



<http://dx.doi.org/10.11646/zootaxa.3608.5.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:9C4ED45B-1A5F-4C32-9DF9-0C73E5B33902>

A new late Cenozoic species of *Abertella* (Echinoidea: Clypeasteroidea) from Patagonia

ANDREAS KROH^{1,5}, RICH MOOI², CLAUDIA DEL RÍO³ & CHRISTIAN NEUMANN⁴

¹Naturhistorisches Museum Wien, Burgring 7, 1010 Vienna, Austria. E-mail: andreas.kroh@nhm-wien.ac.at

²California Academy of Sciences, Department of Invertebrate Zoology and Geology, 55 Music Concourse Drive, San Francisco, California 94118, USA. E-mail: rmooi@calacademy.org

³Museo Argentino de Ciencias Naturales Bernardino Rivadavia, División Paleoinvertebrados, Angel Gallardo 470, (C1405DJR) Buenos Aires, Argentina. E-mail: claudiajdelrio@gmail.com

⁴Museum für Naturkunde, Leibniz Institute for Research on Evolution and Biodiversity, Invalidenstraße 43, 10115 Berlin, Germany. E-mail: christian.neumann@mfn-berlin.de

⁵Corresponding author

Abstract

A new species of abertellid sand dollar, *Abertella miskellyi* n. sp., is described from the Miocene Camarones Formation of Patagonia, southern Argentina. The new taxon corroborates the existence of the genus in South America, given that *Abertella* is most common in the southeastern USA and the eastern coast of Central America. It is characterized by a unique basicoronal circle, in which the interambulacral basicoronal plates are very heterogeneous in size (small in interambulacrum 5, largest in interambulacra 2 and 3). Additionally, it features disjunct oral interambulacra involving two ambulacral plates in some of the interambulacra rather than one, thus being the most disjunct of all known species of *Abertella*. A key to the species of the genus is provided.

Key words: Clypeasteroidea, Abertellidae, sand dollars, new taxon, Argentina, Patagonia, Camarones Formation, Miocene, identification key

Introduction

Abertellids are a relatively small group of New World sand dollars that were most common during the early and middle Miocene. Their main area of distribution is the southeastern United States and the eastern coast of Central America, where at least four species occur. Two additional species are known from South America (Brazil and Argentina). Except for the recently described *Abertella gualichensis* Martínez, Reichler & Mooi, 2005 and *A. dengleri* Osborne & Ciampaglio, 2010, these species, plus two additional ones of uncertain abertellid affinity, all are relatively poorly known and in need of redescription. The Brazilian species *Karlaster pirabensis* Marchesini Santos, 1958, was initially considered to belong to a separate genus within the monophorasterids, but subsequently found to be identical to *Abertella complanata* Brito, 1981. *Karlaster* was designated a junior subjective synonym of *Abertella* by Martínez & Mooi (1997) and Mooi *et al.* (2000: 266).

Abertellids, albeit well typified as a group by characters reviewed by Martínez *et al.* (2005) and Osborn & Ciampaglio (2010), are of uncertain systematic position. They were largely ignored in analyses of sand dollar evolution by Seilacher (1979) and Smith (1984). While Durham (1966) derived them from European scutellids, they were resolved as immediate sister-group of a clade containing all lunulate sand dollars except the rotulids (i.e. astricypeids, monophorasterids and mellitids) in the morphological cladistic analysis performed by Kroh & Smith (2010). Recent findings indicate that *Abertella* is an important component of Miocene sand dollar diversity, and will likely offer crucial information towards our understanding of the evolution of scutelline clypeasteroids in the Americas.

With its slightly alate shape the new species of *Abertella* described here is superficially similar to some