

ASSOCIATION OF SOCIETIES FOR GROWING

AUSTRALIAN PLANTS

HIBISCUS AND RELATED GENERA STUDY GROUP

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Reaching NO 20 is a milestone for our Newsletter. It is the 3rd for 2009/2010 which is our objective and in so doing uses up all of the subscription money received. The printing of many colour images in 40+ copies is an expensive exercise, but I am sure you will agree that it is all worthwhile.

The main content of this N.L. will be the "Hibiscus and Related Genera Field Trip" just completed. This 19 day journey covered in the main the Burke and Gregory North Botanical Regions or Pastoral Districts. Whilst most of the Gulf area consists of vast stretches of almost treeless grassland and virtually no Malvaceae species, there are unique species to be found in the elevated sections.

Study Group member, David Hockings came with me on this trip. He is amazingly agile at climbing steep sided mesas and hillsides with loose rocks and spinifex. His knowledge of Australian native plants is phenomenal and he even remembered where to find a Hibiscus he had seen in 1974.



The mesas of Central Queensland hold a fascination for me as they are like isolated islands that may hold a unique suite of plants from place to place. The steep slopes with loose stones and spinifex are unreachable to grazing animals including no doubt macropods. The fact that we were able to observe 3 un-named Hibiscus section *Bombicella* species and possibly 1 *Hibiscus sturtii* sub *species* from such sites seems to support this assumption. Also the flat tops of some mesas are quite extensive and would be interesting places to explore by helicopter.

An attempt will be made to grow the seed collected by myself and any member who is interested. The ideal would be to establish plants in Regional Botanical Gardens where suitable climatic environments exist along with dedicated people to look after them. The Study Group will explore such possibilities. Unfortunately, Lyn Craven of CSIRO Canberra, who is a member and keen supporter of this Study Group, has been unavailable since our return. As soon as he is home again work will begin on confirming names of species, where doubt exists. In all instances pressed specimens have been prepared for the National Herbarium. Lyn has been working on the Hibiscus section *Bombicella* so hopefully botanical descriptions and names will eventuate. It is very hard to distinguish the many sub species of *Hibiscus sturtii*, so we look forward to this problem being clarified.

Notes and images on most of the species dealt with in part 1 of the Survey and Seed Collecting Trip have not been duplicated here. We now have very good images and plant descriptions that could be put together in an SGAP publication. Nothing like this exists for the Australian Malvaceae and in many instances images and descriptions cannot be found in published material.

Of great interest to the Study Group is a quite large population of Hibiscus section *Furcaria* growing beside Atkinson Road some kilometres south of Glen Geddes in the Capricornia Region. Location is Lat 23-04 Long 150-13. The general appearance of the plants is uniformly that of *Hibiscus splendens* with exaggerated plant parts, especially the leaves and elongated epicalyx lobes in double normal numbers. There is no other species at or near the site that we have been able to locate. We expect an increase in chromosome number has taken place and observe definite polymorphic variation with most plants. Cuttings of different plants were obtained and mailed to Study Group Member/Nurseryman, Peter Bevan for propagation.



Examples of leaf and flower from two Atkinson Road specimens.

There is an overseas interest (the word gets around) in the seed we collect and I wouldn't supply it to non-members of our Study Group. If the persons concerned were to join our Study Group a decision will have to be made re-supply of seed. The *Alyogyne* Genus has been developed through breeding in the U.S.A. to an impressive extent and also species the Australian *Gossypium* genus are grown in some states. We have an excellent Malvaceae resource in Australia that should receive much more attention from growers of native plants.

Many informative scientific papers are generally only available to botanists and researchers. I think it highly desirable that the non-technical interpretation of this research be made available to amateur plant enthusiasts. I see this 'conveying of information' as an important function of our Study Group provided the source of information is properly cited.

