FLYTRAP NEWS

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Free with membership

Utricularia australis by Robert Gibson. (Scale full size)

NEWSLETTER OF THE CARNIVOROUS PLANT SOCIETY OF NSW

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ALL CORRESPONDENCE (including articles) TO:
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P.O Box 87
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Meetings are regularly held on the second Friday of the following months February, March, April, (May in lieu of April if the second Friday of April is Good Friday) June (AGM), August, September, October and November
TIME: 7.30 - 10.00pm
VENUE: Woodstock Community Centre, Church St, Burwood.

Meeting Dates for 1994				
11th February			12th August	
11th March			9th September	
8th April			14th October	
13th May			11th November	
10th June	AGM		11th December	Christmas get together.

CURRENT MEMBERSHIP RATES

Single Membership within Australia	$A15
Family membership within Australia	$A15
Overseas Membership	$A17

Please make cheques/money orders payable to the Carnivorous Plant Society of NSW

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Editors report Denis Daly

The proposal to amalgamate the three Carnivorous Plant Societies is still being investigated by the ACPS and the CPS of NSW. The state of the deliberations are to decide whether the amalgamation should be total or just amalgamation of the three journals into a common journal.

The committee of the CPS of NSW's position is that what ever form of amalgamation eventuates the viability of existing groups of CP enthusiasts must be maintained and that remote members, who indeed subsidise the meeting costs of the three head offices, must be encouraged and assisted (in all ways including financial) to form local branches and hold local meetings.

It would be a retrograde and unacceptable step if one head office group were to eventually to become the only group of CP enthusiasts that were getting together within Australia while those unfortunate enough not to live in a particular geographic locale will be disadvantaged. The likely result will be either, or eventually in time both, of either a reduction in CP enthusiast numbers with potentially disastrous results for CP cultivation or the re-formation of new local CP Societies in the future.

The problem of ensuring that the two smallest existing local societies are able to remain as branches let alone encouraging and assisting new branches to form in other areas is financial. The committee of the ACPS feels that no "portion of the subscription" would be able to be made available for local branch funding without increasing the subscription costs which is felt undesirable at the present time.

The concept of journal amalgamation does not resolve the issue of encouraging new branches to form and the existing two smaller societies would be likely to be left with insufficient funds to remain viable as branches.

This is an important issue for all Carnivorous Plant enthusiasts. You, yes you, should make it your urgent business to tell the committee of the Australian society/societies of which you are a member WHAT YOU WANT. Remember if you leave it to others to decide without at least expressing your wishes you may not like what you get in the end.

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Articles for Fly Trap News Denis Daly

Many editors have often implored members to submit articles for publication. Three members, other than Ken Harper and Robert Gibson have submitted articles. It is to be hoped that other members will follow suite.

David Colbourn's article on Aldrovanda vesiculosa is so large that it will be published in three parts. Ivan Snyder from the USA poses the question "Genetic Crestate Sundew?" It is encouraging to have one of our younger members, Steve Amoroso, submit a short article on Dionaea muscipula. Steve expressed his reasons for submitting his short article in a letter to the editor.

Letter to the Editor Steve Amoroso

I have read the newsletter and learnt how to grow some species of carnivorous plants. I also know that you need articles for the newsletter. I have written an article on cultivation the Venus flytrap."

Editors note:- *The Carnivorous Plant Society of NSW and its newsletter, Fly Trap News, seeks to encourage members, particularly the younger ones.*

Letter to the Editor Ed. Harris

Dear Denis I have been a CPS of NSW member for about 2 years and would like to meet other members living in the A.C.T. If possible, I would like you to place the following in the next issue of the CPS of NSW journal.

"To all C.P enthusiasts in the A.C.T. I would like to form an interest group, to meet now and then for discussion re CP's then tea and biscuits.

If you would like to share your interest in CP's then contact Ed. Harris phone 06 291 8357."

I thank you for your consideration and will let you know of the success of the add in the future.

Ed. Harris

Editors note:- *This "Interest Group" concept proposed by Ed is fully supported by the Committee of the CPS of NSW. Hopefully it may lead to an ACT Branch of an Australia wide amalgamation of CP Societies or a CPS of the ACT. All enthusiasts in and close by the ACT are encouraged to contact Ed and lend him support in this endeavour.*

Letter to the Editor Robert Moolenbroek

Robert Moolenbroek (North Queensland) would like to correspond with growers of

Nepenthes.

Would those members who are interested in corresponding with Robert please let the Secretary know so that he may send your name and address to Robert.

Editors note:- *Although I have a listing of members who are automatically sent Nepenthes seed, there are undoubtedly other members who grow Nepenthes. However some may wish to retain their privacy and so I will forward their names and addresses to you once they give permission. If there is enough interest Nepenthes growers may all wish to exchange names and addresses with all other growers of Nepenthes.*

This could even be another "Interest Group" not based upon geography but upon special species interest. The Committee of the CPS of NSW would like to hear members opinions upon this concept as well.

