



New Laboulbeniales parasitic on weevils from the Amazon rainforest

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Abstract

Four new species of *Laboulbenia* parasitic on Curculionidae (Insecta, Coleoptera) from Ecuador are described. These are *L. dichroma* on *Geraeus* sp. (Conoderinae, Barididae, Madarini); *L. elephantina* on *Udeus* sp. (Curculioninae, Eugnomini); *L. inopinata* on *Lechriops* spp. (Conoderinae, Lechriopini) and *Macrocopturus* spp. (Conoderinae, Zygopini); *L. microcarpa* on *Sicoderus* sp. and *Lancearius esau* (Curculioninae, Erodiscini).

Key words: Curculionidae, Ecuador, *Laboulbenia*, Yasuní

Introduction

With about 51 000 described species, the family Curculionidae (weevils) is one of the largest among the beetles (Insecta, Coleoptera). On the other hand the Laboulbeniales, parasitic fungi of arthropods, are the most “biodiverse” group of non lichenized Ascomycota with more than 2 000 species. It’s therefore somewhat surprising that the Laboulbeniales reported thus far on weevils are very, very few.

The first species of the Laboulbeniales recorded on Curculionidae is *Laboulbenia hyemalis* Speg., which is said to be parasitic on an “*Anthonomus* ... naranjado con 4 grandes ojos negros dorsales” (which means: “orange with 4 black eyes on the elytra”: Spegazzini 1917: 629). However, in the same paper Spegazzini describes *Laboulbenia unicornis*, parasitic on *Anthocomus* sp., which is said to be the same host of *L. hyemalis* (p. 564). Until new records of these parasites will be found, we are unable to tell if the host of *L. hyemalis* is an *Anthonomus* (Curculionidae) or an *Anthocomus* (Melyridae Malachiinae). It might be noticed that the brilliant colors described by Spegazzini are more common on the Malachiinae than in the Curculionidae.

The second record arrived 70 years later: *Laboulbenia curculionidicola* K. Sugiyama et T. Majewski, found on an unidentified weevil of the tribe Notarini from Peru (Sugiyama & Majewski 1987).

The third record is very recent: in the newsletter of the Mycological Society of America it is reported the presence in Thaxter’s collection (Farlow Herbarium, Harvard University) of a “to-be-described species” occurring on *Curculio* sp. from Africa (Wang 2014). This parasite is characterized by an outer appendage bifurcate from the base: it is therefore very different from the two species mentioned above and from the others described below.

Because of the scarcity of previous records, the finding of four new Laboulbeniales parasitic on weevils in an area of only a few square kilometers (6.5 km² of the Estación de Biodiversidad Tiputini, in the Yasuní National Park, Ecuador) was totally unexpected. With the four new species described in the present paper the number of Laboulbeniales reported from Ecuador is raised to 121 (Bernardi *et al.* 2014; Rossi *et al.* 2015). Almost half of these species (i.e. 57) belong to the large genus *Laboulbenia* (Barragán *et al.* 2013).