

THE AIMS OF THE INTERNATIONAL PINGUICULA STUDY GROUP

1. To meet with other collectors of the species and primary hybrids.
2. To exchange information between members and to provide a forum for exchange of information.
3. To exchange seeds internationally to improve member's access to species and to ensure that they are perpetuated in cultivation. International exchange of plant material other than seeds is more difficult as phytosanitary regulations have to be abided by.
4. To encourage the use of botanically correct names or otherwise the use "nomina nuda" until the plant has been adopted as a species.
5. To encourage accurate record keeping including such details as: precise location data, altitude, climate, soil etc., original collector's name if known.
6. To re-introduce to cultivation "lost" Pinguiculas.
7. To encourage the production of new hybrids.
8. To encourage and help the preservation of habitats, in all countries, where the species grow wild.

THE NEWSLETTER

This newsletter will act as the main link between members. It would be desirable if ALL members made a contribution annually either to the 'LETTERS' page, or better still by writing an article. If you need advice on writing for the newsletter then please get in touch! Remember, the newsletter cannot survive without a wide and varied input.

While membership is small it is unlikely that more than two newsletters will be produced each year. Unless this situation changes, a payment of £1 (or \$ equivalent) upon receipt of each newsletter is all that is required to cover costs at this stage. Cheques should be made payable to: R. MUDD and sent with SEED BANK CORRESPONDENCE to RON at HIS ADDRESS; whilst articles, news and views etc should be sent to myself.

I look forward to hearing from you all! STAN.

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INTERNATIONAL PINGUICULA STUDY GROUP

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EDITORIAL

What a response!

Since the formation of the IPSP and the publication of its first Newsletter in April this year we now have a membership approaching 70! This has necessitated reprinting Newsletter 1 on a number of occasions as it was originally estimated that only half this number of people would show interest. However, requests to join continue to arrive in a steady stream through the post. This is as mainly as a result of people learning of our existence by word of mouth. It is really very pleasing that the IPSP has made such an impact so early in its history, so keep on spreading the word! Please remember we produce this newsletter on a shoe-string budget in order to keep costs to you at an absolute minimum, so please don't photocopy it for your friends, suggest that they join us instead!

Straight away, the IPSP has developed an 'international flavour' with several members each from Europe, U.S.A., Japan and Australia and at present a lone enthusiast in S.Africa!. In retrospect, I realise that charging £1 for each issue of the newsletter upon receipt is likely to present problems for overseas members.

I will suggest a few alternatives for overseas members only:
Single payment for a number of issues together in advance, say 10.
Single payment for a number of copies of each issue in advance, which would then be redistributed to other members within that country.

Pen-pal payment of your subscription by a U.K. member on your behalf.

Please notify Ron Mudd if you want to use one of these methods. It is clear that *Pinguiculas* are of interest to a wide range of plant enthusiasts, of course the majority of members already grow other genera of carnivorous plants, but cactus & succulent growers, alpine enthusiasts, orchid connoisseurs, bonsai 'bods' and bromeliad buffs are amongst our recent recruits! If you know people who are involved with these other plant groups let them know about our passion for *Pinguiculas* they may just need something to control their sciarid fly invasions!

Our group is already something special, few other newsletters can boast launching a colour edition within the first year!

We have yet grander plans with our 'Mexican Plant Convention' on 26/27 March 1993 to launch our second year. Details and a booking form appear later in this Newsletter, but you may like to know a little bit more about our principal speaker Alfred Lau, to whom we dedicate this issue. Read on.

STAN LAMPARD.

THE TROUBLE WITH MITES

by CHRIS HEATH

Mites are everywhere, in all parts of the world, and in almost every habitat. Little wonder therefore that several mite species find suitable residence amongst *Pinguicula* species, and associated composts, where they either do no harm, provide benefits, or are plant pests.

The aim of this short piece, on what is an enormous subject, is to describe some of those to look out for, as a guide to identifying the harmless (the Good), and the pests (the Bad). Without a microscope, mite species are difficult to positively identify, so it is only possible to give a general description that can be applied with the use of a hand lens. The Ministry of Agriculture (U.K.) will, by the end of 1992, have completed a card index with photographs and descriptions of commonly found mite species associated with plant cultivation. Details and availability will be printed in the next I.P.S.G. Newsletter.

Too small to be seen without a powerful lens, kills its host and for which there is apparently no cure, - these words summarise the reference to Tarsonemid mites in British author A. Slacks book "Insect Eating Plants and How To Grow Them". It is in this book that they are described as being a pest of Central American and Caribbean

Pinguicula species. The fact that the symptoms of, pale distorted developing foliage and rotting roots and plant centres can also occur in plants not under siege from the harmful mites can cause unnecessary anxiety. The majority of mite species are scavenging, living and feeding in soil and other decaying organic matter, and can therefore be a symptom, rather than a cause, of a plants ill health.

Mites differ from insects in having four, rather than three, pairs of jointed legs, and no clear division between head, thorax and abdomen. Speed of movement can provide a general guide, with mites that hunt and scavenge being faster moving and more active than the generally sluggish plant pests. Many species can be located both underneath, and on the side of the pots, where a uniform background makes them easier to identify. All are difficult to control and, unless positively identified, affected plants should be isolated.