In Search of *Aldrovanda vesiculosa* David Colbourn

Part I - Description of *Aldrovanda*

Family : Droseraceae

Genus : Aldrovanda (al-dro-*van*-der), a monotypic genus.

Species : vesiculosa (*vezz*-i-khul-o-sah)

Varieties : australis (ozz-*stral*-iss); verticillata (*ver*-tik-ill-*ah-tah*); Charles Darwin refers to two (2) other varieties or forms: Bengal form and German form.

Common Name : Waterwheel Plant (English); Plante aquatique a' roue (French); Wasserfalle (German)

Other Names : Waterbug Trap

Habit : Submerged, free floating, rootless, carnivorous aquatic herb. Stems usually simple, rarely branched. Leaves in whorls of 5-9; petioles connate at base, dorsally flattened, turgid, broadened upwards, apices round-truncate with leaf lamina articulate at its midpoint and with several outward-projecting bristles lateral and dorsal to the lamina attachment, stipules absent; leaf lamina of two (2) semicircular up-curved halves, each half with thick-textured inner zones with squat digestive and adsorptive glands and long sensitive hairs; lamina twisted sideways and reflexed from point of attachment, thereby facing outwards, absent from leaves of flowering whorls. Flowers axillary, solitary, pedunculate, emergent. Sepals, petals, stamens, styles and placentas five (5). Capsule five (5) valved, ripening underwater on reflexed pedicels. In warm climates growth is continuous. In temperate regions, the plant is dormant during the colder months where a winter hibernacula or turion is produced.

Habitat : Found just below the surface of acidic, stagnant, fresh water lagoons or swamps, rarely in lakes and slow moving rivers. Ranging from tropical to temperate regions. Often found between the stems of *Typha* and *Phragmites*, or caught on submerged vegetation, sparsely or in tangled masses. Feeds on *daphnia*, *copepods*, and other aquatic micro-organisms.

Morphology :

Stems : Circular, simple, rarely branched, usually 5-25cm long, 1-2cm diameter including leaves. Internode length, 4-9mm long. Dormancy is dependant upon water temperature. Terminal hibernaculum is produced, consisting of up to 32 whorls of tight-packed leaves in a globular cluster 6-8mm diameter. Dormancy is complete once previous growth has decayed, allowing the hibernacula to sink to the bottom of the of the water. Dormancy is broken by increased water temperature allowing growth to recommence and consequently rise to the surface of the water. Plant length is dependant of growth cycle, rate and water temperature.

Lamina : Six (6) to eight (9), dorsally flattened, transparent, green, 7-12mm long, 2.5-6mm wide, connate at base, tapered from apex to base, apex bearing bristles extending beyond leaf blade. Leaf blade attached at centre of petiole summit, perpendicular to petiole, circular, broader than long, two (2) semicircular halves attached along midrib, set at 45-50 degrees.

Petiole : Flattened, 3-6mm long, fused at base, 0.5-1.5mm wide, tapered from apex to base, apex truncate bearing 4-8 fine, serrulate bristles projected forward beyond lamina, 2-6mm long.
Leaf Blade : Spring trap mechanism, similar to Venus Fly Trap (*Dionaea muscipula*), 3-6mm long, 2 semicircular lobes, set at 45-50 degrees when open. Each lobe with two (2) concentric regions, the outer region (marginal) thin-textured, flexible, with short spiny hairs along inner margin, two (2) rows of four-armed hairs resting on surface, secretory, the inner region thick-textured, rigid, bearing about 40 long, fine, sensitive 'trigger hairs' and small squat digestive and absorptive glands.

Inflorescence : Flowers rare, solitary, emergent from the surface of the water, borne on short peduncles arising from the leaf axis. Flowers are produced in Spring. Pollinators unknown.
Peduncle : Glabrous, 5-15mm long, extending beyond leaves.
Sepals : Five (5) ovate-elliptic to elliptic-lanceolate, 2.5-4mm long, 0.8-1.5mm wide.
Petals : Five (5) narrowly obovate, 4-5mm long, 2.5mm wide, white or tinged pink, longer than sepals.
Stamens : Five (5) shorter than petals. Filaments filiform-subulate, 3-4mm long.
Ovary : Superior, subglobose, 1-celled with numerous ovules on five (5) parietal placentas.
Styles : Filiform, spreading, 2mm long, five (5) with terminal, branching stigmas.
Fruit : Globose-subglobose, membranous, 4mm long, 3mm wide, up to 1.5 times the length of sepals, five (5) valved capsule borne on deflexed pedicels, ripening underwater.
Seed : Broadly, ellipsoidal with a short thick basal foot, black, shiny, 1.5mm long, 0.5mm wide Up to 20 produced, usually 6-8. The structure of the embryo is characteristic of other *Droseraceae*, with the only difference being that the primary root remains rudimentary.