Study Group Member Neil Smith of Bowen was looking forward to our visit and knew of several localities to show us Hibiscus. Unfortunately due to a health problem we were unable to catch up with Neil on this occasion and we hope that he has made a complete recovery. Thanks to Walter Willcox who took us on a long drive southwards of Collinsville. We saw some interesting country that was well populated with cattle hence no Hibiscus. We were lucky to get home after two punctures and one spare tyre. A repair kit saved the day. A revisit was made to Euri Creek, where the Hibiscus had made excellent growth after the good summer rains. This 'Euri Creek' form flowers continuously at Bowen and also in my garden at Buderim. We saw some great Hibiscus gardens at Bowen and had an enjoyable get-together in the evening with several of the Branch Members.

Study Group Member Alison Fraser was a tremendous help to us at Mt. Isa, where we saw some quite outstanding species of un-named Hibiscus section Bombicella as well as *Gossypium sturtianum*, *Gossypium nelsonii*, *Hibiscus burtonii* etc. Thanks Alison for your time and sharing of knowledge.

A list of species recorded and seed collected is included. Should members wish to grow some of the seed please send a wants list and a stamp addressed envelope.

PROPOSED SPRING GET-TOGETHER :

It would be great to meet up again as we have done for the past two years. My place at Buderim is available (if it is not too far to drive) including a visit to Fairhill Native Plant Nursery or Maroochy Bushland Botanical Gardens. Let me have your ideas on a time and place and we can do the organising by email.

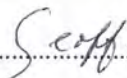
HIBISCUS OXALATE ANALYSIS :

This is still in progress and results will be published in due course.

SUBSCRIPTION TIME :

This is still \$10-00 per year from 1st July to 30th June – hard copies only due to popular demand. Overseas subs. are \$20-00.

Thanks to all members for your ongoing support. With best wishes to all,

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HIBISCUS AND RELATED GENERA FIELD TRIP MAY 2010

A 6991 kilometer drive across Northern Australia in 19 days is indeed a very superficial look at the existence of the Malvaceae Plant Family in that part of Australia. The ideal would be an extended stay in a given area, which of course is impossible with the time, cost and resources available. Perhaps this report will provide some good background information for future Malvaceae studies. The roads in the Gulf were only just usable with water still running fast at wheel depth across some of the causeways. Roads either side of Urandangie were wet and muddy in patches necessitating a reduced road speed of 60 to 80 kilometers per hour – see images below :



The prime object was to collect seed and this was done from 47 GPS recorded sites including 31 Malvaceae species. In all more than 400 images were taken by David Hockings and myself. Some of the species photographed do not appear in published material, including the Internet. It is proposed to publish a SGAP booklet using the images obtained on this and the previous Field Trip.

We are indebted to Alison Fraser of Mt. Isa and Walter Willcox of Bowen, both members of our Study Group who were our guides in their particular localities – see images below :



Alison Fraser and David Hockings at 'The Cascades', Mt Isa



David Hockings and Walter Willcox about to deal with a second puncture south of Collinsville.

The Malvaceae Family is very well represented in Australia with more than 70 species in the Hibiscus Genera, 17 Gossypiums and numerous Abutilons, Sidas, Abelmoschus and of course many others including Brachychitons.

It was hoped to find *Hibiscus zonatus* and *Hibiscus geranoides* in the Western Gulf near the Northern Territory Border beyond Hell's Gate Roadhouse. I had obtained GPS readings pinpointing coordinates for these species but unfortunately the road was closed to the west of Doomadgee. Luckily I have a contact, who may be able to provide seed of the genuine *Hibiscus geranoides* that has been confused with the African introduction, *Hibiscus pedunculatus* commonly grown in Australian Gardens including temperate zones.

We were hopeful of finding *Hibiscus setulosus* near Quamby, but unfortunately this wasn't to be. Another on our wants list was *Gossypium bickii* from near Boulia, but this area proved to be just outside the localities where I had recorded it previously. Plenty of seed was collected at the time and is still held in the seed bank. I grew some of this seed and the plants set seed from cleistogamous flowers not progressing beyond the tight bud stage.

Another on our wants list was *Hibiscus leptocladus* that may have been obtained near Doomadgee, where it occurred as a trailing plant with pink flowers and a dark red petal spot – see site 79. It was growing in association with a sprawling Ipomea sp. that had similar blooms in colour and size thus providing a perfect camouflage for the Hibiscus.

