



ASGAP
HIBBERTIA
STUDY GROUP

NEWSLETTER

NO. 20

HIBBERTIA DENTATA

ISSN 0728-1536

Dear Members,

It is not without a large degree of regret that I must submit my resignation as Leader of our Study Group. The past eighteen months have seen my available spare time dwindle away to the point where I have been unable to do any more than attend our quarterly Study Group meetings. Personal and professional considerations must take priority over leisure activities such as SGAP. However, I am pleased to be able to hand over leadership to the very capable and enthusiastic Kerry Davis.

Kerry has put a tremendous amount of work into the development of a key to assist lay people such as ourselves in the identification of hibbertias. His encouragement during my time as Leader has been much appreciated and I wish him the best in the task. I would also like to thank each of you for your support and enthusiasm over the past few years.

Ross Field

Dear Members,

It is unfortunate that Ross has not had the time to devote to leadership of our Study Group. However his energy has not been wasted because he was able to rekindle interest in the study of hibbertias. Thanks Ross for giving us the opportunity to get started. Ross is remaining an active member and judging by the hibbertia section in his garden we can expect a continuing contribution from him.

The main function of any study group is to record and publish its findings. If anyone else is like me they think they can remember some detail rather than recording it straight away. But alas, come some hours / days later and it has gone completely out of my mind. So arm yourself with an exercise book, labelled "my hibbertia book" or what ever turns you on. If you record any information you have immediately you will have an accurate record as well as having material available for future newsletters. For starters I have attached a survey to the back of the Newsletter for you to fill out during the next 12 months, starting September '93. Make yourself a date and fill it out each month, for example the first Saturday in each month or whatever suits you the best.

I am going to repeat our objectives, from the first meeting, here for the purpose of keeping ourselves focused:

1. Two hibbertia collections to be kept and studied at Karwarra Native Garden at Kalorama and Cheltenham Park, Park Road, Cheltenham; both in Melbourne.
2. A collection of pressed flowering specimens to be kept.
3. A seed bank to be organised.
4. A slide collection to be maintained.
5. Members to specialise in a particular area.
6. Botanical key.
7. Vegetation map.

We may not be as successful if we try to do too much at once, so it is not necessary that we tackle all of them at once. If you think that we should be doing something else please let me know.

A newsletter will be produced during the first week of August, November, February and May. So please get your articles to me some three weeks prior to publication. It does not matter how small or large the contribution, it will be well appreciated by all members.

Subscriptions will become due June 30 1994.

Articles are by Kerry Davis unless otherwise stated. Thankyou to all those members that have contributed to this newsletter.

In the meantime happy gardening with those bright little hibbertias.

Regards Kerry Davis

Letters of Correspondence

If any member has information regarding the two following requests please forward it to me for collation. I will forward it on as well as publishing it in our newsletter.

School of Biological Sciences
Macquarie University

Dear Mr Field,

I am trying to track down an article about propagation of *Hibbertia scandens* which I saw in a horticultural magazine or book a few years ago. It explained, with diagrams, how rooted cuttings of straight up and down stems don't take off, but a different procedure enables the new growth to produce its own roots, so progress is better.

Do you recall this article? I would be most grateful if you could tell me where it was published.

When teaching plant anatomy I get students to study *Hibbertia scandens* stem anatomy to see if there is an anatomical explanation for the varied growth of different cuttings.

Hope you can help.

Yours sincerely,

(Dr) Malcolm Reed.

Garden Design Study Group

Dear Ross,

We have just had the first official meeting of the ASGAP Garden Design Study Group, which is receiving very good support.

Our group would like to establish a list of "proven" Australian native plants for garden design - plants regarded as being reliable under the conditions generally described for them in the literature (Encyclopedia of Australian Plants, etc.). Plants should also be reasonably readily available, from nurseries or through SGAP (or from seed banks if appropriate).

Would it be possible for your Study Group, from your current knowledge, to write such a list of hibbertias? I know its not an easy task, but you were forewarned! You can assume people will check the literature to find out the conditions under which the plants should grow best.

Please let your members know about the Garden Design Study Group as we would welcome having a member or two from your group. I think hibbertias should have a special place in garden design. Contact with other study groups through newsletters, etc., will be important to us, particularly in regard to garden design projects.

