

Apricardia pachiniana, a new species from the Maastrichtian near Pachino (Southeastern Sicily)

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(manuscript received October 5, 1983
accepted October 28, 1983)

KEY WORDS — Mollusca, Rudists, Cretaceous, Sicily, Taxonomy.

ABSTRACT — *Apricardia pachiniana* n. sp. a new species of the genus *Apricardia* is described. This species comes from the Maastrichtian limestones of the Pachino area (Southeastern Sicily).

RIASSUNTO — [*Apricardia pachiniana* n. sp. del Maastrichtiano dei dintorni di Pachino (Sicilia sudorientale)] — Viene descritta una nuova specie di *Apricardia* proveniente dai calcari maastrichtiani della piattaforma carbonatica di Pachino. La nuova specie, denominata *Apricardia pachiniana* è rappresentata da numerosissimi esemplari che raramente si possono estrarre interi per la tenacia dell'inglobamento. La conchiglia è fortemente inequivalve e con umboni prosogiri molto sviluppati, diceriformi che, nei modelli interni, mostrano sulla parte posteriore due profondi solchi corrispondenti alle lamine miofore posteriori. La cerniera è visibile sui modelli interni di individui interi. Sulla valva destra, più piccola, si nota l'impronta di un grosso dente posteriore (3) di forma triangolare e quella di un piccolo dente anteriore (1) molto appiattito. Sulla valva sinistra, più grande, è presente l'impronta di un grosso dente (2), anch'esso di forma subtriangolare ma più appiattito del (3). Il guscio è ornato da sottili strie di accrescimento intersecate da minute coste longitudinali.

INTRODUCTION

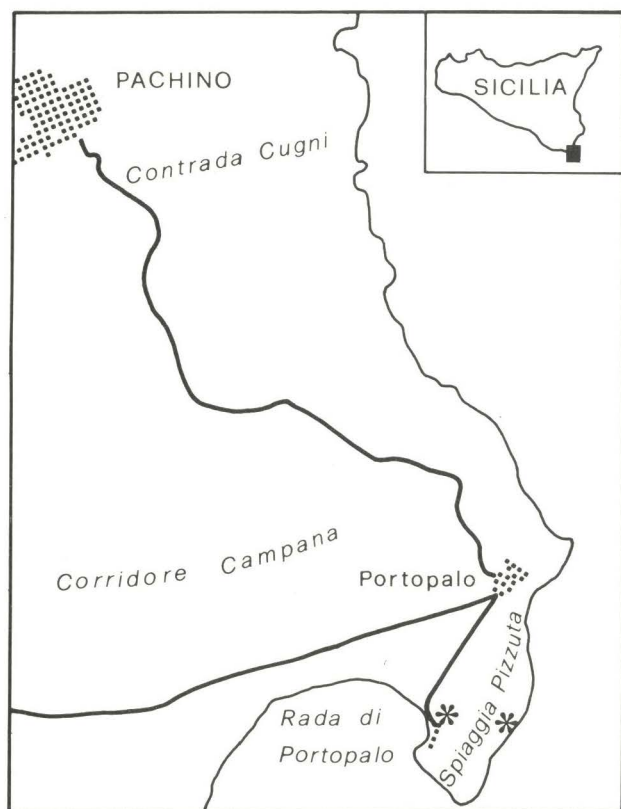
Recently (Matteucci *et al.*, 1982; Camoin, 1983) the Maastrichtian carbonate outcrops of Pachino-Portopalo and of the island of Capo Passero have been subject of very detailed palaeontological, stratigraphical and palaeoecological studies.

The presence of macroforams (*Hellenocyclina beotica* Reichel, *Omphalocyclus macroporus* (Lamarck), *Orbitoides apiculata* Schlumberger, *Siderolites calceatrapoides* Lamarck, « *Simplorbites* » *gensacicus* (Leymerie), hermatypic corals (*Columnastraea pachinensis* (De Gregorio), *Montastraea* sp.) and some rudists (*Mitrociprina bulgarica* Tzankov, *Sabinia* aff. *aniensis* Parona, *Joufia reticulata* Boehm, *Hippurites cornucopiae* Defrance, *Pironea polystila* Meneghini) testify to the Maastrichtian age of the carbonatic sequence (Matteucci *et al.*, 1982). Camoin (1983) points out other rudists, still Maastrichtian in age (*Vaccinites co-*

nicus adriaticus Sladić-Trifunović, *Vaccinites ultimus* Milovanović, *Pseudopolyconites laskarevi* Milovanović, *Neoradiolites serbicus* Milovanović).

