

## **New species of *Platystele* and *Pleurothallis* (Orchidaceae) from Cuba**

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Source: *Willdenowia*, 32(1) : 99-104

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: <https://doi.org/10.3372/wi.32.32110>

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HAGEN STENZEL

## New species of *Platystele* and *Pleurothallis* (*Orchidaceae*) from Cuba

### Abstract

Stenzel, H.: New species of *Platystele* and *Pleurothallis* (*Orchidaceae*) from Cuba. – Willdenowia 32: 99-104. 2002. – ISSN 0511968.

Two new species of orchids, *Platystele hyalina* and *Pleurothallis oricola*, of the subtribe *Pleurothallidinae*, both discovered recently in Cuba, are described as new to science. The first was found in the eastern part, in the serpentine mountains of Holguín, the latter on the dog-tooth limestone coast of Guanahacabibes, the western tip of the island.

### Introduction

Cuba is one of the most thoroughly explored neotropical regions. The majority of the Cuban orchidaceous taxa is based on the abundant material collected by C. Wright (mid 19th century), E. L. Ekman (early 20th century) and the Proyecto Flora de Cuba (since 1974). There may seem to be little left to discover. Yet, a thorough revision of extant herbarium material as well as recent collecting in the field yielded more than a dozen new orchid species (Luer 1998, 1999; Stenzel 2001). These taxa are all confined to the serpentine areas of northeastern Cuba, which, despite intensive past field work, still hosts many taxa yet to be discovered.

As part of the preparatory work for the revision of the genera *Platystele* Schltr. and *Pleurothallis* R. Br. for the “Flora de la República de Cuba”, two further species are described in this paper.

### *Pleurothallis oricola*

Members of the genus *Pleurothallis* have successfully radiated in the mountainous regions of the Neotropics. They rarely occur at low elevations. In the Caribbean there has been so far only one species known to grow at sea level, *P. caymanensis* C. D. Adams from Grand Cayman. Thought to be endemic to that island, it was now found in a coastal forest on the Guanahacabibes Peninsula in westernmost Cuba. At first sight this seems to be an unusual habitat for a species that needs a relatively high air humidity. However, its requirement is met, thanks to a specific micro-