I'll look forward to hearing from you soon.

Best wishes

Diana Snape

Leader, Garden Design Study Group

Hibbertia Hill and Cheltenham Park

Norm Cornwell

One of the sites that our group has selected for growing hibbertias is at Cheltenham Park. Cheltenham Park is about 20km south of Melbourne and is next to Cheltenham Railway Station on the western side. It is one of the most elevated spots in the area and because it is sandy it is very dry indeed.

This bushland park is quite unique to have in a suburban area and its 10 hectares comprises of B.B.Q.s, picnic area, children's playground and two recreation ovals; all located on the western side. The eastern side is the more passive area where the greater portion of Australian plants is growing.

It is in this area that we have located a place for the study group. It is situated on top of a rise that is sunny, "high, dry and mighty" sandy. I have appropriately named it Hibbertia Hill.

At this stage, we have four species of hibbertia growing in the park. They are *H. scandens* (Snake Vine) from NSW and Qld and *H. cuneiformis* (Cutleaf Guinea Flower) from WA. The other two, *H. sericea* (Silky Guinea Flower) and *H. prostrata* (Bundled Guinea Flower) are natural to the area and can be seen growing here. But, due to the pressures on the park as regards its increased usage, and no facilities to shut off any areas for rest periods, natural regeneration of these plants is in great jeopardy. *H. prostrata* is the park's floral emblem.

Although the park is crown land, the responsibility lies on the local council to maintain and keep it as much as possible natural looking. It would be interesting to see what would regenerate after "burn-offs" but alas this is not permitted. However we do have a big range of Australian plants growing and it is hoped with the enthusiasm of the group that we can have a greater range of hibbertias growing, and to encourage observers to do likewise.

Water is available for the plants but in most cases they have to "wait their turn" to get a drink as there is a big area to cover and water pressure is very poor. Perhaps you, as a member, may know of any such hibbertias growing under the same conditions. The group would like to hear from you as to what species they are and any other comments that could be of assistance to have hibbertias grow successfully on Hibbertia Hill in Cheltenham Park.

Is Growing Hibbertias From Seed Impossible?

Ron Pearson

Our hibbertia is one of those plant species that almost always provides us with seeds that seem impossible to germinate; the difficulties of germinating hibbertia seeds are legendary. This has been confirmed by the number of our members and others they know, who have tried to germinate a range of hibbertia seeds that, with one or two exceptions, have proved to be an absolute, dismal failure.

Apparently Mother Nature, in an attempt to ensure the continuation of the species, has placed a number of special conditions on the germination of the seeds which, to us, appear to be obstacles. And apparently these conditions vary with the natural conditions under which the plant grows naturally.

Why do the seeds we attempt to grow not germinate? In the first instance we must ask: are the seeds fertile? - who knows how we decide that question? - is there a simple test that we can use? Perhaps someone will tell us.

In an attempt to unravel some of the mysteries surrounding the germination of hibbertia seeds let us look at some of the methods that have been used successfully to germinate seeds of other plant species. Some likely solutions might be easy for us to explore while others might

be too complex. The most obvious considerations are seed dormancy factors and the inhibitors that have been built into the seed to prevent it from germinating until it is ready to grow, or alternatively until ambient conditions are suitable for the new plant to have a reasonable chance of survival.

In the case of seed from many other plant species it has been found necessary to provide some kind of pre-sowing treatment before the seed would germinate. These methods have been tried on a wide range of seeds and in some cases a specific program has been determined. As most of these approaches are well known and the methods are detailed in standard reference books they will only be outlined here:

1. Boiling water treatment for hard coated seeds.
2. Abrasion of hard coated seeds.
3. Knicking of hard coated seeds.
4. Stratification - originally used to assist germination of seeds from colder climates or higher altitudes - but has also been found to be useful for seed of a number of other species from a range of climates.
5. Soaking in water for a short period before sowing - say up to three days.
6. Leaching - that is washing the seed in frequently changed water, or in continuously flowing water for periods up to ten weeks.
7. After ripening - a period of storage required between ripening of seed and its readiness to germinate.
8. Dry heat - exposure to higher temperatures for short periods before sowing.
9. Exposure to fire on the seed-bed, followed by moistening with the products of combustion when watered in.
10. Soaking in any one of a variety of weak chemical solutions, for example, sulphuric acid, hydrochloric acid, hydrogen peroxide, gibberellic acid and similar growth promoters, potassium carbonate, etc..
11. Removal of the seed coat (testa) which sometimes contains inhibitors, before or after soaking.