Of course no collecting could take place in Lawn Hill National Park, where one Hibiscus species of interest was photographed during a walk along the high ridges. Due to its spindly growth, narrow dull green leaves and blooms off-white with a dark red petal spot, it is believed to be *Hibiscus phyllochaenus* : see images below –



View of the gorge from Lawn Hill ridge top.



Hibiscus sp. growing on Lawn Hill ridge top.

Other Malvaceae at Lawn Hill such as *Hibiscus meraukensis*, *H. sturtii*, *H. pentaphyllus* and various Abutilons were all obtainable outside the National Park.

An interesting plant that resembled a Hibiscus was seen in the Gregory River – Adels Grove – Lawn Hill locations and a good image obtained as well as a pressed specimen – see site 73. The yellow bloom does not open until the afternoon and although the 5 lobed stigma pads are Hibiscus-like the pollen bearing 'filaments' emerge from the base of the column. Hopefully Lyn Craven will be able to identify this species : see image –



Malvaceae species from site 73

With the guidance of Study Group Member, Alison Fraser we were able to examine *Gossypium nelsonii* (site 58) where some plants were intermediate with *Gossypium australe*. Later sites, reference 64 and 86 provided pure *Gossypium nelsonii* and good seed was obtained.

A big surprise was seeing *Gossypium sturtianum* not far south of Mt. Isa on the Dajarra road at site 55. This species is probably at its best near the Tropic of Capricorn in Central Australia and further southwards from Alice Springs.

The highlight of our trip was undoubtedly the un-named Hibiscus section *Bombicella* identified as Fraser collection number 172 and Fraser collection no 392. The former was found by Alison Fraser 15 years ago and is still awaiting a taxonomic description and botanical name. As can be seen from the images (site 61) number 172 is a handsome Hibiscus that produces large flowers when the season is favourable. It may also occur near Middleton, where David Hockings recorded it in 1974 and still has the photographic images.

There is perhaps a corridor for interesting Malvaceae occurrence extending south from Westmoreland, through Lawn Hill to Mt. Isa, thence the Selwyn Range to Middleton and the vicinity of Lake Quarry. I would be surprised if a young energetic botanist prepared to climb mesas and rocky hilltops would not find a treasure trove of new material. Many of the Hibiscus we saw on rocky slopes were in situations safe from grazing animals and probably fire due to lack of fuel.

To get from A to B on this Field Trip it was necessary to cover vast distances of treeless grassland, quite unproductive for a good selection of Hibiscus. The cracking clays that are inundated during the

wet monsoonal season produce an abundance of *Hibiscus trionum* var. *vesicarius*, *Abelmoschus ficulneus* and occasional *Hibiscus brachysiphonius*. Close to rivers and streams species such as *Hibiscus panduraformis*, *Hibiscus fluvius*, *Hibiscus pentaphyllus*, *Hibiscus meraukensis* and an assortment of *Abutilons* may be found. Soils tend to be sandy or loamy alluvial

Generally *Hibiscus sturtii* is confined to ridges and hilly country in stony ground. The species most commonly seen on this trip is believed to be *Hibiscus sturtii* var. *campylochlamys*. A much different variety at Middleton (see sites 87 and 88) was an attractive pink with no petal spot and a large flared calyx like an inverted umbrella.

Last year's site (12 b) on the Capricorn Highway near Comet was revisited in order to obtain pressed specimens of an un-named *Bombicella* section *Hibiscus* for Lyn Craven and the National Herbarium. The plants we relocated had completed their flowering cycle and appeared to be perennial. They were heavily infected with mealy bug though plenty of good seed was obtained. Plants growing in containers at Buderim from last year's collecting have not made much growth and failed to reach flowering size by the end of autumn.

Worthy of mention was an excellent form of *Hibiscus divaricatus* found beside the Blackwater/Rolleston Road. Mature plants were virtually prickly free with fully open flowers of a good size – (see site 90).