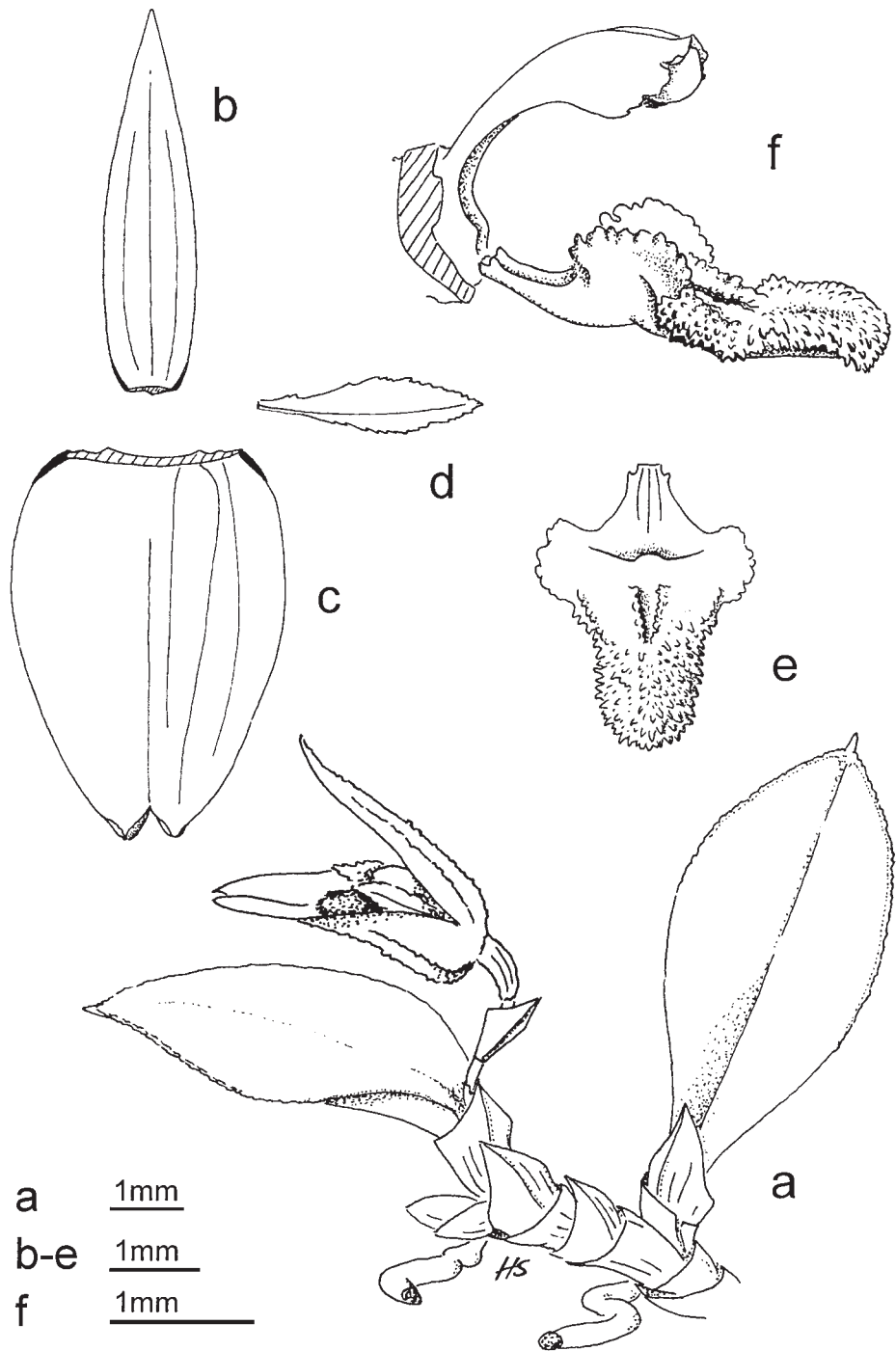


Fig. 1. *Pleurothallis oricola* H. Stenzel – a: habit; b: dorsal sepal; c: lateral sepals; d: petal; e: lip; f: lip and column in its natural position. – Drawings from the type collection.

climate at the places where it grows. While most of this area is covered by semideciduous or dry forests and thickets, in some places a marshy ground provides suitable conditions for a vegetation comparable to swamp forests (A. Urquiola Cruz, pers. comm.). Due to the high air humidity, these places show a rich epiphytic flora consisting mainly of bromeliads and orchids. Species of *Broughtonia* R. Br., *Encyclia* Hook., *Harrisella* Fawc. & Rendle, *Polyradicion* Garay, *Tolumnia* Raf. and *Vanilla* Mill. grow here, along with two species of *Pleurothallis*: *P. caymanensis* and a second, still undescribed one.

***Pleurothallis oricola* H. Stenzel, sp. nova** – Fig. 1

Holotype: Cuba, Pinar del Río, Guanahacabibes Peninsula, near Maria la Gorda, at sea level, microphyllous evergreen forest, epiphytic on *Vitex guanahacabibensis* Borhidi, 15.5.2000, *Urquiola & al.* (HAJB; isotype: HPPR 9196).

Planta nana, repens. Folia elliptica, crassa, supra verrucosa, apice pungentia, margine erosa vel serrata. Pedunculus solitarius, uniflorus, folio brevior. Sepala flavovirenti-guttata purpurea, extus papillosa. Labellum trilobatum, supra ad apice valde papillosum, basi biauriculatum. Partes vegetativae juxta *Pleurothallidem caymanensem* collocanda, non nisi inflorescentiae et partium floris gratia distinguenda.

