

ROSSO AMMONITICO SYMPOSIUM

Roma, 16-21 June, 1980



PROCEEDINGS

Edited by Anna FARINACCI and Serge ELMI

Edizioni Tecnoscienza - Roma

1981

Publisher:

EDIZIONI TECNOSCIENZA, Casella Postale 7072, ROMA - Nomentano (Italy)

© *Copyright 1981 by Edizioni Tecnoscienza - Roma*

All Rights Reserved. No part of this publication may be reproduced, or transmitted, in any form or by any means electronic, mechanical photocopying, recording or otherwise, without the prior written permission of the Publisher.

Printed in Italy

Finito di stampare nel luglio 1981 dalla Tipografia Arduino Cinelli - Roma

PRELIMINARY NOTES ON THE AALENIAN GASTROPODS OF CASE CANEPINE (UMBRIA, ITALY)

M. A. CONTI, J. C. FISCHER *

*Università degli Studi, Istituto di Geologia e Paleontologia. Piazzale delle Scienze.
I 00100 Roma.*

* *Muséum national d'Histoire naturelle. Institut de Paléontologie. 8, rue Buffon.
F 75005 Paris.*

Aucune faune de Gastropodes n'avait encore été signalée dans le Jurassique post-domérien de la série Umbra, ni dans aucun gisement aalénien de la Péninsule italienne. La présente faune se compose de 35 espèces réparties en 25 genres dont trois sont nouveaux, et décrits ici. Cette faune offre les caractères d'une communauté située sur paléosubstrat algair peu profond.

No gastropod fauna has ever been reported from the post-Domerian Jurassic deposits of the Umbra Series, nor from any Aalenian deposits elsewhere in Peninsular Italy. The fauna here discussed includes 35 species referable to 25 genera from which three are new and here described. This fauna suggests a community of non-mobile shallow water substrate colonized by algae.

Except for the indications mentioned by CANAVARI (1883) and MAXIA (1951), no gastropod fauna has ever been reported from the post-Domerian Jurassic deposits of the Umbro-Marchigiana Series.

Moreover, practically no gastropod fauna is known from the Aalenian of all Peninsular Italy; from the Callovian of Acque Fredde (Lago di Garda), PARONA (1894) described a gastropod fauna which presents much affinity with ours; from the Bathonian of Monte Pastello (Verona), DAL PIAZ (1912) described another one; as did VACEK (1886) from Capo S. Vigilio on the eastern side of Lago di Garda; these faunas, and some other ones, were re-examined by STURANI (1971) but concerned mainly ammonite faunas and their stratigraphic significance, without any systematic considerations of gastropods. On the other hand, ante-Domerian faunas (mainly from the middle Lias) are well known in the Umbro-Marchigiana Series and elsewhere in Peninsular Italy.

Because of these circumstances, our fauna offers great interest, as much for its diversity (35 species referred to 19 families) as for its relative modernity (see table further on). It is moreover significant with respect to paleoecological and paleogeographical data, especially as concerns the Umbra Series' sedimentary environment which is still open to discussion.

In the Central Apennines (Umbria-Marche) Jurassic deposits have been referred to, by various authors, according to the facies in question: one is called "complete" or "continuous", the other "lacunose",

"reduced" or "condensed" (COLACICCHI et alii, 1970; CENTAMORE et alii, 1971; MARIOTTI et alii, 1979 a, b). The outcrop treated here has been amply mentioned in the literature (MARIOTTI et alii, with biblio.) and was described in detail for the first time recently (FARINACCI et alii, 1980). Therefore, we will only summarize here the rock succession.

The outcrop called "Case Canepine" (named from the neighbouring hamlet) is only few kilometers SE of Castel del Monte, south of provincial road "Spoletina" which connects Aquasparta and Spoleto (see fig. 1).