It might be possible that a number of different factors prevent the seed germinating, and that accordingly it might be necessary to use a combination of more than one of the above treatments. Of course it goes without saying, that in addition to the factors mentioned above, the moisture, atmospheric and soil temperatures, and light intensity must be appropriate.

One of our first difficulties is that hibbertia seed is not easy to obtain. Nindethana Seed Service, in a recent catalogue, lists the following species as being available: *H. amplexicaulis*, *H. commutata*, *H. hypericoides*, *H. inconspicua* (prostrate form), *H. lasiopus*, *H. ovata* and *H. serrata*.

According to the "Encyclopaedia of Australian Plants" it is suggested that a few of the hibbertias have seed that will germinate after a minimum period of about four to five weeks. The time for germination of the following species is given in the book:

<u>Hibbertia</u> <u>Species</u>	<u>Time for Seed to</u> <u>Germinate - days</u>	<u>Comments</u>
aurea	55 - 75	
cuneiformis	52 - 80	Regeneration from seed often occurs in gardens and this form has the potential to become an environmental weed in coastal areas.
cunninghamii	34 - 60	
huegelii	40 - 100	
miniata	36 - 135	Some success has been achieved by leaving seed on the surface of the soil over summer. Germination has occurred in the following autumn.
montana	55 - 70	
perfoliata	about 50	
rupicola	about 40	
stellaris	33 - 55	
subvaginata	31 - 85	

To date I have tried to grow only one species of seed, and this without any success. I obtained fresh seed of *H. acicularis* from a plant growing naturally in a park near where I live and have tried to grow it twice under different conditions with no success in either case. I must say that although the plant seems to drop a lot of seed I have not been able to see any seedlings around it or nearby, although two plants of the same species grow within a metre or so.

H. prostrata grows by the thousand at the Melbourne Water Braeside Park and many small plants are continually appearing in the area. I have looked at these and they appear to be new plants growing from seeds dropped by the parent plants.

Would any members who have had any experience in growing hibbertias from seed, whether successful or not, please let me know of their results together with details of the program they followed. Members with any information about earlier references to raising hibbertias from seed also are asked to provide details for publication in the newsletter.

I hope my brief survey above does not depress anyone who intends to try growing hibbertias from seed, but it does consolidate some information and outline the challenge facing us, and, who knows, the answer might be in a totally different direction.

My Experience with Hibbertia Seed

Faye Candy

I have tried to grow seed of about six different species of hibbertia. The seed came from Nindethana in Western Australia. This was in October 1990. I planted the seed as soon as it arrived. I used a commercial seed mix over which I poured boiling water.

I tried four different methods. Some seeds were soaked in nearly boiling water and planted when they were swollen; none came up. I spent considerable time peeling the outer coat off some of the seeds that I had soaked, this was terribly tedious and still none came up. I rubbed some of the seeds between fine sandpaper, also was useless. I planted the rest of the seeds just as they were, no treatment at all, and two seeds actually germinated. One each of *H. montana* and *H. ovata*.

I carefully potted them on in January 91, about three months after sowing. In April of the same year, both small plants were put into a large tub, 40 cm in diameter, into a half sand half potting mix which I buy from Propine in Kilsyth, Victoria and fed with slow release Osmocote. Now two years later they are strong healthy plants, fairly straggly and they flower profusely. Cuttings which I have taken from both plants are very easy to strike.

Hibbertia seed is not easy to obtain, I have about 20 different species in my garden and so far only *H. pedunculata* has set any seed.

Collecting Hibbertia Specimens for Mounting

Anne Kerr

One difficulty when collecting hibbertia is that the petals generally fall when picked, so this makes it necessary to press on the spot.

As hibbertias are not large a small lightweight press that is able to fit in a back-pack is most suitable. Who would like to design one? The standard herbarium size for a press is the Sun-Herald newspaper with the edge trimmed off; no material must extend over the edge.