*Plant* epiphytic, prostrate, repent. *Rhizome* short with the distance between the ramicauls 1–2 mm, covered by three scarios, slightly conduplicate sheaths with an acute apex. *Ramicauls* very short, reaching at most 0.5 mm in length, 2-articulate with two hyaline sheaths. *Leaves* thick, coriaceous, elliptic to oblanceolate, upper side plane or concave and covered by minute warts, lower side terete or keeled, apex acute, tridentate to pungent, margin crenulate to erose, no annulus present, blade 0.5–0.8 cm long, 0.2–0.4 cm wide. *Inflorescence* one or two, arising from near the apex of the ramicaul; peduncle 2 mm long; floral bracts funnel-shaped, hyaline, up to 1 mm long; pedicel up to 1 mm long. *Flowers* solitary; *sepals* greenish white, dull purple-dotted, papillose on the outside; dorsal sepal lanceolate, carinate, three-veined, apex acute, connate at the base with the laterals, 4–4.5 mm long, 1 mm wide; lateral sepals connate to near the tip, three-veined, carinate, as a unit ovate, 4–4.5 mm long and 3 mm wide; *petals* one-veined, white with the vein and base being purple, membranous, oblanceolate to narrowly elliptic, margin serrate, apex acute, 2.5 mm long, 0.7 mm wide; *lip* yellow with purple dots, 3.2 mm long, 2.5 mm wide when expanded, partially fleshy, three-veined, three-lobed; midlobe ligulate, irregularly covered with obtuse teeth and papillae; lateral lobes roundish, antrorse; base cuneate to unguiculate, margin crenulate to erose in the middle and serrate to fimbriate near the apex; upper side with a transverse cavity in the basal part and a lengthwise depression in the middle, enclosed by two parallel, tuberculate calli; *column* yellow mottled with purple, slender, slightly winged above the middle, margin serrate at the apex, 2 mm long; *anther* ventral, foot 0.6 mm long; *pollinia* two (?); *ovary* 1 mm long, green, glabrous. *Capsule* 0.5 cm long, ribs slightly verrucate.

*Etymology.* – Named for its coastal habitat from Latin ‘*ora*’ for ‘coast’.

The plant seems to be confined to the microphyllous evergreen forest on limestone in the southern part of the Guanahacabibes Peninsula. The only population found so far grows on an old individual of *Vitex guanahacabibensis* Borhidi.

Secondary stems and leaf of the new species are similar to *Pleurothallis caymanensis*. It differs, however, in the creeping growth habit and all floral parts.

***Platystele hyalina***

The Sagua-Baracoa mountain system, which lies at the island’s eastern end, is known for hosting the highest concentration of endemic species found anywhere on Cuba (Capote & al. 1989). The soils are almost exclusively derived from serpentinitic rock, a substrate that is known to accommodate a highly specialised flora (Borhidi 1991). Orchids do not reach the level of overall endemism of families such as *Ericaceae* (92%), *Arecaceae* (90%), *Myrtaceae* (88%), *Rubiaceae*

