



## Tardigrades from northwestern Patagonia (Neuquén Province, Argentina) with the description of three new species

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### Abstract

Fifteen moss and lichen samples collected in localities of the Neuquén province, Argentina, contained tardigrades and their eggs. Eighteen species were found, three being new to science: *Macrobiotus neuquensis* sp. nov., *Macrobiotus tehuelchensis* sp. nov., and *Minibiotus claxtonae* sp. nov. *Macrobiotus neuquensis* sp. nov. can be differentiated from the other species of the *harmsworthi* group by the presence of a cuticular bar and a refractile zone in the first three pairs of legs. Also the characteristics of the eggs such as the shape and distribution of processes allow a distinction from other species. *Macrobiotus tehuelchensis* sp. nov. differs from other similar species by the measurements of some structures of the buccal apparatus and the characteristics of the eggs (the shape of the processes). *Minibiotus claxtonae* sp. nov. is characterized by the presence of three macroplacoids, a microplacoid, and cuticular pores arranged in transverse bands. The new species of *Minibiotus* is distinguished from other species of the genus by the distribution and shape of the pores (round and star shaped), presence of granulation on the legs, and some characteristics of the eggs (e.g., the absence of a membrane and the shape of the processes).

**Key words:** *Macrobiotus neuquensis* sp. nov., *Macrobiotus tehuelchensis* sp. nov., *Minibiotus claxtonae* sp. nov., Tardigrada, *Nothofagus* forests, Argentina

### Introduction

The tardigrade fauna of the Neotropical region has been poorly characterized (Pilato *et al.*, 2001). The Andinopatagónica region, with forests of *Nothofagus*, has been the most widely studied since the 1960s (Iharos, 1963; Mihelcic, 1967; Claps & Rossi, 1981; Maucci, 1988; Rossi & Claps, 1989; Pilato, 1990; Pilato & Binda, 1996; Pilato & Patané, 1998; Pilato *et al.*, 1998; Binda & Pilato, 1999<sup>a</sup>, 1999<sup>b</sup>; Dastych, 2000) except for the sector that represents the northern limit of the region and includes the Neuquén province. Claps & Rossi (1981), however, noted the presence of *Pseudechiniscus novaezeelandiae* (Richters), *E. viridis* Murray, *Hypsibius convergens* (Urbanowicz), *Macrobiotus hibiscus* De Barros, *M. hufelandi* Schultze, *M. richtersi* Murray, *M. subintermedius* (Ramazzotti) in the Quettrihue Peninsula, a region which constitutes a boundary between the Neuquén and Río Negro Provinces.

The aim of this paper is to report additional tardigrade records for Patagonia with new findings both for the Neuquén Province and for Argentina in general. Three new species are also described and illustrated.

### Materials and methods

The following 15 samples included four tree-lichen samples, seven soil-moss samples, one soil-lichen sample, and one sample of moss on wood: