet completely died but sections of the plant are dying. This is in marked contrast to any hibiscus or hibiscus-like plant, anywhere else in the garden. No other plant shows any sign of dying branches.

To conclude, this flooding has confirmed our experience that native hibiscus and hibiscus-like plants are hardy. They have previously proved hardy to cold temperatures and to drought. Even very small plants have now shown that they can cope and even flourish with inundation. It appears to us that being flooded or experiencing very heavy rainfall may alter the pattern of growth and of flowering. Only time will tell but at this stage we expect that as hibiscus flowers form on new growth, the plants that have put on growth spurts may have enhanced flowering in the future. In the short-term, some of our favourite plants like 'Star' bloomed right after the flooding and it was great to see these beautiful blooms, especially as the only way to reach them was to negotiate heavily eroded pathways, a reminder of the damage that could result to structures, but not to hibiscus and hibiscus-like plants, from a 'rain event'. A month later, bushes like *Hibiscus* 'Desert Haze' and *Hibiscus* 'Josh's Joy' are again producing blooms on a daily basis.



Geoff's favourite, *Hibiscus* 'Star'



Hibiscus 'Desert Haze'



Hibiscus 'Josh's Joy'

The face behind the names:

Part 2 – Fred Westerman



Fred Westerman

Elaine

Apex Service Scheme

Bundaberg International Motor Inn

With Fred horticulture must be genetic. Both his mother and his grandfather were very good gardeners. His mother ran the Cleveland Bowls Club plant stall providing plants to die for every week for many years. Alas he does not appear to have passed the gene to any of his three children. The secret of success is to marry a strong woman. Shown above is Elaine holding one of the many props he made when organising a show for The Gold Coast Horticultural Society.

Fred has a restless spirit just like his father, moving many times. He was educated at Ipswich state school, Ipswich Boys Grammar School, Nambour State High School and then The University of Queensland where he obtained his Bachelor of Dental Science (B.D.Sc.). After practicing as a dentist in Wynnum for a short time Fred moved to New Guinea where he was a government dentist in the beautiful tropical island of New Ireland. His eldest daughter Debbie was born in the Kavieng European Hospital with four beds (Not politically correct these days). Fred then moved to Rockhampton and the Gold Coast where he joined a group practice. Soon after joining Apex entrepreneurial skills came to the fore. Fred became the Service Director for the whole of Queensland and "Thing and Thung" were born.



Thing



Mouse



Thung

The wandering lust became too great and Fred and Elaine moved into motels at Bathurst and Bundaberg, finally retiring in Wynnum after twenty years. Daylily breeding gave way to breeding Exotic Hibiscus where Fred's hybrids have won many awards including several "Hibiscus Of The Year" trophies.

Finally Fred has seen the light and is concentrating on breeding Australian Native Hibiscus.

To see his new Gallery of many hundreds of hibiscus go to WWW.hibiscushybrids.com

HIBISCUS ON MY TRIP TO FAR NORTH QUEENSLAND



Peter Bevan, Lowood

On 6th September, we left Lowood to travel to Ravenshoe to celebrate 100 years since my grandfather selected a block of scrub to farm. The farm is now owned by my brother John. Ravenshoe is inland from Innisfail and south of Atherton.

The first day we went to **Gympie** to pick up our grand-daughter Abbie. We saw the usual *Hibiscus heterophyllus*. Next day, just north of Gympie, there was a bad crash and police diverted us through back roads east of the highway. This is where we came across a few small groups of *Hibiscus splendens*.

From there, up through **Munduberra** and on to **Emerald**, we saw the occasional hibiscus-like plant. However, I soon found out that when towing a fairly large van it takes some stopping and most of the time you can't get off the road anyway. From **Clermont** to **Charters Towers**, we saw heaps of *Gossypium* in flower along the sides of the road. I have travelled that road many times and have never noticed them before. Also, along that section there were plenty of *Cassia brewsteri* in full flower.

North of Charters Towers, there were plenty of *Hibiscus meraukensis* in flower along the sides of the road. Then, before we had reached **The Lynd**, they disappeared and we saw nothing until **Ravenshoe**. The dry season in the Tablelands has been wet and all the rainforest was very lush and covered with the many colours of new growth, along with some flowering.

We returned home via the coast. There was nothing much until we got to **Bowen** and **Euri Creek** when we saw plenty of flowers. We met up with Neil Smith and he was kind enough to show me around the area. He also showed me around his garden which was looking great. He has some native and many non-native hibiscus. Most of the native hibiscus were growing well. I was surprised that he even had some *Alyogyne hakeifolia* growing.

The next day was probably the best for flowers. From around **Mackay**, we hit the yellow form of *Hibiscus heterophyllus*. Somewhere near **Clairview**, there were some beautiful specimens. Then we saw *Hibiscus divaricatus* that continued on and off until we got to **Gin Gin**. Somewhere south of Gin Gin, there was a gully full of hibiscus in flowers. They ranged in colour from dark pink to a very pale pink. I would have loved to have a closer look but I couldn't get the car and van off the road. I suspect they were *Hibiscus heterophyllus*, with some a bit like 'Rosie'.

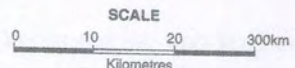
As we got closer to home, we were back into the white form of *Hibiscus heterophyllus*.

I was a great trip. Most areas had had good rain and it showed with all the hibiscus and hibiscus-like flowers that we saw on both the inland and the coastal route.