At the top of the series some levels with micritic texture — besides *Pironea polystila*, *Durania austriensis* and *Sabinia* sp. — hold a lumachelle rich in entire and fragmented requienids; they are very widespread near the harbour of Portopalo and at the Spiaggia Pizzuta. They become less abundant west of the calcareous plateau, while they are completely lacking on the island of Capo Passero, due to palaeoenvironmental conditions.

Several specimens have been extracted as fragments — because of the matrix — from the many collected rock samples, while only few ones are entire and as moulds. All individuals of the population belong to the genus *Apricardia*, the species of which are mainly Cenomanian - Turonian in age, except *Apricardia archiaci* Douvillé which is Santonian.



Text-fig. 1 - Localization of outcrops.

Therefore we believe it worth to emphasize the presence of some specimens of *Apricardia* (that we think belonging to a new species) in levels of manifest Maastrichtian in age. From a palaeoecological point of view it is possible to assert that the new species lived in very shallow waters of the inner platform being sheltered by the edge formed by the organogenic built-up limestones of the island of Capo Passero.

SYSTEMATIC DESCRIPTION

Class BIVALVIA
Order HIPPURITOIDA
Family REQUIENIDAE Douvillé, 1914
Genus APRICARDIA Guéranger, 1853

APRICARDIA PACHINIANA n. sp.
Text-figs. 2a-i

Derivatio nominis — From the town of Pachino in the neighbourhood of which the calcareous outcrops holding the new species are localized.

Locus typicus — Portopalo-Spiaggia Pizzuta.

Holotype — Text-fig. 2a-c.

Paratypes — Text-fig. 2 d-i.

Stratum typicum — Maastrichtian.

Repository — Museum of Palaeontology of the Istituto di Geologia e Paleontologia dell'Università « La Sapienza », Roma.

Diagnosis — Inequivalve shell with two prosogyrous umbones being very developed, hornlike and ornamented with thin growth lines. Posterior myophores running along both umbones. Hinge plate with two teeth on the right valve and one on the left valve.

Description — The shell is strongly inequivalve with the left valve more developed than the right one. Specimens with test show it to be about 1 mm thick and ornamented with very thin growth lines crossed by weak longitudinal ribs. Umbones are prosogyrous and strongly developed. Sometimes the apical area of both trends to a spiral bending outwards. The posterior part of internal moulds shows on both valves the presence of a deep groove corresponding to the posterior myophores *mp*. This one (Text-fig. 2g) can be observed in the cross-section of forms having a test and it is localized in the postero-internal side of the umbones. The hinge plate is evident on the internal mould of entire specimens because of marks left by teeth. The right (or upper valve) has a strong and very protruding posterior tooth 3 which is triangular in shape; the mark of the anterior tooth 1 — small and flattened — is hardly recognizable. The left (or lower valve) shows only the mark of a large-sized weakly convex tooth 2.

Remarks — *Apricardia pachiniana* n. sp. is similar to *Apricardia archiaci* Douvillé, of which only the right valve is known. This one differs from the similar valve of *A. pachiniana* because it is more swollen and shows the muscle attachment *mp* in a more central position on the posterior side of umbones (Douvillé, 1914, p. 394, figg. 6-7). The new species differs also from *A. pironai* (Boehm) because latter one has nearly symmetrical and much more convex valves. Other species of *Apricardia* characterizing Cenomanian and Turonian have a shape which is different from that of the new species.

ACKNOWLEDGEMENTS

Thanks are due to M. Salvati and L. Spinozzi for the drawing and photographic work respectively.

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Text-figs. 2a-i - *Apricardia pachiniana* n. sp., Portopalo (Southeastern Sicily). Maastrichtian. x 1,8.

a) Holotype. Posterior view of the internal mould of the two valves with grooves corresponding to the posterior muscle attachments *mp*. b) Anterior view of the same specimen. c) View of the hinge of the same specimen: 1 and 3, marks of anterior and posterior teeth of the right valve; 2, mark of the left valve tooth. d-e) Paratype. Same specimen in posterior and anterior views. f, i) Fragments of samples with parts of test, showing thin growth lines. g) Cross-section of the umbo of a specimen with test showing the posterior muscle attachment *mp*. h) Uncomplete specimen having part of the test and the mark of the posterior muscle attachment *mp*.

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