On the first day we caught up with a *Hibiscus* enthusiast at Mackay, Greg Macdonald. We obtained seed from him of a pink *Abelmoschus* with narrow 3 lobed leaves and hope to obtain seed of a perfumed *Hibiscus heterophyllus* that is a low growing pink variant.

We think of *Gossypium australe* as an arid zone plant that occurs right across Australia from East to West. It has adapted to the monsoonal climate adjoining the gulf where plants are well foliated with larger than normal leaves and generally thriving as low bushy plants. South of Camooweal at site 85 we observed 2 m high *Gossypium australe* with virtually white perfumed flowers.

Hibiscus meraukensis was commonly seen in suitable habitats where cattle had not grazed. The species is known for a wide range of ecotypes, but the many plants seen during this trip were very uniform in appearance. A wide variety of forms apparently exists in the Cape York populations.

The 'Euri Creek' *Hibiscus* from Bowen continues to perform well where I live at Buderim and flowers virtually all year round as it does at Bowen. It would appear to be a species separate from other *Fucaria* section *Hibiscus* and on this one we await for a full botanical description. From last year's collecting we eventually nailed down an unknown as *Hibiscus krichauffianus* that we found again at site 91 on this trip. One very small containerised plant at Buderim is still blooming as of 9/6/10 – (see images).

Hibiscus trionum var. *vesicarius* was very common throughout the Gulf grasslands often growing in association with *Abelmoschus ficulneus*. The native *trionum* showed no variation in flower colour in this region and along with *A. ficulneus* was often seen to be well grazed by cattle. Surviving parts of the plants had plenty of seed.

SOME SPECIES FOUND ON FIELD TRIP PART 2

Gossypium sturtianum : This species is of course the well- known Northern Territory Emblem. We saw it on last year's trip near Springsure where it was a form typical of the eastern extremity of its range that also occurs near Narrabri in N.S.W.

Site 55 lat. 21-05.704 long 139-27.057



This site at Sybella Creek, Dajarra Road is disjunct from the more southern populations to be found near Alice Springs and down into South Australia.

There were a good number of low shrubby plants present growing mainly along the edge of the dried out creek bed and stretching a few hundred meters along a wire fence beside the roadside. Even though the plants appeared somewhat stressed the blueish foliage and flowers were a stand out. Plenty of seed was collected.

My plant at Buderim originating from the West Macdonnell Ranges, Northern Territory, grows and blooms amazingly well at Buderim and has to be tip pruned periodically. It is surprising that these arid zone plants will adapt to the wet, humid coastal conditions and surprisingly grow much better than they do in their natural habitat.

In due course the Study Group will strive to get the species established in Regional Botanical Gardens. Plenty of seed is available upon request, either collected in the wild or from my garden at Buderim. *Gossypium nelsonii* Fryx. : This species was examined at three sites. It is similar in appearance to *Gossypium australe*.



- (a) Site 58 lat 20-43.124 long. 139-33.359 on road below Communication Tower, Mt. Isa. (see images above) This population is growing sympatrically with *Gossypium australe* and some plants appear to be intermediate between the two species.

Gossypium nelsonii has coarse hairs on the vegetative parts with the capsule indented at the tip. *Gossypium australe* has fine hairs on the vegetative parts. On *Gossypium australe* the foliar nectary is less than 0.5 cm from the base of the leaf blade whilst *Gossypium nelsonii* is 0.5 to 2.5 cm.

- (b) Site 64 lat 20-34.553 Long 189-34.164. Situated on a ridge overlooking Lake Moondarra. This population was considered to be pure *Gossypium nelsonii*.
- (c) Site 86 lat 22-54.899 long 140-19.268 on Boulia Road. Plants less than 1 meter in height with plenty of flower. This population was considered to be pure *G. nelsonii*.

Thanks to Mt. Isa Study Group Member, Alison Fraser for showing us the botanical differences between the two species. The sites examined were within the normal distribution range for *Gossypium nelsonii*, that is from Central Queensland to Central Northern Territory.