Queensland Government

Queensland



SOUTH AUSTRALIA

- Main Highways
- Other Highways
- Railways
- ★ 214 ★ Distance in kms
- Ⓜ 137 Route Markers

HIBISCUS CROSSES, SECTION FURCARIA, AS AT SEPTEMBER 2010

Raised by Colleen and Geoff Keena unless otherwise indicated

IF YOU ARE AWARE OF ERRORS, PLEASE CONTACT ME: colleenkeena@pobox.com



- Hibiscus 'Abbey's Tangarine'**: *Hibiscus* 'Apricot Mist' x *Hibiscus* 'Brick Red', bred by Geoff Harvey.
- Hibiscus 'Ann's Mist'**: *Hibiscus* 'Glen Geddes' x *H. heterophyllum* 'Rosie'.
- Hibiscus 'Apricot Mist'**: *Hibiscus splendens* x apricot coloured hibiscus, possibly *H. 'Sunset Glow'*
- Hibiscus 'Apricot Haze'**: *Hibiscus splendens* x *H. divaricatus*
- Hibiscus 'Ashleigh's Haze'**: selected seedling of *Hibiscus splendens*
- Hibiscus 'Brick Red'**: *Hibiscus splendens* x *H. 'Desert Haze'*
- Hibiscus 'Carole's Charm'**: *Hibiscus* 'Apricot Mist' x *Hibiscus splendens*. Raised by Peter Bevan
- Hibiscus 'Cha's Choice'**: *Hibiscus* 'Citrus Haze' x *H. heterophyllum* 'Rosie'
- Hibiscus 'Cha's Mist'**: *Hibiscus* 'Glen Geddes' x *H. heterophyllum* 'Rosie'.
- Hibiscus 'Cha's Haze'**: *Hibiscus* 'Montburg Pink' x *H. heterophyllum* 'Rosie'
- Hibiscus 'Citrus Mist'**: *Hibiscus heterophyllum* x *H. divaricatus*
- Hibiscus 'Citrus Haze'**: *Hibiscus heterophyllum* x *H. divaricatus*
- Hibiscus 'Desert Haze'**: *Hibiscus splendens* x *H. 'Apricot Mist'*
- Hibiscus 'Dion's Delight'** *Hibiscus* 'Citrus Haze' x *H. heterophyllum* 'Rosie'
- Hibiscus 'Gold Haze'**: *Hibiscus heterophyllum* (gold form) x *H. divaricatus* (gold form)
- Hibiscus 'Gold Mist'**: *Hibiscus heterophyllum* (gold form) x *H. divaricatus* (gold form)
- Hibiscus 'Ian's Cream'** *Hibiscus heterophyllum* x *H. divaricatus*
- Hibiscus 'Ian's Pink'**: selected seedling of *Hibiscus* 'Apricot Mist'
- Hibiscus 'Ian's Lemon'**: *Hibiscus meraukensis* ('Walsh Mountain form, Nth Qld) x *H. divaricatus*.
- Hibiscus 'Ice Haze'**: selected seedling of *Hibiscus* 'Citrus Mist'
- Hibiscus 'Ice Mist'**: *Hibiscus* 'Citrus Mist' x *Hibiscus* 'Barambah Creek' cold tolerant
- Hibiscus 'Josh's Joy'**: *Hibiscus splendens* x *H. divaricatus*
- Hibiscus 'Montburg Pink'**: *Hibiscus heterophyllum* x *Hibiscus* 'Apricot Mist'
- Hibiscus 'Montburg White'** natural hybrid of *Hibiscus heterophyllum* x *H. splendens*
- Hibiscus 'Orange Sunset'**: similar to 'Sunset Glow' **Origin unknown**
- Hibiscus 'Original'** from 1975, *Hibiscus divaricatus* x *H. splendens*
- Hibiscus 'Peach Haze'**: *Hibiscus* 'Apricot Mist' x *H. splendens*
- Hibiscus 'Pete's Blush'**: selected seedling of *H. 'splendis'*
- Hibiscus 'Pink Ice'**: *Hibiscus heterophyllum* white form x *H. splendens* Raised by Jan Sked
- Hibiscus 'Reilly's Haze'**: *Hibiscus heterophyllum* x *H. divaricatus*
- Hibiscus 'Splendis'**: *Hibiscus splendens* x *H. heterophyllum* **Origin unknown**
- Hibiscus 'Sunset Glow'**: from Fairhill in 80s; possibly *Hibiscus splendens* x *H. divaricatus*.
- Hibiscus 'Sunshine'**: *Hibiscus* 'Citrus Haze' x *H. heterophyllum* 'Rosie'
- Hibiscus 'Tasty White'**: *Hibiscus divaricatus* x *H. meraukensis*
- Hibiscus 'Trev's Gold'**: selected seedling of *Hibiscus divaricatus*
- Hibiscus 'Wirruna'**: *Hibiscus heterophyllum* yellow form x *H. splendens*, bred by Lyn Craven, 1971

SOME HIBISCUS FOR SPECIFIC REQUIREMENTS

- Hibiscus that are **smaller-growing**: *Hibiscus* 'Apricot Mist', *Hibiscus* 'Citrus Mist'
- Hibiscus with few if any **prickles**: *Hibiscus* 'Dion's Delight', also a select form of *Hibiscus divaricatus*
- Hibiscus for **cold tolerance**: *Hibiscus* 'Ice Mist'
- Hibiscus for **colour**: *Hibiscus* 'Cha's Mist', *Hibiscus* 'Gold Mist'/'Gold Haze', *Hibiscus* 'Sunset Haze', *H. 'Brick Red'*
- Hibiscus for **eating/drinking**: *Hibiscus* 'Citrus Mist', *H. 'Citrus Haze'*, *H. 'Ian's Cream'*, *H. 'Montburg Pink'*,
H. 'Tasty White', *H. 'Wirruna'*, also all white forms of *Hibiscus heterophyllum*
- Hibiscus with **long flowering**: *Hibiscus* 'Citrus Mist'
- FAVOURITE**: *Hibiscus* 'Citrus Mist' - small bush; light flowers stand out against dark foliage; blooms are attractive with a dark centre and fringed petals; can be used for drinks or jam, grown since early 80s; copes with light frosts, parent of a plant resistant to -5 C; no additional watering; flowers throughout winter.

Hints for collection and transport of cuttings

While on bush trips of several weeks duration, one cannot always be so lucky as to find mature seeds for collection. The alternative is to take a few cuttings, but if perhaps you are a week or several weeks away from home – what can you do to improve the chances the cuttings will survive to be planted.

Firstly you may be able to organise someone at home to deal appropriately with the cuttings - provided you have access to a post office so as to send the cuttings express post. However I once had the experience of sending cuttings express post from Bamaga and beat them home by one day. Services can be slow from remote areas.