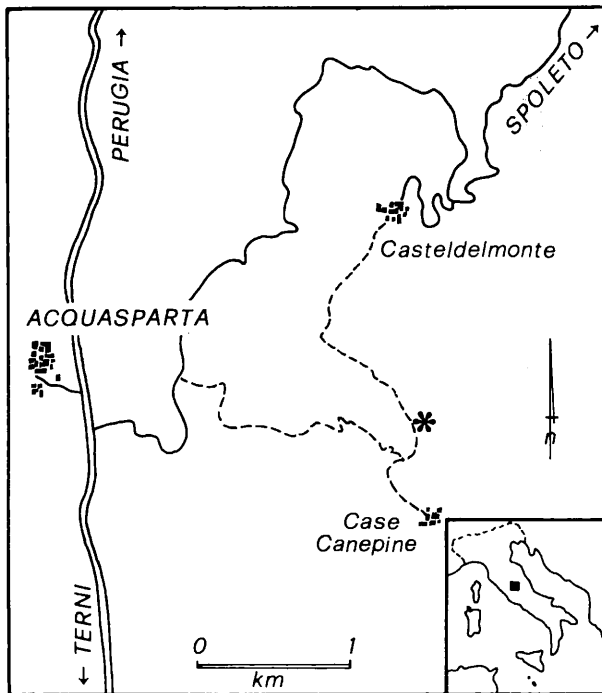


Fig. 1 - Geographical setting of the outcrop.

The sequence outcropping here is one of the most obviously lacunar of all those described in the literature: its maximum thickness is less than 10 m, whereas the mean thickness of the continuous series is about 150 m.

The lithologic succession of the Umbra Series is locally as follows:

1. "Calcare Massiccio" Formation, referable to the Sinemurian-Pliensbachian and represented at Case Canepine by heteropic lithofacies of the very reduced Massiccio C Limestone (*sensu* CENTAMORE et alii, 1971);
2. Micritic breccia with Radiolarians filling small gaps on the top of

the preceding formation; 3. Carixian entrochal limestone; 4. Toarcian deposits ("Rosso Ammonitico" Formation) represented by nodular limestone (middle Toarcian) and marly limestone (upper Toarcian); 5. Micritic limestone with Cephalopods (*sensu* MARIOTTI et alii, 1978), referable to an age situated between the Oxfordian and the lower Tithonian, overlain by the "Maiolica" Formation.

In the vicinity, micritic limestone with Cephalopods is in general overlying, with lacunae, the lower Toarcian marly limestone. At the outcrop is intercalated a more or less lenticular few thick deposit of micritic and entrochal limestone, with rare Ammonites indicative of the Aalenian: the base is referable to the *Dumortieria meneghini* zone (upper Toarcian), the summit to the *A. acanthicum* Zone (Kimmeridgian), and the middle to the *Tmetoceras scissum* zone (upper part of the lower Aalenian) (see FARINACCI et alii, 1981).

The Gastropods here discussed were collected in a marly-micritic bed which is 40 cm below the *Tmetoceras scissum* horizon. This bed yielded many fossils which, after acid preparation and manual scalling, constitute an excellent material for study.

Except for the Gastropods, other constituents of the fauna are typical of the condensed or lacunose Umbro-Marchigiana Series (MARIOTTI et alii, 1978): we commonly find calices (some intact) and broken columns of crinoids, echinoid spines, rare Bivalves (*Bositra* or *Posidonia* sp.), Rhyncholites, Aptychi (fragments or intact plates) and small Ammonites (*Lytoceras* sp.).

For the Gastropods, the material collected until now includes 35 species referable to 25 genera. We give, in the present list, the stratigraphic distribution of these genera. Among them, 5 are new, and 4 others have not yet been cited from the Aalenian: *Eucyclomphalus* has been reported only from the Sinemurian and the Pliensbachian, and three others (*Cochleochilus*, *Helicocryptus* and *Brachytrema*) were until now identified only from and after the Bajocian-Bathonian.

