

NOTES ON *NEOREGELIA* SUBGENUS *HYLAEAIICUM*
(BROMELIACEAE: BROMELIOIDEAE)

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ABSTRACT. Petal appendages are for the first time reported for *Neoregelia* subgenus *Hylaeaicum* L. B. Smith. A brief discussion about the potential significance of this finding is presented. A list of species where petal appendages were found as well as illustrations are included.

Petal appendages have had a remarkable importance in the delimitation of genera in the Bromeliaceae (Smith and Downs, 1974, 1977, 1979, Brown and Terry, 1992). Approximately 35% of the species in the family are known to have petal appendages, which are defined as a single flap of tissue between the antipetalous staminal filament and the petal, or as a pair of structures that flank each antipetalous stamen (Brown and Terry, 1992).

Neoregelia L. B. Smith, one of the most cultivated genera in the Bromeliaceae, has been distinguished from closely related genera with nidular inflorescences by the lack of petal appendages, among other floral characters such as symmetry of sepals, connation of petals and floral pedicel features.

As part of the objectives in the systematic revision of *Neoregelia* subgenus *Hylaeaicum* (Ramírez, 1991), I studied the presence of petal appendages on species where fresh floral material was available, since these structures do not appropriately reconstruct from herbarium material. Surprisingly, all taxa examined (representing 75% of the species in the subgenus) have petal appendages (see Appendix 1 for list of species examined and FIGURE 1 for details of petal appendages).

This finding is especially significant since the

definition of the genus *Neoregelia* has strongly been based on the petal appendage character. To be consistent with the current patterns of generic delimitations in the Bromelioideae, subgenus *Hylaeaicum* would have to be treated as a separate genus (see TABLE 1 for comparisons).

As recently remarked by Brown et al. (1993), taxonomic changes should be better supported by studies of phylogenetically informative characters. In the particular case of subgenus *Hylaeaicum*, no taxonomic decisions seem warranted until more characters are evaluated and analyzed in a phylogenetic context. As a first step, all species in the subgenus (and also in subgenus *Neoregelia* and other groups with nidular inflorescences) should be scored for the presence of petal appendages. Even if the presence of petal appendages is verified for all the species of *Neoregelia* subgenus *Hylaeaicum*, taxonomic changes would have to be carefully considered since it is likely this character has evolved more than once in the subfamily and its validity as a character to define genera would be questionable.

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TABLE 1. Petal characters of genera of Bromelioideae with nidular inflorescences.

	Petals free	Petals connate
Petal scales present	* <i>Canistrum</i> * <i>Hylaeaicum</i>	◆ <i>Wittrockia</i>
Petal scales absent	<i>Hylaeaicum</i> (according to the literature)	◆ <i>Nidularium</i> * <i>Neoregelia</i> (whole genus)

* Pedicellate flowers.

◆ Sessile flowers.

