

# **AUSTRALIAN NATIVE PLANT SOCIETY (AUSTRALIA)**

## **HIBISCUS AND RELATED GENERA STUDY GROUP**

### **OCTOBER 2011 NEWSLETTER NO. 24 : ISSN 1488-1488**

This image of a spider after having crawled through some dehisced pollen in a native Hibiscus bloom was taken by SG Member, Fred Westerman. Insects are the main Hibiscus pollinators and are very effective even over considerable distance. Native bees are regular visitors to Hibiscus blooms during late summer here on the Sunshine Coast, emerging with obvious pollen attached.



#### **NEWSLETTER NO. 24**

My apologies for the Newsletter being delayed due to serious health problems experienced by your Study Group Leader. I have retained the October (due date) and will catch up with the next issue during February / March 2012. Our aim is to present 3 well illustrated NL's per year covering a wide range of subjects and every endeavour will be made to meet this objective for the remainder of 2011/2012.

The weather has been kind to us following the devastating Queensland floods of 12 months ago. Unfortunately David Hockings and myself didn't make the proposed field trip to Cape York Peninsula, during which we intended to visit several Study Group Members and contacts en route. This will hopefully go ahead during the coming winter/spring when the roads have dried up and many of the Hibiscus will have ripe seed to collect. Our ultimate aim is to write a guide to Hibiscus and some related genera made feasible by our extensive field work and life-time association with Hibiscus. We

feel that this is somewhat urgently needed as nothing along these lines has ever been attempted. Much work has been done with native plant genera other than Hibiscus indicating that we are in a catch-up situation.

One of my concerns with Newsletter content is the concentration of articles on east coast Furcaria section Hibiscus (about 10 species) when there are a further (20 or so species) occurring in W.A. and the N.T. Unfortunately, to this point in time, we do not have membership contact for the major Hibiscus localities in Australia. May I therefore enlist your help in finding membership or contacts from this part of the country. I do maintain membership with 'The Top End Native Plant Society' located in Darwin. Whilst the article content in their Newsletter is very extensive, Hibiscus rarely get a mention.

In this newsletter, Colleen Keena has kindly provided a contribution titled 'Hibiscus heterophyllus Forms' that are known to occur along the N.S.W. coast and in SE Qld. I have written a complementary article covering the forms occurring northwards from the Sunshine Coast of SE Qld. This will give us a NL of 20 pages, necessitating the exclusion of other material which will appear in the next newsletter where David Hockings' article will provide a very authoritative write-up entitled 'Pests and Diseases of Hibiscus and Related Plants'. Hopefully my article on 'Cleistogamous Breeding System' will also appear in NL No. 25.

We are indebted to Colleen Keena and Dion Harrison who prepared and sent some great Hibiscus posters for display at the biennial ANPSA Conference held in Adelaide during October 2011. Our Study Group Website was also up-dated at this time. Study Group Member, Peter Bevan, made it to the ANPSA Conference in Adelaide thus representing our Group.

Thanks to Jan Sked for giving Hibiscus a good mention in the last Regional Bulletin and printing a couple of our articles. Dr Dion Harrison of the University of Queensland, Colleen and Geoff Keena recently published their article 'Native Hibiscus: to eat or not to eat?' in the latest edition of Subtropical Gardening Magazine (pages 62 - 65, Issue 25). This provided an excellent opportunity to raise the profile of Native Hibiscus as a safe bush food and dispel the misconception that they are poisonous. The article refers to the Oxalate Analysis study that this Study Group undertook. We sincerely thank the Editors of STG for considering and publishing the article.

Study Group Member, Beverly Kapernick of Chatsworth, Gympie has kindly offered to host our next Study Group Get-Together. If convenient to Beverly and other members, we will try to fit this in during spring 2012 when her garden should be in bloom.

Hope there is not too much I have forgotten to mention.

With best wishes,

.....*Geoff*.....(Geoff Harvey) Study Group Leader.

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## HIBISCUS HETEROPHYLLUS FORMS

TEXT: Colleen Keena, IMAGES: Geoff Keena, Glamorgan Vale, Queensland



### 1. *Hibiscus heterophyllus* Form occurring along the NSW coast and in South-east Qld

**INTRODUCTION:** My fascination with this showy, tough rainforest plant began over sixty years ago. I still recall my first glimpses of the large white flowers that lit up the edges of the rainforest as my family negotiated precarious tracks on steep hillsides inland from Wollongong, N.S.W. and always wanted to grow this plant. Consequently this was one of our very first plants when establishing a garden in Brisbane in 1975 and 25 years later in the Brisbane Valley. My interest in this species has continued, particularly as I have watched locally occurring plants flowering profusely for prolonged periods, in spite of the extended drought conditions in Brisbane several years ago and the recent flooding. I have seen this species growing naturally in Sydney. As well, I have given plants to friends in both Melbourne and Cairns and the plants have performed well in all these locations.

**EARLY RECORDS:** *Hibiscus heterophyllus* was one of the earliest native hibiscus to be grown in Europe from seed collected in Australia. The seeds were collected on the Baudin expedition of 1800 and grown by Empress Josephine at Malmaison. This hibiscus was one of the plants painted for the Empress Josephine by P. J. Redouté in 1812. As well as featuring in a painting, the useful qualities of *Hibiscus heterophyllus* were recognised by the botanist Aimé Bonpland of Malmaison. He wrote of the medicinal qualities of *Hibiscus heterophyllus*, noting that it tasted like sorrel and could be grown in a vegetable garden. *Hibiscus heterophyllus* was recorded in the Brisbane area in 1824 by Allan Cunningham, in 1828 by Charles Fraser and again in 1844 by Ludwig Leichhardt. Describing the vegetation along the Brisbane River, Cunningham noted that *Hibiscus heterophyllus* was very frequent on the immediate bank "clothed with a profusion" of flowers. Leichhardt noted that the plant was to be found all over the colony and that its strong bark made excellent natural rope.

**USES:** Not only is this a showy plant but as Leichhardt recorded it is also a useful plant. Traditional Aboriginal uses are listed as young shoots, leaves and roots eaten without preparation (See Report on Hibiscus Safety in previous Newsletter); flowers were eaten raw or cooked; the fibre was used to make dilli bags - the fibre is strong and prepared by maceration; also made into hunting nets. During the Colonial Period, the buds were cooked and made into jam.

**CURRENT CULINARY USE:** The buds are cooked and made into jam. Buds can be eaten without cooking in salads or boiled as a vegetable. The petals can be eaten in salads. The flavour of the flowers is very mild and it has been suggested that perhaps the best use for them is as a colourful edible ornament for a salad. The flowers can be stuffed, made into fritters or made into tea and the buds pickled. Recipes for drink, syrup and jam can be found at [www.hibiscus.org](http://www.hibiscus.org) under Culinary. This recipe section is to be expanded in the near future. *Hibiscus heterophyllus* has been described as a versatile vegetable, with buds that can be stewed as rosellas, leaves tasting like sorrel and roots like woody parsnips. For more information on culinary uses see Wild Lime by Juleigh Robins, Allen & Unwin, 1996, page 40.



Petals of 10 blooms are needed for jam, syrup or cordial, plus lemon juice, sugar and water

**GROWTH HABIT:** *Hibiscus heterophyllus* is a tall, erect shrub or small tree up to 6m. high and 1 – 3 metres wide with branches that are ascending. The lower branches are longer than the upper ones and so the plant has a pyramidal form. The mature plant has a rounded habit.



Seedling in Brisbane Valley, Qld.

Mature plant near Port Macquarie, N.S.W.

**FLOWERS AND FRUIT:** The flowers of *Hibiscus heterophyllus* have a large crimson central blotch and are up to about 15 cm across. There is usually little variation in blooms, even from widely separated localities as shown below. Although profuse, the flowers last only a day but if they are wanted for use at night, they can be picked as they begin to unfurl in the morning, then stored in the refrigerator crisper and if taken out in the late afternoon, will open and stay fresh until about mid-night. The flowers are followed by fruits which are 5-celled ovoid capsules 15-20 mm long (below right).



Flowers from Port Macquarie

Flowers from Brisbane Valley

Seed capsule

**LEAVES AND STEMS:** The leaves are dark-green, simple, or lobed and large. The leaves are either narrow, broader or deeply lobed, up to 15 cm long. The name ‘heterophyllus’ refers to the two shapes of leaves that can be found on the same plant (below left). The stems are prickly.



**CALYX:** The calyx has small prickles that can be felt by rubbing a finger along the calyx (above right).

**LOCATIONS AND FLOWERING TIMES:** *Hibiscus heterophyllus* occurs in shady and swampy eucalypt forests, gullies and rainforest edges on soils ranging from loam to granitic or poor and gravelly. It is found along the east coast from Kiama, NSW to Lockhart River, QLD. The plants in the southern half of the range have white flowers and those in the northern half of the range have yellow blooms. Flowering is prolific over an extended period. Flowering is in the warmer months, from spring to summer. There are variations according to the site. In Melbourne, the yellow flowering form flowers heavily at Christmas, whereas in Cairns it flowers in June. On mountain ranges inland from Port Macquarie, hills are an incredible mass of white blooms in January and February. In Brisbane, the white-flowering form may bloom in June but usually there are few flowers before August, with flowering until Christmas, although flowers can be found in January near Somerset Dam.

**FAUNASCAPING:** The prolonged flowering and the production of nectar contributes to the value that *Hibiscus heterophyllus* has for fauna. Not only will blooms which produce nectar feed nectar-eating birds and predators but they will also attract insects for insect eating birds, provided there are protected water sources and nesting places. Also, the seed capsules provide for seed-eaters. Thus, apart from any aesthetic appeal of birds and insects, *Hibiscus heterophyllus* attracts birds and predators and so encourages natural pest control as the insects use the plant as a food source and are themselves controlled by a wide range of predators. Honeyeaters take advantage of the large nectar-rich flowers. Birds such as lorikeets are attracted to the seed capsules and the sight and sound of a *Hibiscus heterophyllus* literally covered with lorikeets bowing down the branches as they feast upon the seed capsules more than compensates for any damage sustained. Insects seek out the flowers of this species and it is usually difficult to take a photo without insects in the bloom. Frogs are often found on blooms and amongst leaves (see images below).



**CULTIVATION AND LANDSCAPING:** *Hibiscus heterophyllus* prefers a moist open spot but adapts to dry conditions and partial shade. The plant becomes rather sparse but it can be developed into a compact bush with regular tip pruning from an early age. It benefits by being pruned by one-third after flowering. It is drought tolerant. It should be grown in a sheltered position if heavy frosts occur. It can be used in a variety of ways in horticulture. As it grows rapidly it can form a dense screen. The prickles that are usually found on the branches become a plus when used to exclude people or animals. This species makes an effective hedge and attractive roadside plantings. It also performs well as a specimen plant since flowering is prolific and the flowers show up well against the foliage. Older leaves turn a deep red and this adds to the interest. Hibiscus plants combine well with other native species, particularly Grevilleas.