Nearly all of the samples show a very reduced size; either they belong to rather small species, or they represent immature stages of some larger ones. Thus, the hypothesis was examined (but considered not credible, on account of the well preserved ornamentation of the shells as well as the diversity of their shape and size) that they could be dwarf forms of faunas subject to selective transportation. In point of fact, according to the environmental reconstructions, to the bivalves-gastropods ratio (remarkably in favour of the last ones), and to the presence of herbivorous forms, the comparison with Recent biocenosis suggests a community of a non-mobile shallow water substrate colonized by algae. This point of view is corroborated by the statement of such types of

communities, characterized by almost comparable associations, since the middle Jurassic Series (FISCHER, 1969; 1971).

The Aalenian gastropod community of Case Canepine is essentially composed of new species which will be described and discussed in a paper to come concerning the complete systematics of this fauna.

Nevertheless, it appears now necessary to reveal the 6 species for which the establishment of 5 new genera must be proposed, with restricted information and remarks on their characters and systematic position.

Family PHYMATOPLEURIDAE Batten, 1956.

Genus *Trochotomaria* gen. nov.

Type species. *Trochotomaria tricarinata* sp. nov.

Name. Referring to the trochoidal appearance of this Pleurotomariacea.

Diagnosis. Shell trochiform. Selenizone at mid-whorl, slightly depressed below surface, limited by two spiral cords and denticulated by transversal costellae. Ornament collabral and spiral elements, collabral dominant. Periphery angular; base flattened, with deep and narrow umbilicus which is abruptly delimited and costulated inside. Aperture quadrate, with thin and right columellar lip.

Remarks. This new genus is noticeable, in the referred family, by its base flattened and deeply umbilicated. Phymatopleuridae were previously known only from the Carboniferous to the Trias.

Trochotomaria tricarinata sp. nov. (Pl. I, figs. 1-3).

Material. Holotype (n. MAC 13).

Name. From the three spiral lines ornamenting the peripheric carina.

Measurements. Height of specimen, 4, 5 mm; reconstructed height, 5,5 mm; diameter, 5,2 mm.

Diagnosis. Small, elevated, narrowly circoconoid. Selenizone at mid-whorl. Collabral ornament of regularly-spaced costellae occupying all the height of the whorls and inflected across selenizone. Spiral ornament extremely slight above selenizone, forming three spiral lines at the periphery. Base very flattened, smooth, externally lipped by peripheric carina. Umbilicus well delimited, occupying fourth part of basal diameter. Ornament inside umbilicus of axial and very thin close-spaced costellae.

Family TROCHIDAE Rafinesque, 1815.

Genus *Aaleniella* gen. nov.

Type species. *Aaleniella umbriensis* sp. nov.

Name. From the Aalenian.

Diagnosis. Shell trochiform. Spire elevated. Whorls flat or slightly concave. Last whorl occupying 2/3 of the total height, subcarinated at the periphery. Ornament of collabral costellae, possibly increased by spiral arrangements. Aperture suborbicular, holostomatous; outer lip moderately prosocline; columellar lip unthickened, scarcely curved. Umbilicus very narrow, without margin.

Remarks. The general configuration of the shell is reminiscent of the genus *Cochleochilus* (subfam. Monodontinae), but this new genus must be referred to the subfamily Margaritinae Stoliczka, 1868, in account of its unthickened columellar lip.

Aaleniella umbriensis sp. nov. (Pl. I, figs. 7-10).

Material. Two specimens from which holotype (n. MAC 5).

Name. From Umbria (Italy).

Measurements. Height, 3 mm; diameter, 2,3 mm.

Diagnosis. Small size. Whorls (5-6) slightly excavated, ornamented by 18-19 prosocline costellae. Peripheric carina bearing almost imperceptible spiral striae. Base smooth. Umbilicus very narrow.

Aaleniella variata sp. nov. (Pl. I, figs. 4-6).

Material. Holotype (n. MAC 19).

Name. Referring to unlike ornament between the first and the last whorls.

Measurements. Height, 3 mm; diameter, 2,3 mm.