Urena lobata : This species is frequently seen growing on disturbed soil and river banks from South/East Queensland to far North Queensland. It is an erect shrub to 1.5 meters with hairy stems and greyish leaves. It also grows in South America and across Asia. Though the flower is quite attractive, the capsule has spines tipped with recurved stellate hairs. It is often seen as a weed along roadsides and land cleared for housing development.



Hibiscus krichauffianus container grown-sites 91 and 12(a)



Urena lobata

Hibiscus krichauffianus : Site 91 lat 24-01.709 long 148-55.875. Thick rounded clumps growing in red clay soil on Blackwater/Rolleston Rd. No flowers were evident but we have managed to grow it to the flowering stage from last year's collecting site 12(a). It is certainly a dwarf shrub with small pink flowers. It may have some potential for growing as a containerised plant.

Gossypium australe : Site 85 South of Camooweal. Lat 20-28.346 Long 138-25.476. This is a very abundant species seen mainly in the arid interior. but also in the Gulf to near the coast-line. It thrives in disturbed soil along road verges and regrows strongly after graders shave off the above ground parts. This variant is included in the report as the large population had virtually white flowers

with the usual dark petal spot and a distinct perfume. The plants were abundant at the gravelly road edge with some of them exceeding 2 m in height.



Gossipium australe – white bloom



Gossipium nelsonii on left note position of foliar nectary.

G. australe on right with nectary close to base of leaf blade

Abutilon species : Site 82 Lat 18-35.815 long138-51.906 beside the road leading to Adels Grove. This white bloomed species was seen at various locations including Lawn Hill. The flowers being quite large make this plant conspicuous, never-the-less I have not been able to find a botanical name. Good pressed specimens were obtained as well as plenty of seed.



Abutilon fugax Domin Site 54 Lat 20-43.615 Long 140-45.249 Barkly Highway west of Cloncurry. Quite an attractive trailing species, perhaps worth growing in a hanging basket. See image below-



Abutilon calliphllum Domin Site 87 Lat22-38.572 Long 141-09.461 Boulia Road near Middleton. Handsome foliage and yellow flowers opening in the afternoon. Although a plant of the drier parts, I have grown it quite well in containers at Buderim where it bloomed and seeded profusely over a two year period.. It was previously collected on the Basalt Range Road north of Hughenden. See images below –



Hibiscus panduriformis

(a) Site 49 Burdekin Irrigation Area. Lat 19-49.929 Long 147-08.494

(b) Site 71 Road to Burktown Lat 17-54.663 Long 140-44.008

(c) Site 77 Near Doomagee Turnoff. Lat 17-50.937 Long 139-23.036

Seems to prefer habitats that are seasonally inundated but drain well after flooding. Many plants growing thickly in a clump result in predominately stunted growth with much reduced flower size. Possibly worth growing under garden conditions with plenty of water during the active growth stage. My plants in containers are still flowering as of 13/6/10 and have set seed. The image below was taken in the Burdekin not far from a large cotton cultivation –



Hibiscus panduriformis

Commercial cotton - Burdekin

Hibiscus fluvialis Site 76 2 km from 'T' Junction near Floraville Lat 18-13.557 Long 139-53.338

Site 81 40 km from Gregory River Lat 18-13.557 Long 130-53.338

Plants very tall to 2.5 m with all yellow flowers. No petal spot evident. Grows near rivers and stream

where seasonal flooding takes place. See Images below :



Hibiscus section Bombicella

If we include *H. insularis* from Philip Island (off Norfolk Island), there are eleven species described in Australia. The world-wide number of species is more than seventy.

In Queensland we could expect to find *H. Brachysiphonius*, *H. burtonii*, *H coatesii*, *H. geranoides*, *H. leptocladus*, *H. setulosis* and *H. sturtii* containing a number of sub species.

The highlight of our trip was to view 3 possibly 4 undescribed Hibiscus species belonging to the Hibiscus section Bombicella.

(a) Fraser No 1 (tall plants with narrow, acute epicalyx segments)

Collection No 172 – Cascades population, 6.7km NE of Mt. Isa

Collection No 307 – 44.8km ESE of Mt Isa.