Trap Functions : As with *Dionaea*, the middle vein or midrib in the petiole continues via the narrow stalk to join the trap, where it becomes the spine. Each trap is bent backwards to a variable degree and is inclined to the left due to a twist in the stem, and this gives to the whorl a remarkably water-wheel-like appearance. Trap closure is effected by stimulating the trigger hairs.

Depending on the age of trap and cultural conditions, 1 or more stimulations are required. High temperatures, chemicals and electricity will initiate trap closure. Surrounding the outer edge of the leaves is a row of closely arranged epidermal hairs sometimes called spikes. These are organised differently than the marginal spikes of *Dionaea*. In *Dionaea* the hairs lie in the same plane as the lobes and point away from the midrib area. In *Aldrovanda* the hairs point down into the trap. When the trap closes, the spikes intermesh as they do in *Dionaea*.

This mechanism is external with *Dionaea* and internal with *Aldrovanda*, however, they both serve the same purpose. The intermeshed spikes serve as a sieve or strainer to keep the prey in the trap as it closes and water is forced out. An individual trap can close within 1/50 of a second and with such force as to visibly jerk the whole plant. As in *Dionaea*, the trap of *Aldrovanda* becomes narrower with adequate prey. Stimuli from the captured pray is adequate for the trap to enter the narrowing phase. As the trap narrows the prey is pushed down into the basal, digestive area of the trap.

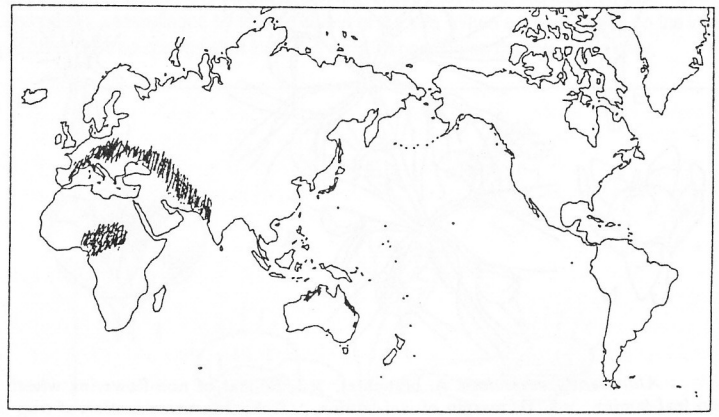
The digestive glands then secrete enzymes and acid, to break down the organisms proteins, which is them absorbed by the glands. If digestible prey has been captured the trap will remain closed for about one (1) week, else it will re-open in a few hours. Each trap can capture several meals before it is exhausted, but if too large a meal is captured, the trap will die. Since growth processes are involved in the working of the traps, increasing age leads to a decrease in function ability. Though the traps catch many victims it is not known whether the animals find their way by chance, or whether they are in some way allured.

Distribution : Widespread but localised in Old World;
Europe : France, Germany, Tyrol, Italy, Czechoslovakia, Hungary.
Asia : C.I.S (formally U.S.S.R.), India, Japan, Timor, Sunda Islands, Manchuria.

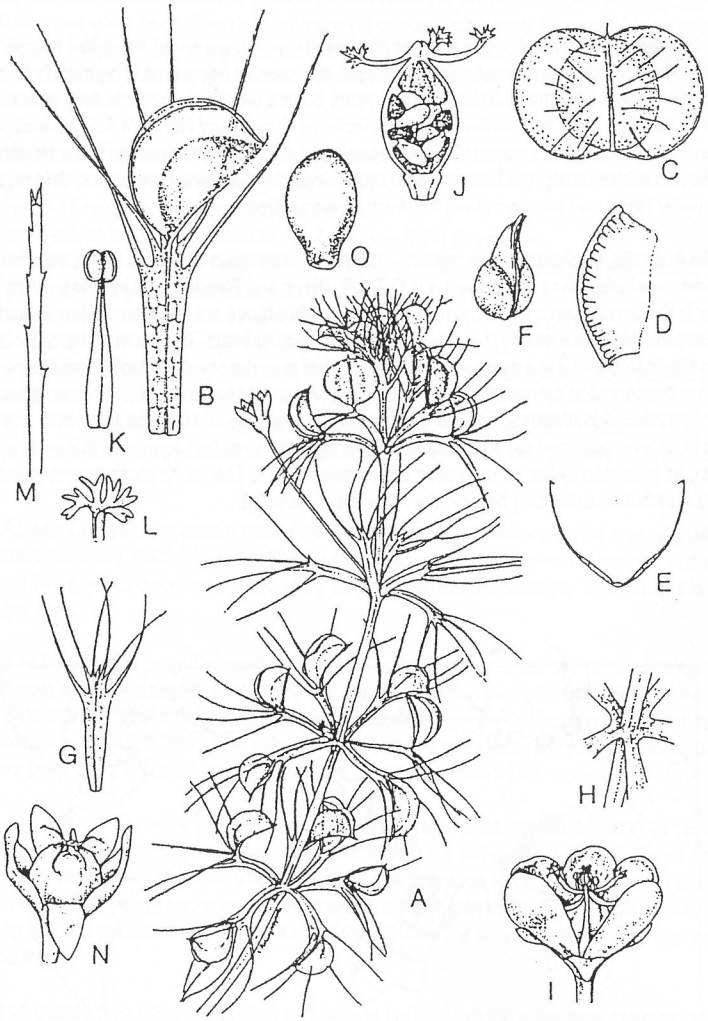
Africa : Central Africa.
Australia : Western Australia, Northern Territory, Queensland, New South Wales.