Preparation of cuttings before despatch

When a branch or twig is removed from a plant, a healing process starts immediately. This is more evident with some species than others. The plant stem mobilises its nutrients to form callus tissue at the cut end, to seal it against loss of moisture and as a precursor to forming roots. It also sets about withdrawing moisture and nutrients from leaves, buds or flowers and immature fruit. Most plants quickly dry out and die before they make any progress with the healing process, unless immediately placed in moist conditions, but the process is quite obvious in some species and families of plants particularly those with milky sap.

If you transport branchlets or pieces of plant home before you prepare cuttings, the nutrient used in the initial plant response is wasted. You prepare cuttings from these pieces of stem and the healing process has to start over again with now depleted reserves to sustain the process.

I find it much more satisfactory to prepare cuttings at the time of collection, or very soon after. They should be placed in bundles with the stem base ends together or laid out close together in a row on a sheet of newspaper. Carefully roll this up and wet the bundle – let it drain of excess water then roll it up in a plastic bag. This should be placed, preferably in an upright position, in an esky or styrene fruit or broccoli box to protect from high temperatures.

I have had a problem, with bundles becoming buried and compressed among other items during the days or weeks following.

When you arrive home prepared cuttings can very quickly be planted. If they are in a poor condition it can be advantageous to heel them in, in a container of moist potting mix with the upper thirds of the cuttings exposed, for 12 to 24 hours before planting.

Propagation

I have never had any noticeable benefit, with the range of plants I propagate, from use of rooting hormones and I suspect if other propagators did a comparative trial they could very well find the same – so I do not use them. Furthermore, I strike most cuttings out in the full sun, automatically watered three times a day for three minutes. The exceptions are a few rainforest understory species which are propagated under shade.

I use a coarse sand or sand / peat mix (3 / 1 by volume) because I find most commonly available potting mixes burn young plants – either too much fertiliser or ingredients such as muriate (chloride) of potash. Cuttings do not get fertiliser until potting up - after root formation. Nutrient is not necessary for root formation – that is initiated by a balance of moisture and air around the stems.

Propagation – seed and cutting – should be carried out on a bench or frame high enough so as to avoid splash from the ground. Droplets from the soil will carry pathogens that rot seedlings and cuttings. A

minimum height is a better brick on end, a brick and a half is better and also easier on your back. A panel of galvanised fencing mesh is ideal for a bench top.

A Word About Cuttings.

Common mistakes made with preparation of cuttings include, cuttings too long and cuttings too branched or composed of different ages of wood.

Cutting Length.

A cutting stays turgid by uptake of water through the cut end. This moisture moves up the stem – but if the cutting is too long (for some species, more than 4 or 5 internodes), the moisture may not reach the top and the cutting fails.

Cuttings of plants with small closely placed leaves (thryptomene, calytrix, kunzea) can be as short as 2 cm or up to 5 or 6 cm. Slightly larger leaved species such as leptospermum, prostanthera can be up to 8 or 9 cm long

Plants with larger more widely spaced leaves – backhousia, rhodomyrtus, melastoma, lasiopetalum, grevillea – can be of at least 2 internodes and up to 5 or 6 internodes but not longer than about 12 to 14 cm..

Thicker stemmed plants such as hibiscus can be easily struck from leafless sections of stem from further down the branches, consisting of 2 to 4 or more internodes. These cuttings also survive long transport better than leafy cuttings.

Ages of wood.

Plants grow in bursts of new growth – after each burst, the new growth hardens before producing the next burst. At the intersection of these ages of growth there may be some partial impediment to passage of moisture such as to keep a cutting turgid. The same can apply to branched cuttings. This phenomena is more pronounced in some plants than others and is influenced by the rate of growth, being most noticeable where there is a longer time between when a burst of growth finishes and the next begins. This characteristic is easily seen in some callistemon (now melaleuca)

Where possible take cuttings from one age (burst of growth) of wood, and as much as possible avoid branching.

David Hockings





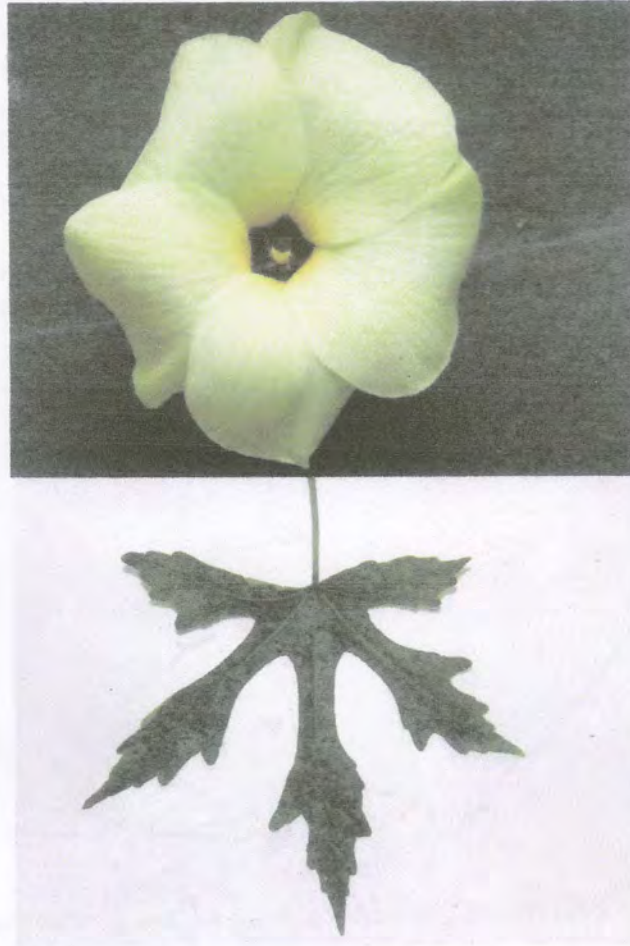
'B'



'C'



