



## Epiphytic mosses from the understory of a forest in El Zancudo (“Los Bolsones”), La Paz, Honduras

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### Abstract

A list of 34 epiphytic moss species from El Zancudo (“Los Bolsones”), Honduras, is presented. Among them are five species new for Honduras, one of them new to Central America. It is concluded that the area of montane rain forest at the border between south-western Honduras and north-eastern El Salvador is bryologically diverse but yet underexplored.

**Key words:** Central America, Honduras, El Zancudo, “Los Bolsones”, mosses

### Resumen

Se presenta una lista de 34 musgos de El Zancudo (“Los Bolsones”), Honduras. Entre ellos se encuentra el registro de cinco especies nuevas para Honduras y una de esas especies es también nueva para Centro América. Se concluye que la selva tropical lluviosa entre la región nor-oriental de El Salvador y la parte sur occidental de Honduras es briológicamente diversa pero todavía poco explorada.

**Palabras claves:** Centro América, Honduras, El Zancudo, “Los Bolsones”, musgos

### Introduction

Large parts of Central America are still scarcely known bryologically (Salazar Allen *et al.* 2006, Búcaro *et al.* 2012), which also holds true for Honduras. With about 112,000 km<sup>2</sup> Honduras is the second largest of the seven Central American countries after Nicaragua. It is divided into 18 departments, namely Atlántida, Choluteca, Colón, Comayagua, Copan, Cortés, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, Islas de La Bahía, La Paz, Lempira, Ocotepeque, Olancho, Santa Bárbara, Valle, and Yoro.

Britton & Williams (1914) were the first to report mosses from Central America, including six species from Honduras, based on collections by P. Wilson from the northern coastal departments of Atlántida and Gracias a Dios in 1903. Bartram (1929) published 79 species of mosses from Paul C. Standley’s 1927–1928 collections from Dept. Atlántida (Lancetilla valley and vicinity of Tela) and the interior of Dept. Comayagua. Two years later, Standley (1931) published another list of bryophytes of the Lancetilla valley, including 30 liverwort species identified by Th. Herzog. In 1934 and 1936 T.G. Yuncker collected in the same areas visited by Standley as well as near Lake Yojoa and Potrerillos in Dept. Cortés (Yuncker 1938). Crum (1950, 1952) published results from collections by T.H. Hubbell from Dept. Francisco Morazán (Cerro Uyuca and nearby Cerro San Juanito, 1948) and by Paul J. Shank (vicinity of El Zamorano). Finally Reese (1965) reported some mosses collected by J. F. Coleman in Dept. Cortés. Bryophyte collections from all 18 departments of Honduras, possibly except Islas de La Bahía, are listed in Tropicos (Missouri Botanical Garden 2014). However, the number (215 bryophyte species) reported by Salazar Allen *et al.* (2006) for the country is probably still too low since only a small percentage of the territory of Honduras has been explored.

In the present study we provide first data on the bryoflora of El Zancudo (La Paz), a place close to the border of El Salvador, which is difficult to access. El Zancudo was officially considered Salvadoran territory after the “Football War” or “100-hour War” between El Salvador and Honduras in 1969. In 1980 both countries signed a peace treaty and agreed to resolve the border dispute over five land sections, Los Patios, Carrizal, Nahuaterique, Pasamano and

## RACOPILACEAE

*Racopilum tomentosum* (Hedw.) Brid., *Búcaro* Z0781. Known from all Central American countries (Búcaro *et al.* 2012, references and collections in Missouri Botanical Garden 2014).

## RHIZOGONIACEAE

*Pyrrhobryum spiniforme* (Hedw.) Mitt. = *Rhizogonium spiniforme* (Hedw.) Bruch, *Búcaro* Z0779. Known from all Central American countries (Allen 2002).

## SEMATOPHYLLACEAE

*Sematophyllum galipense* (Müll.Hal.) Mitt., *Búcaro* Z0740. Known from all Central American countries (Búcaro *et al.* 2012, references and collections in Missouri Botanical Garden 2014).

*Sematophyllum swartzii* (Schwägr.) W.H. Welch & H.A. Crum = *S. insularum* (Sull.) Mitt., *Búcaro* Z0736. Collected in all Central American countries according to specimens listed in Tropicos (Missouri Botanical Garden 2014).

## THUIDIACEAE

*Thuidium delicatulum* (Hedw.) Schimp. var. *delicatulum*, *Búcaro* Z0772. Collected in all Central American countries according to specimens listed in Tropicos (Missouri Botanical Garden 2014).

## Discussion

El Zancudo is a part of an ecosystem of tropical montane rain forest that remained virtually unknown bryologically. One reason may be the difficult accessibility of the mountainous area at the borderline between Honduras and El Salvador. The number (34 species) of epiphytic mosses alone, collected in a small area and during only part of one day, indicates that the area is bryologically highly diverse. This diversity may be promoted by favorable climatic conditions, but also by little human disturbance. The five species new to Honduras furthermore indicates that the bryoflora of the whole country is still underexplored, as already stated by Crum (1952). On the basis of the LATMOSS (Delgadillo *et al.* 1995), Salazar Allen *et al.* (2006) reported 215 moss species from Honduras. Recent collection efforts in El Salvador resulted in a significant increase of known moss species from 212 (Salazar Allen *et al.* 2006) to 264 (Búcaro *et al.* 2012), which can be expected for Honduras as well after more extensive collecting in the area of El Zancudo and similarly underexplored parts of the country. Besides, the high diversity of the mountainous area in southwestern Honduras should be considered in land use and conservation actions, such as the establishment of biosphere reserves and ecological corridors (e.g. the Corredor Biológico Mesoamericano) or the Lepaterique Process on criteria and indicators for sustainable forest management in Central America (Anonymous 1997).

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