The Good/Harmless

Beetle mites are perhaps most commonly found. So called because of their hard shell, these mites appear round, brown to black and about 0.5 mm. in size. They feed on algae and decaying leaves, on which they are most often found. Also under pots. Scavenging.

Glycyphagus domesticus - Whitish, covered in long bristles, about 0.4 mm. in size. Especially common with house grown plants. Easy to locate on pot sides. Scavenging fungivore.

Hypoaspis sp.- This genus are generally pale straw coloured and approx. 0.8 mm. in size. Some bristles at back of abdomen. Usually on compost. Hunts mites and insects.

Balaustium murorum - Bright red, and at just over 1 mm. long is easy to see. Long forelegs. During certain stages of its life attacks aphids. Hunter.

The Bad/Plant pests

Tetranychus urticae - (Red Spider Mite). Yellow or greenish, turning red in Autumn. 0.5 mm. in size. Covered in short bristles. Most easily identified by fine threads around plants and compost. Sap sucking.

Bryobia sp.- Brick red, about 0.5 mm. in size. Similar to Red Spider, but without bristles, and has longer forelegs. Does not produce webbing. Sap sucking.

Tyrophagus putrescentiae - Pale shiny yellow, about 0.3 mm. Thought to be fungivore, but is a pest of certain higher plants including Pinguicula sp. Located on surface of older leaves and in plant centres.

Tarsonemid sp.- Shiny cream to light brown, usually less than 0.25 mm. Rarely feeds openly on leaves. Located amongst developing leaves. Slow in spreading to other plants, so prompt action can limit damage.

Controls

Specific chemical acaricides are rarely available to the amateur, and are highly toxic. Products include Aldicarb + Lindane, Dicofol + Tetradifon, and Endosulfan. More generally available insecticides appear to be of limited use, and many benefit harmful mites by reducing natural predators, and by altering the nutritional value of the host, which may even increase populations.

Plants displaying ill health should, as a precaution, be isolated, and leaf cuttings taken. These should be thoroughly examined and brushed, and grown in isolation as a reliable way of retaining plant species.

Introducing predators is a possibility, but their generally larger size will incur losses to the active leaves.

Plants grown in soilless composts, such as mixtures of vermiculite, perlite, sand and tufa can be expected to harbour fewer mite species as a result of a reduced food source.

Thanks to Dr. Ann Baker of the Natural History Museum for her help in identifying mite species.

Reference:

The Collins Guide to Pests, Diseases and Disorders of Garden Plants.

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AS WE LEARN MORE ABOUT THE CULTIVATIONAL REQUIREMENTS OF OUR PLANTS IT IS VERY IMPORTANT THAT FAILURES AS WELL AS SUCCESSES ARE REPORTED, IN ORDER THAT WE CAN ALSO UNDERSTAND WHICH PESTS AND DISEASES ARE IMPORTANT. IF YOU HAVE FAILED TO GROW A SPECIES PARTICULARLY WELL, OR HAVE ANY GENERAL PROBLEMS DO NOT HESITATE TO LET US KNOW - THE KNOWLEDGE MAY HELP EVERYONE ELSE.!

ALFRED LAU.

Those that already know Alfred agree that he is a most remarkable man! He has spent the last thirty six years living in Mexico near the town of Cordoba in the state of Vera Cruz using a place known as Fortin de las Flores as a base from which to carry out his life's work. Along with his wife, Anni, this has been to provide a home for native Indian boys from far flung villages. The boys come to live with Alfred and Anni, with the blessing of their parents, so that they can attend school, gaining an education that would otherwise be denied them as there is no state provision for villagers in remote areas of Mexico. Alfred Lau's Boys Home is supported entirely by charitable donation.

Why Mexico? Living in such a vast country which is so rich in natural treasures has enabled Alfred to indulge a life's passion for plant hunting and botanical research. Each year, during school holidays, Alfred has undertaken at least one major expedition into remote virgin territories, accompanied by volunteers from amongst the boys in his charge.

Under his guidance, generations of Indian boys have experienced the thrill of travel and have learned an immense amount about the workings of the countryside and how to respect it. Long before the principles of conservation had become widely appreciated, Alfred was instructing his boys in the value of natural vegetation and how it should be preserved against fire and deforestation in order to avoid soil erosion, drought and the poverty that follows. Alongside the instruction of his charges, the second motive behind these expeditions has been discovery! Alfred has tirelessly searched for plants, principally cacti, throughout the wild lands of many Mexican States and beyond both into the U.S.A and South America; discovering dozens of new species, sub-species, and varieties, as well as finding new localities for species already known to science. Though aged 63 - 'chronologically gifted' some would say, he has the stamina of a man of 30. Consequently, his searches have always been just that little bit more exhaustive than those of his contemporaries in the field, accounting for his greater successes.