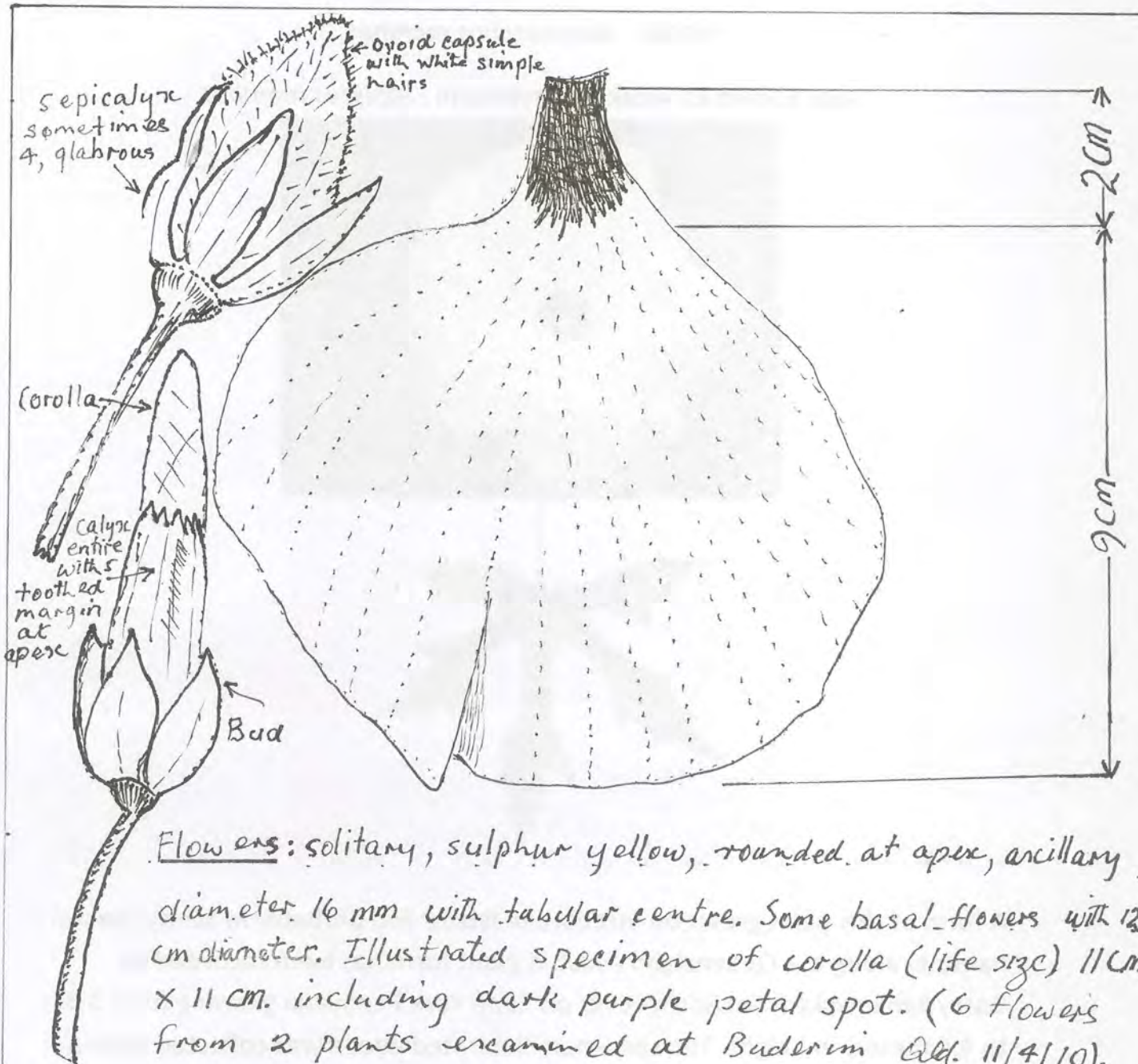
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HAVE YOU SEEN THIS PLANT?**NAME : *Abelmoschus manihot*****Also known as 'Aibika' or synonym : *Hibiscus manihot***

A form of this plant grows on Stradbroke Island and probably in sandy coastal habitats along the Queensland coast. A giant form has been recorded by Garry Sankowsky from Rocky River on Cape York Peninsula growing from 3.5 to 4.5 meters in height. The specimen illustrated above was collected from a waste garden area in Buderim and emerges late summer from a tuberous root or from seed. Several domesticated varieties probably introduced from Melanesia are grown as leaf vegetables in Queensland. The leader of the Hibiscus and Related Genera Study Group would appreciate any information on the occurrence of *A. manihot* and would like to obtain seed from your area if available. Some of the cultivated forms from Melanesia don't set seed whereas the wild *A. manihot* seed profusely during April to June.

Geoff Harvey : Email-bannh@bigpond.net.au

P.O. Box 46 Buderim 4556

1. Buderim specimen of *Abelmoschus manihot* (L.) Medik

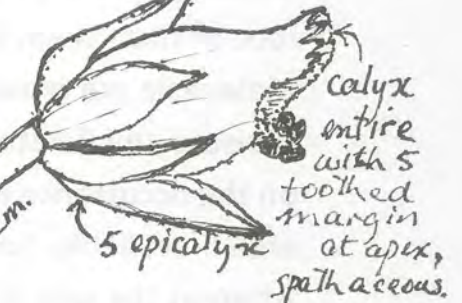
Flowers: solitary, sulphur yellow, rounded at apex, axillary, diameter 16 mm with tubular centre. Some basal flowers with 12 cm diameter. Illustrated specimen of corolla (life size) 11 cm. x 11 cm. including dark purple petal spot. (6 flowers from 2 plants examined at Buderim Oct. 11/4/10).

Calyx: Illustrated life size pale yellow/green with pale mauve, pigmentation. All parts glabrous to the naked eye. Stigma pads dark purple.

Epicalyx
3.7 cm x
1.2 cm
dull green.



Pedical 3.5 cm.



