



## Nomenclatural notes in the Pleurothallidinae (Orchidaceae): *Stelis*

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### Abstract

Nomenclatural changes are made in order to place within *Stelis* a series of species that belong to it in the sense of *Genera Orchidacearum*, and without previous available names in that genus. New species, names and combinations are proposed, a short discussion for the reasoning is given.

**Key words:** *Crocodeilanthe*, *Dracontia*, *Effusiella*, *Niphantha*, *Pleurothallis*, *Stelis*, taxonomy

### Introduction

Since the publication of the reclassification of subtribe Pleurothallidinae by Pridgeon & Chase (2001), based on Pridgeon *et al.* (2001), several subsequent studies have placed hundreds of additional pleurothallids in a DNA-based phylogenetic context (Stenzel 2004, Abele 2007, Chiron *et al.* 2012, Bogarín *et al.* 2013, Karremans *et al.* 2013, Karremans 2014). Together those studies suggest that although refinement is necessary in many groups, the generic framework presented by Pridgeon (2005) is maintained in general terms. Many alternative generic concepts proposed later although mostly indicative of species' relatedness, frequently lack a phylogenetic framework, and although useful are almost impossible to use by themselves (Luer 2004, 2006, 2007). Not having one stable classification system creates confusion among authors and has led to hundreds of species needing transfers from one system to the other in order to be able to use the names comparably.

Some large and highly diverse genera, such as *Stelis* Swartz (1799: 239), are good candidates for finer splitting. However, for the time being we have no fully comprehensible alternative classification of the genus. On one hand, genera like *Crocodeilanthe* Reichenbach (1854: 113–114), *Dracontia* (Luer 1986: 38) Luer (2004: 257) and *Salpistele* Dressler (1979: 6) form natural groups, that are easy to recognize and are largely monophyletic. On the other hand, genera like *Effusiella* Luer (2007: 106) and *Elongatia* Luer (2004: 257) have been amply proven poly- and paraphyletic (Karremans *et al.* 2013). As species of the above mentioned are interrelated, acceptance of the monophyletic genera would require the recognition of several other generic concepts along the way, which can only be done with a much broader and integral systematic study of the whole clade. Even though better defined and informative generic circumscriptions are preferable, for the time being no other stable and all inclusive systematic proposal for *Stelis* is available. A broad circumscription of *Stelis*, albeit harder to define morphologically, is more phylogenetically accurate, and is therefore preferred (Karremans 2014). I am therefore transferring the species that although clearly not belonging to *Stelis* in a strict sense, are embedded within *Stelis* in its broad sense (Pridgeon 2005).

### Taxonomic Treatment

#### *Stelis brenneri* (Luer) Karremans, comb. nov.

Basionym: *Pleurothallis brenneri* Luer (1976: 64).

#### *Stelis hydra* (Karremans & C.M.Sm.) Karremans, comb. nov.

Basionym: *Dracontia hydra* Karremans & Smith (2012: 13–15).