Alfred has not kept these discoveries to himself, instead he has collected seed from plants in habitat for distribution to Botanical Institutions and Horticultural Societies throughout the World, with the result that his discoveries have enriched the lives of us all. Recently, he has come under scrutiny by SEDUE, the official Mexican conservation organisation, following criticism of his seed collecting activities. However, it is widely acknowledged that the collection and distribution of seeds is far less damaging to natural plant populations than the wholesale removal of plants, which has so often been carried out for commercial gain by a few greedy individuals. Indeed, the propagation of plants from seed is specifically encouraged by CITES, so long as natural populations are not small or already threatened, as it greatly reduces demand for habitat material. In spite of this recommendation, the Mexican authorities have frustratingly imposed a universal ban upon seed collection, as well as plant collection, from habitat. In the mean-time, in co-operation with

SEDUE, Alfred is cataloguing the many thousands of plants in his own collection, from which he will then be able to continue to produce seed, by controlled pollination, for distribution abroad. This compromise will cause Alfred a great deal of extra work but may be the only way of ensuring the continued survival of plants in cultivation (-and who knows, ultimately in habitat too. Although this will depend upon very rigorous safe-guard of natural populations which hopefully will not be too expensive to be effectively implemented.).

Alfred has publicised his work with the Indian boys, as well as his botanical studies, by engaging himself in a number of Lecture Tours, during which he has shared his vast knowledge and enthusiasm with many thousands of people - World-wide. Alfred illustrates all his lectures with breath-taking slides of plants situated in habitat, very often taken when they are in flower. Certainly, the slides I have already seen of Butterworts and Cacti are quite magnificent, whilst those he has shown of Tillandsias have been met with great acclaim on his tours of Europe and Australia! We are greatly privileged that his 1993 tour will include a 'Mexican Plant Convention' in Birmingham U.K. on 26/27 of March. The programme for this convention is printed elsewhere and as you will see, it reflects the incredible diversity of Alfred's knowledge. This, in combination with displays of cultivated plants by specialist societies, nursery stands and a 'Mexican Buffet', represents exceptional value at £12! All profits from this occasion will of course be donated to Alfred and Anni's Boys Home.

I would like to encourage you to participate, whatever your specialist interests, and urge you to respond promptly by completing the Booking Form and returning it to me with your cheque.

Stan Lampard

SEED BANK

Unfortunately donations to the seed bank have been very slow. However the following seeds are available :

<u>P.alpina</u>	<u>P.agnata</u>	<u>P.grandiflora</u>
<u>P.laueana</u>	<u>P.leptoceras</u>	<u>P.pumila</u> var. <u>buswellii</u>
<u>P.vulgaris</u>	<u>P.gypsicola</u>	<u>P.planifolia</u>
<u>P.grandiflora</u> pallida		<u>P.'Kirkbright'</u>

THE DISCOVERY OF *Pinguicula laueana*.

Mr. A. LAU. Vera Cruz.

In 1973, during the drier Winter season, several of my Indian boys, two young Austrians, and Mrs. Ruth Ritter, from Hamburg, Germany, set out to explore a new dirt road which was still under construction, from Mitla to Ayutla and on to Zaragoza in the Mixe highlands. After passing Tamazulapan, the road wound through several deep canyons with extremely interesting plant populations, at an altitude between 2300-2400 metres above sea level.

The first surprise was an epiphytic cactus, then known as *Pseudonoalxochia konzattianum*, now called *Epiphyllum konzattianum*, in full bloom! The large, light rose-purple blossoms of this most attractive species could be seen from quite a distance, adorning the tree tops in their thousands in the one-time untouched virgin forests. We drank in the beauty, knowing then that these large areas of natural vegetation would not remain preserved for much longer in the face of the population explosion, carelessness and greed.

We later continued our journey to the end of the dirt road, without encountering anyone for hours. In front of us loomed the beautiful peak of Cerro Zempoatepetl, about 3000 metres high and mostly wooded. Mrs. Ritter, who was even then going on in age, yet retaining a great sense of humour, volunteered to prepare a breakfast of 'mush' while the rest of us went on to explore. I hated leaving her there alone and told her to shout for help if she was troubled by anyone. She of course told us not to worry. The climb was steep and the humidity very high, though this seemed not to matter as we enjoyed many new experiences. There were strange looking begonias, ferns, and an unusual yellow moss that I had never seen before, covering the rocky areas of this strange looking landscape. Bearing in mind that Zempoatepetl was an active volcano many years ago, the rock formation is of basalt. I was heading for the southern faces which were clothed with pine trees, though spaces were left allowing light to filter through on to a carpet of whitish lichens, like small clouds, amongst the bamboo, grasses and moss.

Suddenly, I saw something blood red shining through the moss cover. Closer inspection revealed it to be the flower of the only true-red *Pinguicula* I had ever seen! At that time I did not realise that this was a new species of Butterwort nor indeed that many others had yet to be discovered or described! It was only after I met Dr. Fuchs of Linz, Austria, in connection with an IOS Congress in which I was participating, that I became

aware of these facts. The slides I had taken of the new *Pinguicula* from 'Sierra Mixe' caused Dr. Fuchs great excitement! Years later, he kindly described it in my honour as *Pinguicula laeana*.