**CONTAINER GROWING:** *Hibiscus heterophyllus* can be maintained in pots as an ornamental or a stock plant (see following images). If a seedling is grown, the flowers might be a long time coming and it will be difficult to keep the plant in a pot. If cuttings are taken, the fibrous root system that results appears to be much more amenable to being contained in a pot, particularly if the plant is tip-pruned from the earliest stages. The result is a bushy plant that flowers freely. The cutting-grown plant usually flowers within approximately six months, often while still in 10 cm pots. Pruning is important and regular tip-pruning is preferred as plants that have to be cut back to wood do not always survive. The size of the pot governs the size of the plants and so size can be easily restricted by limiting pot size. Plants can be potted on until the desired size is reached and maintained at that size by pruning.



*Hibiscus heterophyllus* grown in a pot; cutting grown plants flower early

**PROPAGATION:** Propagation is from seed or cuttings. **SEED** - For propagation by seed, it should be noted that if any other species of native hibiscus, or their crosses, are in the vicinity, any seedlings may not be true to the parent, as this species crosses very readily with other species, e.g. *H. divaricatus* and *H. splendens*. Abrading seeds by rubbing between two pieces of sandpaper assists in germination. Most seedlings will flower within a year but cutting back seedlings will delay flowering. Seedlings have a tap root which can be an advantage in some locations, e.g. on sandstone ridges.

**CUTTINGS** - The strike rate appears to be even higher when cuttings are taken from well maintained cutting-grown stock plants rather than from seedlings growing in garden beds. Cuttings taken in the warmer months usually strike easily. Cuttings taken in spring in Brisbane strike readily, especially if the cut is on a sharp angle through a node and it is dipped in a rooting compound or honey. For those without special facilities, cuttings should be the size of a pencil. We take between 3 and 5 cuttings and place them evenly around the outer edge of a 10 cm pot (see above). After watering gently, we take a soft drink bottle with the base removed and place it over the cuttings,

making splits in the side of the bottle to make it fit. The lid is left on for several days and then removed. About a week after the cuttings have been potted up, the bottle is removed. Pots are kept in a shady place and watered as needed. The cutting grown plant, with its fibrous root system, forms a dense plant, particularly if tip-pruned regularly and it flowers earlier and more heavily than a seedling. Observations over an extended period indicate that a cutting grown plant can flower for much longer periods than the parent seedling.

**HARDINESS:** Over the last 35 years, we have found that native hibiscus grow very quickly, they can survive light frosts and prolonged droughts. The floods earlier this year proved that *Hibiscus heterophyllus* and crosses from it can even survive sitting in floodwater. There are Hibiscus plants in the flooded area to the left of the vehicle. None showed any damage from sitting in flood water.



**COMMERCIAL POTENTIAL:** The commercial possibilities were noted in relation to the flower in “The Rural Industry Research and Development Corporation (RIRDC) Report of 1997, *Prospects for the Australian Native Bushfoods Industry*”. Fourteen plant species, including *Hibiscus heterophyllus*, were identified by the Australian National Bushfood Industry Committee as having the most potential. At the time of the report, commercial plantings were unknown. The authors are not aware of any current (2011) commercial plantings.

**DISADVANTAGES:** In spite of all these advantages, there are some disadvantages associated with *Hibiscus heterophyllus*. **IRRITANT HAIRS** The seed capsule is covered in hairs that may cause skin irritation. I put plastic bags over my hands when extracting seed and use tweezers to extract seeds from the capsules. Sticky tape stuck onto the skin and then rapidly pulled off is an effective way to remove irritant hairs. **PESTS** There are a variety of sucking or chewing creatures that enjoy the flavour of both buds and leaves, although well grown plants are less likely to be attacked by either pests or diseases. The Harlequin bug depends on sap sucked from species such as hibiscus, but is not usually troublesome. Metallic flea beetles chew a series of small holes in the leaves but do not damage the flowers. Scale insects can become a problem but can be easily managed either by removing by hand or even by cutting off affected parts. Any other damage that may occur can also be pruned off. Regrowth is fast and the pruning can result in a greater number of flowers.

**AVAILABILITY:** Probably the major obstacle to growing Hibiscus plants is availability of plants. Few nurseries regularly carry this species. When the plant is available, it may be incorrectly or inadequately identified and other species, e.g. *Hibiscus divaricatus*, or hybrids between *Hibiscus heterophyllus* and *H. divaricatus* may be labelled as *Hibiscus heterophyllus*.

**CONCLUSION:** I have found great variation in plants grown from seed, e.g. in flower size, in flower shape and in the amount of pink on the margins of the flower, in the colour of the stems and branches and in the quantities of prickles on stems. I believe we should be choosing from superior forms and propagating from these. Not only will an unattractive plant occupy the same amount of space as one selected for superior characteristics, but poor specimens will hinder acceptance of this

species. *Hibiscus heterophyllus* is so noticeable that it was grown overseas 200 years ago, it featured in early written records in Australia and the National Library of Australia has a number of paintings dating from around 1820. These paintings can be seen online. This species is listed frequently as a food source for both people and fauna and has the ability to survive in the toughest of conditions. It is hoped that the landscaping potential of this long ignored family of plants and of this particular species will gain greater recognition in Australian horticulture. Information on two other forms, one with different blooms and one with different foliage will follow.