The distribution patterns of plants such as *Aldrovanda*, which are found along bird migration routes, is evidence of the range of bird transportation particularly in this species because it is repeatedly found in climatically unsuitable regions where they may persist for some years but are unable to complete their generative cycle. The birds migrate to Australia from the Palaearctic, which includes Europe and Northern Asia, to escape the northern winter and feed in the Australian wetlands, before returning to their breeding grounds in the Northern Hemisphere. Birds of the Scolopacidae family, the largest wader family, includes Curlews, Sandpipers, Snipes, and Godwits. All feed in fresh water lakes and swamps along the Australian coastline.

Within Australia, its distribution is restricted to specific habitats in the tropical regions, being widespread and rare. *Aldrovanda vesiculosa* has been given a R.O.T.A.P. (Rare and Threatened Australian Plants) code - 3KC+. The first character is the distribution code (3), and is a species with a range greater than 100km in Australia but occurring in small populations which are mainly restricted to highly specific habitats. The second character is the conservation status (K), and indicates that it is a poorly known species that are suspected, but not definitely known, to belong to any of the other conservation categories, including extinct (X), and endangered (E). At present accurate field distribution information is inadequate. The third character (C) indicates whether the species is represented within a national park or other proclaimed reserve. The species may or may not be considered adequately conserved within the reserve(s), as indicated by the conservation code assigned to it. The fourth character (+) indicates whether the species has a distribution extending beyond the Australian Continent.



Global distribution of *Aldrovanda vesiculosa*



Aldrovanda vesiculosa. A, branchlet, ×3. B, leaf of non-flowering whorl, ×8. C, open leaf-lamina, ×8. D, margin of leaf-lamina, ×8. E, transverse section of trap in set position, ×8. F, leaf-lamina in closed position, proximal view, ×8. G, leaf of flowering whorl, ×4. H, connate petiole bases, ×6. I, flower, ×4. J, gynoecium, longitudinal section, ×6. K, stamen, ×6. L, stigma, ×20. M, distal part of leaf bristle, ×24. N, semi-mature capsule, ×6. O, seed, ×14. (A–H, M–O, H. I. Aston 1955, MEL; I–L after Diels, Pflanzenr. 26: fig. 2♂ (1906)).

Aldrovanda vesiculosa, Flora of Australia, Volume 8, 1982

The Waterwheel plant is known from six (6) localities in Western Australia, Northern Territory, Queensland, and New South Wales.

In Western Australia the plant was last recorded in 1918 by W.V.Fitzgerald, along the Upper Isdell River, in the Kimberley's, and has not been seen since and may be extinct in this state.

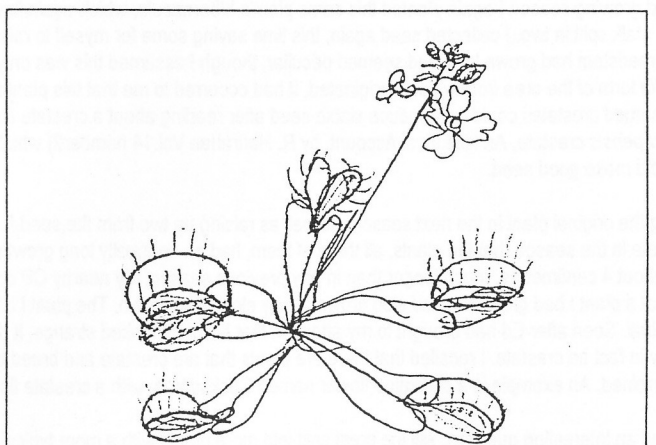
In the Northern Territory, it was last collected in 1982 by Dr. Surrey Jacobs, at Leach Lagoon, approximately 48km (30 miles) south of Katherine along Mataranka Road (Latitude 14º 39'S, Longitude 132º 42'E). It was abundant when collected, but locals report it has not been seen since. (Herbarium specimen at New South Wales, Melbourne). In 1955 H.I.Aston collected it in McMinns Lagoon, ESE of Darwin (Herbarium specimen at Brisbane, Canberra, Melbourne, Northern Territory, Perth).