Collection No 325 – Amethyst Castle, 142km SE of Mt. Isa.

(b) Fraser No 2 (short plants with long narrow – spathulate epicalyx segments)

Collection No 274 – 8.3km NE of Mt. Isa

Collection No 381 – 56km NW of Mt. Isa

Collection No 392 – Cascades population, 6.9km NE of Mt. Isa.

All distances are in a straight line from the centre of Mt. Isa.

Alison has seen 'Fraser No 2' plants at Amethyst Castle but did not make a collection.

Site 61 Undescribed Hibiscus 'Fraser No 1' at the Cascades lat20-41.145 Long 139-32.314.

Plants seen in a steep gully growing in loose broken shale about 300 meters west of the car park. Many young seedlings would probably not make it through the dry monsoonal season.

Site 62 Undescribed Hibiscus 'Fraser No 2' at the cascades Lat 20-41-145 Long 139-32.314. Few only plants seen near the base of a steep slope to the East of the car park. Growing in broken shale amongst spinifex.

(c) Site 89 Undescribed Hibiscus very similar to 'Fraser No 1'. 'Hocking's Poddy Creek Hibiscus', Boulia/Winton Rd. near Middleton. Lat-22.256 Long 141-55.602. See images below :



Hibiscus 'Fraser No 1'



Hibiscus 'Fraser No 1'



Hibiscus 'Fraser No 2'



Hibiscus 'Fraser No 2'



Site 89 'Hocking's Poddy Creek' Hibiscus



Site 89 'Hocking's Poddy Creek' Hibiscus

The scattered population of 40 to 50 'Poddy Creek' Hibiscus were found near the top of a mesa to the west of the road. Plants were upright to 2 m in height with rusty coloured stems. whereas 'Fraser No 1' has pale green to straw coloured stems. David Hockings first saw these plants in 1974 and still has photographic images. Both these Hibiscus have large attractive flowers on tall plants so it will be interesting to try and grow them.

Sites 87 and 88. Possible *H. sturtii* sub species

Lat 22-38.572 Long 141-09.461

Lat 22-17.598 Long 141-37.023 Boulia/Winton Road near Middleton and Poddy Creek. Found growing on sides of stony mesas with spinifex. Dense clumps 30-40 cm in height. Common at site 88 to the east of the highway. The very large epicalyx cup is a stand-out feature. Images below :



Another unidentified Hibiscus was found at site 79 just west of Doomadgee. It is a trailing plant that could be a form of *Hibiscus leptocladus*. Lat 17-55.467 Long 138-45.626. Images next page :



Site 78 *Hibiscus brachysiphonius*. Lat 17-52.110 Long 139-19.366. This species is difficult to locate as it usually grows as a trailing plant concealed by grasses. Found beside road to Doomadgee.



Site 68 Probably *Hibiscus brachyclaneus*. Lat 19=59.250 Long 140-12.976 Found amongst loose quartzite rocks on a steep hillside beside the Normanton Road. A caney semi-upright plant to .8m Only one damaged flower (see image) and one seed capsule with seed.



LIST OF SPECIES RECORDED AND SEED COLLECTION – HIBISCUS AND RELATED GENERA FIELD TRIP PART 2

Site 46 Residence of Greg McDonald at Mackay. Greg and his father at Proserpine are keen observers and growers of native plants. Greg has a pink form of *Hibiscus heterophyllus* that is perfumed. This is unusual as *Hibiscus heterophyllus* in this area have yellow flowers. Seed will be obtained later when available. He also had growing a trailing form of *Abelmoschus* with pink flowers and narrow 3 lobed leaves that came from his father's bush habitat property at Proserpine. This is not to be confused with the usual *Abelmoschus moschatus tuberosus* that he also had growing. Seed was collected and will be trialed in the spring.

