



## A new, first fossil species of *Ophioderma* Müller and Troschel, 1842 (Echinodermata: Ophiuroidea) (Late Miocene, Argentina)

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### Abstract

A new species of *Ophioderma* Müller and Troschel, 1842 is described. The new species is the first fossil one of the genus, and the third ophiuroid described for the Tertiary of South America. It is characterized by its large size, proximal dorsal arm plates arched, entire or irregularly fragmented in two or three parts and lateral arm plates with four or five short, flat spines of similar length with a finger-like outline.

**Key words:** Ophiuroidea, *Ophioderma*, new species, Miocene, Argentina

### Introduction

Except for *Ophioderma longicauda* (Retzius, 1805) (type species of the genus) that lives in the Mediterranean Sea and Northeastern Atlantic Ocean (Spain to Senegal), all the species of *Ophioderma* Müller and Troschel, 1842, presently occur on both littorals of America, most inhabiting the Western Atlantic Ocean (South Carolina, USA to São Paulo, Brazil), and some distributed on the Eastern Pacific Ocean (California to Perú). They mostly inhabit shelf environments, but there are also some records in deep waters (Abreu-Pérez *et al.* 2005; Albuquerque and Guille 1991; Barraza and Hasbún 2005; Brito 1962; Clark 1940; Durán-González *et al.* 2005; Hendler *et al.* 1995; Koehler 1914, 1927; Laguarda-Figueras *et al.* 2005; Manso 1993; Neira and Cantero 2005; Netto *et al.* 2005; Solís-Marín *et al.* 2005; Tommasi 1970, among others).

Generic placement of some proposed fossil representatives of *Ophioderma* is a matter of discussion. Chen and McNamara (2006) showed that some Triassic species formerly placed in *Ophioderma* do not belong in the genus, and Maastrichtian and Pliocene records of Kutscher and Jagt (2000) and Berry (1935) are based only on isolated arm plates, which makes a proper generic assignment difficult. Our material includes large disks covered by granules, and firmly fused subrounded arms, bearing short, flat, and addressed spines, and paired flat genital scales. Therefore, the new species described herein becomes the first undoubted fossil record of this genus, extending considerably its geographical range into high southern latitudes of the Southern Hemisphere.

Fossil ophiuroids from Tertiary strata of South America are scarce and only known (outside of Argentina) through the report of *Amphioplus venezuelanus* Berry, 1941 described from the Miocene of Venezuela, and the mention and illustration given by Kutscher *et al.* (2004) of *Ophiomusium* sp. (Miocene, Chile). Ophiuroids of Argentina are also poorly known, and are represented by *Ophiura elegantoides* Furque and Camacho, 1949, a late Middle Eocene taxon from the Leticia Formation (Tierra del Fuego), and by a recently described species of *Ophiocrossotta* (Caviglia, Martínez and del Río 2007), from the Early Miocene Chenque Formation. Other