In Queensland, it was collected at Rockhampton by P. O'Shanesy (Melbourne), and along the Burnet River at Bundaberg, January 1892, by J. Keys (Herbarium specimen at Melbourne).

The New South Wales locality is the only known location to be within a National Park. It was collected 5kms south of Evans Head (Latitude 29º 04'S, Longitude 150º 30'E), July 1978, by B.V.Timms (Herbarium specimen at New South Wales, Melbourne; Spirit Collection Number 1810C).

The Venus' Flytrap *Dionaea muscipula* Steve Amoroso

The Venus Flytrap is a very fascinating plant, mainly because of the leaf trap. Each lobe has 3 trigger hairs which are sometimes camouflaged by the red colour of the trap. When an insect lands on the lobe/s and touches two of the trigger hairs the trap springs shut for 3 to 5 days, depending on the size of the prey.



Dionaea muscipula beginning to flower, November 1992 S.Amoroso

Cultivation

This is a hardy plant and is not difficult to cultivate. It should be positioned to receive full sunlight, standing the pot in a tray of water. For best results use rain water and use a potting mix that contains 3 parts peat moss, 1 pearlite and 1 of coarse washed river sand.

Propagation

Many books say that you can use leaf cuttings but I have difficulty using leaf cuttings. The way I find easier to propagate is to separate small plants from the parent plant and by planting seeds. Whenever propagating, I use a soil mix of 2 parts peat moss to 1 of course river sand.

Genetic Crestate Sundew? Ivan Snyder

110 Meyer Court Hermosa Beach, CA 90254, U.S.A.

In the summer of 1990 I was given some sundews of the Species *Drosera rotundifolia* by Tom Englehardt, which he had collected in Sequoia, California. I had grown this species previously and these plants were the largest specimens I had seen. I grew these plants throughout that year at home indoors under my grow light setup. In the winter I set them outside to initiate hibernacula formation. The following year in spring I separated out the largest hibernaculum to grow singly in a pot again under grow lights indoors. This plant grew very vigorously and produced an unusually thick peduncle which split at the top, separating into five flower spikes. Some of the flowers had ovaries which were very large and appeared to be as though a couple of flowers had been fused into one. I did not feel at this point that this plant could be unusual, since I had read an article in the Carnivorous Plant Newsletter, which is the journal of the International Carnivorous Plant Society, about this species making five split flower stalks. My plant produced seed, which I mailed to collector friends overseas and also donated to the ICPS seed bank.

The next growing season I again planted this same plant's hibernacula, which again flowered, but this time making a flower stalk split in two. I collected seed again, this time saving some for myself to raise. After flowering, I noticed that the meristem had grown long and seemed peculiar, though I assumed this was only a characteristic of the *D. rotundifolia* form of the area from which it originated. It had occurred to me that this plant might be crestate, but at that time I assumed crestates could not produce viable seed after reading about a crestate *Drosera capensis* in CPN (*Drosera capensis* crestate, An Historical Account, by R. Hanrahan Vol.14 number2) which did not make good seed. My plant did make good seed.

Growing the original plant in the next season, as well as raising up two from the seed from the original clone, I again noticed late in the season that the plants, all three of them, had an unusually long growth points, the largest as of writing is about 4 centimetres, much longer than in any previous season. My nearby CP collector friend Ed Read told me that a plant I had given him had also grown a very elongated crown. The plant I had given him was a clone of the original. Soon after Ed had brought to my attention that his plant looked strange, it dawned upon me that this sundew may in fact be crestate. I recalled that there are plants that are crestate and breed true, and the crest is genetically determined. An example is a cultivated flower named Cockscomb, with a crestate flower stalk.

Ed raised an interesting question, will the crest split into more plants with a more typical growth habit? I don't know for certain, but it may do just this if allowed to become dormant and then start up growth again. As for now, it appears the crown will continue to lengthen and eventually the whole plant will form a bizarre convoluted shape. In photographing the plant, my friend Bob Mailloux gave it a description which I rather enjoyed, "disgusting!".