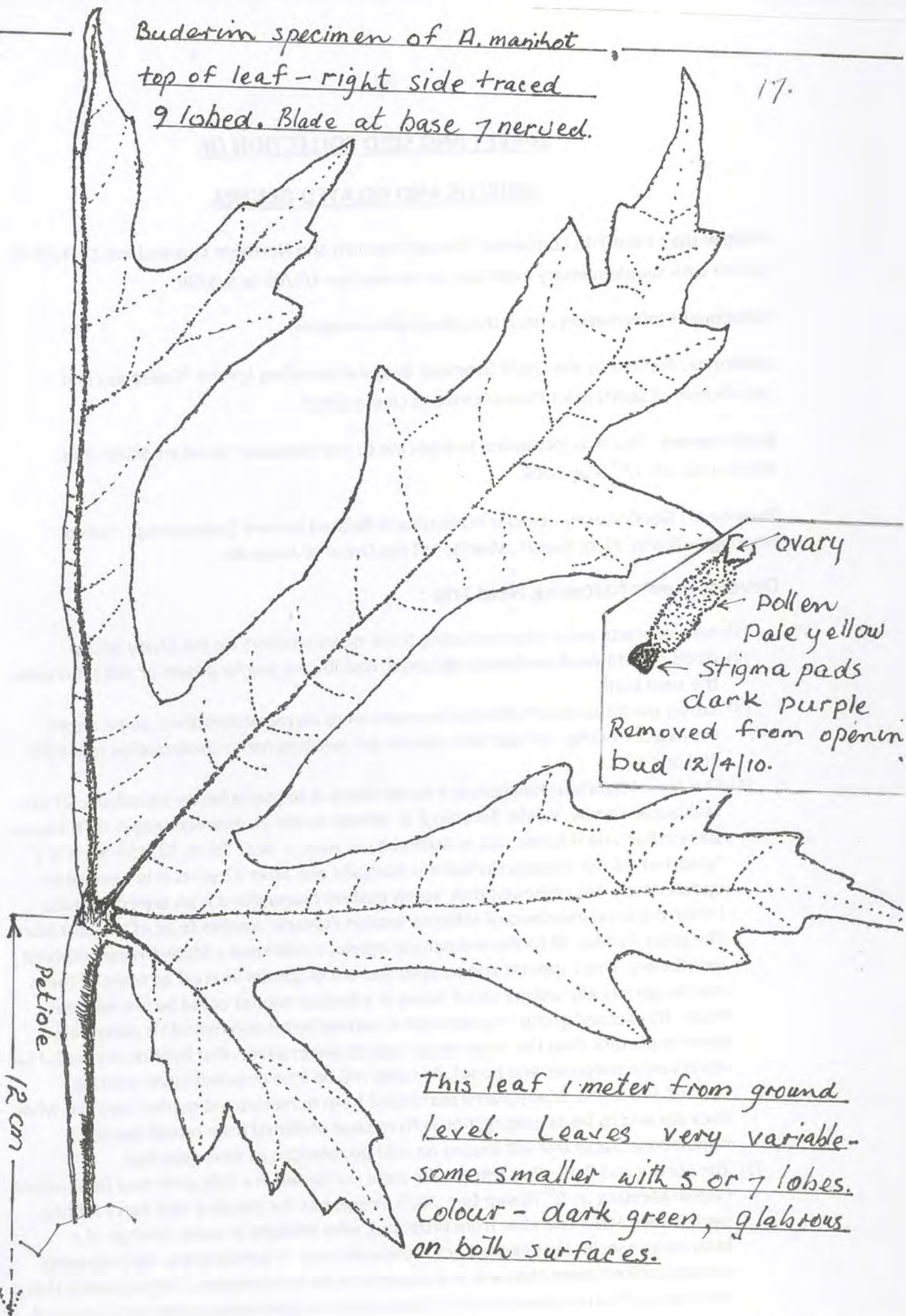
M.B. petals removed.

G.J. Harvey 11/4/10

2.

Buderim specimen of *A. maritima*,
top of leaf - right side traced
9 lobed. Blade at base 7 nerved.

17.



This leaf 1 meter from ground level. Leaves very variable - some smaller with 5 or 7 lobes. Colour - dark green, glabrous on both surfaces.

G.J. Harvey 11/4/10

SURVEY AND SEED COLLECTION OF
HIBISCUS AND RELATED GENERA

Follow up : Field Trip Conducted Through Eastern and Northern Queensland 22/3/09 to 6/4/09 with supplementary extension to Hervey Bay 4/5/09 to 5/5/09.

Subsequent Information : from this geographical region.

Authority : Funded by the Geoff Simmons Bequest providing for the "Collection and Distribution of Seeds from Plants Native to Queensland".

Initial Report : This was forwarded in triplicate to the Honorary Secretary SGAP (Qld. Region) Inc. on 17th May 2009.

Personnel : Geoff Harvey - Leader Hibiscus and Related Genera Study Group. David Hockings - Native Plant Expert. Member of the Order of Australia.

Developments following Field Trip :

- (1) New contacts were made including three new members for the Study Group.
- (2) Good quantities of seed were obtained, distributed and/or grown or still retained in the seed bank.
- (3) Whilst most species of Hibiscus surveyed were correctly identified, some errors needed correcting. At least two species are awaiting name confirmation ref : sites 9(a) and 17.
- (4) Our most important function as a Study Group is to gain a better knowledge of the Malvaceae Family. Whilst Botanist F.D. Wilson wrote an excellent paper on Hibiscus section *Furcaria* (Malvaceae) in Australia ref. Aust. J. Bot., 1974, 22, 157-82, it is a 'snapshot' of the situation in Eastern Australia and after 37 years is in need of an update study. His comment that 'south eastern Queensland is an area of genetic ferment among members of Hibiscus section *Furcaria*' applies to all of the east coast. The great number of forms and natural hybrids could keep a Study Group occupied indefinitely. These natural phenotypes etc. are of special interest as some of them may be genetically unique and if found in a limited habitat could be lost without trace. This second group of polymorphic natural forms and hybrids is potentially more important than the 'man made' hybrids we produce. Our hybrids are useful for observation purposes and hopefully some will be improvements over existing species and forms. Many plants purchased from nurseries and markets are not what they are said to be as propagation is from seed obtained from mixed species populations. Sadly this will impact on wild populations as time goes by.
- (5) The Survey and Collecting Trip results were presented in a talk given to a Queensland Region Meeting on 9th November, 2009. Present at the meeting was Barry Jahnke. (well known SGAP Member from Brisbane), who brought in some cuttings of a Malvaceae species that we had not previously seen. It turned out to be *Lagunaria queenslandica* Craven that was not assumed to be in cultivation. The *Lagunaria* that we know as 'Norfolk Island Hibiscus' also occurs on Lord Howe Island and is named

botanically as the sub-species – *Lagunaria patersonius* (Andrews) G. Don subsp. *patersonius*. Some nice purple bloomed forms were developed in New Zealand and are now grown in California U.S.A. by Study Group Member, Gil Bujanda. This points to the situation where our Australian nurserymen should be seeking out improved forms for reliable propagation by cuttings rather than seed. Study Group member David Hockings collected *Lagunaria* seed on Lord Howe Island and we now have nice seedlings growing in containers.

