



## A new species of mule-ear oncidium with straw-yellow flowers (Orchidaceae: Oncidiinae, *Lophiaris*) from central Panama

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### Abstract

*Lophiaris silverarum* Carnevali & Cetzal, known from two localities in central Panama, is herein proposed as a new species. It is related to *L. crispiflora* and *L. carthagenensis* from which it is easily distinguished by its larger flowers of a straw-yellow color with many laxly arranged, non-confluent reddish-brown spots. The new species is described and illustrated and distributional maps are provided. Furthermore, a table and a key comparing the new species against close relatives are included. The conservation status of *L. silverarum* is assessed as EN by the IUCN criteria.

**Key words:** Coclé, *Lophiaris silverarum*, *Trichocentrum* clade, Veraguas

### Introduction

*Lophiaris* Rafinesque (1836: 40–41) consists of 25 species and three described natural hybrids that are distributed from southern Florida in the United States of America, the West Indies, and from northern Mexico to southern Brazil and northern Argentina (Cetzal-Ix & Balam 2012). The genus is most diverse in Megaméxico (Rzedowski 1991) where 17 species occur, of which 15 are endemic (Balam *et al.* 2011). The genus belongs in clade C of the Oncidiinae (Chase *et al.* 2009; Neubig *et al.* 2012), characterized, among other features, by unifoliate pseudobulbs clothed by sheaths that lack foliar blades, succulent leaves and low chromosome numbers for the Oncidiinae ( $2n = 26–36$ ). According to our interpretation of generic limits, clade C consists of six genera, namely, *Saundersia* Reichenbach (1866: 120), *Grandiphyllum* Docha Neto in Docha-Neto & Batista (2006: 75), *Lophiarella* Slazchetko, Mytnik & Romowicz (2006: 53), *Cohniella* Pfitzer (1889: 194), *Lophiaris*, and *Trichocentrum* Poeppig & Endlicher (1838: 11). The first two genera comprise a clade, with the last four in a sister clade. The latter four genera are the *Trichocentrum*-clade (Carnevali *et al.* 2013). The generic circumscriptions within clade C have been the subject of a long standing discussion but there is now convincing support to the notion of recognizing four genera instead of a broadly defined but undiagnosable single genus in the *Trichocentrum*-clade (e.g. Carnevali *et al.* 2010, Cetzal-Ix *et al.* 2012, Carnevali *et al.* 2013), albeit other authors disagree (e.g. Neubig *et al.* 2012). The most recent key to the genera of this clade was published in Carnevali *et al.* (2013).

Plants of *Lophiaris* differ from those of other members of clade C by their short, elongate pseudobulbs, succulent, conduplicate leaves with 2–7 papillae per epidermal cell, mostly flexuous, short to elongate, often paniculate inflorescences, the sepals and petals with reticulate venation, and the papillose outer surface of the perianth (Balam 2007, Cetzal-Ix *et al.* 2008). The systematics of the genus have been complicated by the superficial similarity, both vegetative and floral, of the species and by two centuries of involvement by horticulturists, who often proposed new taxa based on poorly documented plants. The flowers of many species are superficially similar and preserve poorly in the herbaria. Characters used to distinguish species in *Lophiaris* are mainly floral, such as the size and color of the flowers, shape and position of the lateral lobes of the labellum, the shape and emargination of the apex of the central lobe of the labellum, the number, shape, and position of the teeth

the past before rampant anthropogenic disturbing of its habitats happened, but the species is nowadays likely confined to isolated large trees in pastures or along rivers. The new species is known from an area of approximately 2500 km<sup>2</sup>, which is severely fragmented and likely to become even more so in the foreseeable future. Since *L. silverarum* is currently known from only two localities, the species meets criteria B1ab of the IUCN (2010) and should be considered as Endangered (EN).

#### Key to *Lophiaris silverarum* and morphologically similar species

1. Flowers 25–30 mm diameter; perianth segments straw-yellow with red or brown small spots (0.7–1 mm diameter) that are always non-confluent and heterogeneously dispersed over the whole surface; dorsal sepal 12–14 × 8–11 mm; isthmus of the labellum 5 mm width; plants from western Panama ..... *L. silverarum*
- Flowers 16–23 mm wide (usually under 20 mm) diameter; perianth parts white or greenish (more rarely straw-yellow or pale rose) with red-brown, wine-colored or magenta spots, these larger (> 1.5 mm) and confluent or not, often so dense as to cover most of the surface of the perianth segments; isthmus of the labellum 2–4 mm width; plants from southern Mexico to northern South America ..... 2
2. Callus low, not prominent, composed of clearly defined proximal and distal sections, proximal teeth of the callus conical with a smooth surface to the apex; central keel of the callus with one tooth; plants from northeastern Mexico to southwestern Honduras and Nicaragua ..... *L. oerstedii*
- Callus prominent, high, not composed of clearly defined proximal and distal sections but instead divided by a longitudinal ridge into right and left sections; central keel of the callus with 1–6-or more teeth; plants from northeastern Honduras to Venezuela ..... 3
3. Central keel of the callus with 6 -or more conical, irregular teeth, dividing both distal and proximal sections of the callus in left and right parts; plants from Colombia and Venezuela on the eastern side of the Andes or in extreme northern Colombia ..... *L. carthagenensis*
- Central keel of the callus with only 1–2 globose teeth, dividing only the distal section of the callus into left and right portions; plants from northeastern Honduras to Panama ..... *L. crispiflora*

#### Acknowledgements

Gustavo A. Romero-González (AMES), Rodrigo Duno (CICY), and Gaspar and Katia Silvera provided comments and suggestions on earlier drafts of this manuscript. Silvia Hernández Aguilar and José Luis Tapia (CICY) assisted with herbarium loans. We are indebted to Franco Pupulin (JBL) for giving us permission to use the images of *L. crispiflora*. Eliana Noguera-Savelli provided an image of *L. carthagenensis*. CONACyT partially funded this project via grant 49980-Q (“Filogenia molecular y morfológica, revisión sistemática y una exploración de cuatro regiones no-codificantes del genoma del cloroplasto para estudios filogeográficos en el complejo *Trichocentrum* (Orchidaceae: Cymbidiinae: Oncidiinae)”, awarded to the senior author. The second author would like to thank the support from Consejo Nacional de Ciencia y Tecnología (CONACyT) by scholarship (162579) for postdoctoral studies.

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