"Disgusting" A photograph of *D. rotundifolia* "genetically crestate?" by Bob Mailloux from the collection of Ivan Snyder

Another article in CPN by Andreas Wistuba entitled A "Forma Crestata" of Drosera, Vol.12 number 4, tells of a method for propagating crestate sundews by sectioning the crown, and that the crestate growth is not maintained by leaf cuttings. Apparently, my original clone and all its offspring are able to produce crestate growth, making this plant a crestate of a different nature. Perhaps all of the *D. rotundifolia* of the geographical race from Sequoia may have the potential to become crestate if grown under un-natural conditions with a lengthy growth period uninterrupted by dormancy. I find it extremely unlikely that I may have unwittingly selected by chance a single plant that may turn out to be genetically crestate.

Utricularia australis at Mulgoa, New South Wales.

Robert Gibson

In early September, 1993, I discovered *Utricularia australis* growing in a dam a few kilometres from my home. It is the first time that I have seen this species outside waterlily ponds in various Sydney nurseries. It is also the seventh native carnivorous plant species which I have found in my local area*.

Utricularia australis is a robust aquatic bladderwort with thick (to 2mm diameter) branching stems. In early September plants were up to 20cm long, but in mid October they were between 40 and 60 cm long. The alternate, basically-bifurcated leaves to 4, or more centimetres long, are much divided, with alternate segments. Up to 17 conspicuous green, or black, traps occur on each leaf, those at the base of the leaf are up to 2mm long. Two small ovoid dormant auxiliary buds occur at the base of each primary leaf segment. Each is capable of growing into a new stem.

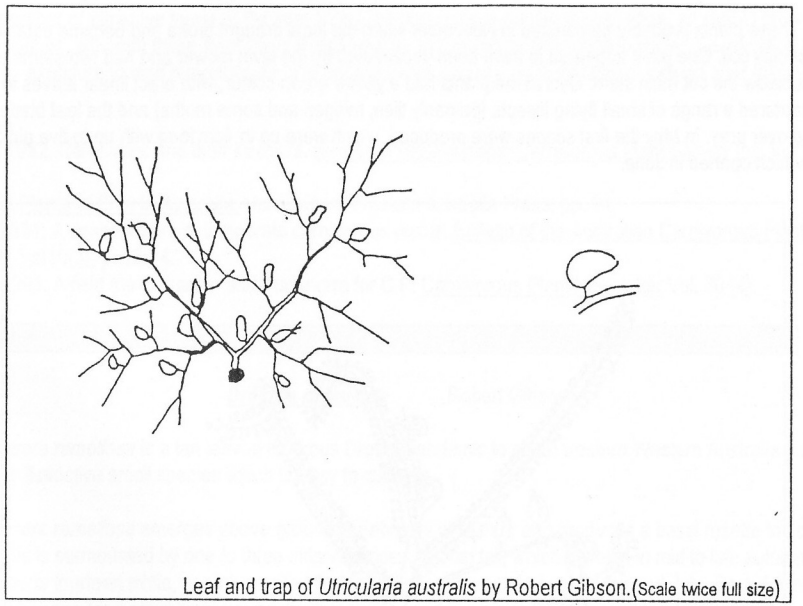
This species has an ovoid growing point, consisting of a tight cluster of leaves in various stages of growth. In autumn, as well as in response to desiccation, this species becomes dormant and survives as compact, detached growing points, known as turions.

I do not know when the local plants become dormant in autumn, but it appears that the turions sink to the lake floor and recommence growth in early August. They appear to be formed by between ten and sixteen conspicuously coarse poorly divided leaves, with 0 to 2 traps, which are found at the base of the stems, the internodes of which probably lengthen as growth recommences. The plants either float at the surface or grow along the lake bed, with all but the end 10 to 15 cm variably covered in algae.

The plants were found in a permanent lake, in an area of cleared woodland. The only shading the plant received was from the band of *Eleocharis spacelata* around the lake edge and grow with a subordinate amount of *U. gibba*. From the material introduced to the dams at home it is apparent that *U. australis* responds to moderately shaded conditions by producing bladderless and increasingly smaller leaves. It is susceptible to competition from algae and is also eaten by water snails. It is interesting to note that *U. gibba* grows successfully in conditions which *U. australis* finds unsuitable.

Utricularia australis is a robust native aquatic bladderwort which is exciting to find in a near natural environment. It is an attractive species which should be easy to cultivate once its need for a well lit environment is met.

* The locally native carnivorous plant species are *Drosera auriculata*, *D. peltata* (2 varieties), *D. pygmaea*, *D. spatulata*, *Utricularia australis*, *U. gibba* and *U. lateriflora*.



