



# *Warrea rubroglossa* (Orchidaceae), a new very showy geophyte

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## Abstract

The genus *Warrea* and even the entire subtribe Warreinae have only one member reported from the northern part of Mesoamerica, *Warrea costaricensis*. The present article proposes a new species, *Warrea rubroglossa*, which is described, illustrated and compared to the latter; and also to *Warrea warreana*, a species from Southern America, regrouping in its synonymy several published specific names.

## Résumé

Le genre *Warrea* et même la sous-tribu Warreinae n'ont qu'un seul représentant connu dans le nord de l'Amérique Centrale, *Warrea costaricensis*. Dans cet article nous proposons une nouvelle espèce, *Warrea rubroglossa*, qui est décrite, illustrée et comparée à *Warrea costaricensis*, mais aussi à *Warrea warreana*, une espèce d'Amérique du Sud regroupant dans sa synonymie plusieurs noms d'espèces.

## Resumen

El género *Warrea* y toda la subtribu Warreinae tiene sólo un miembro reportado de la parte norte de Mesoamérica, *Warrea costaricensis*. El

presente artículo propone una nueva especie, *Warrea rubroglossa*, que se describe, ilustra y compara con la especie ya descrita; y también a *Warrea warreana*, una especie de América del Sur que reagrupa en su sinonimia varios nombres específicos publicados.

**Keywords:** Guatemala, new species, taxonomy, Zygopetalae

**Mots-clés :** Guatemala, nouvelle espèce, taxinomie, Zygopetalae

**Palabras Clave:** Guatemala, nueva especie, taxonomía, Zygopetalae

## Introduction

Orchids have long drawn attention by their varied colours, strange shapes and life-forms: terrestrial, epiphytic, hemiepiphytic, epipetric, hemiaquatic – in Guatemala it is common to find plants of *Habenaria* Willdenow (1805: 5) or *Habenella* J.K.Small (1903: 316) growing together with other floating plants such as *Eichornia* A.Richard (1850: 273) and some Juncaceae, Cyperaceae, Poaceae, Araceae, ... The senior author has also observed *Epidendrum radicans* Pavon ex Lindley (1831: 104) growing as hemiaquatic.

In a general way study of terrestrial orchids is complex because most of them have very delicate vegetative parts and very short-lived small flowers. It is thus complicate to investigate terrestrial orchids except in Europe where they have been studied for a long time, with a greater collection intensity by more researchers. In Neotropics, for several centuries, there was a lack of data despite valuable information from a few great taxonomists as Rudolf Schlechter: geophytes remained little studied for many years. It changed in the 1960s and 70s when Leslie Garay appeared, devoting time to the detailed study of terrestrial orchids, followed by very important contributions from Burns Balog and Dariusz Szlachetko and his team, that raised the study of terrestrial orchids to another level. These pioneers invested a great deal of resources and efforts towards a precise investigation of the geophyte Orchidaceae, publishing dozens of articles and several books on the subject (see Szlachetko *et al.*, 2005; Rutkowski *et al.*, 2008).

The same can be observed in Guatemala. The knowledge of the geophytic complexes in Orchidaceae have strongly increased in the last decades (e.g. Mytnik-Ejsmont *et al.*, 2012; Archila *et al.*, 2018). However more work is needed to correctly understand the richness and complexity of the Guatemalan terrestrial orchids.

One of the geophytic genera that stand out in Guatemalan tropical forests is *Warrea* Lindley (1843: misc. 14) because of its large plants and its large vivid-coloured and showy flowers. According to Szlachetko (1995) the genus is part of the tribe Zygopetaleae Pfitzer (1887: 103) subtribe Warreinae Szlachetko (1995: 96) and related to genera *Otostylis* Schlechter (1918: 38), *Warrella* Schlechter (1914: 424) and *Warreopsis* Garay (1973: 51). A number of names have been published in the genus, most of them either transferred into other genera, or placed into the synonymy of *Warrea warreana* (Loddiges ex Lindley, 1832: t. 148) C.Schweinfurth (1955: 55), a species reported from the South America, from Colombia to Argentina. *Warrea* raises really a problem due to a certain homogeneity in the floral morphology even in species thousands of kilometers away from each other. However some macrocharacters and microcharacters allow to distinguish plants at the species level, such as lip shape, apex and texture, callus size, column shape, shape of the lateral sepals at base.

