

## Evidence of Natural Hybridization Between *Pleurothallis* species in Subsection *Macrophyllae-Fasciculatae*

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In April 2016, what appeared to be an aberrant form of *Pleurothallis sphaerantha* (Luer 1975) was documented on flickr by Andreas Kay. However, it is highly likely that the specimen observed was a natural hybrid. Since plant material was not collected and preserved, it cannot be officially described. Therefore, it will be given the unofficial name of *Pleurothallis hybrida* 2016 (PH2016) throughout the remainder of this article which discusses the distinguishing traits that suggest it is a product of natural hybridization.

Photos of PH2016 were studied while making the determination to describe *Pleurothallis pseudosphaerantha* as a separate species distinct from *Pleurothallis sphaerantha* in January 2023 (*Pleurothallidinae* Vol. #2., Iss. #2). While *P. sphaerantha* and *P. pseudosphaerantha* occur in the same locale, only 29km (18mi) between some populations, the two species do not intermingle and there are no field observations of flowers that exhibit intermediate traits of the two species.

*Pleurothallis sphaerantha* is identified by its dorsal sepal and synsepal, which are both concave, whereas *P. pseudosphaerantha* is distinguished by its convex, folded synsepal. These floral traits appear stable in each species with only minor variations from one population to the next. Further, *P. sphaerantha* has only been observed with yellow flowers, whereas *P. pseudosphaerantha* has been observed with yellow, red, and a yellow/red bicolor form. This eliminated the possibility that *P. pseudosphaerantha* was simply a different color form of *P. sphaerantha*. At first glance, the flower of PH2016 appeared to be a possible link between the two species. Upon studying the flower closely, however, it was determined that the floral morphology of PH2016 was entirely different from either species.

PH2016 appears to be a natural hybrid of *Pleurothallis pseudosphaerantha* and another *Pleurothallis* species with an affinity to *Pleurothallis erythrum*. This assumption is based on observations of the two species within the vicinity where PH2016 was found. PH2016 exhibits characteristics in both its floral and vegetative morphology that are intermediate between the two species (Figs. 2-5).

Documenting this potential occurrence is very important, because recent studies suggest that natural hybridization among *Pleurothallis* species occurs at a very high rate. It is quite possible that natural hybridization could be, at least partially, responsible for the extremely high diversity of *Pleurothallis* species.



Fig 1. PH2016 photographed in situ



Fig 2. Left, the wide leaves of *Pleurothallis pseudosphaerantha* are slightly concave, particularly where the flower is positioned on top of the leaf. Right, the narrower, convex leaves of *Pleurothallis aff. erythrium*. Both species were photographed in the same area as PH2016.



Fig. 3. The leaves of PH2016 resemble the narrow leaves of *Pleurothallis aff. erythrium* which would suggest hybridization with that species.



Fig 4. Left to right; *P. pseudosphaerantha*, *P. aff. erythrium*, and PH2016. The flower of PH2016 exhibits the shape of the flower of *P. pseudosphaerantha* and the open, flat appearance of *P. aff. erythrium*, which suggests hybridization between the two species.



Fig 5. Left to right, *P. sphaerantha*, *P. pseudosphaerantha*, and PH2016. Both *Pleurothallis sphaerantha* and *P. pseudosphaerantha* have a deep canal down the middle of the lip. This trait is absent in the lip of PH2016, which suggests hybridization with a species that has a different lip morphology. (Photos of *P. sphaerantha* and *P. pseudosphaerantha* from plants grown by the author.)



This article is published in memory of the late Andreas Kay (1963-2019).

The author would like to thank the trustees of Andreas Kay's extensive media library for granting me permission to use his photos in this article.