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**2. *Hibiscus heterophyllus* Mt Crosby Cliffs, Queensland      PETALS ARE DIFFERENT  
 Colleen and Geoff Keena, Glamorgan Vale, Queensland**

A long time ago, Geoff and I collected a form of *Hibiscus heterophyllus* growing along the side of the highway north of Port Macquarie, at a place called Warrell Creek (image below left). This form had maroon ribbing on the outside of the petals and we felt it was extremely attractive. However, in cultivation, it was prone to scale and if the scale was left untreated, this shortened its life. On a following visit to the same site, we found there had been roadworks and this form was no longer growing there. We still grow it but feel the form on the right is a better plant.



Warrell Creek form from NSW: October



Mt Crosby Cliffs form from Qld: March



Some time after collecting the plant on the left, we noticed a form with flowers that were different from the remainder of the population of *Hibiscus heterophyllus* on Mt Crosby Road, to the west of Brisbane. The bloom on the right is from Mt Crosby Road, along a section where there are tall cliffs above the Brisbane River. Shortly after cuttings were taken, the parent died from what appeared to be spray.

In cultivation, *Hibiscus heterophyllus* 'Mt Crosby Cliffs' has turned out to be superior to the form from Warrell Creek for several reasons. Not only were the blooms larger than the form from Warrell Creek but they were also larger than the blooms of the white form found on the cliffs above the Brisbane River. As well, flowers could be found outside the defined flowering season of the form from 'Warrell Creek' and the surrounding Mt Crosby Cliffs plants, which only bloom from late winter to early summer. Not only are the flowers larger and more frequent than the form generally found in South-east Queensland but these blooms and the foliage have been tested for safety (see <http://www.hibiscus.org/oxalateanalysis.php> Of the three forms of *Hibiscus heterophyllus* tested for oxalate content (see last Newsletter), this form had the lowest concentration. A number of Study Group members have used the large petals of this to make jams and syrups, with no adverse effects noted following consumption. This plant strikes easily and for those with space for a larger form of *Hibiscus heterophyllus*, this is one form that makes a worthwhile addition to the garden. It is worth noting that the plant is almost prickle-free and so it may be of value in breeding programmes.

### 3. *Hibiscus heterophyllus* fine leaf form from NSW

### FOLIAGE IS DIFFERENT

Colleen and Geoff Keena, Glamorgan Vale, Queensland



Bloom in the ground August



Flowering in a pot in October



Bloom of local form in spring

Some years ago, Geoff and I were travelling between Port Macquarie and Armidale at the end of January. Geoff had travelled this route previously in February and told me of the large numbers of *Hibiscus heterophyllus* in flower at that time. Our experience has been that in South East Queensland, most forms of *Hibiscus heterophyllus* have finished flowering by December, although we have occasionally seen plants in more elevated situations flowering into January. I was most impressed with the numbers of *Hibiscus heterophyllus* that we saw in bloom, probably more than we had ever seen on one road. We kept on seeing blooms and became aware of the types of places we could expect to find them. Suddenly we saw two plants, by themselves and quite some distance from any other plants. They were smaller than the bushes previously seen and had much finer foliage. The only camera we had was in the phone but we were able to get the following photo of

the plant in situ (left). We collected cuttings and these flowered in the following spring (image in centre).



*Hibiscus heterophyllus* in situ in January    Cutting flowering the next October    Plant from seed

We planted seed from this plant. While the foliage is not quite as ‘fine’ as that of the parent, it is still different from plants around it. However, as the foliage of our plant is not quite as ‘fine’ (3<sup>rd</sup> image above) as that of the parent, it seems the best method of retaining the good features of the parent is by striking cuttings and we are not keeping this seedling. We have been increasingly impressed with this form for three reasons:

- i. the bush has remained small whilst all the hibiscus plants nearby are much larger
- ii. this form starts flowering in mid-winter and continues well into spring
- ii. the fine foliage does not attract leaf-rolling caterpillars, which have damaged adjacent bushes

With its attractive flowers and smaller size, this is a form we would highly recommend for anyone looking for a form of *Hibiscus heterophyllus* that will perform in either a small space in the garden (top row left) or in a pot (top row centre).



**HIBISCUS HETEROPHYLLUS FORMS**  
**Forms occurring northwards from the Sunshine Coast of SE Queensland**  
**By Geoff Harvey, Buderim Queensland**

This article is a continuation to the preceding one written by Colleen and Geoff Keena and is intended to complement and enlarge upon the information so far provided.

**Introduction:** It takes considerable time and experience to positively identify *Hibiscus heterophyllus* including its various forms. For example the 6 m tall specimens that grow in the Sunshine Coast Hinterland and mountainous foothills of N.S.W. bear little resemblance to the low bushy plants found near our coastal fringe. When grown under cultivation these two forms appear to be the same, therefore it can be assumed that habitat has a big influence on growth form.

*H. heterophyllus* is found from the Illawarra District in N.S.W. to at least the Mackay/Burdekin Region in Queensland. Northwards to Townsville and to the top of Cape York Peninsula, it is replaced by *Hibiscus forsteri* which may comprise 3 species yet to be botanically confirmed – (ref. pers. comm. Lyn Craven). The recording of *H. heterophyllus* near Cairns and other northern settlements, even Lockhart River, are almost certainly derived from human introductions taken from southern populations. The collection of *H. heterophyllus* and *H. divaricatus* from Rocky River, Silver Plains on Cape York would also owe their existence to human introduction, probably through the nearby pastoral station. As *H. forsteri* was only recently named, the previous identifications would refer to *H. heterophyllus* and/or *H. splendens*.