- (6) Thanks to new contacts, now Study Group Members, seed was obtained by Glenys Johnston of Ravenshoe Nth. Qld. from north of Charters Towers and Greg McDonald from north of Mackay of a mystery Hibiscus. I have both collections growing in tubs to a height of 2.5 m with no branching or any sign of flower buds as of 1/3/11. We have concluded that it will be *Hibiscus cannabinus* (Kenaf) that has escaped from trial plantings as a potential fibre crop in parts of north Queensland e.g. the Burdekin Irrigation Area.
- (7) Hibiscus plants, especially *H. meraukensis* are frequently found at or near rest stops along highways. – e.g. the well known Glen Geddes Rest Area and Railway Siding of previous years. Why is this so? Travellers from time to time may admire native Hibiscus flowers and pick a branch that in addition to the flowers may contain capsules of viable seed. When the flowers wilt the branch may well be tossed out when a stop is made at another rest area. This could be of some considerable distance from where the plant originated.
- (8) Sites 32 to Site 37 near Glen Geddes and Marlborough (Capricornia Region) . Practically all Hibiscus plants found in this locality are hybrids between *H. heterophyllus*, *H. splendens* and *H. divaricatus*. There is a chance that *H. meraukensis* may also be represented as well as an original species that may have evolved in this serpentine country. In Atkinson Road at site 34 and 35 a polyploidy event seems to have taken place. Several of the more interesting natural hybrids are under cultivation. This group of plants would make for an interesting scientific study. The atypical *H. splendens* in this locality in the most northerly wild distribution for this species that we have so far encountered. Recordings of *H. splendens* from near Bowen, Cairns, Lockhart River, Weipa etc are almost certainly man introduced. On the other hand confusion with *H. forsteri* (a superficial look-alike) has no doubt taken place on numerous occasions.
- (9) A Hibiscus that could be readily identified as *H. divaricatus* was seen and photographed in Garry Sankowsky's garden at Tolga, Atherton Tablelands. The plant was found on the Rocky River sand banks, close to the ocean east of Coen. These sand banks are scoured out each wet season. Plants said to be from the same source were for sale in Yuruga Native Plant Nursery (Peter and Anne Radke) under the name of *H. heterophyllus* with (according to their catalogue) very large yellow flowers. They kindly gave me two plants and I advised them that specimens from the same source at Sankowsky's were *H. divaricatus*. Back home the Yuruga plants bloomed and were consistent with typical *H. heterophyllus*. The blooms on both lots of plants were of an intense yellow compared to those from the southern habitats. It is a bit of a mystery how two species from the south could be found together in such an isolated locality.

- It appears likely that they were introduced by man at some time in the past.
- (10) We were disappointed at not locating *Hibiscus normanii* and we didn't manage to meet up with Lyn Craven's contact, Andrew Ford of CSIRO, Atherton Tablelands as he was absent on field work. When asked by email about *H. normanii* he made the following comment – "It is a spasmodic beast at the best of times. Never occurs in stands at all. Only seen one here and one there. It does like rocky spots in low woodland on ridges though. Around Tinaroo Dam is a spot or around Herberton is the best bet." The plants that we have been growing in south east Queensland originate from seed collected by David Hockings beyond the dam wall at Lake Moondarra near Mt. Isa.
- (11) Keith Williams wrote a wonderful series of books titled "Native Plants Queensland". In volume 1 page 154 can be seen the so called 'Euramoo Mallow' found growing in the swampy edges of the Atherton Crater Lake. Study Group Member, John Birbeck was assisting Keith at the time and waded into the water to make the collection of cuttings that were later grown successfully back home in Ipswich. This took place prior to 1979 and it appears that this purple *H. divaricatus* has been lost to cultivation in south east Queensland. In its place another form (origin unknown) is sometimes grown under the name of 'Colour Magic'. The name given to this plant by Colleen Keena refers to the change of flower colour from purple in summer to pale cream in winter. From a quantity of seed collected in Garry Sankowsky's garden only one germinated and is being cared for by Colleen Keena. Let's hope it matures sufficiently to produce seed and cuttings for propagation.
- (12) A giant *Abelmoschus manihot* reaching 3 to 4 meters in height was seen in Garry Sankowsky's garden at Tolga. It too came from Rocky River and unfortunately seed that we have tried did not germinate. The country of origin for *A. manihot* is generally regarded as being Papua New Guinea where hundreds of varieties (known as aibika) are cultivated as a green vegetable crop. The Melanesian people propagate them by cuttings and some of them seem to have lost the ability to flower and produce seed. A few of these varieties can be found growing as garden vegetables in coastal Queensland. Some species may extend into northern tropical Australia. The form that is found growing wild on South Stradbroke Island appears to be the same as other wide-spread forms. Under good conditions e.g. a vegetable garden or compost heap it will bloom for the entire year – (see illustrations). We collected *Abelmoschus moschatus tuberosus* at site 27 on the Atherton Tablelands – 17-10S;145-23E. I have growing two different species or forms of white flowered *Abelmoschus sp.* collected by David Hockings on Cape York Peninsula. Seed has been obtained from Greg McDonald of a narrow leafed species or form of *Abelmoschus* found in bushland near Proserpine. It will be planted next spring in September so that tubers can form during the following summer. In south east Queensland it is important to keep tubers dry after the plant has died down in autumn.
- (13) Capsules from a variegated *Hibiscus tiliaceus* at Bowen provided seed that germinated readily. Most of them were albino and died due to lack of chlorophyll, whilst others survived with bronze foliage. This was a surprise to me as I thought that the variegation traits would not be inherited from the parents. Apparently this condition is very widespread and is reported to occur on islands near Darwin,

Northern Territory. Yuruga Native Plant Nursery had the bronze leafed form of *Hibiscus tiliaceus* for sale.