My attention was drawn to the area initially by the sight of a marvellous specimen of a new species of *Beschorneria*. As we still contemplated this exotic beauty, there was a shout from the road far below us. As the clouds were moving in, I could not see Mrs. Ritter or the car. I shouted at the top of my voice "Is anybody bothering you?" I thought I heard her reply "And how!" We all scrambled down the mountain, falling head over heels as we took the quickest but steepest route, jumping fallen trees, sliding, falling again... we eventually reached the dirt road, breathless and badly scratched. There, calmly sat upon a tree trunk near the car, was Mrs. Ritter, with plates of steaming porridge laid out on a clean cloth. "Who bothered you?", we insisted. "Bother, nothing! Breakfast is ready!" With the excitement over, we sat down, much relieved, to eat our meal. Mrs. Ritter died in Hamburg on October 15th 1991. She stayed with us for 16 Winters and we miss her presence greatly. She had become something like an institution at our home. She was 78.

Earlier this year we endeavoured to return to the site of *P. laeana*. It was more cumbersome this time due to unusual Winter rains. We travelled to Tuxtepec, up to the jungle road to Oaxaca and then continued to Ayutla. Here they were holding their annual fiesta in honour of Sr. John and Sr. Paul so the town was crowded with Mixe and Zapoteco Indians.

When we eventually reached Cerro Zempoatepetl it was a great relief to find the mountain vegetation mostly intact even after 18 years, few trees had been felled and it seemed that most of the Butterworts were in flower! The weather that day was glorious, providing ideal conditions for photography. With Kodachrome 25 the quality of the resulting pictures is superb; they will be shown publicly for the first time at the "Pinguicula Convention" at Birmingham, England, in March next year. Seeds collected at this time have been successfully germinated by Stan Lampard and plants should soon adorn the collections of many.

Our road to Zaragoza enters a deep steep sided gorge where, on our last visit, Marciano, one of our Huichol Indian boys, spotted another *Pinguicula*, this time with beautiful white flowers; unfortunately far out of reach so further inspection will have to await our return someday with proper climbing equipment.

Who can tell what other jewels await future discovery?

A. LAU.1992.

Letters

Helmut Kibellis, N.S.W.. Australia writes :

"I made an interesting observation last year when I checked on a plant of *P. x Tina* (*agnata x zecheri*). I found that a leaf had been attacked and shredded into small pieces, some only 5-10mm, which lay scattered on the surface of the compost of peat/sand. After finding and removing the grub I just left the pieces of leaf on the surface of the compost. Four or five weeks later little plantlets had developed from most of these pieces. Until that time I had only attempted to propagate this and other plants by conventional leaf cuttings with the petiole placed in sphagnum. Admittedly *x. Tina* is easy and prolific, but unfortunately the "bits and pieces" method has not worked on any other species tried so far."

Tom Kahl, Seattle, U.S.A. writes:

"I received some plantlets of *P. antarctica* from Randy Lamb while he was in Chile on the Chiloe Islands. Seeing as the plant is a native from 44 latitude South I thought it should do well here in the Pacific Northwest. I treated it like any of the S.E. U.S. *Pinguiculas*, planting it in a mixture of equal parts peat: vermiculite : quartz sand. Randy said it grew in straight peat in the wild.

In Winter it does not form a hibernaculum, but it does get smaller and more compact. I haven't been successful with cuttings yet, but the seed produced seems good remaining viable after a year of storage. Stratification is not needed prior to germination. The flowers on these particular plants did not seem to open fully, but were self-pollinated easily."

Chris Heath, London, England has turned up some interesting data regarding climate in the region of Acapulco, Mexico:

	J	F	M	A	M	J	J	A	S	O	N	D
upper temp.C.	29	31	31	31	32	32	32	32	31	31	31	31
lower temp.C.	21	21	21	22	23	24	24	24	24	23	22	21
rainfall (in.)	0	0	0	0	2	9	7	7	12	6	0	0

Cool, dry Winters, hot, wet Summers for *P. zecheri* and others!

SOME NOTES ON MEXICAN PINGUICLAS.

J. VAN MARM. NEUHAUS. GERMANY &
S.E. LAMPARD. BIRMINGHAM. ENGLAND

Introduction

With the publication and description of many new species of Butterwort from Mexico, our knowledge of the genus has expanded greatly. However, during the past 20 years, many new varieties of plant have entered cultivation in advance of proper scientific evaluation, with the result that considerable confusion exists regarding a number of named plants. In this article, which is bound to be the first of many, Johan Van Marm and I attempt to shed some light on several examples of this problem.

Pinguicula moranensis :

Casper describes this 'species' as occurring over a very widespread area where it is represented by many forms. In attempting to elucidate this complex, working principally from dried herbarium material, he failed to recognise a considerable number of taxons that have since been proposed as separate species. Geographically, the Mexican highlands form a complex matrix of widely varying substrata and climatic conditions, rather than a vast, uniform continuum. Therefore, it would be most surprising if the vegetation were to have clothed this land uniformly. Instead, it would be expected that indigenous plant families would have undergone rapid evolutionary divergence as new areas became colonised. Each founding population, likely to be small and isolated initially, would experience rigorous selective pressure until it reached a position of 'adaptive fitness' to its own peculiar ecological niche.

In all probability, the 'pure' form of *P. moranensis* is likely to be limited to a much smaller area, perhaps showing 'transitional forms' between recently acknowledged species, such as *P. zecheri*, *potosiensis*, *rectifolia*, if localities approach or overlap.

The erection of new species can be justified if distinctive populations are effectively 'reproductively isolated' from others; that is to say, they do not liberally hybridize, even if they are sympatric. This criterion is difficult to establish without observation in the field. It is heartening that the new generation of plant taxonomist is doing just this; whilst others are making detailed botanical descriptions from living material under cultivation, so that each stage of the lifecycle can be observed.

The resurrection of old species names, after a period of submergence with other under such terms as the 'moranensis complex', is a very different proposition. Here the issue is dependent upon the accuracy and detail of the original descriptions for such species, which, in many instances, were made during the last century! We refer to two examples:

P. orchidioides :

Described by De Candolle in 1844, but in such vague and general terms that many plants would fit appropriately. However, the location is specified as around the San Felipe area and it is hoped that exploration of this locality might resolve the issue. Meanwhile, the several different plants circulating under the above name should be reduced to status of 'horticultural origin', in a manner similar to *P. caudata*. As with the latter, they are worthy clones and should not be totally disregarded.

P. flos-mulionis :

Here we have a similar problem, which Casper side-stepped by lumping it with *P. moranensis*, out of sheer frustration I suspect! However, the original drawing does show certain 'distinctive floral characteristics which suggest an alliance with *P. hemiepiphytica*, a species recently described in thorough detail by Zamudio & Rzedowsky. It is the opinion of these authors that the floral characteristics are sufficiently unique for a new section to be erected within the genus. The flowers of plants in the section 'Longitubus' possess spurs which are wide mouthed and taper gradually to the apex.

Mr. Rzedowsky has expressed the intention to explore the published locality for *P. flos-mulionis*, said to be within the Macho Pass, in order try to resolve this dilemma.

Two other very similar plants have entered horticulture under the names of *P. colimensis* & *P. Oaxaca*. The former bears no resemblance to the description of that taxon nor indeed to plants collected at the type locality. The latter has no formal description nor is it accompanied by any locality data other than the obvious fact that it comes from the state of Oaxaca - along with half the other Mexican Butterworts! We are of the opinion that these dubious taxa should be closely compared with *P. hemi-epiphytica*, when the latter is available, as it seems probable that they are all one and the same.

The following two examples illustrate different problems.

P. heterophylla / *P. 'Alfredae'* :

Both of these plants have erect linear leaves which are similar to those of *P. gypsicola*, though the flowers of the latter are quite different, resulting in its taxonomic position along with *P. moranensis* and its allies, in the section *Orcheosanthus* rather than *Heterophyllum*. The 'Winter' rosettes of *P. gypsicola* are also quite different from the resting buds of *P. heterophylla* and others in the same section, suggesting that the similarity of the carnivorous 'Summer' leaves has arisen through evolutionary convergence.

The current debate is whether or not *P. 'Alfredae'* is a form of *P. heterophylla*. Insufficient living or preserved material is available for each in order to decide; a situation no doubt due to the short-lived nature of these plants in cultivation.

Fortunately, photographs of both plants in habitat, taken by Mr. A. Lau, have recently come to light. These, in combination with personal communication between Mr. A. Lau and Johan Van Marm suggest that they are indeed distinctive sub-species if not species.

The photographs of *P. heterophylla* show plants with pale pink flowers flushed darker cerise pink at the edges, the plants are said to be larger than *P. 'Alfredae'* which has pure white flowers. Furthermore, *P. heterophylla* grows at an altitude of 3000 metres, in cool, damp, shaded conditions, on eroding granitic slopes; whilst *P. 'Alfredae'* purportedly grows in more exposed sunny positions at lower altitudes, around 1700 metres, on gypsum! Whilst it is true that such differences in habitat, particularly light intensity and climate, might be responsible for differences in size, it is unlikely for a single species to be equally at home upon granite or gypsum, two substrates with markedly differing pH values. A further remarkable feature of *P. 'Alfredae'* that makes it quite distinctive, is its tendency to propagate itself asexually by producing buds at the very tips of the leaves, a phenomenon observed both in cultivation and the wild.

Again, this confusion can only be clarified by further investigation in the field, perhaps coupled with experimental investigation of substrate preferences in the controlled environment of a greenhouse.

P. esseriana / *ehlersae* / *cyclosecta*

The first two named are superficially similar members of the section *Crassifolia* which have small, compact leaf rosettes throughout the year, though they they expand and become

more open in the growing season. Individual leaves are quite thick and succulent with distinctive, upward rolled margins, which contrast in colour and texture with the upper leaf surface.

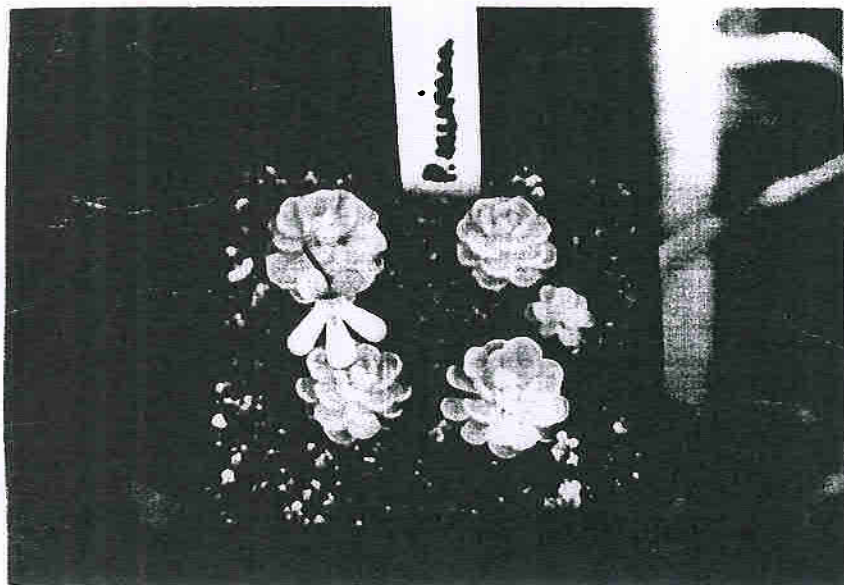
In *P. esseriana* the margin is smoothly semi-circular in outline and chalky white in colour, defining each leaf edge beautifully against the leaf surface. This varies from pale lime green to coppery pink, depending on exposure to light.

The leaves of *P. ehlersae* show certain subtle differences. Firstly, the leaves of the resting rosette do not have the pronounced rolled margin, instead, the edge is more or less flat and the leaf thickly spatulate, rather than 'spooned'. The actively carnivorous leaves, which are produced in the wetter growing season, do roll at the edge, though the semi-circular outline is frequently disrupted by a kink at the apex. These details are best appreciated from the photographs. The rolled margin is like the underside, pale green in colour & with little hint of chalkiness. However, the contrast with the upper leaf surface is no less than in its near relative, due to the more intense deep coppery pink that develops.

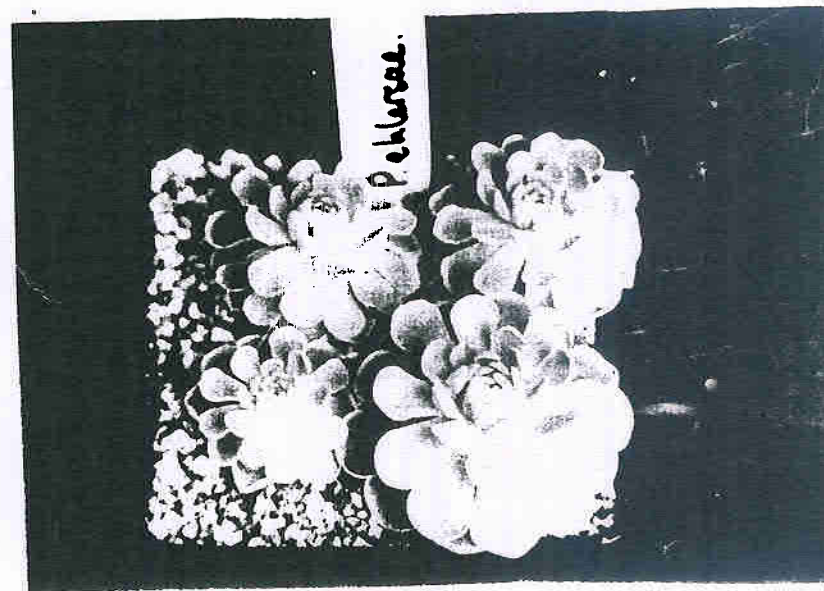
Once these two species are in flower, they cannot be confused. Both species flower early in the year, often sending up the first of many blooms from the resting rosette. *P. ehlersae* will produce a profusion of rich mauve blossoms comprising full, rounded petals that are arranged as a flat face. The lower lip has a pronounced pale cream blotch on the middle of the three lobes, signalling the entrance to the spur, above which is located the rather inconspicuous stigma.

P. esseriana flowers less abundantly, and the blossoms are less showy, the petals being pale lilac, with lobes less rounded and longer than wide, leaving a larger gap between the upper bipartite and lower tripartite petals. Viewed from the side, the petals are arranged as a shallow cone. The lilac colour of all petals pales toward their point of union, just before the spur entrance, where it is replaced by pale green. The stigma lobe is more heavily pigmented, giving the face a narrow purple 'eye'.