If a specimen is wet when picked you must replace the newspaper when you get home. Check specimens after 3 or 4 days, watch for mould and keep in a warm dry place for approximately 3 weeks, then store between sheets of paper till mounting. Keep in a cardboard box with naphthalene flakes to help protect against insect damage. Also, if collecting seed put in cellophane bags not plastic.

Listed below is the information to be attached to each specimen (don't leave it till you get home to write the information down).

Botanical name if known.

Where collected, for example, on Hibbertia Road 2 km west from corner of Ironbark Road, Highton, SA.

H x W and any other comments about growth habit.

Growing conditions, for example, in dry open forest, in full sun, on dry red clay soil, associated with eucalyptus, dillwynia, etc.

Date collected.

Name of collector.

Early History of Hibbertias

Source: Flora Australiensis, Bentham Vol 1 1863 Reprint 1967.

Flora Australiensis divided the species up into four sections.

Section 1. **Hemistemma** - Perfect stamens and staminodes all on one side of the carpels, the staminodes outside. Peduncles mostly two or more flowered, except in *H. verrucosa*. All tropical except *H. verrucosa*.

Species include: *H. banksii*, *H. brownii*, *H. dealbata*, *H. candicans*, *H. verrucosa*, *H. ledifolia*, *H. muelleri* and *H. angustifolia*.

Section 2. **Hemipleurandra** - Perfect stamens all on one side of the carpels; staminodes 2 or 3 on each side of them, or more numerous and continued round the carpels, very rarely any outside the perfect stamens. All western species.

Species include: *H. spicata*, *H. polystachya*, *H. furfuracea*, *H. hypericoides*, *H. microphylla*, *H. recurvifolia*, *H. lineata*, *H. acerosa*, *H. aurea* and *H. crassifolia*.

Section 3. **Pleurandra** - Stamens all on one side of the carpels without any staminodes. Peduncle one flowered or none. Species all southern and eastern except *H. pedunculata* and *H. mucronata*, which are western.

Species include: *H. nitida*, *H. bracteata*, *H. sericea*, *H. hirsuta*, *H. stricta*, *H. Billardieri* (now *H. emp trifolia*), *H. humifusa*, *H. gracilipes*, *H. acicularis* and *H. mucronata*.

Section 4. **Euhibbertia** - Stamens placed all round the carpels, with occasionally small staminodes outside.

1. *Tomentosae* - Carpels usually tomentose or scaly and two ovulate. Stamens numerous, without any or rarely with small staminodes outside. Leaves flat or the margins slightly revolute, usually stellately tomentose or scaly. Flowers pedunculate, axillary.

Species include: *H. hermanniaefolia*, *H. velutina*, *H. oblongata*, *H. tomentosa*, *H. cistifolia*, *H. echiifolia*, *H. scabra* and *H. lepidota*.

2. *Vestitae* - Carpels (usually 3) villous, 4 to 6 ovulate. Stamens with or without staminodes outside. Leaves small, narrow, with revolute margins.

Species include: *H. vestita*, *H. serpyllifolia* and *H. pedunculata*.

3. *Ochrolasiae* - Carpels glabrous, 6 to 8 ovulate. No staminodes.

Species include: *H. ochrolasia* (now *H. drummondii*).

4. *Fasciculatae* - Carpels glabrous, 2 to 6 ovulate. Leaves very narrow, convex underneath, the margins not revolute. Bracts small. Flowers sessile.

Species include: *H. procumbens* and *H. fasciculata*.

5. *Bracteatae* - Carpels glabrous, 1 to 2 ovulate. No staminodes. Leaves flat or convex underneath. Flowers (except in *H. rostellata*) closely sessile within broad brown shiny bracts.

Species include: *H. virgata*, *H. inclusa*, *H. rostellata*, *H. glomerata*,
H. argentea, *H. montana*, *H. pilosa* and *H. mylnei*.

6. *Subsessiles* - Carpels glabrous. Stamens usually numerous, without staminodes. Leaves flat or the margins slightly recurved. Bracts small or passing into the sepals. Flowers sessile or nearly so.

Species include: *H. linearis*, *H. diffusa*, *H. linearis* var, *H. saligna* and
H. volubilis (now *H. scandens*).