Only one species of *Warrea* has been recorded in Guatemala (Archila, 2014): *W. costaricensis* Schlechter (1920: 446), a species present in Mexico, Guatemala, Nicaragua, Costa Rica and Panama. It is also the only species belonging to the subtribe Warreinae reported from northern Central America to Costa Rica, all the other taxa growing in South America (one of them also reported from Panama and Costa Rica). During recent botanical trips the senior author had the opportunity to observe various populations of plants belonging to the genus, but different from *W. costaricensis*. Here we describe them as a new species.

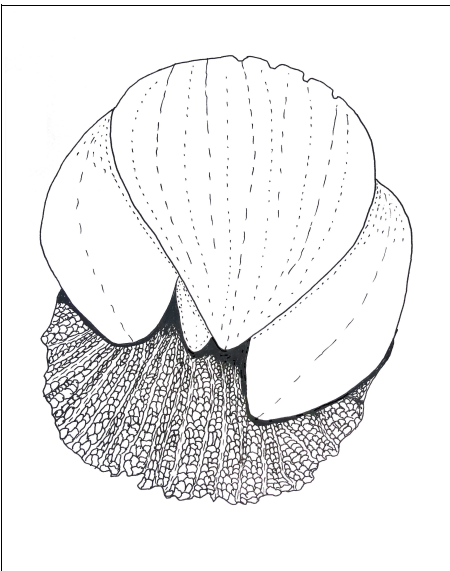
### ***Warrea rubroglossa* Archila, Chiron & Tribouillier sp. nov.**

Holotype: Guatemala, Alta Verapaz, municipio de Cobán, 1000 m asl., IX/1999, FA-1005 (BIGU).

Etymology: from the Latin word *ruber* (red) and the Greek word *γλωσσα* (*glossa* = tongue) for the red lip.

*Haec herba Warrea costaricensis Schlechter similis est sed floribus sanguineis (versus eburneis vel brunneis), labello rectangulare (versus elliptico-rhombico) cum duobus lobis basalibus (versus haud lobato), labelli apice praemorso (versus obtuso) multo papilloso (versus leviter papilloso), petalis obovato-ellipticis apice apiculatis (versus ovatis obtusis), sepalis lateralibus oblique oblongis (versus oblique ellipticis) cum margine basale proximo plicato in lobum oblique rotundatum (versus margine integro) differt.*

Plants terrestrial caespitose with many roots, usually growing in scrubby field; pseudobulbs conical, with 3 internodes, 7 cm long, 2 cm across, covered by the petioles of the two foliar bracts; leaves 2, long-petiolate, petiolate part canaliculate 16 cm long, blade elliptic, plicate, 50 cm long, 6 cm wide, with a median nerve and 7 lateral ones, abaxially prominent; inflorescence longer than leaves, 1 m long, 4-5-flowered; flowers black red; median sepal 3 cm long, 1.4 cm wide, obovate-elliptic apically obtuse, basally widened; lateral sepals obliquely oblong, with an apex obliquely acute corrugated, the base of the proximal margin folded projecting into a obliquely rounded lobe 3.8 cm long and 1.7 cm wide; petals obovate-elliptic apically apiculate 3.2 cm long, 1.6 cm wide; lip rectangular apically premorse 3.3 cm long, 1.9 cm wide, apically papillose (papillae very large), basal part cuneate with two small inner lobes obliquely oblong and apically obtuse (apparently used to give it mobility when pollinators visit the quite closed flowers) and with a dorsally keeled linear callus 1.6 cm long; gynostemium 2.4 cm long, 0.7 cm wide, ventrally ribbed with an isthmus at base, column foot trapeziform 0.8 cm long; pollinia 4. Fig. 1 & 2.



