



## Three new species of *Neoscirula* (Prostigmata: Cunaxidae) from a Tropical dry forest in Jalisco, Mexico

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### Abstract

Three new species of cunaxid mites are described and illustrated: *Neoscirula aliciae* **sp. nov.**, *Neoscirula baloghi* **sp. nov.** and *Neoscirula hoffmannae* **sp. nov.** from a tropical dry forest at Chamela Biological Station, Jalisco, Mexico. A key for the species of *Neoscirula* of the world is included.

**Key words:** Bdelloidea, taxonomy, predatory mites, identification key

### Introduction

Members of the family Cunaxidae are free-living predatory mites that are prevalent natural enemies in most agroecosystems, and are especially important in food chains of edaphic systems. Although common in soil, cunaxid mites also live on higher plants, moss, leaf litter, decomposing bark and organic debris, as well as in stored products (Kethley 1982, 1990; May 2001; Muma 1960; Schruft 1971). Their prey consists of small arthropods, mainly Acari and Collembola (Walter & Kaplan 1991).

At present 16 species of *Neoscirula* are known, from China, Ethiopia, Malaysia, New Zealand, Philippines, South Africa and the United States of America: *Neoscirula abraensis*, *N. aspirasi*, *N. bidens*, *N. delareyi*, *N. imperata*, *N. kenworthyi*, *N. luxtoni*, *N. makilingica*, *N. miaofengensis*, *N. natalensis*, *N. ogawai*, *N. proctorae*, *N. putinglupa*, *N. saitoi*, *N. sevidi* and *N. theroni* (Corpuz-Raros 1996; Den Heyer 1977, 1980; Lin & Zhang 1998, 2002; Smiley 1992).

Few taxonomical studies on Mexican cunaxids have been done (Baker & Hoffmann 1948; Smiley 1992) and this is the first taxonomic contribution on Mexican *Neoscirula*.

### Materials and Methods

Cunaxid mites were collected from Chamela Biological Station, located at the coast of Jalisco State, Mexico (19° 29' N latitude and 105° 29' W longitude). The climate is warm and subhumid with marked seasonality. The main kind of vegetation (dominant species belong to genera *Lonchocarpus*, *Caesalpinia*, *Croton*, *Jatropha* and *Cordia*) is a tropical dry forest (Bullock 1988; Lott & Atkinson 2002). Monthly samples of litter and soil were taken over a period of one year (July 1991 – June 1992) from two small watersheds. Specimens were extracted from soil and litter using Berlese-Tullgren funnels and mounted in Hoyer's solution. A total of 4,634 cunaxid mites were obtained, belonging to 4 subfamilies, 10 genera and 43 species, from which 31 are new to science. In this paper we deal with the members of *Neoscirula* and describe three new species.