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## Two new species of *Neotyphloceras* (Siphonaptera: Ctenophthalmidae) from Argentinean Patagonia

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### Abstract

Two new species of *Neotyphloceras* Rothschild, parasites of sigmodontine rodents from Argentinean Patagonia, are described and illustrated: *N. crackensis* n. sp. and *N. pardinasi* n. sp. These species are compared with their morphologically closest relatives. Males are characterized by the shape of the upper lobe of the fixed process of clasper; the shape and chaetotaxy of the distal arm of sternum IX and by the shape of the crochet of the aedeagus; females by the contour of the distal margin of sternum VII. *Neotyphloceras pardinasi* n. sp. is reported from western Chubut Province, while *N. crackensis* n. sp. is known from the eastern regions of Chubut and Santa Cruz Provinces. With these reports, the geographical distribution of *Neotyphloceras* is extended to eastern Patagonia. A key to the species and subspecies of *Neotyphloceras* is provided.

**Key words:** Argentina, fleas, key, *Neotyphloceras*, Neotyphloceratini, Patagonia, taxonomy

### Introduction

The fauna of fleas (Insecta: Siphonaptera) from the Patagonian region of Argentina is represented by 69 species and subspecies (Beaucournu & Castro 2003; Hastriter & Sage 2009, 2011; Sanchez *et al.* 2009; Sanchez & Lareschi 2013). Of these, three belong to the genus *Neotyphloceras* Rothschild, 1914 (Ctenophthalmidae): *N. chilensis* Jordan, 1936, *N. crassispina crassispina* Rothschild, 1914 and *N. crassispina hemisus* Jordan, 1936, all of them occurring in forest and steppe areas (Beaucournu & Alcover 1990; Sanchez *et al.* 2009). *Neotyphloceras* is an Andean-Patagonian taxon of fleas that are parasites of rodents and marsupials (Hastriter 2001; Lareschi *et al.* 2010; Sanchez *et al.* 2012). Three species and two subspecies of *Neotyphloceras* are distributed from Venezuela to southern Chile and Argentina (Hopkins & Rothschild 1966; Smit 1968; Sanchez *et al.* 2012; Bazán-León *et al.* 2013). Males of these species and subspecies are defined principally on the basis of the length, shape and chaetotaxy of the fixed process of the clasper (Rothschild 1914; Jordan 1936). Females, at the species level, are defined by the shape of sternum VII (Rothschild 1914; Jordan 1936; Sanchez *et al.* 2012). Smit (1968) proposed that females could be distinguished at the subspecies level on the basis of the number and location of the upper lateral setae of tergum VIII. However, this characteristic was not considered, and subsequent subspecific identification of females has been based on accompanying males (Hastriter 2001; Lareschi *et al.* 2010). Herein, we describe two new species of *Neotyphloceras* from Argentinean Patagonia.

### Material and methods

Fleas were collected by examining the pelage of 111 individuals of sigmodontine rodents (Cricetidae) from eight localities in the Patagonian region of Argentina: seven from Chubut Province, and one from Santa Cruz Province (Fig. 1). After collection, fleas were stored in 96% ethanol. In the laboratory fleas were cleared and softened in 10% KOH, dehydrated in an increasing series of ethanol (80% to 100%), further diaphanized in eugenol, and

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