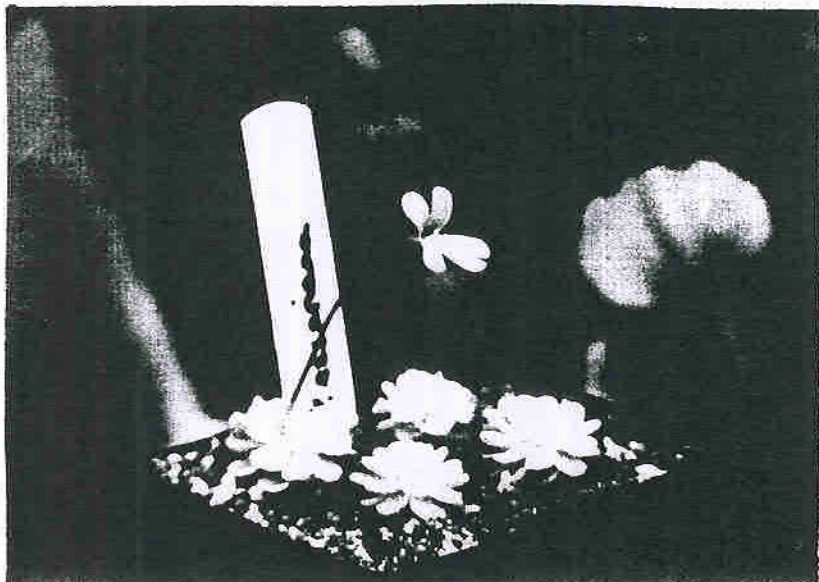
There is no doubt that a number of other similar plants exist, along side the two above, in the section *Crassifolia*; such as *P. jaumavensis*, a species recently described by Debbert. The question is, where does *P. cyclosecta* fit in to all this? The answer, quite simply, is that it doesn't! Though the flower is superficially similar to that of *P. ehlersae*, there are few other common features. *P. cyclosecta* belongs in the section *Orcheosanthus* and does not have the thick succulent leaves so characteristic of the growth phase of plants in the *Crassifolia* section. How, then, have the plants become so confused in horticulture, where plants labelled as *P. cyclosecta* invariably



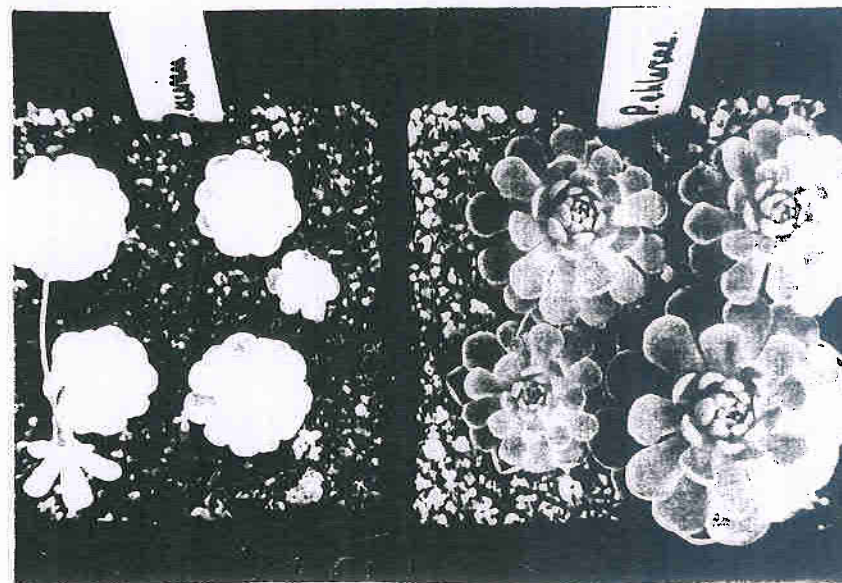
P. esseriana - rosette and flower



P. ehlersae - summer rosette



P. esseriana - rosette and flower



P. esseriana and P. ehlersae

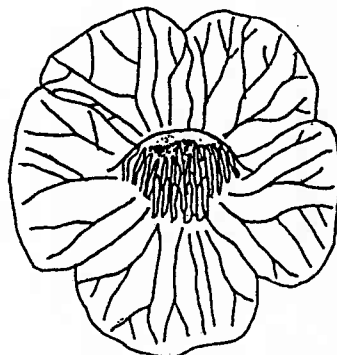
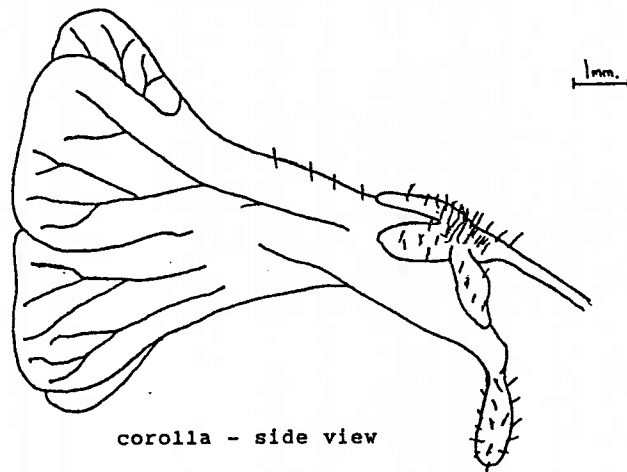
RON MUDD

turn out to be *P. ehlersae*? It seems that all these plants can be traced to one source which has offered plants, to both retail and wholesale customers, after having multiplied a wrongly identified specimen in immense quantity, by micropropagation. This plant is also easy to propagate by conventional methods, with the consequence that it has been spread almost universally throughout carnivorous plant collections, even turning up at Kew and Edinburgh Botanic Gardens - under the wrong name!

