

Pleurothallis brinkmaniana K.W. Holcomb, sp. nov.

Plant 21 cm tall, epiphytic, caespitose, roots very slender.

Ramicauls up to 27 cm long, very slender, suberect, enclosed by a thin tubular sheath below the middle and another at the base.

Leaf 12 cm long, 6.75 cm wide, dark green with light green veins, coriaceous, cordate, acute, the base cuneate, sessile.

Inflorescence a single, successive, resupinate flower, 3.2 cm long, borne from a reclining spathaceous bract at the base of the leaf.

Labellum (Lip) 6 mm long, 4 mm wide, bright orange suffused with red along the basal margins, verrucose, deeply convex, pandurate with a well-developed glenion at the base, connected to the column foot by a very loose, weight-sensitive hinge.

Dorsal Sepal 17 mm long, 8 mm wide, 3-veined, yellow, membranous, glabrous, ovate, concave, acute.

Synsepal 15 mm long, 7 mm wide, 3-veined, pink suffused with yellow, membranous, glabrous, oblong-ovate, reflexed, acute.

Petals 11 mm long, 2 mm wide, 1-veined, red, descending, rounded at the apex.

Column 1 mm long, 2 mm wide, bilobed, the anther and transverse stigma apical.

Eponymy: Named in honor of Becky Brinkman, manager of the Fuqua Orchid Center at the Atlanta Botanical Garden.

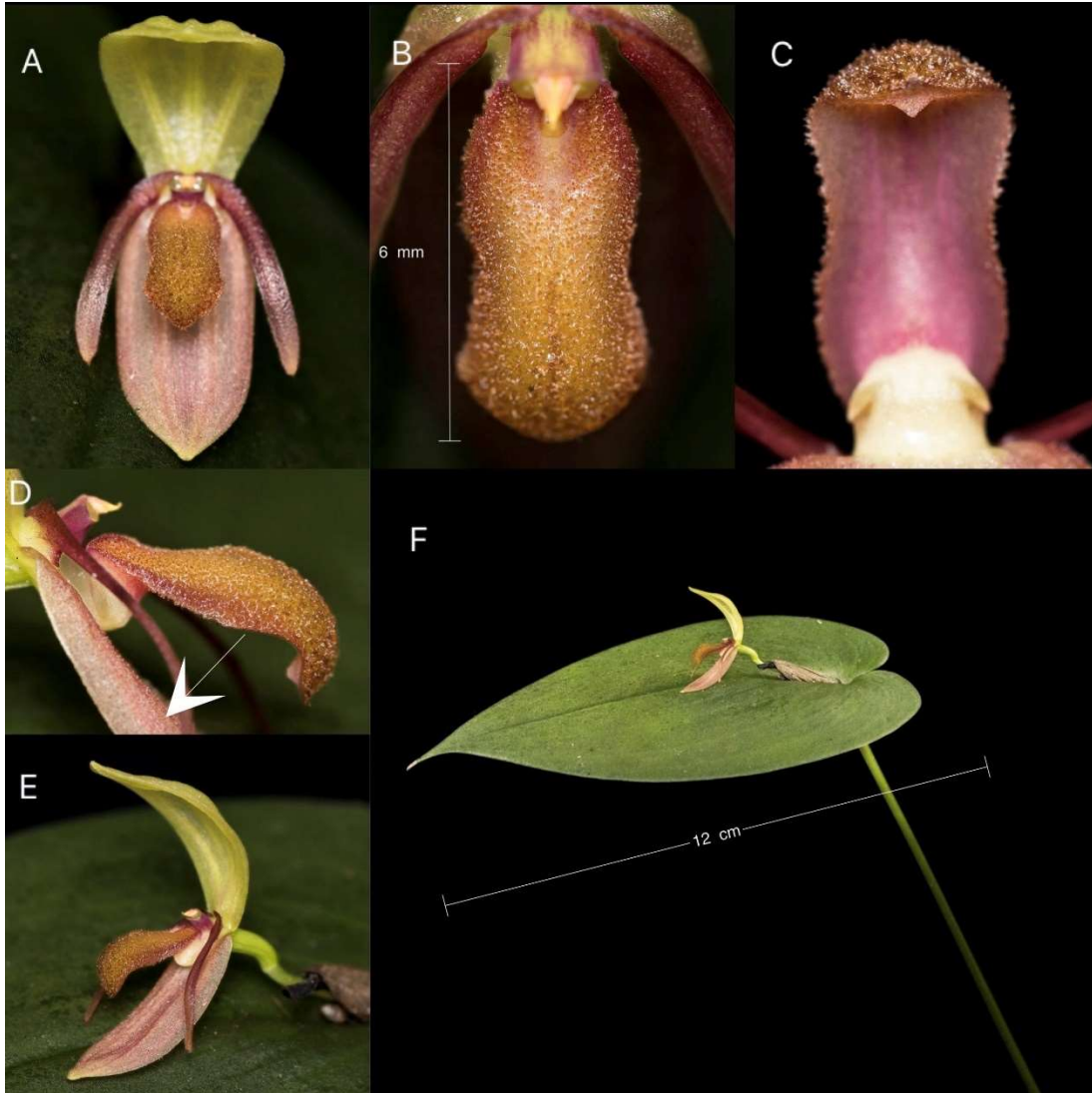
COLOMBIA: Without collection data. *K.W. Holcomb 18315 (Holotype: GEO)*.