- (14) Site 24(b) 19-52S;146-09E and site 26 19-40S;144-43E. *Hibiscus panduriformis*. Plants were found north of Charters Towers growing by the roadside in low-lying localities subject to flooding. This species is easy to grow in south east Queensland blooming throughout winter 2010. The same plants look good as of 1st March 2011. The yellow flowers with a red petal spot are rather small with limited garden appeal. – (see illustrations).
- (15) Site 24(a) 20-46S;144-20E. *Hibiscus pentaphyllus* This species is easy to grow reaching maximum flowering in the second season after which it dies back. Hardy and colourful – worth growing from the ample seed produced.
- (16) Site 14 22-25S;147—22E. Both species *Hibiscus sturtii* and *Hibiscus krichauffianus* were found at this site on the Clermont Road. *H. krichauffianus* was only identified when plants were grown from seed and images forwarded to Lyn Craven. It is a plant that grows in clumps and in its natural habitat can be quite eye-catching when full of flower. So far it is not a great success in cultivation but this could be improved with different potting mixes. It likes unstable, red sandy soils.
- (17) Unidentified site 9(a) 23.59S;148-28E. Only one plant of this Hibiscus was found at the edge of cultivation on the Comet Road. The complete plant with buds attached was sent to Lyn Craven. We had hoped to find more of this plant but searches along the roadside and edges of cultivation for several kilometres were unsuccessful. Our observations determine the plant as being quite unique, though flowers and ripe seed capsules were not present on the specimen collected.
- (18) Site 20(a) and 20(b) 19-44S;147-29E *Hibiscus vitifolius*. This species was found to be easy to grow and will last in containers for more than 2 years. The bush can be pruned to a good compact shape with constant flowering. It has limited ornamental appeal.
- (19) *Decaschistia peninsularis* Craven & Fryxell. This plant performed well in containers for David Hockings and myself – see Newsletter No 9 of October 2006 page 5. We seem to have lost our supply of original seed and would like to acquire a fresh lot from near Moreton Telegraph Station, Cape York Peninsula should the opportunity arise. A very attractive plant with ornamental appeal.
- (20) We were able to locate the undescribed section *Bombicella* species – Hibiscus species (Emerald) S.L. Everist 2124) at site 12(b). Other Malvaceae species present at the site included *Hibiscus divaricatus* and some robust bottle trees as well as *Abutilons*. It is amazing how often more than one Malvaceae species is found at the same site. Subsequently we returned to this site and obtained suitable herbarium specimens for sending on to Lyn Craven at CSIRO Canberra. Correct identification was confirmed. New Member Greg McDonald recently found the Emerald species to the west of Mackay. It is evidently quite wide-spread. Seed germinated quite well at Buderim and produced vigorous plants to .35 m in height. They died down during winter of 2010 without reaching the flowering stage. With the next lot of seed for sowing next September 2011 different potting mixes will be tried. This plant may need to grow in association with a particular fungi, therefore some soil from the site may be worth incorporating

into the potting mix. This species is a showy plant somewhat similar to *Hibiscus normanii* in appearance. It will be interesting to find out if Greg McDonald at Mackay has had any luck with growing plants from the seed he collected. I suspect that it may be an annual. It was noted on site to be quite heavily infested with mealy bug. Please note that site 93 of 26/5/10 is the same as site 12(b).

- (21) Childers Qld. 25-16S;152-15E. There are several recordings of both *Hibiscus meraukensis* and *Hibiscus normanii* from near Childers. Surrounding the township, hilly country with deep red basaltic soils is land ideal for cultivation of crops such as sugar cane. There are well grown *Hibiscus divaricatus* beside the Bruce Highway just to the northern side of the township and my colleague David Hockings remembered seeing *Hibiscus splendens* here in years past. Due perhaps to an unsuitable season with massive growth of coarse grasses, we were unable to locate low growing Hibiscus such as the *H. meraukensis* and *H. normanii*. Perhaps 1 or two days would need to be spent here rather than the few hours available on our field trip. Of particular interest to us was a miniature (in plant size and flower) *H. divaricatus* look alike collected by Geoff and Colleen Keena some years ago. We have the plants under cultivation and they appear to be intermediate between *H. divaricatus* and *H. meraukensis*. One give-away is almost constant flowering and the bloom being pedunculate as is *H. meraukensis*. *H. meraukensis* is quite well represented down the Qld. coast to Curtis Island and coastal mainland localities to the south of Gladstone. In the early days ref.- "The Queensland Flora, F. Manson Baily, F.L.S. Colonial Botanist Qld. Part 1 1899, the species was being referred to as *H. radiatus*. It was often collected on Islands off the Qld. coast to as far as Curtis Island. Distribution down the Qld. coast may have been aided by the 'East Australian Warm Current'. At the same time inland distribution extends southwards from the monsoonal climate to the semi arid interior. *H. meraukensis* was recorded at Springsure Lookout 24-05S;148-02E and near Moura on the Dawson Highway 24-01-712S;152-15-396E. A most unusual *H. meraukensis* was seen at site 21 on 28/3/09 at a roadside Rest Area 19-42S;146-50E. Buds were a distinct yellow in place of the usual pink. Unfortunately no mature seed was obtained. The significance of the yellow buds could be a genetic link with a yellow section *Furcaria* such as *H. heterophyllus* or *H. divaricatus*.

H. meraukensis is quite easy to grow in south east Queensland as an annual or bi-annual. There are many ecotypes and hybrids in the Cape York Region. When properly checked out they will probably be found to be crosses with *H. forsteri* or *H. saponarius* rather than *H. splendens* - identified incorrectly or from an introduction to this area through nursery stock etc. I have growing two nicely compact plants in containers that originated from hand pollination between *H. meraukensis* and the yellow *H. heterophyllus* from near Mackay. The flowers are white with a trace of yellow and flowering is almost continuous. The name *meraukensis* comes from a village known as Merauki on the south coast of Irian Jaya - (West New Guinea).

- (22) Site 17 - beside the Peter Delamothe Highway on 26/3/09, 21-29S;147-45E Alt 224 m. Identification here is still in limbo. It is not *Hibiscus krichauffianis* as suggested in the report. Seed and capsules held in the seed bank indicate that it may be one of the many varieties of *Hibiscus sturtii*. We will endeavour to grow out the seed next spring and perhaps revisit the site for herbarium material.