7. *Hemihibbertiae* - Carpels glabrous or rarely villous. Stamens very numerous, with several small, subulate or clavate staminodes outside. Leaves flat. Flowers pedunculate except in *H. mylnei*.

Species include: *H. grossulariaefolia*, *H. dentata*, *H. perfoliata*, *H. bracteosa*
(now *H. cunninghami*), *H. amplexicaulis*, *H. cunninghami*, *H. glaberrima*,
H. mylnei, *H. lasiopus* and *H. potentillaeflora*.

8. *Brachyantherae* - Carpels glabrous. Stamens about 15 to 20, without staminodes. Anthers (except in *H. pungens*) ovate or orbicular, flattened, with introrse cells. Leaves narrow-linear. Flowers pedunculate.

Species include: *H. pungens*, *H. nutans*, *H. leptopus* and *H. stellaris*.

Hibbertia Key

The Key has been modified after our trial at an earlier meeting. The key will be trialed up to December and then commented on by active members. These comments will form the basis of the first edition which will become available "on request" February '94. The purpose of the key is to give a lay person the opportunity to identify hibbertia species. The key will be loose leaf so that it can be stored in a binder - this will allow for individual pages to be updated.

Its success will depend on input from members.

Newsletter Deadline

All articles for the next newsletter must be to me by 15 October '93.

Next Meeting (All members always most welcome)

Saturday 28 August 1993

Venue: Karwarra Native Garden, behind Kalorama Memorial Reserve,
Mt Dandenong Tourist Road, Kalorama (Melway map 120 B.9)

Time: 2.00 - 4.00pm.

Agenda: Incoming correspondence
September '93 day field trip
September '94 field trip
Garden collection - Cheltenham Park
Garden collection - Karwarra Garden
Identification with Key.

Recently named species

Anne Kerr has provided information from publications *Austrobaileya* and *Nuytsia*. Brief descriptions of these recently named species will appear in our next newsletter.

Have you experienced?

During January '93 my *H. grossulariifolia* and *H. perfoliata* (in large tub) foliage went brown. *H. perfoliata* has since developed new growth. *H. grossulariifolia* (originally prostrate x 0.8 m) virtually died except for one branch, 0.3 m long, which appears to have layered itself.

These two species would appear not to be good garden subjects in my area - Knoxfield, Melbourne.

Has anyone else had similar experiences. If so would they please forward their information for publication.

Financial Report (as at 10 Aug '93)

Receipts	100.00
Stationary	7.80
Stamps	18.00
Balance	\$74.20

Hibberta Flowerig Periods

11/8/93

Flowering Period	Put "P" in month/s for												Survey first weekend
	profuse flowering.												
Your location: _____	Put "S" in month/s for												in each month or what suits you best.
	scantly flowered.												
	J	F	M	A	M	J	J	A	S	O	N	D	Comments
acerosa (R. Br. ex DC.) Benth.													
acicularis (Labill.) F. Muell.													
amplexicaulis Steudel													
angustifolia (R> Br. ex DC.) Benth													
argentea Steudel													
aspera DC.													
aurea Steudel													
banksii (R. Br. ex DC.) Benth.													
bennettii Bailey													
bracteata (R Br. ex DC.) Benth													
brownii F. Muell.													
calycina (DC.) Wakef.													
candicans R. Br ex DC.													
cistiflora Wakef.													
cistifolia R. Br. ex DC.													
cistoidea (Hook.) C. White													
commutata Steudel													
conspicua (J. Drumm. ex Harvey) Gilg													
crassifolia (Turcz.) Benth.													
crispula J. Black													
cuneiformis (Labill.) Smith													
cunninghamii W. T. Aiton ex Hook.													
dealbata (R. Br. ex DC.) Benth.													
dentata R. Br. ex DC.													
depressa Steudel													
desmophylla (Benth.) F. Muell.													
diffusa (R. Br. ex DC.)													
dilatata Cunn. ex Benth.													
drummondii (Turcz.) Gilg													
echiifolia R. Br. ex Benth.													
elata Maiden & Betche													
empetrifolia (DC.) Hoogl.													
enervia (DC.) Hoogl.													
exutiaces Wakef.													

