

Nepenthes Corrections to WORLD CARNIVOROUS PLANT LIST

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- N. Accentual Koto Hort. ex Kawase = thorelii X hookeriana (1974)
N. Ambrosial Koto Hort. ex Kawase = trichocarpa X hookeriana (1974)
N. Balmy Koto Hort. ex Kawase = thorelii X maxima (1975)
N. Effulgent Koto Hort. ex Kawase = mirabilis X thorelii (1978)
N. Hachijo Okuyama = lecoufleii X mirabilis (1979)
N. Ile de France, Y. Vezier (France) = lecoufleii X mixta (1981)
N. Ville de Rouen, Y. Vezier (France) = Superba X Mastersiana (1981)
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Evolution in Lentibulariaceae: A Criticism of Snyder

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We are told by Ivan Snyder in a recent number of this journal (C.P.N. 16(1):17-19) that 'Carnivorous plant evolution has been a mystery for a long time.' His account, which purports to 'hypothesize the most logical evolutionary scheme' for the Lentibulariaceae, does little to clarify the mystery; worse, it is grossly misleading, is at variance with the facts and will only serve to confuse a great many people.

His suggestion that *Pinguicula* is the most 'primitive' genus of the family is a widely held one. But the steps he suggests for the evolution of *Pinguicula* into *Utricularia* (briefly summarized as follows) are incredible:

Firstly, we are told, air floats develop in the roots of the butterwort. These were 'very advantageous and kept the plant buoyant when washed into water, where it could grow on the surface where there was less competition.'

Secondly, glandular hairs and enzyme glands were relocated from the leaves to the inner surface of these root float bladders, animals finding their way into them and becoming digested.

Thirdly, 'this new trapping device developed a good passageway into itself and proved to be very efficient.' The butterwort leaves become a burden and are reduced, lose their glue. Some of these become *Genlisea*, others evolve onwards to become *Utricularia*: their traps form oneway doors.

Fourthly, 'the bladders (gain) the ability to alter turgor pressure in some of its cells when touched. Cellular turgor is controlled in the plants phototropic response to make possible the ability to turn toward light. When this became relocated to the walls of the bladders, the bladders could warp and produce a vacuum in the trap.'

Presto! We have *Utricularia*! Or do we?

Amongst the 'facts' upon which 'the most logical evolutionary scheme' is supported are that 'aquatic' bladderworts use their bladders not only for trapping, but also in flotation. This idea is patently not true and was disproved in the last century (Darwin, 1875). Its veracity is simply tested by cutting the traps off a plant: the plant still floats! The basis of this false flotation function of traps seems to be Snyder's view that they are full of air, since