

# "CORRECTIONS TO THE WORLD CARNIVOROUS PLANT LIST"

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Due to some confusion between the author and the CPN editorial team some misprints occurred in the world carnivorous plant list (CPN 15(3-4):63-113). Here come the necessary corrections and additions.

The author thanks all who wrote with questions and remarks, especially Mr. J. Marabini, Germany, Mr. P. Mann, Australia, Mrs. S. Determann, USA, Mr. Bill Hanna, Australia, and Mr. S. Hugentobler, Switzerland.

The list is stored on a computer and permanently updated. Those interested in the most actual version (the whole list) may obtain it in return for printing and mailing (!) costs (Europe = US - \$6, Overseas (airmail) = US - \$ 10) from the author.

## LITERATURE CITATIONS:

### Corrections:

The "Steyermark 1985" article doesn't exist. (I have sent you the correct citation with my second literature listing - it was thought as a correction of, not an addition to the "1985" citation !)

The name of the **Triphyophyllum** family is **Dioncophyllaceae**, not **Dinocophyllaceae**.

The correct Taylor (1977) citation must go:

Taylor, P. (1977): *Lentibulariaceae. Fl. Malesiana, Djakarta, ser. I* 8(2):275-300.

The correct *Index Londinensis* citation:

*Stapf. O. (1929): Index Londinensis to Ill., Kew.*

### Additions:

Fromm-Trinta, E. & Taylor, O. (1985): *Genlisea pallida, nov. esp. gen. Genlisea, Bradea* 4(27):176-179.

Joseph J. & Mani, J. (1983): *Utricularia khasiana nov. spec.*, Bull. Bot. Surv. India 25(1-4):192-194.

Ruiz, J. & Rzedowski, J. (1986): *Three new Pinguicula spec. of Mexico*, Phytologia 60(4):255-263.

Subramanyam, K. & Yovanarasimhan, S.N. (1981): *A new species of Utricularia from Bangalore distr., Karnataka*, J. Ind. Bot. Soc. 60:123-127.

## LIST CORRECTIONS:

### Darlingtonia TORR.

*D. californica* TORR. CALIF., OREGON USA

### Heliamphora BENTH.

*H. heterodoxa* STEYERM. var. *glabra* MAGUIRE = *heterodoxa* STEYERM. f. *glabra* (MAGUIRE) STEYERM.

*H. neblinae* MAGUIRE var. *viridis* MAGUIRE = *tatei* GLEASON var. *neblinae* (MAGUIRE) STEYERM.

*H. tatei* GLEASON var. *macdonaldae* (GLEASON) MAGUIRE = *tatei* GLEASON f. *macdonaldae* (GLEASON) STEYERM.

## SARRACENIA L.

- S. adunca* SM. = minor WALT.  
*S. X catesbaei* ELLIOTT = flava L. X purpurea L. VA., NC., SC., GA., FLA., ALA. USA  
*S. flava* L. var. *rugelii* SHUTTLEW. & MAST. = flava L.  
*S. X georgiana* HORT. BONST. = (purpurea L. X (purpurea L. X rubra WALT.)) X (minor WALT. X purpurea L.)  
*S. gronovii* WOOD var. *rubra* WOOD = rubra WALT.  
*S. X illustrata* HORT. EX NICHOLS. = flava L. X (flava L. X purpurea L.)  
*S. jonesii* WHERRY = rubra WALT. ssp. *jonesii* (WHERRY) WHERRY/rubra WALT. ssp. *wherryi* (CASE & CASE) SCHNELL  
*S. X kaufmanniana* HORT. BONST. = (purpurea L. X rubra WALT.) X purpurea L.  
*S. X laschkei* HORT. HEFKA = (purpurea L. X psittacina MICHX.) X (flava L. X leucophylla RAF.)  
*S. X mandaiana* HORT. PITCHER & MANDA EX MAST. = leucophylla RAF. X flava L.  
*S. X 'Marston Mill'* HORT. = (leucophylla RAF. X (flava L. X purpurea L.)) X flava L.  
*S. X melanorhoda* HORT. VEICH EX NICHOLS. = (purpurea L. X flava L.) X purpurea L.  
*S. X sanderæ* NICHOLS. = leucophylla RAF X (flava L. X minor WALT.) X purpurea L. ) ?  
*S. X sanderiana* HORT. SANDERS EX NICHOLS. = leucophylla RAF. X (leucophylla RAF. X rubra WALT.)  
*S. X stevensii* HORT. EX MAST. = flava L. X purpurea L. (STEVENS)  
*S. X swaniana* HORT. EX NICHOLS. = minor WALT. X purpurea L. NC., SC., GA., FLA. USA  
*S. X umlaufiana* HORT. HEFKA = (purpurea L. X psittacina MICHX.) X (leucophylla RAF. X psittacina MICHX.)  
*S. X vetteriana* HORT. HEFKA = (flava L. X (purpurea L. X flava L.)) X (flava L. X purpurea L.)  
*S. X vittata* (maculata) HORT. EX NICHOLS. = purpurea L. X (purpurea L. X rubra WALT.)  
*S. X vogeliana* HORT. HEFKA = (purpurea L. X psittacina MICHX.) X (flava L. X purpurea L.)  
*S. X willisii* HORT. VEITCH EX NICHOLS. = (purpurea L. X psittacina MICHX.) X (purpurea L. X flava L.) X purpurea L.)  
*S. X willmottæ* HORT. BRUCE = (flava L. X purpurea L.) X purpurea L.