Alas, the true *P. cyclosecta* has apparently been lost from cultivation, though it is apparently still locally abundant in habitat, according to the recent photographic records of Mr. A. Lau. How long it will remain so is open to question!

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Pinguicula reticulata - see article over page



Since our first Newsletter, many people have written asking about P. reticulata, which appeared as the emblem of the I.P.S.G. I hope that I can briefly answer a few of those questions.

P. reticulata was described by Jan Schlauer in 1991. It appears, from his article, that plants had been passed around for quite a number of years as P. kondoi (a different species). According to Schlauer, Motschenbach was the first to question this, and sent plants to Casper, who, upon examination of the living material, agreed that, quite possibly, Motschenbach had a new species.

The plant was named from the latin reticulum (= net), because of the obvious and (to date) unique coloured veination of the petals. The corolla is white with violet veins. The throat is yellow and contains many long hairs. It truly is a beautiful flower. The summer and winter rosettes are slightly different in size and number of leaves. The species belongs to the Section Heterophyllum Casper.

In cultivation my plants seem to enjoy growing in expanded clay pebbles with the roots extending down into a mix of perlite and vermiculite. My plants have flowered for the first time this year, and one has recently produced its sixth flower (Oct '92). So far efforts to produce seed have failed, and it may well be that two different clones are

required. The leaves are extremely succulent in appearance and with a petiole and leaf blade of almost same length. The blade appears very rounded. Upon repotting, initial growth seems very straggly, but as the plants settle in they appear to 'burrow' down into the pebbles, with the effect that the rosettes appear to become tighter in growth. Perhaps this habit accounts for the long petiole, (or perhaps I am growing in too 'soft' a growing medium!). Left undisturbed new plants appear from the base of the rosette and I would recommend that these are detached as soon as roots are formed, as the new plants become very long and thin as they struggle to reach the light above the parent plant. This has the effect of weakening the young plant. This can be done by careful use of a small paintbrush, with minimal disturbance to the parent plant. I allow the new plants to grow a good root system in moist perlite before transplanting into the pebbles.

I would dearly like to hear from anyone who grows this species, especially if the history of their plant is known, and also from anyone who has knowledge of how this plant originally came into cultivation. The confusion between this species and P.kondoi does mean that, unfortunately, a great number of people are growing P.reticulata as P.kondoi. However I feel sure that someone, somewhere is growing P.kondoi and has seen it flower, thus confirming its identity. Confirmation of this would be greatly appreciated by the I.S.P.G.

RECENT PUBLICATIONS

Pinguicula villosa The Northern Butterwort. Randy Lamb. Carnivorous Plant Newsletter Vol 20, No.3 Sept.1991. 73-77.
An authoritative article covering the morphology of this species and its distribution in Canada. Included are two b&w and two colour photos as well as distribution map and climatic data upon which helpful comments regarding cultivation are based.

Pinguicula vulgaris along the early Alaska pipeline. Randy Lamb. Following the above article in the same publication by the same author, a story of fortuitous colonisation by a butterwort of an artificially created habitat.

Pinguicula debbertiana, a further new species from Mexico. F. Speta & F. Fuchs. Linzer biol. Beitr. 24/1 375-380, 17.7.92
A new species of the section *Crassifolia* is described. It is probably closely related to *P. esseriana* and *P. jaumavensis*.

Pinguicula 'Gina' - a new decorative CP
Miloslav Studnicka. C.P.N. Vol 21, No.1&2 June 1992.
A short article describing a new hybrid between *P. agnata* & *P. zechari*.

Interesting succulent features in the *Pinguicula* species from the Mexican evolutionary centre. Miloslav Studnicka. 1991.
Folia Geobotanica et Phytotaxonomica 26:459-462 inc Pl. 10-13.

Seventy-five years ago: *Pinguicula caudata*. R.E. Arnold.
The Orchid Review, Vol 100 no. 1180. Feb 92, p.60.

Does *Pinguicula bohemica* exist? Studnicka, M. and Hejny, S.
Carnivorous Plant Newsletter, Vol 21, no.3 Sept 1992. 64-67.

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Dear Fabien,

I have agreed an exchange of periodicals between IPSC & DIONE with Serge Lavayssiere and enclose photocopies of IPSC NEWSLETTERS 1&2 for the library of DIONE. Serge will provide copies of Newsletters 3 to 6 and you will receive copies of all future issues direct from me.

I am sure our members will enjoy access to each other's publications, and hope that it may also lead to the recruitment of new subscribers for both groups.

Kind regards,

Stan Lampard