Hibiscus “Euri Creek” (so named by this study group) found in granite country near Bowen does not key out as *H. heterophyllus* or *H. forsteri*, but is superficially similar to both species. At this point in time we are awaiting for a botanical decision on the Bowen “Euri Creek” Hibiscus. It will be treated later on in this article as a form of *H. heterophyllus*.

*H. heterophyllus* readily hybridizes with other east coast Furcaria section Hibiscus such as *H. splendens* and *H. divaricatus* where populations overlap. Obviously this was not an issue prior to European settlement as each species had evolved in a separate habitat. *H. splendens* seems to have preferred alluvial flats or terraces, *H. heterophyllus* rocky gullies and *H. divaricatus* in hilly or undulating country. I base my assumptions on observation as to which habitat produces the best species specimens. Man with his agriculture, road building, timber logging, mining and urban development has vastly altered the species forming habitats.

**Distribution of Seed:** The occurrence of *H. splendens* on the top of Mt. Tinbeerwah (Tewantin/Noosa area) should raise a few questions as this is an atypical habitat. This mountain top consists of bare rock (ryolite lava) with deep cracks and crevices where enriched soil and moisture accumulates. Birds on the move, both local and migratory prefer such exposed spots to alight and preen their feathers possibly depositing Hibiscus seed capsules or part thereof containing ripe seeds. Over a long period of time such an event becomes likely, remembering that birds such as rosellas and parrots actually feed on Hibiscus seed.

In the dry inland, whirlwinds (willy-willys) are common and must be instrumental in distributing seed over considerable distances, as do dust storms and trade winds. Near the coast cyclones and wild storms, extreme flooding as happened in 2010/2011, no doubt play a part in seed distribution, especially since man has opened up the country side for Agricultural pursuits. Road building machinery played a big part in seed distribution as evidenced by the often abundance of plants along road corridors. Cattle trucks may play a part with manure plus hard seed enriching the road verges. Tourists or travellers will sometimes gather branches of Hibiscus containing flowers plus seed capsules. These are likely to be discarded at rest areas after the flowers have wilted. Glen

Geddes, north of Rockhampton is one of many such sites where seed has accumulated and in due course interesting hybrids have emerged. If you are interested in locating Hibiscus, have a good look around a highway rest area and you are likely to be rewarded. Hibiscus will rarely if ever be found on land accessed for cattle grazing. Sometimes Hibiscus may survive on steep banks safely out of the reach of cattle.

**Species:** This is the base unit of classification. The species name is defined as a two part scientific name in Latin in which the first part defines the genus, the second its unique species title e.g. *Hibiscus heterophyllus*.

All the east coast endemic Hibiscus section Furcaria species interbreed freely except perhaps the tropical species that are more distantly related to the southern species or counterparts. We have had no problems in crossing The Mackay *H. heterophyllus* with *H. meraukensis* or *H. divaricatus*, these species coming from overlapping populations. The main difference with *H. meraukensis* is that it is an erect annual herb or shrub, whereas the others are perennial trees or shrubs. In F.D. Wilson's paper "Hibiscus section Furcaria (Malvaceae) in Australia" – (Aust. J. Botany, 1974, 22, 157-82) he states that – "Menzel and Martin (1974) report that they have been unable to cross the two taxa". This is not surprising as *H. meraukensis* has evolved into a number of distinct ecotypes thus it would seem to depend upon which *H. heterophyllus* and *H. meraukensis* were being used in the attempted crosses. Whilst most species of plants within a given genus do not normally breed with other species, it appears that the Australian section (sub Genus) Furcaria readily interbreed, especially in disturbed habitats and under cultivation.

**Subspecies:** At the present time *H. heterophyllus* has no scientifically recognised subspecies. In Doug Wilson's 1974 paper the *H. heterophyllus subsp. heterophyllus* and *Hibiscus heterophyllus subsp. luteus* (Hochr.) were included at that time. The yellow flowered *H. heterophyllus* found in the Mackay region and along the Bowen River was originally known as *H. fitzgeraldii* (F. Muell) 1874 ref. "The Queensland Flora", F. Manson Bailey, F.L.S., Colonial Botanist Qld. Part 1, 1899 page 126. The subspecies is generally understood as having defining characteristics that are usually separated geographically, although they may occupy different ecological niches – ref. Plant Names, Spencer, Cross and Lumley CSIRO Publishing.

**Natural Hybrid:** During my time on the Sunshine Coast I have not been able to purchase a single plant of the Furcaria section that does not display mixed species origin. The minor give-away traits may only become apparent when the plant matures or is used for hybridizing purposes. It is probable that wholesale suppliers grow mixed populations or species where cross pollination readily takes place. These seedlings are purchased by the public through retail outlets in quite large numbers and subsequently grown in urban and rural situations at both local and distant localities. These plants will hybridize further with wild populations where the opportunity arises. I have personally found wild hybrids growing near Buderim, Noosa, Peregian, Tewantin, Cooroy, Yandina and Boreen Point. Whilst these plants are usually crosses between *H. heterophyllus* and *H. splendens*, I have seen crosses with *H. divaricatus* at Peregian and Tewantin. The latter is of course not endemic to this area and must have been derived from cultivated plants.

Botanist, Doug Wilson's paper of 1974 titled "Hibiscus section Furcaria (Malvaceae) in Australia" is worthy of quote from page 160 – "South east Queensland is an area of genetic ferment amongst members of Hibiscus section Furcaria". This comment applies even more so to the Capricorn Region based on Marlborough, Glen Geddes and Byfield State Forest and a lesser extent to central and northern N.S.W. coastal localities. There are some wonderful natural hybrids to be found and one may wonder where this will lead in the future.

