



## A new *Restrepia* (Orchidaceae) species, epiphyte on *Magnolia*

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### Abstract

During recent field work looking for new trees species, a *Magnolia* with many epiphytes has been found, housing plants of a very small *Restrepia* producing rather large, green flowers. This orchid is described as a new species, illustrated and compared to its closest relative, *Restrepia piperitosa*.

### Résumé

Au cours d'explorations botaniques de terrain à la recherche de nouvelles espèces d'arbres, un *Magnolia* fut trouvé, qui abritait plusieurs épiphytes. Et notamment des plantes représentant un *Restrepia* de très petite taille, quoique adulte et en fleur. Ses fleurs sont relativement grandes, par rapport à la taille des plantes, et de couleur verte avec des points lilas en extrémité des tépales. Son examen – mené à la lumière des données de la littérature, des spécimens conservés à BIGU et du matériel de la *Estación Experimental de orquídeas de Guatemala* – a montré qu'il s'agissait d'une espèce nouvelle. Elle est ici décrite, illustrée et comparée à l'espèce la plus proche sur le plan morphologique, *Restrepia piperitosa*.

## Resumen

En recientes exploraciones de búsqueda y estudio de nuevas especies de árboles para Guatemala se pudo estudiar y descubrir nuevas especies del género *Magnolia*, una de ellas llamó la atención particularmente por ser un excelente hospedero para orquídeas, bromelias y otras especies epifitas. Al coleccionar las muestras de la nueva *Magnolia* llamó la atención plantas muy pequeñas de *Restrepia*. Al principio se pensó que se trataba de plantas juveniles de *Restrepia muscifera* que se encuentra en el área; al observar detenidamente se pudo establecer que poseía flores de un color verde limón totalmente diferentes a lo ya descrito para Mesoamérica, después de observar su morfología detalladamente y de un análisis detenido de literatura del género, materiales del herbario BIGU, materiales vivos y en espíritu de la Estación de Orquídeas, se pudo establecer que se trataba de una nueva especie, de la que se presenta a continuación su descriptor, su diagnosis en latín, fotografías e iconos botánicos.

**Keywords:** Guatemala, *Magnolia*, Pleurothallidinae, taxonomy

**Mots clés :** Guatemala, *Magnolia*, Pleurothallidinae, taxinomie

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## Introduction

The study of the Neotropical orchid flora allowed us to observe many species belonging to other botanical families and to collect material for specialists working with different plant groups. Thus we could collect specimens representing new species, such as, for instance, *Yuca lacandonica* (Veliz & Archila, 2015: 53), *Peperomia cirillii-nelsonii* (Veliz, Archila & Velásquez, 2017: 46), *Peperomia quetzal* (id.: 47), *Peperomia valdezii* (id.: 51), *Desmopsis quichensis* (Tribouillier, Archila & Veliz, 2017: 54), *Anthurium archilae* (Croat & Hormell, 2017: 127), or new records of known species, such as *Hampea montebellensis* (Fryxell, 1977: 291), in the same article (Veliz *et al.*, 2017).

During last decades orchid number has considerably grown as we can see, for Guatemala, through the numbers successively reported by Ames & Correll (1952-1953) – 527 species – then by Archila (1992), as a result of his basic studies – 800 – and then by Archila (2014) after a more extensive field work – 1237. And the number is still growing.

During recent exploration trips looking for new trees species, we had the opportunity of finding various new species in the genus *Magnolia*. One of them strongly caught our attention because, as far as we could appreciate it, it was an excellent host of epiphytic plants such as Araceae, Orchidaceae, Bromeliaceae, Polypodiaceae, Ericaceae etc. Upon one of our numerous visits, we could observe that this tree housed many juvenile-looking plants of the genus *Restrepia*.

*Restrepia* Kunth (1816: 366) is an orchid genus classified into the subtribe Pleurothallidinae, named after Don José Restrepo, a pioneer investigator of the Colombian flora (Luer, 1986).

In the wild the genus can be easily recognized as it presents stems and leaves in the same vertical plane, stems always covered by flat bracts pale coffee-coloured, flowers always with apices of the dorsal sepal and petals thickened by osmophores. It has petals membranous, narrowly linear triangular, a lip ovate-oblong to slightly pandurate, smooth to verrucose, serrate, basally slightly concave and with a callus oblong slightly depressed in the middle, a column elongate, winged in the upper part, without column foot but with a basal disc, an anther incumbent, mobile, 4 pollinia unequally shaped and sized, clavate, obovoid or obliquely obovoid, laterally flattened, with caudicles granular, sticky, a clinandrium apical, prominent, a stigma ventral, confluent, deeply concave, a rostellum ligulate or triangular, truncate, and no viscidium (Archila *et al.*, in press).