## Cephalotus LABILL.

- C. follicularis* LABILL. W AU

## Drosera L.

- D. compacta* EXCELL & LAUNDON = bequaertii TATON  
**D. dielsiana** EXCELL & LAUNDON S AF  
*D. X henryana* HORT. nom. nud. = capensis L. X aliciae HAMET  
*D. X hybrida* MACF. = filiformis RAF. X intermedia HAYNE NJ. USA  
*D. incisa* A. RICH. = *Utricularia incisa* (A. RICH.) ALAIN  
**D. kaieteurensis** BRUMM.-DING. GUY.  
*D. X 'linthulata'* KUSAKABE = linearis GOLDIE X spatulata LABILL.  
*D. triflora* COL. = spatulata LABILL.

## Nepenthes L.

- N. X *behnickii* HORT. BONST. = (northiana HOOK. F. X maxima REINW.) X maxima REINW.) X (northiana HOOK. F. X maxima REINW.) X maxima REINW.)
- N. *macfarlanei* HEMSL. MALAYSIA
- N. X 'Mino'o' HORT. = *ventricosa* BLANCO X (*sanguinea* LINDL. X *Khasiana* HOOK. F.)
- N. *mossis* DANSER BORNEO
- N. X 'Nagoya' HORT. KONDO *variegata* HORT. = (northiana HOOK. F. X maxima REINW.) X *thorelii* LECOMTE (TOYOSHIMA)
- N. *nephelophyllum* HORT. = ?
- N. X *neufvilliana* HORT. BONST. = (northiana HOOK. F. X maxima REINW.) X maxima REINW. / *mirabilis* DRUCE X (*gracilis* KORTH. X *khasiana* HOOK. F.)
- N. *pitcheri* HORT. EX MILLER = (*mirabilis* DRUCE X (*rafflesiana* JACK X *ampullaria* JACK) X (*gracilis* KORTH. X *khasiana* HOOK. F.) X (*rafflesiana* JACK X *ampullaria* JACK) (PITCHER & MANDA)
- N. *rafflesiana* JACK var. *glaberrima* HOOK. F. = *rafflesiana* JACK
- N. *tobaica* DANSER SUMATRA = *reinwardtiana* MIQ.?
- N. *tomentella* MIQ. = *albomarginata* LOBB EX LINDL.
- N. X 'Tsujiimoto' HORT. = (*sanguinea* LINDL. X *khasiana* HOOK. F.) X (*mirabilis* DRUCE X (*rafflesiana* JACK X *ampullaria* JACK) (TAKARAZUKA)
- N. *veitchii* HOOK. F. BORNEO = *maxima* REINW.?

## Genlisea ST. HIL.

- G. *pallida* FROMM-TRINTA ♂ P. TAYLOR ZAM.
- G. *uncinata* P. TAYLOR ♂ FROMM-TRINTA BRA.