**Forms:** As we have no botanically recognised sub-species or varieties to contend with, we can apply this term to all morphological differences right down to flower colour, minor foliage variation, plant growth habit and so forth. It is possible to spot differences in most wild populations that are separated one from the other, especially over considerable geographical distances. It is a very long distance for similar Hibiscus to occur, all the way from the temperate Illawarra District to the tropical tip of Cape York Peninsula.

**Selection of Forms for Discussion:** Colleen and Geoff Keena in the preceding article have covered forms 1 to 3. Before proceeding to discuss some more northerly forms, I would like to point out that we only see a small sample of the total Hibiscus population observed from roadsides during our travels.

**(4) *Hibiscus heterophyllus* – Yellow Form:**

Although this form may occur in many different isolated localities, the following location has been selected : Kenilworth on the Maleny-Kenilworth Road W of Bellbird Creek – S 26 37 30, E 152 42 30 Flowers pale yellow with a dark pink centre. Steep grassy slopes above and below the roadside with some eucalypts. Small single stem trees below the road reaching 5 m in height. Bushy plants to 2 meters above the road in open hillside grassland. A white population is found a few hundred meters on the roadside towards Maleny. Some cream flowered specimens occur between the two populations. Well known native plant enthusiast Rosemary Opala grew up in this area many years ago and reported the existence of the yellow population in her article appearing in Newsletter No. 17. These plants were seen by Colleen and Geoff Keena in recent times and subsequently seed and cuttings collected by David Hockings and myself. Under cultivation we found the flower to be very

attractive on spindly upright bushes with plenty of spines present. Another population has been reported to be growing near Conondale in the same general area – ref Del Humphries. Incidentally most of the seedlings grown from the yellow flowered plants produced white or pale cream flowers. The yellow flowers of this form would show up well in a large garden and because of its hinterland locality may display some tolerance to colder conditions. To ensure yellow flowering, plants would need to be cutting grown. Yellow *H. heterophyllus* growing in gullies below the highway near Mt. Coot-tha Botanical Gardens (Brisbane area) may be similar to this form.



Image taken roadside at Kenilworth- Geoff Keena



Image of flower under cultivation – Geoff Harvey

**(5) *Hibiscus heterophyllus*: northern yellow form**

The Study Group has referred to this form as “Mackay Yellow” whereas it was once known as a species *Hibiscus fitzgeraldii* F. Muell – 1874. G. Harvey/D. Hockings field trips recorded it in flower on 4/4/2009 along Mt. Charlton Road at 20-55 S 148-43 E and 4 KM north of Camilla on 5/4/2009 along the Bruce Highway at 21-53 S 149-23 E. It seems to prefer rocky gullies or well drained slopes with dappled shade or near full sun. This form is free flowering from late winter to early summer with bright yellow 12 to 14 cm diameter flowers displaying a large purplish red central blotch. The corolla is much firmer in texture than the white bloomed forms found in SE Queensland and N.S.W. A big plus is that the stems and branches are almost glabrous. We noted variations in leaf size and shape as well as flowers with or without a marginal banding on the petal edge. David Hockings once had a large specimen tree to 5 or 6 metres growing in a protected part of his garden at Maleny. Under cultivation tip pruning would control the size and ensure a well branched, rounded specimen plant. It crosses readily with other *H. heterophyllus*, the yellow corolla colour being a dominant trait. Some of the hybrid seedlings seem to be hardy with very attractive flowers.

Literature, still using the old name *H. fitzgeraldii* see (1), (2), (3) and (4) in ‘References’ mention distribution along stream banks, including the Bowen River and in the North and South Kennedy Districts.



Images taken near Camilla on 5/4/2009 note absence of petal banding on corolla beside second plant with banding.

**(6) *Hibiscus heterophyllus*: Serpentine endemic from Marlborough/Glen Geddes.**

A multitude of natural hybrids have been noted in this locality dating back more than 50 years. The ‘original serpentine endemic’ has been noted as such by botanists, who describe the small to medium shrub as hispid and scabrid. Today most of the hybrids observed in previous years have disappeared from the serpentine soils to neighbouring localities such as Atkinson Road and the old Marlborough/Sarina Road. Recently new road construction in Strawberry Road east of Glen Geddes seems to have introduced a tall pink form that has emerged from the road base material. The surviving ‘serpentine endemics’ can be found well into the forest scrubland, where little influence from outside species and hybrids is apparent. The unique characteristics are red stems, the low spreading growth form, blooms with frilled petal edges and corolla colours ranging from white to cream and pink. The petals are fully open, flat and overlapped. Hibiscus found in this area were written up in detail ref : Newsletter No. 14 of June, 2008.

The Hibiscus form, whilst providing a new dimension to the species, is rather difficult to grow and may have a life – span of 2 to 3 years. Plants under cultivation need to be staked to correct the tendency towards horizontal growth. These interesting plants are worthy of scientific study aimed at a better understanding of their status.



Serpentine endemics – note frilly petal edge and colour break from petal spot in 2<sup>nd</sup> image.