Leaf and trap of *Utricularia australis* by Robert Gibson.(Scale twice full size)

Success in growing *Drosera indica* - at last

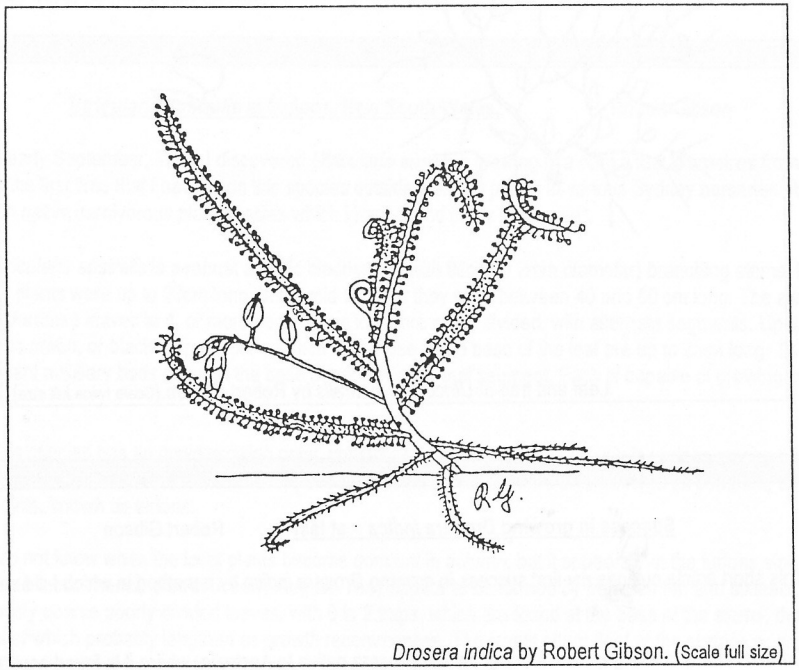
Robert Gibson

This short article outlines my first success in growing *Drosera indica* by a method in which I did very little of the work.

Drosera indica is a large, stem forming annual Drosera native to Australia, where it is found across northern and eastern Australia, to as far south as central Victoria. It is also found throughout South East Asia, to Japan and India and in tropical and southern Africa (Erickson, 1968). It forms an erect to trailing stem, to 50cm tall, with alternate linear leaves to 20cm long and 3mm wide. The majority of the plant is covered in stalked retentive glands, although those on the upper leaf surface have longer stalks. Numerous (?pseudo-)auxiliary scapes are produced along the stem and have up to 20 flowers. Throughout most of its range, including Australia, only white and pink petalled forms occur, although forms with metallic orange petals occur in northern Australia (Denton, 1992), where a potential subspecies, or a closely allied species occurs (Lowrie, 1991). Red petalled plants occur in Japan (Kondo, 1991). The seed germinates in summer, in response to favourable moisture levels and temperature and grows rapidly, producing as many scapes, flowers and seed as possible before the soil dries out and the plant dies. This species is well adapted to warm climates with summer and autumn maximum rainfall.

I have attempted to grow this species twice. The first time, in late spring 1990. I germinated a small percentage of the seeds, none of which survived for more than a few weeks. In October 1992 I sowed seed in two pots and in the upper portion of a small soak near the house, which has a thriving natural colony of *D. peltata var. "green rosette/pink petals"* in clay soil. After a five month absence I found that I had no success with the seed grown in the pots but had five small plants growing in the soak.

These plants probably germinated in November when the local drought broke and became established in the moist clay soil. One plant appeared to have been decapitated by the lawn mower and had two stems emanating from just below the cut main stem. Overall the plants had a yellow green colour, with erect linear leaves to 8cm long. These captured a range of small flying insects (primarily flies, midges and some moths) and the leaf blade is capable of folding over prey. In May the first scapes were produced, which were up to 4cm long with up to five pink petalled flowers which opened in June.



Drosera indica by Robert Gibson. (Scale full size)

Two of the plants died in July without setting any seed. This appeared to have been due, at least in part, to fungus which developed on the plants during a period of wet weather. The other three plants declined in vigour, had few functioning leaves and no scapes but survived to the time of writing (early October), and are now in flower. The plants survived light frost without damage. The small flowers are only open for a few hours, primarily on a sunny morning and freely set seed. The tallest plants have stems to 4cm long and leaves to 7cm long, commensurate in height with the surrounding grass and other herbs. The plants will probably keep growing until the clay soil begins to dry out prior to the resumption of more regular rain in summer.

The key to germinating this species appears to be in exposing them to high temperatures which probably triggers an important survival mechanism. Don Murray (pers. Com. 1992) has found that after soaking the seed in the pot where they are to grow, placing it in a sunny, exposed place and covering it with a piece of clear perspex or glass for three days, the germination rate is greatly enhanced. Plants appear to be adaptable to a range of soil types, given its large natural range. They will grow and flower well if provided with a constant water supply, in a well lit position. It is important to remember that *D. indica* is an annual species, so that individual plants are short lived. However, the advantage is that plants grow quickly to flowering size and produce abundant seed.