## References

- Abele, A.D. (2007) *Phylogeny of the genus Masdevallia Ruiz & Pav. (Orchidaceae) based on morphological and molecular data.* Disertación PhD. Hamburg University.
- Archila, F., Chiron, G. & Szlachetko, D. (2013) *Dracontia tenebrosa* (Orchidacea [sic], Pleurothallidinae), nueva especie Mesoamericana. *Revista Guatemalensis* 16: 27–35.
- Bogarín, D., Karremans, A.P., Rincón, R. & Gravendeel, B. (2013) A new *Specklinia* (Orchidaceae: Pleurothallidinae) from Costa Rica and Panama. *Phytotaxa* 115 (2): 31–41.  
<http://dx.doi.org/10.11646/phytotaxa.115.2.1>
- Brown, R. (1813) *Pleurothallis.* In: Aiton, W.T. (Ed.) *Hortus Kewensis. 2<sup>nd</sup> Edition. Vol. 5.* Taylor, London, 211 pp.
- Carnevali, G. & G.A. Romero (1993) New or noteworthy orchids for the Venezuelan Flora IX: New taxa, new records, and nomenclatural changes, mainly from the Guyana Shield and northern Amazonas. *Novon* 3: 102–125.  
<http://dx.doi.org/10.2307/3391516>
- Carnevali, G. & Ramírez, I. (1998) Notes on the orchid flora of the Cruz Carillo National Park (Guaramacal), Venezuela. *Harvard Papers in Botany* 3: 239–252.
- Chiron, G.R., Guiard, J. & van den Berg, C. (2012) Phylogenetic relationships in Brazilian *Pleurothallis* sensu lato (Pleurothallidinae, Orchidaceae): evidence from nuclear ITS rDNA sequences. *Phytotaxa* 46: 34–58.
- Dressler, R.L. (1979) *Salpistele*, un género nuevo de las Pleurothallidinae. *Orquideología* 14: 3–10.
- Duque, O. (2010) Nuevas especies colombianas del género *Stelis* (Parte II). *Orquideología* 27: 119–166.
- Karremans, A.P. (2014) *Lankesteriana*, a new genus in the Pleurothallidinae (Orchidaceae). *Lankesteriana* 13: 319–332.  
<http://dx.doi.org/10.15517/lank.v13i3.14368>
- Karremans, A.P. & Smith, C.M. (2012) A note on genus *Dracontia* (Orchidaceae: Pleurothallidinae), with a new species. *Harvard Papers in Botany* 17: 13–17.  
<http://dx.doi.org/10.3100/025.017.0104>
- Karremans, A.P. & Bogarín, D. (2013) Three new species of *Dracontia* (Pleurothallidiane, Orchidaceae) from Costa Rica. *Systematic Botany* 38: 307–315.  
<http://dx.doi.org/10.1600/036364413X666796>
- Karremans, A.P., Bakker, F.T., Pupulin, F., Solano-Gomez, R. & Smulders, M.J.M. (2013) Phylogenetics of *Stelis* and closely related genera (Orchidaceae: Pleurothallidinae). *Plant Systematics and Evolution* 29: 69–86.
- Kräzlin, F.W.L. (1899) Orchidaceae Lehmannianae in Guatemala, Costarica [sic], Columbia [sic] et Ecuador collectae, quas determinavit et descripsit. *Botanische Jahrbücher für Systematik* 26: 437–502.
- Lindley, J. (1859) *Pleurothallis.* In: Lindley, J. (Ed.). *Folia Orchidacea.* J. Matthews, London. pp. 1–46.
- Luer, C.A. (1976) Icones Pleurothallidinarum (Orchidaceae): miscellaneous new species in *Barbosella*, *Lepanthes*, *Masdevallia*, *Platystele* and *Scaphosepalum*. *Selbyana* 3: 1–71.
- Luer, C.A. (1979) Icones Pleurothallidinarum (Orchidaceae): miscellaneous new species in the Pleurothallidinae. *Selbyana* 5: 145–196.
- Luer, C.A. (1986) Icones Pleurothallidinarum III. Systematics of *Pleurothallis* (Orchidaceae). *Monographs in Systematic Botany from the Missouri Botanical Garden* 20: 38.
- Luer, C.A. (2000) Icones Pleurothallidinarum XX. Systematics of *Jostia*, *Andinia*, *Barbodria*, and *Pleurothallis* subgen. *Antilla*, subgen. *Effusia*, subgen. *Restrepodia*. *Monographs in Systematic Botany from the Missouri Botanical Garden* 79: 1–140.
- Luer, C.A. (2002) Icones Pleurothallidinarum XXIV: A first century of new species of *Stelis* of Ecuador, part one. *Monographs in Systematic Botany from the Missouri Botanical Garden* 88: 1–122.
- Luer, C.A. (2004) Icones Pleurothallidinarum XXVI. Systematics of *Pleurothallis* subgenus *Acianthera* (Orchidaceae); A second century of new species of *Stelis*; *Epibator*, *Ophidion*, *Zootrophion*. *Monographs in Systematic Botany from the Missouri Botanical Garden* 95: 1–265.
- Luer, C.A. (2005) Icones Pleurothallidinarum XXVII. *Dryadella* and *Acronia* section *Macrophyllae–Fasciculatae*. *Monographs in Systematic Botany from the Missouri Botanical Garden* 103: 1–311.
- Luer, C.A. (2006) Icones Pleurothallidinarum XXVIII. A reconsideration of *Masdevallia*; Systematics of *Specklinia* and vegetatively similar genera (Orchidaceae). *Monographs in Systematic Botany from the Missouri Botanical Garden* 105: 1–274.
- Luer, C.A. (2007) Icones Pleurothallidinarum XXIX. A third century of *Stelis* of Ecuador; Systematics of *Apoda–Prorepentia*; Systematics of miscellaneous small genera; Addenda: new genera, species and combination (Orchidaceae). *Monographs in Systematic Botany from the Missouri Botanical Garden* 112: 1–130.
- Luer, C.A. (2011) Miscellaneous new species in the Pleurothallidinae (Orchidaceae) excluding species from Brazil. *Harvard Papers in Botany* 16: 311–360.  
<http://dx.doi.org/10.3100/025.016.0206>

- Luer, C.A. & Thoerle, L. (2012) Miscellaneous new species in the Pleurothallidinae (Orchidaceae). *Harvard Papers in Botany* 17: 333–368.  
<http://dx.doi.org/10.3100/025.017.0214>
- Pridgeon, A.M. (2005) 356. *Stelis*. In: Pridgeon, A.M., Cribb, P.J., Chase, M.W. & Rasmussen, F.N. (Eds.) *Genera Orchidacearum*, 4. *Epidendroideae (Part One)*. Oxford University, Oxford, pp. 405–412.
- Pridgeon, A.M. & Chase, M.W. (2001) A phylogenetic reclassification of Pleurothallidinae (Orchidaceae). *Lindleyana* 16: 235–271.
- Pridgeon, A.M., Solano, R. & Chase, M.W. (2001) Phylogenetic relationships in Pleurothallidinae (Orchidaceae): combined evidence from nuclear and plastid DNA sequences. *American Journal of Botany* 88: 2286–2308.  
<http://dx.doi.org/10.2307/3558390>
- Reichenbach, H.G. (1854) Orchideae Warscewiczianae recentiores. *Bonplandia* 2: 107–116.
- Schlechter, F.R.R. (1920) Orchideenflore der Suedamerikanischen Kordillerenstaaten, II. Colombia (I. Allgemeines). *Repertorium Specierum Novarum Regni Vegetabilis, Beihefte* 7: 1–301.
- Stenzel, H. (2004) Systematics and evolution of the genus *Pleurothallis* R. Br. (Orchidaceae) in the Greater Antilles. Dissertation thesis. Mathematisch–Naturwissenschaftlichen Fakultät I der Humboldt–Universität zu Berlin, pp. 1–178.
- Swartz, O. (1799) Dianome Epidendri generis Linn. *Journal für die Botanik* 2: 201–244.