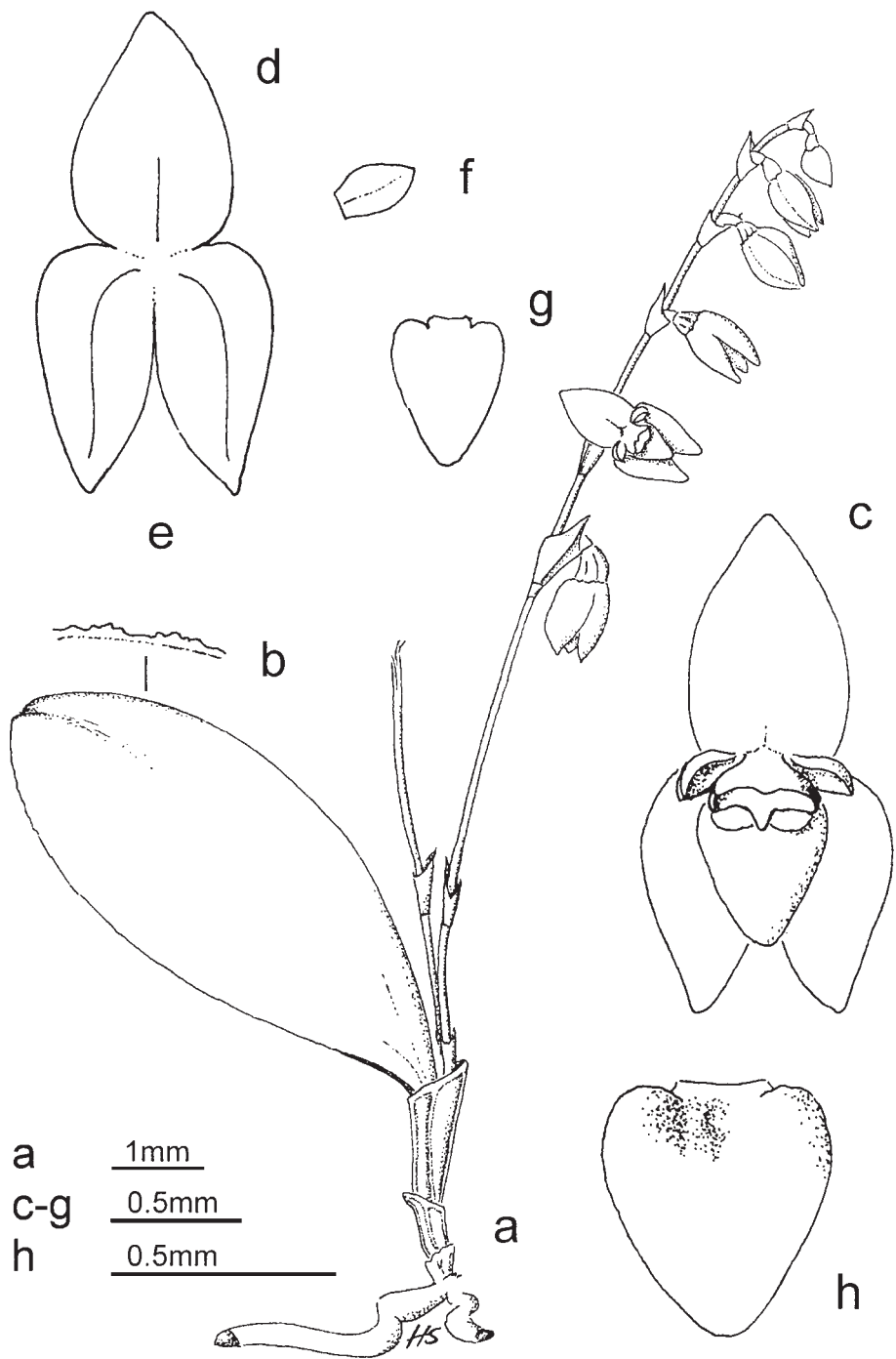


Fig. 2. *Platystele hyalina* H. Stenzel – a: habit; b: margin of the leave (not to scale); c: flower; d: dorsal sepal; e: lateral sepals; f: petal; g+h: lip. – Drawings from the type collection.

(68%) or *Euphorbiaceae* (67%) (Capote & al. 1989). However, some of the orchidaceous genera show a high number of autochthonous taxa in the serpentine area mentioned. For example, 11 of the 16 *Pleurothallis* species endemic to the island are confined to the Sagua-Baracoa massif.