Diagnosis. Small size. Protoconch elevated. 5 whorls, the three first ornamented by minute prosoclyt costellae, the others smooth in mid-part and ornamented by two nodose spiral cords, one above and one under. Basal ornament of two strong nodose spiral cords. Umbilicus very narrow.

Family CROSSOSTOMATIDAE COX, 1960.

Genus *Mariottia* gen. nov.

Type species. *Mariottia gibbosa* sp. nov.

Name. Named after Dr. Nino Mariotti.

Diagnosis. Shell turbiniform, anomphalous, with convex smooth whorls. Last whorl expanded before the labrum in the shape of a carinate boss. Aperture circular with uninterrupted, thickened and expanded peristome; labrum little inclined in profil view, without reflected lip. Columellar callus extending from inner lip over the base, encrusting the umbilical area.

Remarks. This new genus closely agrees with the definition of

Crossostomatidae. It differs from *Crossostoma* and *Palaeocollonia* by lacking any reflected outer lip. Besides, its humped last whorl seems to be a very distinctive character.

Genera identified in the Aalenian of Case Canepine and their stratigraphic distribution		ante	TOARCIAN	AALENIAN	BAJOCIAN	BATHONIAN	CALLOVIAN	post
HELICOTOMIDAE	<i>Colpomphalus</i> sp.-----							
EUOMPHALIDAE	<i>Coelodiscus</i> sp.-----							
PHYMATOPLEURIDAE	<i>Trochotomaria</i> n. gen., n. sp.-----							
TROCHIDAE	<i>Proconulus</i> n. sp.-----							
	<i>Aaleniella</i> n. gen., n. spp.-----							
	<i>Cochleochilus</i> sp. [aff. <i>bellona</i> (d'Orb.), from Bathonian]-----							
ATAPHRIDAE	<i>Ataphrus</i> sp. [cf. <i>acis</i> (d'Orb.), from Bajocian]-----							
TURBINIDAE	<i>Helicocryptus</i> n. sp.-----							
NERITOPSIDAE	<i>Neritopsis</i> sp. [aff. <i>veronensis</i> dal Piaz, from Bathonian]-----							
NERITIDAE	<i>Neritoma</i> (<i>Neridomus</i>) n. sp.-----							
CROSSOSTOMATIDAE	<i>Crossostoma</i> n. sp.-----							
	<i>Mariottia</i> n. gen., n. sp.-----							
AMBERLEYIDAE	<i>Riselloidea</i> sp. [aff. <i>reticularis</i> (Piette), from Bathonian]-----							
	<i>Eucyclomphalus</i> n. sp.-----							
NODODELPHINULIDAE	<i>Amphitrochus</i> n. sp.-----							
PSEUDOMELANIIDAE	<i>Pseudomelania</i> spp.-----							
COELOSTYLINIDAE	<i>Coelostylina</i> n. sp.-----							
	<i>Canepina</i> n. gen., n. sp.-----							
RISSOINIDAE	<i>Rissocerithium</i> n. gen., n. sp.-----							?
BRACHYTREMATIDAE	<i>Brachytrema</i> sp.-----							
PROCERITHIIDAE	<i>Paracerithium</i> spp.-----							
	<i>Exelissa</i> sp. [aff. <i>normaniana</i> (d'Orb.), from Bajocian]-----							
CERITELLIDAE	<i>Ceritella</i> sp. [aff. <i>conica</i> Morr. et Lyc., from Bathonian]-----							
	<i>Ceritella</i> (<i>Pseudonerinea</i>) sp.-----							
APORRHAIIDAE	<i>Dicroloma</i> sp. [aff. <i>lorieri</i> (d'Orb.), from Bajocian]-----							
ACTEONIDAE	<i>Acteonina</i> spp.-----							

Fig. 2.

Mariottia gibbosa sp. nov. (Pl. I, figs. 11-14).

Material. Holotype (n. MAC 9).

Name. The trivial latin epithet *gibbosus* refers to the projecting boss of the last whorl.

Measurements. Height of specimen, 13,3 mm; reconstructed height, 15,5 mm; diameter, 15,5 mm.