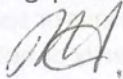
- (23) Site 18(a) and 18(b) We are referring to this Hibiscus as 'Euri Creek' I am convinced that 'Euri Creek' is quite distinct from *H. heterophyllus* or *H. forsteri* – (does not key out) and appears to be confined to the Bowen area, just to the north of the town in granite country. It has grown well for us in south east Queensland and is virtually a continuous bloomer. The nodes are closely spaced and a foliar nectary of about 7 mm is present near the base of the midrib. The young leaves, lacking the spines of *H. heterophyllus*, are tender, slightly sweet with a tangy background. It is excellent as a salad ingredient and may also be good for stir fry cooking. Ample herbarium material was sent to Lyn Craven. I have on hand a number of plants and plenty of fresh seed.
- (24) Hibiscus along the Bowen River. This river crosses the Bowen Development Highway well to the west of Collinsville, flowing north east into the Burdekin Irrigation Area. It is the Don River that enters the ocean at Bowen township. The following description of the then named *Hibiscus fitzgeraldi* F. v. M. Fragm, vii. 242 appears in "The Queensland Flora F. Manson Bailey, F.L.S. Colonial Botanist Qld. Part 1 1899": "A handsome tall shrub, the stem and branches almost glabrous or sparsely aculeate. Leaves glaucous, green ovate or retundate, crenately dentate shortly or not lobed, about 10 ins. long, on petioles of about 6 in. Flowers large, yellow with a dark purple centre on acillary pedicles. Bractioles about 12, linear-subulate, thinly tomentose. Calyx deeply divided, and more or less velvety-hirsute, with yellowish hairs. Staminal column 2 or 3 times shorter than the petals, filaments purple, style shortly lobed. Ovary dense silky-hairy. Habitat :- Bowen River". After more than 112 years we would very much like to re-locate this Hibiscus. It is apparently disjunct from the yellow *Hibiscus heterophyllus* occurring to the north and south of Mackay reference sites 29, 30 and 31. We had hoped to visit the Bowen River on our Field Trips, but were warned against doing so because of the presence of large crocodiles. By taking appropriate caution and acting upon the advice of locals we should be able to accomplish this exercise. The ideal approach would be to travel inland from Mackay to Nebo - Glenden – (visit site 17 to obtain herbarium specimens) thence follow the Bowen River to Dalbeg – Millaroo and Clare through the Burdekin Irrigation Area to the coast at Ayr.
- (25) Hibiscus species (Barambah Creek G. Grimshaw : PG 2484). As the completely prickly free form of this Hibiscus has become very common in nurseries since its discovery in 1996, we felt that there was no point in detouring to see this uncommon plant in its natural habitat. This spreading to sprawling shrub of 2 m X 2m or less is restricted to rhyolite outcrops in a rather localised location. It is very easy to strike cuttings and raise seedlings from hand pollination. The plant requires very good drainage and full sunshine is paramount. Seedlings that I have growing following hand pollination in 2009 are very variable in appearance. It should be noted that *Hibiscus splendens* resembles 'Barambah Creek' and can sometimes be found growing on rock faces such as Mt. Tinbeerwah on the Sunshine Coast and at Esk above the old Dump site – ref. D. Hockings. Another completely different habitat for *H. splendens* is alluvial terraces in the higher rainfall localities.
- (26) *Hibiscus divaricatus*. Site 1 Childers 25-16S;152-12E. Site 11 near Comet 25-35S;148-35E. Site 12(a) Beside Highway 25-35S;148-41E. Site 33 Near Marlborough 22-21S;149-51E. Site 38 Near Mt. Morgan 23.36S;150-25E. Site 39 Near Biloela 24-13S;150-34E. Site 40 Biloela/Gladstone Rd. 23.59S;151-04E. The best specimens were from site 39 with no prickles and extra-large flowers. They have grown and bloomed well in containers. I have also plants from Biggenden acquired from a native plant nursery in 2002 when the seed was collected. They probably came from the south/west of the township from gullies in the mountainous foothills. Though this species comes from a fairly confined region near Capricornia in Queensland, it is very hardy and I note that it does well in parts of Sydney reference : Jeff Howe's article *Hibiscus divaricatus* Golden Haze on Page 24 of "Native Plants

for New South Wales" Vol 46 No 1. Though mention has been made in the past of *H. divaricatus* with white blooms I have yet to see one. The Mt. Morgan plants have blooms that approach orange in colour.

CONCLUSION :

As can be seen, seed collected from most species has been put to good use. Some further feed-back from other growers who acquired seed will be appreciated. This is an on-going exercise and a further report from our Gulf of Carpentaria Field Trip will be prepared in due course.

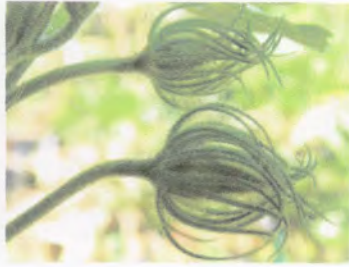
There is a good deal of unfinished business and we feel that more collecting and study from the northern tip of Cape York Peninsula in particular would be beneficial in addition to follow-up to some of the sites mentioned above. Though tropical Queensland has been well collected botanically we feel that there are a lot of gaps to be filled with the largely neglected Malvaceae Plant Family.



Geoff Harvey
(Study Group Leader Hibiscus and Related Genera)

25

6 IMAGES SITE 32 TO 37

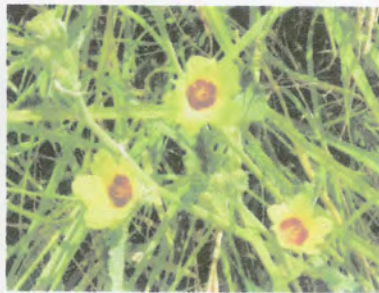


Natural Hybrid Glen Geddes

Probable polyploidy plants in Atkinson Road - - - -



note very large leaves – flower similar to *Hibiscus splendens* – increased epicalyx number



Giant *Abelmoschus* see para. 12 *H. panduriformis* see para. 14 Var. *H. tiliaceus* Bowen p.13



Abelmoschus manihot para. 12

Hibiscus natural Hybrid, Sarina Road

Sth. Stadbroke Is. Buderim etc.

near Marborough, Capricornia