The disc at the column base differentiates this genus from all other Pleurothallidinae genera. Although rarely taken into account as a character for interspecific differentiation, it presents unique characteristics among the species besides some particular colorations such as intensely yellow spots.

Ames & Correll (1952-1953) reported for Guatemala a single species of *Restrepia*, treated as *Pleurothallis*, *P. xanthophthalma* (Reichenbach f., 1865: 300) L.O. Williams (1940: 144), and cited *P. muscifera* Lindley (1842: 79) as an « obscure species ... very probably the same as *P. xanthophthalma* ». Both taxa are actually treated as conspecific by some authors. However Archila *et al.* (2013) showed that the latter should be treated as a good species. Later several new species have been added, such as *Restrepia archilae* Chiron & Szlachetko (in Archila *et al.*, 2013: 237), *Restrepia mayana* Archila, Chiron & Szlachetko (2013: 236), *Restrepia cobanensis* (id.: 238), *Restrepia valverdei* Archila, Jiménez Rodríguez & Véliz (2015: 15) – which presents the tallest plants of the genus in Guatemala, up to 30 cm high – and, recently,

*Restrepia nicolasii* Archila, Szlachetko & Chiron (in Archila *et al.*, 2017: 3), which produces the largest flowers in the genus.

In the present article, we describe another new *Restrepia* species, which is the smallest plant in the genus. Indeed, at observing more carefully the plants found on the *Magnolia*, we observed relatively large flowers of an atypical green color with lilac spots on the apices of petals and sepals. After studying the literature, the herbarium specimens at BIGU and the living and liquid collections at the Orchid Station of the Archila family, we came to the conclusion that these plants did not fit with any known species.

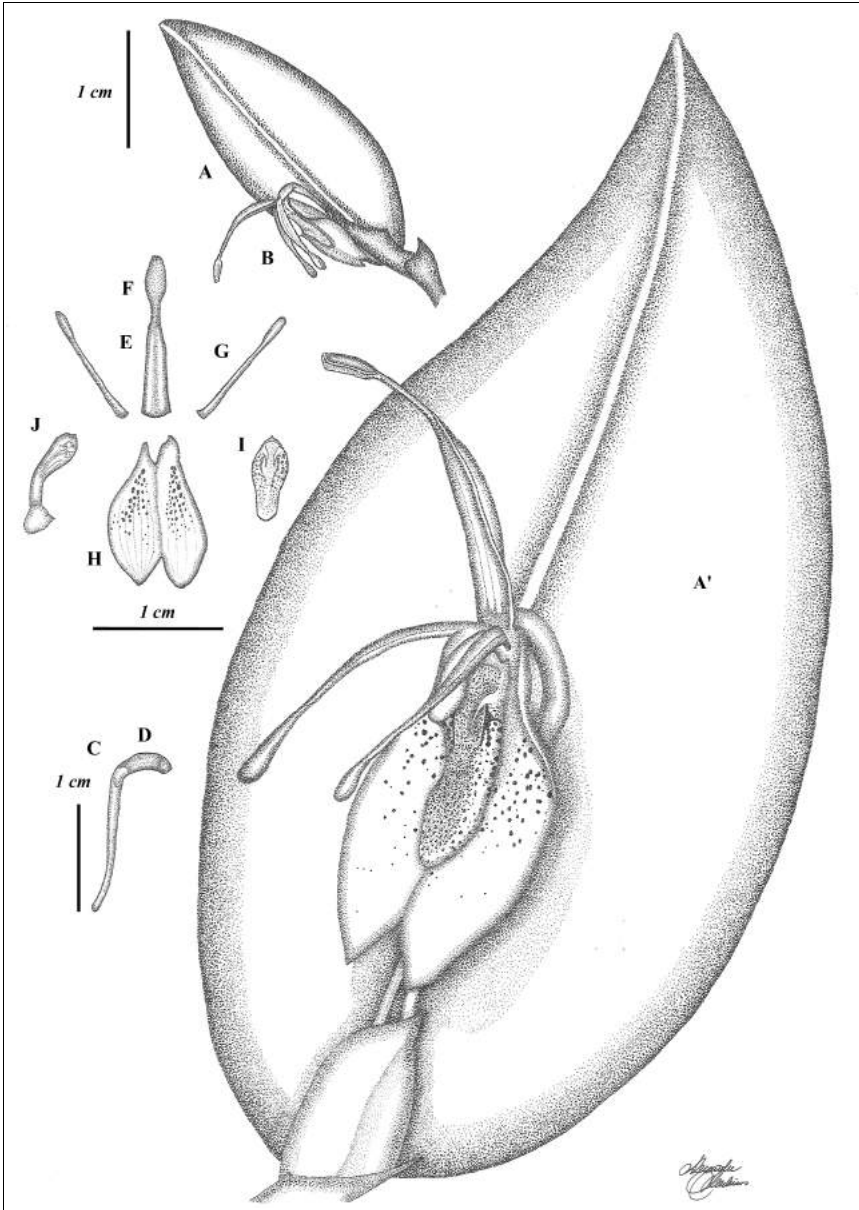
***Restrepia vasquezgarciae* Archila, Chiron & Reyes V., *sp. nov.***