**(7) *Hibiscus heterophyllus* ‘Rosie’**

The name was given to this form by the collector, Jan Glazebrook, who introduced it to the nursery trade. I understand that it came from the Yeppoon/Byfield State Forest area, where dark pink forms are common. A red form has been recorded from Mt. Slopeway west of Marlborough and a near red bloom obtained from a ‘Rosie’ self cross. The leaves of this form are very stiff and shiny with a predominance of 3 lobes right up to the apex. In all it is a very handsome plant with unfortunately a short flowering season in late spring. Further field work in this area would be most interesting with an effort to obtain the best possible variations. It is an excellent plant for hybridizing purposes.



Images taken of cultivated plants at Buderim – note shiny lobed leaves

**(8) *Hibiscus* species : “Euri Creek”:**

It is possible that this species is not a *Hibiscus heterophyllus* form as the epicalyx and calyx are glabrous whilst the globose seed capsule has sparse silky hairs which do not become straw coloured as found with *H. heterophyllus* when dry. This distinct, bushy Hibiscus can be seen from the Bruce Highway just north of Bowen growing amongst granite boulders 20.00S, 147.07E. The best specimens including young seedlings were seen on nearby private properties growing in well

grassed rocky gullies. The ‘locals’ who have an interest in native Hibiscus maintain that it blooms all the year round. It is grown in private gardens at Bowen and sold through Walter and Judy Willcox’s Hibiscus nursery.

The large pure white flowers with a black/red petal spot open out fully and have a good texture. The petals are overlapped with a pink band on the reverse edge. The bark of “Euri Creek” (except on the new growth) is quite rough and brown, whereas other Hibiscus section Furcaria in Queensland have green bark. Palmate leaves are virtually absent with just an occasional shallow lobed leaf found on young seedlings. The leaf veins are very conspicuous and a foliar nectary of about 7 mm is present near the base of the midrib. The nodes are closely spaced on the branches ensuring that a nice bushy plant can be achieved with pruning. At Buderim on the Sunshine Coast where I have had it growing for a number of years, it blooms heavily in the autumn and sets plenty of seed.



Images taken at Bowen 27/3/2009

**References :**

- (1) Across the Top – Gardening With Australian Plants in the Tropics – Compiled by Keith Townsend For SGAP, Townsville Branch.
- (2) Encyclopaedia of Australian Plants – Rodger Elliott & David L. Jones
- (3) Queensland Herbarium Records.
- (4) The Queensland Flora F. Manson Bailey, F.L.S. Colonial Botanist Qld. Part 1, 1899
- (5) Hibiscus and Related Genera Newsletters and Field Trip Reports.

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**BRIEF SUMMARY OF *HIBISCUS HETEROPHYLLUS* SPECIES AS RECORDED BY COLLECTORS  
NORTHWARDS FROM THE SUNSHINE COAST AND HELD IN BRISBANE HERBARIUM**

<b>Location</b>	<b>District</b>	<b>Approx. latitude</b>	<b>Bloom Colour</b>
Bridle Creek	Cape York	S 16.58	yellow corolla
Bridle Creek	“	S 17.00	yellow
Kurrimine	“	S 17.45	NA
Cairns	“	S 17.17	NA
S. of Skardon River	“	S 11.47	Large White



Hills behind campus, James Cook Uni. Cairns		S 16.48	Pale yellow
James Cook Uni. Cairns	Cape York	S 16.48	Pale yellow
Bridle Creek, Mareeba	"	S 16.55	Yellow
Bridle Creek	"	S 17.00	Yellow
Hull River	Nth. Kennedy	S 17.55	NA
Blady Grass Ck. Near Cardwell	"	S 18.24	White
Near Bishops Peak	"	S 18.29	White
Cardwell-Ingham Rd.	"	S 18.33	White
Cardwell Range	"	S 18.33	Large White
3 KM N. of Ingham	"	S 18.38	Large White
Palume Range S. of Ingham	"	S 19.05	NA
50 KM Sth. of Townsville	"	S 19.43	Light Pink
Mt. Aberdeen NP W of Bowen	"	S 20.13	White
Conway NP Shute Harbour	"	S 20.15	Yellow
Conway Burdekin	"	S 20.20	Yellow
Cauley Burdekin	"	S 20.48	Yellow
Whitsunday Is.	"	S 20.15	Bright Yellow
Dryander Ck. Nth. of Proserpine	"	S 20.15	Pink
Shute Harbour/Airlie Beach	"	S 20-18	NA
Proserpine River	"	S 20-23	Yellow
36 miles Nth of Bowen	"	S 20-25	Yellow
Near Proserpine	"	S 20.25	Yellow
Pustan	"	S 20.41	NA
Lindeman Is.	"	S 20.25	NA
Shaw Island, Neck Bay	"	S 20.27	NA
Bowen	"	S 20-30	NA
Shaw Island	"	S 20-32	NA
Mt Devlin Collinsville	"	S 20.32	Yellow
Cawley Lookout State Forest	"	S 20.49	Yellow
Near Mt. Beatrice N. Park	South Kennedy	S 20-51	Yellow
Keswick Is. Victor Bay	"	S 20-55	Bright Yellow