Hibberta Flowering Periods

11/8/93

Flowering Period	Put "P" in month/s for profuse flowering.												Survey first weekend in each month or what suits you best.
	Put "S" in month/s for scantily flowered.												
Your location: _____	J	F	M	A	M	J	J	A	S	O	N	D	Comments
fasciculata R. Br. ex DC.													
ferruginea J. R. Wheeler													
furfuracea (R> Br. ex DC.) Benth.													
glaberrima F. Muell.													
glomerata Benth.													
gracilipes Benth.													
grossulariifolia (Salisb.) Salisb.													
helianthemoides (Turcz.) F. Muell.													
hermannifolia DC.													
hexandra C. White													
hirsuta (Hook.) Benth.													
huegellii (Endl.) F. Muell.													
humifusa F. Muell.													
hypericoides (DC.) Benth.													
inclusa Benth.													
inconspicua Ostenf.													
kimberleyensis C. Gardner.													
lasiopus Benth.													
ledifolia Benth.													
lepidota R. Br.													
leptopus Benth.													
linearis R. Br. ex DC.													
lineata Steudel													
longifolia F. Muell.													
melhanioides F. Muell.													
microphylla Steudel													
millari Bailey													
miniata C. Gardner													
monogyna R. Br. ex DC.													
montana Steudel													
monticola Stanley													
mucronata (Turcz.) Benth.													
muelleri Benth.													
mylnei Benth.													

Hibberta Flowerig Periods

11/8/93

Flowering Period	Put "P" in month/s for profuse flowering.												Survey first weekend in each month or what suits you best.
	Put "S" in month/s for scantily flowered.												
Your location: _____	J	F	M	A	M	J	J	A	S	O	N	D	Comments
nitida (R. Br. ex DC.) Benth.													
nutans Benth.													
nymphaea Diels													
oblongata R. Br.													
obtusifolia DC.													
oenotheroides F. Muell.													
ovata Steudel													
pachyrrhiza Steudel													
paeninsularis J. Black													
pedunculata R. Br. ex DC.													
perfoliata Endl.													
pilosa Steudel													
polystachya Benth.													
potentilliflora F. Muell. ex Benth.													
procumbens (Labill.) DC.													
prostrata Hook.													
pulchra Ostenf.													
quadricolor Domin													
racemosa (Endl.) Gilg													
recurvifolia (Steudel) Benth.													
rhadinopoda F. Muell.													
riparia (R. Br. ex DC.) Hoogl.													
rufa Wakef.													
rupicola (S. Moore) C. Gardner													
salicifolia (DC.) F. Muell.													
saligna R. Br. ex DC.													
scandens (Willd.) Gilg.													
selkii Keighery													
sericea (R. Br. ex DC.) Benth.													
serpyllifolia R. Br. ex DC.													
serrata Hotchk.													
silvestris Diels													
spathulata Wakef.													
spicata F. Muell.													

Hibberta Flowerig Periods

11/8/93

Flowering Period	Put "P" in month/s for profuse flowering.												Survey first weekend in each month or what suits you best.
	Put "S" in month/s for scantily flowered.												
Your location: _____	J	F	M	A	M	J	J	A	S	O	N	D	Comments
stellaris Endl.													
stirlingii C. White													
stricta (DC.) R. Br. ex F. Muell.													
subvaginata (Steudel) F. Muell.													
synandra F. Muell.													
tasmanica Baill.													
uncinata (Benth.) F. Muell.													
vaginata (Benth.) F. Muell.													
velutina R. Br.													
verrucosa (Turcz) Benth.													
vestita Cunn. ex Benth.													
virgata R. Br. ex DC.													
marginata Conn													
villosa Conn													
kaputarensis Conn													
covenyana Conn													
circumdans Conn													
hooglandii J. R. Wheeler													
laurana S. Reyn.													
arnhemica S. Reyn.													
hendersonii S. Reyn.													
oligodonta S. Reyn.													
mulligana S. Reyn.													
cymosa S. Reyn.													
pholidota S. Reyn.													
species B (obtusifolia) Conn													
Comments to include:													
Age and size of plant.													
Type of soil and PH if known.													
Use the following code to describe the plant location:													
f = full sun, p = partial sun, m = moist soil most of the year,													
d = stands periods of dryness, w = stands periods of wetness, wd = well drained.													