According to Luer (1990) there is only one species of the genus *Platystele* known from the Antilles including Cuba (Dietrich 1984): *Platystele ovalifolia* (Focke) Garay & Dunsterv. A second species, to be described here, was collected near Moa on the Altiplanicie del Toldo, belonging to this serpentine massif.

***Platystele hyalina* H. Stenzel, sp. nova** – Fig. 2

Holotype: Cuba, Holguín, Sierra de Moa, El Toldo, NE from the Mina El Piloto (abandoned miners' camp), headwaters of the Río Piloto, in dwarf forest on serpentine along the creek, 17.6.1998, Stenzel 569 (HAJB; isotype: MO).

Planta minutissima, affinis *Platystelae ornatae* a qua inflorescentia laxa, sepalis, petalis et labello integris et omnino glabris differt.

*Plant* epiphytic, caespitose, 0.6–1.3 cm high (without inflorescence). *Ramicauls* short, up to 4 mm long, 3-articulate, covered by three scarious, infundibuliform, glabrous sheaths. *Leaves* slightly succulent, elliptic to oblanceolate, both sides glabrous, apex obtuse, margin minutely crenulate, blade 4–10 mm long, 3–4 mm wide. *Inflorescence* two to four racemes with 4–12 laxely arranged flowers, 1.2–2 cm long; peduncle rising to pendulous, glabrous, bearing two sheaths, 0.6–0.7 mm long, arising from a minute spathe less than 1 mm long; rachis 0.6–1.3 cm long; floral bracts funnel-shaped, very acute, hyaline, up to 0.8 mm long; pedicel up to 0.6 mm long, fused at the base with the rachis. *Flowers* hyaline, cream-coloured or greenish white with the veins reddish; *sepals* membranous; dorsal sepal connate to the laterals only at the very base, ovate, one-veined, apex acute, margin entire, 0.9 mm long, 0.6 mm wide; lateral sepals connate only at the base, one-veined, ovate, margin entire, apex acute, 0.8 mm long, 0.5 mm wide; *petals* membranous, free, abaxially convex, elliptical to ovate, slightly conduplicate, one-veined, margin entire, apex acute, 0.3 mm long, 0.2 mm wide; *lip* cream-coloured or greenish white, slightly carnose, ovate to obcordate, 0.6 mm long, 0.4 mm wide when expanded, margin entire, apex sub-acute to obtuse; upper side covered by transverse, minute calli; base abruptly unguiculate; *column* whitish; *anther* apical, cap papillose; *stigma* bilobed, apical; *pollinia* two, long clavate; *ovary* 0.4 mm long, glabrous.

*Etymology.* – Named for the translucent appearance of the flowers from Latin 'hyalinus'.

*Platystele hyalina* grows along creeks in the scrub vegetation on serpentine known as "charrascales" (Capote & al. 1989). It seems to be extremely rare and is known only from the type locality.

The systematic position of the species is not immediately evident, since it shows intermediate features. The floral morphology is that of *Platystele* Schltr. and *Lepanthopsis* Ames, and it is, on the one hand, clearly distinguished from the latter by the glabrous sheaths of the ramicauls. These sheaths are, on the other hand, ribbed and thickened, as is characteristic for *Lepanthopsis* Ames and *Lepanthes* Sw. rather than *Platystele*. Also the smooth and elongated pollinia are typical for *Lepanthes* rather than for *Platystele* (Stenzel 2000).

## Acknowledgements

I am indebted to Dr A. Urquiola and A. F. Urquiola (Jardín Botánico, Pinar del Río), who discovered *Pleurothallis oricola* and organized all my field trips in western Cuba. Furthermore I would like to thank J. Ferro (Centro de Investigaciones y Servicios Ambientales, ECOVIDA, Pinar del Río) for supplying material of *Pleurothallis caymanensis* and accompanying us in Guana-hacabibes. Special thanks go to C. A. Luer for comments on the generic classification. Part of the field work was kindly funded by a grant from the Deutscher Akademischer Austauschdienst (DAAD).

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