Pleurothallis brinkmaniana belongs to the *P. adonis/linguifera* complex. Of the approximately eight species currently within this complex, *P. brinkmaniana* is most similar to *P. calogramma* (Luer 2003). However, *P. brinkmaniana* is easily recognized by its larger, narrower flowers with an extremely long, pandurate (violin-shaped) lip (Fig. 1).

The species within the *P. adonis/linguifera* complex exhibit a very interesting morphological characteristic associated with the lip. All species of *Pleurothallis* Section *Macrophyllae-Fasciculatae* have a lip that is connected to the column foot by a hinge. However, the hinge has been rendered non-functional in most of the species in this section.

Species in the *P. imperialis* complex have evolved oversized petals that are positioned behind the lip which prevents the lip from moving (Fig. 2). Species in the *P. titan* and *P. cardiothallis* complexes, have lips that rest firmly against the synsepal (Fig. 3). Species in the *P. bivalvis* complex have evolved what is commonly referred to as a callus on the underside of the apex of the lip which functions as a “doorstopper” of sorts (Fig. 4). By rendering the hinge non-functional, these species appear to be allowing access to pollinators of any size thereby increasing the chances of pollination.

However, species in the *P. adonis/linguifera* complex all have large, convex lips with fully functional hinges, which are activated by the application of any significant weight (Fig. 5). When the hinge is activated, the lip drops, like a trap door away from the column, in effect, restricting access to only the tiniest of pollinators. Further research is warranted to understand this bizarre pollination strategy.



Pleurothallis brinkmaniana

Photos of the plant that was used to prepare the holotype material.
 A. flower, B. upper surface of lip, C. underside of lip, D. side view of the lip and hinge,
 E. side view of the flower, F. leaf with flower.



Fig 1. Left, *P. calogramma*; Right, *P. brinkmaniana*



Fig. 2



Fig. 3



Fig. 4.

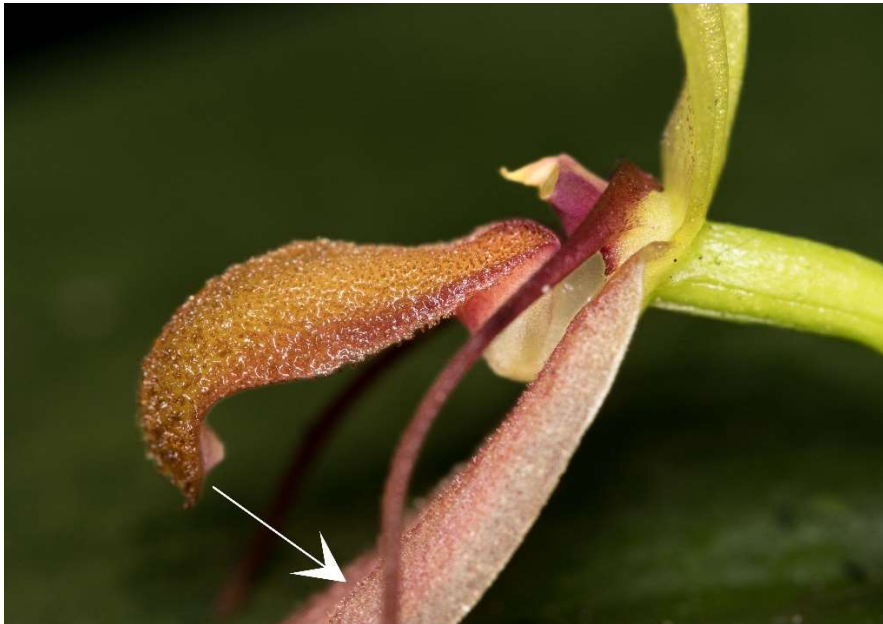


Fig. 5