A number of attractive forms of *Drosera indica* are becoming available in cultivation. All should grow well in temperate regions, although those from tropical regions may require some protection in winter. Germination can be enhanced by exposure to high temperatures and once growing they are quite capable of looking after themselves.

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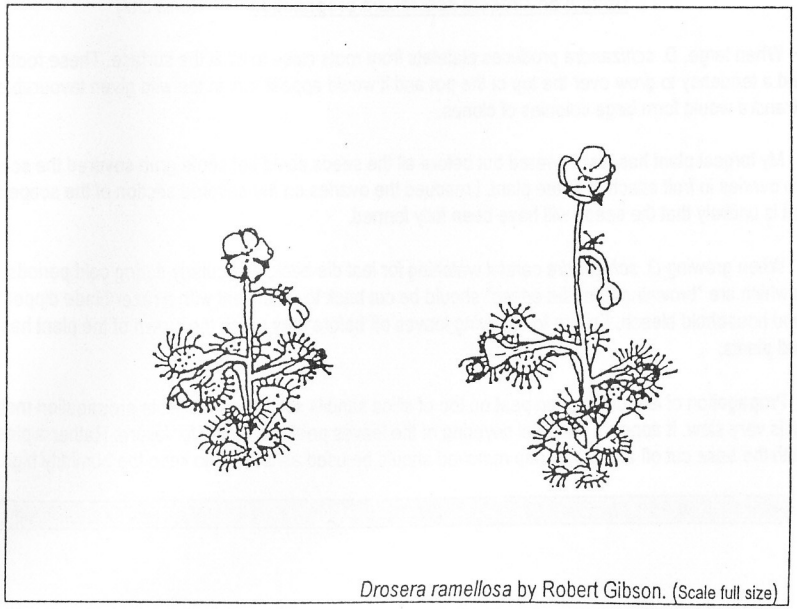
Drosera ramellosa Robert Gibson

Drosera ramellosa is a fan leaved tuberous Drosera endemic to south western Western Australia (Lowrie, 1987). It is a distinctive small species which is easy to cultivate.

Drosera ramellosa emerges above ground in February or March, and produces a basal rosette to 2cm diameter. This is surmounted by one to three inflorescences, to 3cm tall, which develop in mid to late autumn and produce three to fourteen white, or pink petalled flowers. These are open between May and July. Each flower lasts a day and is fully open for a short time around midday and is pendulous in fruit. Up to fourteen black, rough-textured, spherical seeds, 1mm in diameter are produced per fruit and are shed when the plant becomes dormant in September.



Drosera ramellosa by Robert Gibson. (Scale full size)

At the base of two lower stem leaves, on either side of the scape, buds develop which grow into an erect stem. These grow between April and September, reaching up to 9cm long. The alternate fan shaped leaves clasp the stem, perhaps to protect the developing leaves and become progressively smaller towards the apex. Non-flowering plants produce a single erect leafy stem above the rosette and resemble juvenile *D. platypoda* plants.

This species produces daughter tubers in close proximity to the parent tuber. Over time tight clusters of plants are formed.

Drosera ramellosa does not always adhere to the general morphology outlined above. Occasionally a plant may produce a third stem from a bud developed at the base of a bracteole on the scape. Rarely secondary scapes may be produced at a bifurcation near the base of a main stem.

This species grows well in cultivation, in a sandy peat mixture. It does best in a sunny position and provided with water from February, or March, to September. Dormant plants may be periodically repotted to separate tight clusters of tubers.

Overall, *D. ramellosa* is an attractive tuberous sundew, with an interesting growth habit and it is easy to grow.

References

Lowrie, A. 1987. Carnivorous Plants of Australia: Volume 1. University of Western Australia Press, pp 200.

Update on *Drosera schizandra* propagation

Denis Daly

When large, *D. schizandra* produces platelets from roots close to or at the surface. These roots have exhibited a tendency to grow over the top of the pot and it would appear that in the wild given favourable conditions *D. schizandra* would form large colonies of clones.

My largest plant has just flowered but before all the seeds could set some grub severed the scape leaving only two ovaries in fruit attached to the plant. I rescued the ovaries on the severed section of the scape to let it dry out but it is unlikely that the seeds will have been fully formed.

When growing *D. schizandra* careful watching for leaf die back, particularly during cold periods, is essential. Leaves which are "browning from the edges" should be cut back to green leaf with a razer blade dipped in 50% water and household bleach. Failure to cut dying leaves off before they reach the crown of the plant has cost me a few small plants.

Propagation of leaf cuttings on peat on top of silica sand is still the only reliable propagation method found to date but is very slow. It appears that total covering of the leaves peat is a recipe for failure. Rather a plastic drink bottle with the base cut off and screw cap removed should be used as a cover to keep the humidity high.