

SPECIAL LITERATURE REPORT

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Steyermark, J.A. Realignment of the Genus *Heliamphora*, Annals of the Missouri Botanical Garden 71: 302-312 1984.

In 1978, D. Bassett Maguire published a review (see CPN 8(3): 82-83 1979 for summary) in which 2 new species, *H. ionasi* and *H. neblinae*, and four varieties were added to *H. nutans*, *H. heterodoxa*, *H. minor* and *H. tatei*.

The genus is extremely variable and it is difficult to find characters that are sufficiently constant to distinguish various taxa. Many morphological variations are induced by changes in the environment with water supply and sunlight exposure being the most influential. But certain characters seem to be more or less constant and they are: the relative number and length of the anthers, the total length of the upper pubescent zone of the pitcher's interior and relative length of the hairs in this zone.

A) The number of anthers separate the taxa into two geographical areas: Territorio Federal Amazonas with 15-20 anthers on *H. tatei* and *H. neblinae* and from Estado Bolivar there are 7-15 on *H. minor*, *H. heterodoxa*, *H. nutans* and *H. ionasii*.

B) The length of the anthers: small (*H. nutans*, *H. ionasii*)
large (*H. heterodoxa*, *H. tatei*, *H. neblinae*)

C) In *H. nutans* and *H. minor*, the pubescent zone occupies 1/4-3/8 of the upper pitcher interior surface.

In *H. heterodoxa*, *H. tatei*, *H. neblinae*, this zone is 3/8-1/2 the entire length.

D) Minute trichomes are found in *H. nutans*, *H. heterodoxa*, *H. tatei* and *H. neblinae*. Longer type of trichomes prevail in *H. ionasi* and *H. minor*.

It is interesting now to turn our attention to the height of the plants which have considerable variation due to environmental conditions. Maximum pitcher lengths are:

	cm	inches
<i>H. minor</i>	5-30	2-12
<i>H. nutans</i>	15-29	6-11.6
<i>H. heterodoxa</i>	12-42	4.8-16.8
<i>H. tatei</i>	25-50	10-20
<i>H. ionasii</i>	40-50	16-20

If you add to this, the overall height of the plant due to the elongation of the cauline axis (the base stem), then *H. tatei* can reach a height of 1-2m (40-80 inches) and in one case 4m or 13 feet!

Finally, the author re-examined the dendroid (branching nature) of *H. tatei* alluded to by Dr. Maguire. In the field, on the summits of Cerro Duida and Cerro Huachamacari where thousands of *H. tatei* grow, the author found many individuals with only a single, solitary stem. Some plants had an abbreviated rosette or leaf cluster along the side of the stem and even near the apex producing a bifurcated plant. But these were in the minority and most were simple, unbranched stems which lack any attached leafy rosettes or leafy clusters.

In conclusion, this isolated genus of 5 species and 7 varieties or forms would appear to be of ancient geological origin. However, the author believes that due to the high degree of variation and overlapping characters, the species separated from one another in only recent times and that divergence is still in the process of sharply differentiating them from one another.