

ENIGMATIC OCCURRENCE OF *GERVILLIA* DEFRANCE (BIVALVIA, BAKEVELLIDAE) IN THE MIDDLE CRETACEOUS OF SERGIPE, BRAZIL

MELLO, L.H.C.^{1,2}; TORELLO DE MELLO, F.²; ZUCON, M.H.²

¹ Departamento de Geografia, CECH/UFS; torello.mello@uol.com.br

² Laboratório de Paleontologia, Departamento de Biologia, CCBS/UFS

The bivalve genus *Gervillia* Defrance is known for the Middle Cretaceous rocks of Sergipe-Alagoas Basin, Brazil. This is a cosmopolitan genus with well documented occurrences in Jurassic-Cretaceous rocks from Europe, Asia, Africa, and South America. Since 1887, several Brazilian specimens are erroneously being attributed to this taxon and posteriorly transferred to other bakevellid genera (e.g., *Aguileria* White). However, recent contributions have improved our knowledge about this genus in Brasil, but not at a satisfactory level. The occurrence of this genus in Sergipe Basin is enigmatic specially considering the following reasons: a) uncommon shell morphology; b) controversial paleoautoecological features; c) number of species within a restrict temporal and spatial distribution; and d) taxonomical and systematical debate. Although are common elements of the fossiliferous assemblage recorded from Riachuelo Formation beds (Sergipe Basin, Brazil), a few specimens have been studied, and little is know about their internal morphology. The present study was based on well preserved material that allowed improving very much the knowledge of morphological internal features, with obvious consequences for the taxonomy, systematic, and paleoecology of this group. The overall shell morphology (e.g., antero-posterior elongation, posterior auricule, multivincular opisthodontic ligament) suggests a safe attribution to the genus *Gervillia*. When compared to any other specimen ever found in Brazil morphological differences are quite evident. Diagnosis: posteriorly elongated, narrow, inequilateral; anteriorly biconvex and posteriorly flattened shells; equivalve or slightly inequivalve; ensiform with dorsal and ventral margins obviously curved; scarcely oblique; terminal umbones; anterior wing absent; posterior wing about 1/3 shell length and 1X shell height; anteroventral byssal gape evident; unornamented except for sparse growth lines; anisomyarian with anterior adductor very reduced; triangular area of opisthodontic ligament, with 6 ligament pits; hinge line of unclear teeth, anteriorly transverse and posteriorly elongate, parallel to the hinge line. Considering this singular morphology and special type of preservation we are probably dealing with a new species of *Gervillia*. Paleoautoecological and taphonomical investigations are still in course and the results will probably support this position. The importance of this genus in Sergipe-Alagoas beds can be addressed from two main points of view. First, although this is a cosmopolitan genus, Brazilian occurrence is a unique opportunity to study the pathways of dispersion and behavior of the group in this part of Gondwanaland after being affected by South Atlantic opening, and to combine such data with African information, specially from Congo. Second, its bizarre morphology can be well investigated from abundant and well preserved material, giving support for further paleoecological discussion. Future efforts will follow both directions.