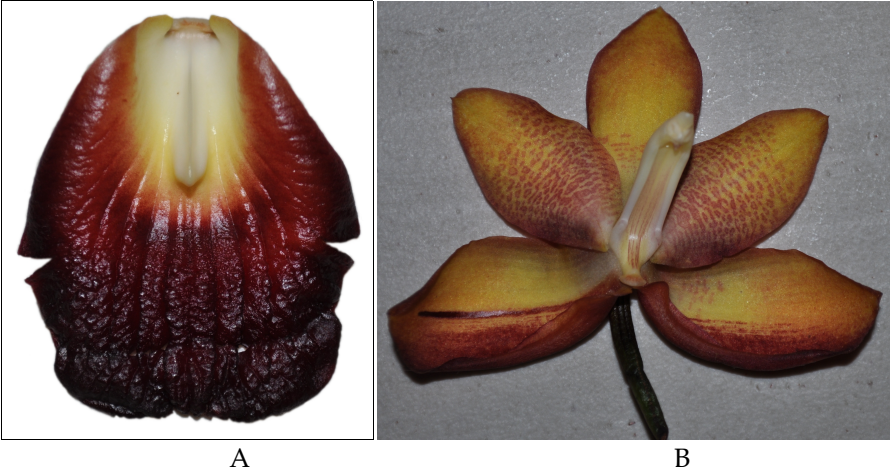
A



B

**Fig. 1. Flower of *Warrea rubroglossa***

A. drawing Fredy Archila. B. ph. Fredy Archila



**Fig. 2. Dissected flower of *Warrea rubroglossa***

A. lip. B. petals, sepals and column [ph. Fredy Archila]

Taxonomic notes. This species differs from *Warrea costaricensis* by the flower colour (dull red *versus* ivory to brown), the lip outline (rectangular *versus* elliptic rhombic), the two small lobes at the lip base (*versus* entire lip), the premarse and very papillose lip apex (*versus* obtuse slightly papillose), the lateral sepal shape (oblong *versus* elliptic), the basal proximal margin of the lateral sepals folded into a lobe (*versus* entire) and the petal shape (obovate-elliptic apiculate *versus* ovate obtuse to rounded). Figures 3 & 4 represent *Warrea costaricensis*, for comparison.

From *Warrea warreana* the new entity is totally different and immediately distinguishable, for example by the flower colour (petals and sepals very pale, from white to pinkish or yellowish, lip white to light red, in the former), the flower shape (distinctly more open), the lateral sepals (not folded) ...

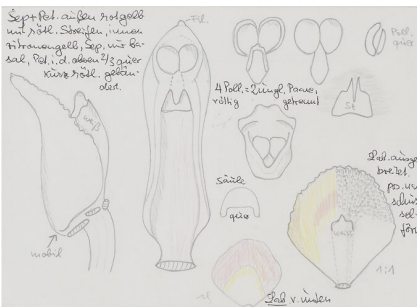
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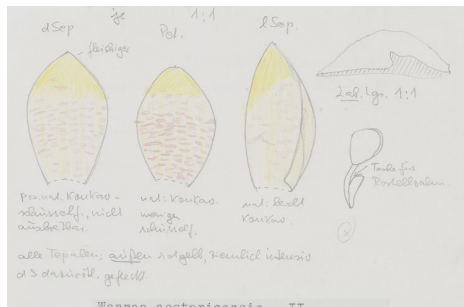
**Fig. 3. Flower of *Warrea costaricensis***

[ph. Fredy Archila



*Warrea costaricensis*

BGH 0-17801 coll. C.K. Horich/Costa Rica  
delin. 26.10.1984



*Warrea costaricensis* II

BGH 0-17801 coll. Horich/Costa Rica  
delin. 2.2.1987

**Fig. 4. Dissected flower of *Warrea costaricensis***

Left. lip and column. Right. other floral segments

[drawing K. Senghas]

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