Diagnosis. Medium size. Spire elevated. Whorls (4-5) increasing rapidly in diameter. Surface smooth. Last whorl expanding progres-

sively up to form a subcarinate boss, and then contracting just before the labial expansion. Peristome circular, uninterrupted, thick and expanded, but without external labial ledge. Base smooth, with columellar callus encrusting entirely the umbilical area.

Family COELOSTYLINIDAE Cossmann, 1909.

Genus *Canepina* gen. nov.

Type species. *Canepina farinaccii* sp. nov.

Name. From Case Canepine (Acquasparta, Perugia, Italy).

Diagnosis. Medium-sized phaneromphalous fusiform shell. Whorls moderately convex. Ornament axial costae and spiral lines. Aperture subfusiform with uninterrupted peristome forming like a gutter at the lower part; columellar lip right, thin, surrounding a narrow, deep and well delimited umbilicus.

Remarks. In spite of its cerithid shape, this new genus must be referred to the Coelostylinidae on account of its uninterrupted peristome and its deep narrow subcircular umbilicus.

Canepina farinaccii sp. nov. (Pl. I, figs. 15-17).

Material. Holotype (n. MAC 29).

Name. Named after Professor Anna Farinacci.

Measurements. Height of specimen, 12,5 mm; reconstructed height, 17,5 mm; diameter, 6 mm.

Diagnosis. Spire turriculate. Whorls convex with deep suture. Axial ornament of 8 round costae. Spiral ornament of 8-9 projecting flat lines a little more broader than their intervals; these lines (17-18 on the last whorl) are growing softer on the base. Columellar lip right and thin, forming a small gutter at the outer lip junction. Umbilicus subcircular, deep (occupying apparently all the height of the shell) and well delimited by a ledge leading to apertural gutter.

Family RISSOINIDAE Cossmann, 1918.

Genus *Rissocerithium* gen. nov.

Type species. *Rissocerithium nicosiai* sp. nov.

Name. Referring to the cerithid shape of aperture.

Diagnosis. Little-sized, pupiform-cyrtocoid shell. Ornament axial costae. Aperture subcircular inside, with a small gutter at the top and a short very oblique canal at the lower part; outer lip a little inclined in profil view, strongly thickened by an external varicosity; inner lip thin, concave, separated from the base at its two ends.

Remarks. Size, pupiform-cyrtocoid shape and ornament of this

new genus induce to refer it to the Rissoinidae. On account of its apertural characters, it is closely comparable to the genera *Zebinella* and *Phosinella*, respectively reported from and after the Cenomanian and the Miocene. At this point of view, it could be a precursor stage of the genus *Rissoina*, itself reported as far back as the Bathonian and closely allied to the two genera cited above.

It is to signalize that Parona (1894, p. 379, fig. 19) established, by the name of *Cerithium minusculum*, a Callovian species which may be probably referred to the genus *Rissocerithium*.

Rissocerithium nicosiai sp. nov. (Pl. I, figs. 18, 19).

Material. 21 specimens from which holotype (n. MAC 11).

Name. Named after Dr. Umberto Nicosia.

Measurements. Height, 4,1 mm; diameter, 1,7 mm.

Diagnosis. Protoconch elevated. Spire 8 convex whorls. Suture deep, sinuous. Ornament 16-17 axial costae a little curved, out of set from whorl to whorl. Aperture expanded, subcircular inside; upper gutter slight; under canal short, very oblique, with edges scarcely overhanging; outer lip rounded, externally thickened by a strong varicosity; columellar lip curved applied to the base at mid-part and more erected at the lower part than at the top.