## Pinguicula L.

- P. *barbata* RUIZ & RZEDOWSKI MEX.
- P. *emarginata* RUIZ & RZEDOWSKI MEX.
- P. X 'mola' WEINER nom. nud. = *moranensis* H.B.K. X *gypsicola* BRANDEG.
- P. *ramosa* MIYOSHI EX YATABE JAPAN
- P. *ramosa* MIYOSHI EX YATABE f. *albiflora* KOMIYA & SHIBATA = *ramosa* MIYOSHI EX YATABE
- P. X *sethos* WEINER nom. nud. = *ehlersae* SPETA & FUCHS × *moranensis* H.B.K.
- P. *takakii* RUIZ & RZEDOWSKI MEX.
- P. *vulgaris* L. f. *albida* (BEHM) NEUMANN N BOREAL

## Utricularia L.

- U. *acicularis* SOLAND. EX STAPF = *bisquamata* SCHRANK
- U. *benthamii* P. TAYLOR W AU
- U. *cheiranthos* P. TAYLOR N AU
- U. *circumvoluta* P. TAYLOR N AU
- U. *corynephora* P. TAYLOR BURMA, THAIL.
- U. *delicata* KAM. = *bisquamata* SCHRANK
- U. *determannii* P. TAYLOR SUR.
- U. *garrettii* P. TAYLOR THAIL.
- U. *khasiana* JOSEPH & MANI INDIA
- U. *nivea* VAHL var. *caerulea* VOIGT = *caerulea* L.
- U. *perminuta* F. MUELL. = *violacea* R.BR.
- U. *rehmannii* KAM. = *bisquamata* SCHRANK
- U. *reticulata* SENSU VOIGT = *polygaloides* EDGEW.

See corrections on page 103

they are supposedly developed from airspace derived root-floats. In fact, *Utricularia* bladders only operate when full, or very nearly full, of water. Air occurs largely as an artefact, introduced when plants are taken out of their aquatic environment (Lloyd, 1942).

Further, we are confronted with the root float origins of the *Utricularia* trap. Surely, everyone knows that *Utricularia*, like *Aldrovanda*, has *no* roots! Even the most basic textbooks of botany (Metcalf and Chalk, 1961) admit that from the seed onwards, no root is ever differentiated in *Utricularia*. This is the most fundamental of errors conceivable in homology. Whether or not a *Pinguicula* ever developed root floats (it seems most unlikely that they were so 'very advantageous', for if they were, surely some of the present day ones would possess them!) and supposing for a moment that in some ancient *Pinguicula* these root floats did develop into animal traps, it is certain that such were *not* the ancestors of *Utricularia* where the traps are stem-leaf derived.

Next, we must deal with Snyder's monumental fallacy concerning the operation of the *Utricularia* trap. Leaving aside his antedeluvian beliefs in air-filled, floating, root-derived traps, we must now face his view that "Mutations ... gave the bladders the ability to alter turgor pressure in some of its cells when touched. Cellular turgor is controlled in the plants phototrophic response to make possible the ability to bend toward the light. When this became relocated to the walls of the bladders, the bladders could warp and produce a vacuum [negative pressure] in the trap." This is simply not true (cf. Fineran, 1985; Lloyd, 1942). The negative pressure in the trap is caused by the internal glands pumping water to the outside, *not* by the walls warping. The walls do indeed warp, but this is effect, rather than cause. The negative pressure developed in the trap, responsible for the ability to 'suck animals through the door' has nothing to do with phototrophic responses in the form of turgor pressure in the bladder walls.

If, indeed *Pinguicula* is the ancestor of *Utricularia*, it is far more likely that the traps are evolved from the leaves. True, it is still extremely difficult to imagine, let alone reconstruct, how this, the most sophisticated animal trapping device in the plant world (Lloyd, 1942), evolved, or why it has developed in such bewildering diversity (see Taylor, 1964). No need the to invoke relocation of leaf hairs and glands to the roots, or the fantastical fairy tale of air-filled root bladders and floating Butterworts.

Ivan Snyder is to be commended on his well written article. But one should be aware that it is largely science fiction, not fact.

## References:

- Darwin (1875), *Insectivorous Plants*: 404 London.  
Fineran (1985), *Isr. J. Bot.* 34:295  
Lloyd (1942), *The Carnivorous Plants* Chronica Botanica  
Metcalf and Chalk (1950), *Anatomy of the dicotyledons* 2:993  
Snyder (1987), *C.P.N.* 16(1):17-19  
Taylor (1964), *Kew Bulletin* 18(1):1-245

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## Corrections continued from page 101

- U. roseopurpurea* STAPF EX GAMBLE = caerulea L.  
*U. sampathii* SUBRAMANYAM & YOGANARASIMHAN INDIA = caerulea L. ?  
*U. schinzii* KAM. = bisquamata SCHRANK  
*U. welwitschii* OLIV. var. *odontosepala* (STAPF) P. TAYLOR = *odontosepala* STAPF