Site 47 Willcox Property at Bowen. Seed was collected from a handsome variegated *Hibiscus tiliaceus*. Seed collected in 2009 germinated with no pigmentation (albino) in the cotyledons (and did not survive) whilst others (still small) show a bronze leaf colouring. More seed was obtained. It was hoped to make collections along the Bowen River where in the past yellow and cream Hibiscus had been recorded. We were advised that this would be too dangerous due to the presence of large crocodiles. The alternative was to explore the country south/east of Collinsville where no plants of the Malvaceae family were found. Upon returning to Bowen we revisited last year's site 18 (a) at Euri Creek. The 'Euri Creek species' were in good condition following the abundant summer rains.

Site 48 Burdekin Irrigation Area. *Hibiscus trionum* var. *vesicarius* was observed with white flowers and a pale yellow centre. Commercial cotton was growing about 100 meters from this site.

Site 49 Burdekin Irrigation Area. *Hibiscus panduraformis* was common by the roadside with *Hibiscus trionum* var. *vesicarius* also present. Seed was collected.

Site 50 Near Mingela. *Hibiscus meraukensis* near the roadside below embankment. The open sprawling plants had white stigma pads.

Site 51. West of Charters Towers. *Hibiscus meraukensis* with good pink flowers and white stigma pads. Upright plants to 1.5 meters with few branches.

Site 52 *Hibiscus meraukensis*. Closer to Pentland. Good pink blooms on vigorous spreading plants.

Site 53 West of Hughenden. Typical *Hibiscus trionum* var. *vesicarius* with white petals and a pale yellow centre.

Site 54. Barkly Highway west of Cloncurry. *Gossypium australe* and a trailing *Abutilon fujax*. Seed of both collected.

Site 55 Sybella Creek, Dajarra Rd. *Gossypium sturtianum* Handsome foliage with a blueish tinge. Low shrubby plants appeared to be stressed. Numerous at edge of dried creek bed. Seed collected. Occasional *Gossypium australe* and *Hibiscus meraukensis* also seen.

Site 56 Rocky hillside at Mica Creek, Dajarra Rd. Some plants of *Hibiscus sturtii* with seed but no flowers.

Site 57. *Hibiscus meraukensis* growing below a steep roadside embankment. Well branched plants with some pink in the petals.

Site 58. East of Mt. Isa below the Communication Tower. *Gossypium nelsoni* influence strong but some plants intergrading with *Gossypium australe*. Seed collected.

Site 59. On ridge at Communication Tower. *Hibiscus sturtii* plentiful with flowers and seed. Nice clumping plants in excellent condition, one observed to be reaching 1 meter in height.

Site 60. Rifle Range Turnoff 16.2 kilometres E of Mount Isa. *Hibiscus burtonii*. Most plants dried out with seed dispersed.

Site 61. At the 'Cascades' 6.7 km. NE of Mt. Isa. Un-named Bombicella section Hibiscus identified as Fraser collection No. 172 or Fraser No. 1 in our records. *Hibiscus sturtii* also seen at this site.

Site 62. At the 'Cascades'. E of car park 6.9 km. NE of Mt. Isa. Un-named Bombicella section Hibiscus collection No. Fraser 392 or Fraser N. 2 in our records. Also found *Hibiscus meraukensis* in burnt out section higher up the slope.

Site 63. Steep slope at Lake Moondarra. Plenty of *Hibiscus sturtii* and some *Abutilon species* and *Hibiscus meraukensis*.

Site 64. Ridge overlooking Lake Moondarra. Good specimens of *Gossypium nelsoni* to 1.5 meters, with small seedling plants present.

Site 65. Barkly Highway approaching Cloncurry. Mature plants of *Hibiscus meraukensis* to 1.2 meters with large flowers. Young seedling plants also present.

Site 66. Cloncurry/Normanton Rd. *Hibiscus sturtii* amongst grasses under 'Snappy Gums'.

Site 67 Road to Normanton. *Hibiscus sturtii* amongst grasses under 'Snappy Gums'.

Site 68. Road to Normanton. One plant of *Hibiscus brachyclaenus* amongst rocky quartzite on steep hillside. Only one seed capsule.

Site 69. About 6 km E of Croydon . *Hibiscus meraukensis* in regrowth following fire.

Site 70. *Hibiscus trionum* var. *vesicarius* 40 km from Normanton. Plants scattered in grassland.