Keswick Is.	“	S 20-54	Bright Yellow
50 miles NW of Mackay	“	S 20-55	Yellow
Mt Ossa-Mirani Rd.	“	S 20-55	Yellow
Mt. Jukes near Mackay	“	S 21-00	Yellow
Mt. Jukes N.Park	“	S 21-00	NA
Mt. Jukes N. Park	“	S 21.00	White/Red Stripes
Blackwood N. Park	“	S 21.02	Yellow
Kuttabel Nth. of Mackay	“	S 21.05	NA
Port Mackay	“	S 21.05	NA
6 KM North of Gargett	“	S 21.05	Yellow
Eungella near NP Sign	“	S 21.08	Yellow
Endeavour/Tamburra Creeks	“	S 21.15	Bright Yellow
Between Sarina & Sarina Beach	Port Curtis	S 21.23	Bright Yellow
20.7 KM North of Clear View	“	S 21.30	Yellow
Between Sarina and Barmount	“	S 21.30	NA
Pine Mountain S. Forest	“	S 21.45	Yellow
Nero/Sarina Road	“	S 21.45	Yellow
8 KM Sth of Boothill Ck.	“	S 21.60	Bright Yellow
Tierawoomba	“	S 21.35	NA
Marlborough/Sarina Road	“	S 21-59	Yellow
Back Creek	“	S 22-19	NA
Stockyard Ck. 70 KM W of Marlborough		S 22.40	Yellow
Not stated	Port Curtis	S 22.36	Yellow
11 KM Nth of Marlborough	“	S 22.44	Apricot
Byfield track to Five Mile Rocks	“	\$ 22.46	Deep Pink
13 KM from Byfield	“	S 22.47	Pink
Byfield N. Park	“	\$ 22.49	Pink
Byfield NP	“	S 22.49	Pink
Byfield NP	“	\$ 22.49	Pink & White
11 KM Sth. of Marlborough	“	\$ 22.52	Pink
Near Marlborough on Bruce HY.	“	S 22.52	Pink

9.6 KM from Marlborough on Bruce HY.		\$ 22.52	Mixed Colours
Mt. Slopeway W of Marlborough	Port Curtis	S 23.00	Pink/Cream
Grindstone Creek on Bruce HY	“	S 22.53	Mixed Colours
12.9 KM SE Marlborough	“	S 22.53	Pale Pink
9.6 KM SW Marlborough on Bruce HY		S 22.53	White
Mt. Slopeway National Park	Port Curtis	S 22.53	Lge. Red Flowers
Grindstone Ck. Marlborough	“	S 22.53	Light Apricot flushed pink
Grindstone Ck. Marlborough	“	S 22.53	Orchid Pink/Light Magenta
9.6 KM N of Marlborough	“	S 22.54	Cream
9.6 KM from Marlborough	“	S 22.54	Apricot
Byfield State Forest	“	S 22.55	Orange/Yellow
Byfield State Forest Venation	“	S 22.55	Pale Pink/Deep Pink
Byfield State Forest	“	S 22.55	Deep Pink
Glen Geddes Bruce H-way	“	S 23.02	Large White Flushed Pink
Glen Geddes Bruce H-way	“	S 23.02	White
Glen Geddes Rail Siding	“	S 23.02	Pink
Glen Geddes State Forest	“	S 23.02	Mauve
Glen Geddes Bruce Highway	Port Curtis	S 23.02	Pink/White
Glen Geddes 40 KM from Rocky.	“	S 23.02	Rose Pink
Yaamba on Bruce Highway	“	S 23.04	Pale Pink
Glen Geddes Brolga Mine Site	“	S 23.04	Pink
Glen Geddes/Canoona	“	S 23.04	NA
Moke Point Keppel Island	“	S 23.05	NA
Canoona	“	S 23.06	Pale Pink
15 KM NW of Yaamba	“	S 23.06	Pink
37.1 KM N of Rockhampton	“	S 23.17	White
Mt. Berserker	“	S 23.25	Yellow
4.5 KM N of Rockhampton	“	S 23.32	Yellow
Duffy Ck Crossing Calliope	“	S 23.43	NA
Targinnie near Gladstone	“	S 23.47	White

5.1 KM Sth Mt. Larcom	“	S 23.52	Yellow
6.5 KM Sth Mt. Stowe SF	“	S 23.55	Yellow
2 Miles Sth Calliope River	“	S 23.55	Gold/Yellow
Calliope	“	S 24.05	NA
32 KM Sth Calliope	“	S 24.18	NA
Koolkooroom Ck	“	S 24.25	Yellow
TR West of Many Peaks	“	S 24.33	White
Rosedale Cattle Station	“	S 24.35	NA
Coominglah RA Near Monto	“	S 24.46	Yellow
.5 KM Sth of S Kolon Burnett River (Growing with H. Splendens)	“	S 24.59	Creamy Yellow
.5 KM Sth of S Kolon Burnett River	“	S 24.59	Peachy Yellow
Cedars Bridge Crossing on Burnett R	“	S 24.60	Deep Yellow
Cedars Bridge Crossing on Burnett R	“	S 24.60	White
Cedars Bridge Crossing on Burnett R.”	“	S 24.60	White
Carnarvon NP Boolinba Canyon	Leichhardt	S 25.04	Yellow
Carnarvon NP Main Trail	Leichhardt	S 25.04	Yellow
Carnarvon Gorge Walk	“	S 25.04	Yellow
Carnarvon Creek	“	S 25.05	Bright Yellow
Bin Bin Range WSW Biggenden	Burnett	S 25.35	White Tinged Pink
Coalstoun Lakes NP	“	S 25.37	NA
Near Junction Pocket & Nunna Ck.	Wide Bay	S 25.55	Yellow
Mudlow Gap TP Kilkivan	“	S 26.02	White
Pine Gully SF	“	S 26.09	White
W of Kandanga	“	S 26.24	White
N of Cooroy Bruce HW	“	S 26.25	Pink and White
Charlie Moreland SF	“	S 26.35	White
Maleny/Kenilworth Road	“	S 26.35	Pale Yellow