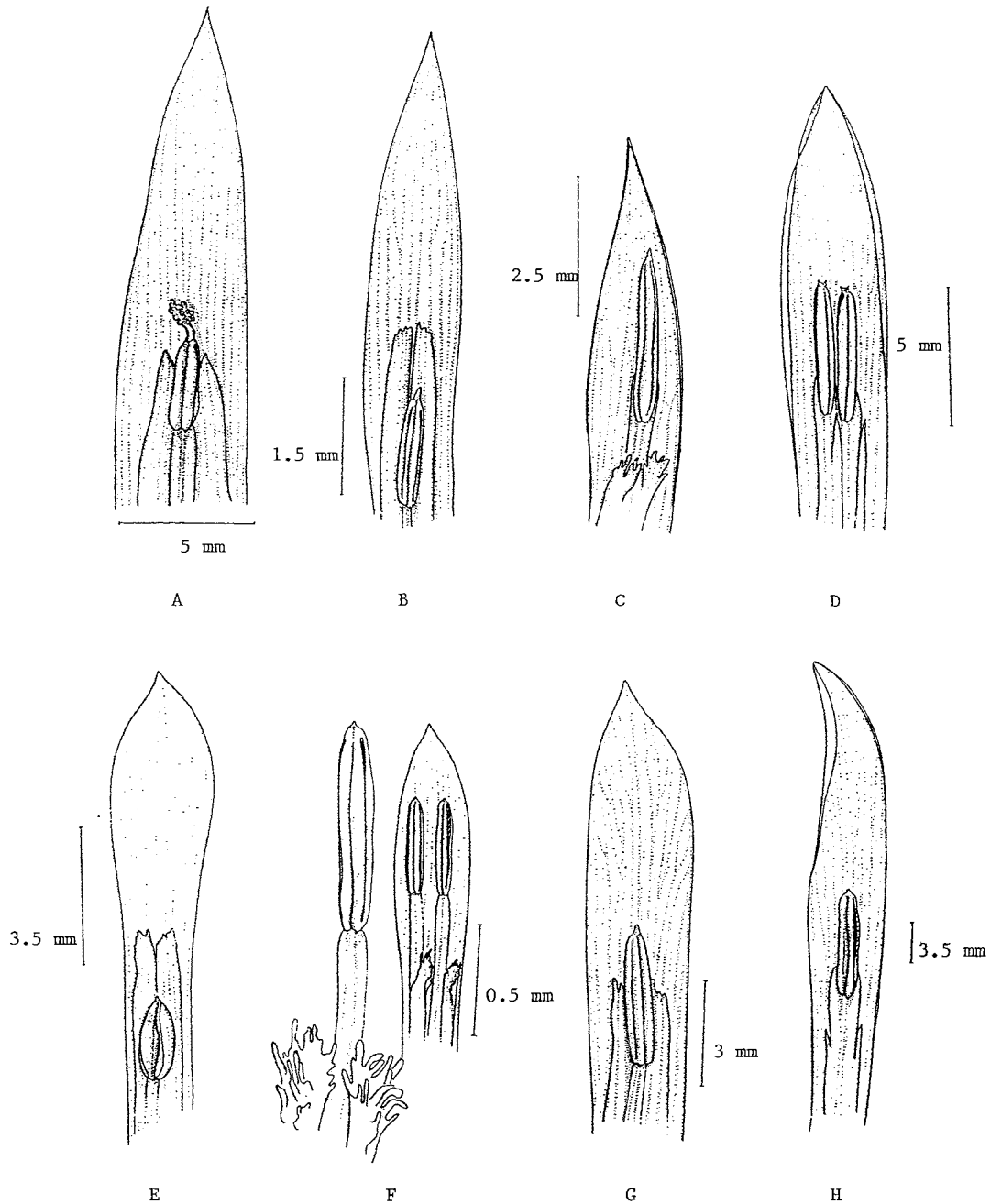


FIGURE 1 (A-H). Petal appendages in *Neoregelia* subgenus *Hylaeaicum*. A. *Neoregelia eleutheropetala* var. *eleutheropetala* (from SEL-85-198). B. *N. leviana* (Liesner 3400, MO). C. *N. margaretae* (from SEL 90-545). D. *N. mooreana* (from SEL 76-0158-003). E. *N. myrmecophila* (from SEL 91-0036). F. *N. pendula* var. *brevifolia* (from SEL s/n). G. *N. stolonifera* (from SEL 90-0821). H. *N. tarapotoensis* (from SEL 91-0195).

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APPENDIX 1

List of species having petal appendages

- Neoregelia aculeatosepala* Rauh & Barthlott (not illustrated)
- N. eleutheropetala* var. *eleutheropetala* (Ule) L. B. Smith
- N. leviana* L. B. Smith
- N. margaretae* L. B. Smith
- N. mooreana* L. B. Smith
- N. myrmecophila* (Ule) L. B. Smith
- N. pendula* var. *brevifolia* L. B. Smith
- N. stolonifera* L. B. Smith
- N. tarapotoensis* Rauh