Site 71. Road to Buektown ex. Normanton. *Hibiscus panduraformis* - spindly upright plants to 1 meter with many young seedlings.

Site 72. Rd. to Burketown. *Abutilon species* collected.

Site 73. Rd. to Burketown. Malvaceae species collected.

Site 74. 125 kilometers from Normanton. Stunted *Gossypium australe* less than 1 meter in height. 'Snappy gums', *Grevillea striata* and grasses present.

Site 75. Rd. to Burketown – ‘The Savannah Way’. *Hibiscus meraukensis* with large white flowers and mostly un-lobed leaves.

Site 76. 2 km from the ‘T’ junction near Floraville and the Leichhardt River. Yellow flowers with no petal spot on tall plants to 2.5 meters. This Hibiscus species assumed to be *Hibiscus fluvialis* Juswara & Craven.

Site 77. Near Doomadge turnoff – cracking clay soil with grasses. Many scattered plants of *Hibiscus panduraformis* with *Hibiscus trionum* var. *vesicarius* and *Abelmoschus ficulneus* also present.

Site 78. Road to Doomadgee. *Hibiscus brachysiphonius*. Procumbent sub-shrubs with pink flowers hidden amongst grasses.

Site 79. Just west of Doomadge. An unknown trailing Hibiscus. Small pink flowers with a dark red petal spot, 1.3 meter spread with narrow leaves. Only 6 plants seen . Trailing plants of Ipomea also present.

Site 80. 40 km. from Gregory Downs. Alluvial loam near floodway. *Hibiscus pentaphyllus* sprawling over other plants, mostly grasses.

Site 81. Same site as 80. *Hibiscus fluvialis* with all yellow flowers – no petal spot. This species grows in dense colonies with many young seedlings.

Site 82. Road to Adels Grove. *Abutilon* species with white flowers about 4.5 cm across - .4 to .6 m in height, bushy, with plenty of blooms.

Site 83 Road to Adels Grove. *Hibiscus sturtii* var. *campylochlamys* . Clumpy plants to .4 meters in height.

Site 84. South bank of O'Shannassy River. *Hibiscus meraukensis* and *Hibiscus pentaphyllus*. *Malvastrums* and *Abutilons* also present.

Site 85. South of Camooweal on Uradangie Rd. Virtually white blooms of *Gossypium australe*, perfumed. Numerous plants some to 2 meters high.

Site 86 Boulia/Winton rd. *Gossypium nelsoni*. Plants scattered amongst grassland near roadside. Less than 1 meter in height.

Site 87 Boulia/Winton rd. *Abutilon calliphyllum*. Plants up to 2 meters tall with large yellow petals. Opens late in the day. *Hibiscus sturtii* species with showy pink flowers and no petal spot. Very large saucer shaped epicalyx cup – see images for site 88.

Site 88 Boulia/Winton Rd. near Middleton. *Hibiscus sturtii* as above growing on stony mesa slope with spinifex.

Site 89. Boulia/Winton road near Poddy Creek. Upright hairy Hibiscus to 2 m resembling Fraser no. 172 from site 61, Mt. Isa. 40 to 50 plants scattered near top of mesa. Apparently the same species as recorded at this locality by David Hockings in 1974.

Site 90. Blackwater/Rolleston Rd. *Hibiscus divaricatus*. Upright well branched shrubs to 2.8 meters with large open blooms. The *H. divaricatus* from last year's site No. 39 near Biloela had blooms to 17 mm measured from containerised plants – (5/5/10). This form may even be an improvement as plants were virtually prickly free.

Site 91 Blackwater/Rolleston Rd *Hibiscus krichauffianus*. Low spreading clumps with seed but no flowers present.

Site 92. Dawson Highway. *Hibiscus meraukensis*. Roadside plants amongst grasses and eucalypts and in a burnt out area. This is the most southerly population that I have recorded at lat. 24-01.710.

Site 93. Capricorn Highway 12 km from Comet. See last year's site 12(b). Un-named Hibiscus species belonging to the Bombicella section. Pressed cuttings requested by Lyn Craven