REFERENCES

- CANAVARI M. (1883) - Sulla presenza degli strati a Posidonomya alpina GRASS nell'Appennino centrale. *Proc. verb. Soc. Tosc. Sc. Nat.*, 3, 221.
- CENTAMORE E., CHIOCCHINI M., DEIANA G., MICARELLI A. & PIERUCCINI U. (1977) - Contributo alla conoscenza del Giurassico dell'Appennino umbro-marchigiano. *Studi Geol. Camerti*, 1, 7-89.
- COLACICCHI R., PASSERI L. & PIALLI G. (1970) - Nuovi dati sul Giurese umbro-marchigiano ed ipotesi per un suo inquadramento regionale. *Mem. Soc. Geol. It.*, 9, 839-874.
- DAL PIAZ G. (1912) - Sulla fauna batoniana del Monte Pastello nel veronese. *Mem. Ist. Geol. R. Univ. Padova*, 1 (3), 3-54.
- FARINACCI A., MALANTRUCCO G., MARIOTTI N. & NICOSIA U. (1981) - Ammonitico Rosso facies in the framework of the Martani Mountains paleoenvironmental evolution during Jurassic. *Proc. Ammonitico Rosso Symposium*, (in stampa).
- FISCHER J.-C. (1969) - Géologie, paléontologie du Bathonien au Sud-Ouest du Massif ardennais. *Mém. Mus. nat. Hist. nat. Paris*, (C), 20, 1-319.
- FISCHER J.-C. (1971) - Les peuplements fossiles dans l'« Oolithe blanche » du Châtillonais. *Bull. Sci. Bourgogne*, 26, 211-229.
- MARIOTTI N., NICOSIA U. & PALLINI G. (1978) - Echinidi nei sedimenti giurassici dell'Umbria e delle Marche: variazioni cicliche nella presenza degli echinodermi come prove di variazione del livello del mare. *Geologica Rom.*, 17, 325-343.
- MARIOTTI N., NICOSIA U., PALLINI G. & SCHIAVINOTTO F. (1979 a) - Coralli ed ammoniti nel Bajociano del Sasso di Pale (Umbria). Ulteriori prove di variazione del livello del mare. *Geologica Rom.*, 18, 225-251.
- MARIOTTI N., NICOSIA U., PALLINI G. & SCHIAVINOTTO F. (1979 b) - Kimmeridgiano reefale presso Case Canepine (M. Martani, Umbria): ipotesi paleogeografiche. *Geologica Rom.*, 18, 295-315.

- MAXIA C. (1951) - Geologia dei dintorni di Castiglione (Rieti). I gasteropodi e le ammoniti del Malm superiore. *Boll. Serv. Geol. d'It.*, 73 (1), 229-266.
- PARONA C.F. (1894) - La fauna fossile (Calloviana) di Acque fredde sulla sponda veronese del Lago di Garda. *Mem. Accad. Lincei, Classe Sc. fis., mat., nat.*, 7, 364-396.
- STURANI C. (1971) - Ammonites and stratigraphy of the « Posidonia alpina beds » of the Venetian Alps. *Mem. Ist. Geol. Min. Univ. Padova*, 28, 1-190.
- VACEK M. (1886) - Ueber die Fauna der Oolithe von Cap S. Vigilio. *Abhandl. k. k. Geol. Reichsans.*, 12 (3), 57-212.

This work has been partly supported by the C.N.R. Financial contribution grant 79.000.52.05 "Paleontologia stratigrafica ed Evoluzione" (ex Palaeopelagos research group).

Plate 1

Figs. 1-3. *Trochotomaria tricarinata* gen. nov., sp. nov.; holotype x 4.

Figs. 4-6. *Aaleniella variata* gen. nov., sp. nov.; holotype x 6.

Figs. 7-10. *Aaleniella umbriensis* gen. nov., sp. nov.; figs. 7-9, holotype; fig. 10, paratype, x 6.

Figs. 11-14. *Mariottia gibbosa* gen. nov., sp. nov.; holotype x 1, 5.

Figs. 15-17. *Canepina farinaccii* gen. nov., sp. nov.; holotype x 2.

Figs. 18-19. *Rissocerithium nicosiai* gen. nov., sp. nov.; holotype x 6.

(Specimens are deposited at Istituto di Geologia e Paleontologia, Università degli Studi di Roma).