Types: Guatemala, Alta Verapaz, Tactic, creciendo sobre una nueva especie de *Magnolia*, 1400 m s.n.m. Col. Fredy Archila, 08/2010, *FA-sn* (holotype BIGU, paratype BIGU).

Etymology: the species is dedicated to Antonio Vásquez-García, a botanist specialised in *Magnolia*.

*Haec species Restrepia piperitosa Luer similis est sed planta minore, 5 cm alta (vs. 12 cm), caulibus duabus (vs. 6) vaginis tectis, foliis late ovatis (vs. ellipticis), floribus viridibus (vs. roseis), sepalo intermedio lineare-ovato (vs. ovato), sepalis lateralibus planis (vs. canaliculatis), petalis linearibus (vs. lineare-ovatis), labello apice truncato-obtuso (vs. truncato), columna curvata (vs. recta), differt.*

Fig. 1, 2 & 3. Plant very small for the genus; ramicaul 15 mm long, covered by 2 sheaths, apically 1-leaved; sheaths flattened, 9 mm long, 5 mm wide at the obliquely acute ostium, the upper one being a floral bract partly covering the pedicel; leaf 28-30 × 14-24 mm, broadly ovate acute, with an apex inconspicuously tridentate; pedicel 17 mm long; ovary cylindrical, 3 mm long, geniculate; dorsal sepal 11-12.5 mm long, ca. 2 mm wide in the middle, linear-ovate in the lower part, with an obtuse apex thickened by a short osmophore; osmophore ca. 3-3.5 mm long, elliptic, smooth on the dorsal surface and unevenly rugose on the ventral surface; lateral sepals connate to form a synsepal elliptic, ca. 12 × 7-7.5 mm, with free apices obliquely acute and a glandular pubescence along the nerves; petals 10 mm long, 1.2 mm wide at the base, oblong in the basal part then linear in the median part and oblong in the apical part thickened by an osmophore; lip 6-7 mm long, ca. 2 mm wide in the top, ca. 3 mm wide in the basal part, oblong, apically truncate-obtuse, basally truncate, with 2 small lateral



**Fig. 1.** *Restrepia vasquezgarciae*

A. plant (fragment; A' not to scale); B. flower; C. pedicel; D. ovary; E. dorsal sepal; F. osmophore of the dorsal sepal; G. petals; H. synsepal; I. lip; J. column  
[drawing Alexandre Medeiros]

lobes, 1.2-1.4 mm long, falciform, curved towards the lip inside and formed by 2 projections of the middle area of the lamina; gynostemium linear capitate, strongly curved in the basal part, with, at the base, a thickened subcordate disc.



**Fig. 2.** *Restrepia vasquezgarciae*  
a flowering plant  
[ph. Javier Archila]



**Fig. 3.** *Restrepia vasquezgarciae*  
flower  
[ph. Javier Archila]

Note: the species is not reminiscent of any other member of *Restrepia*. The only species presenting a vague resemblance is *Restrepia piperitosa*, especially in the width and shape of the synsepal. However the latter produces plants more than twice higher, its ramicauls are enclosed within 6 sheaths, its leaves are elliptic, its flowers are pinkish, its dorsal sepal and its petals are wider and its column is straight, not curved.

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