

Marco Oliverio*, Giovanni Buzzurro** & Raimondo Villa***

A NEW EULIMID GASTROPOD FROM THE EASTERN
MEDITERRANEAN SEA (CAENOGASTROPODA, PTENOGLOSSA)****

KEY WORDS: *Vitreolina*, new species, SEM, ectoparasite, Echinodermata, echinoids Mediterranean Sea, Taxonomy.

Abstract

A new species of the parasitic family Eulimidae is here described from the Eastern Mediterranean Sea. It is placed in the genus *Vitreolina* Monterosato, 1884 on the ground of general shell features (shape of the aperture, scar dips at the suture, curved shell, etc.). It differs from the other congeneric species in the Mediterranean mainly in its larger maximum size, its not completely transparent shell, and non-planktotrophic larval development. With *V. cionella* (also not definitely placed in *Vitreolina*) shares a non-planktotrophic larval development. The new species has been observed living on the sea-urchin *Centrostephanus longispina* (Philippi).

Riassunto

Viene descritta una nuova specie di Eulimidae dal bacino orientale del Mediterraneo. Viene provvisoriamente posta nel genere *Vitreolina* Monterosato, 1884 per la forma dell'apertura, le interruzioni della linea di sutura, l'accentuata curvatura della conchiglia. Differisce da tutte le congeneri dell'area mediterranea per le maggiori dimensioni, la conchiglia non completamente trasparente, e la protoconca indicante uno sviluppo nonplanktotrofico. Tale carattere è condiviso con *V. cionella*, anch'essa posta dubitativamente in *Vitreolina*, che però ha una teleoconca completamente diversa. La nuova specie è stata osservata vivente sul riccio *Centrostephanus longispina* (Philippi).

(*) Dipartimento di Biologia Animale e dell'Uomo, Università «La Sapienza». V.le dell'Università 32, I-00185 Roma, Italia.

(**) Via Mercadante 57/c, I-20052 Monza, Italia.

(***) Via del Lago 2. I-00061, Anguillara Sabazia, Roma.

(****) Lavoro accettato il 20 agosto 1994

Introduction

The Levant basin is a part of the Mediterranean Sea whose interest has largely grown up in the last decades — and is still growing — mainly because of the relevance of the Lessepsian Migrations across the Suez Canal. Anyway, several families yielded interesting novelties even in terms of new species of authentically Mediterranean origin, when a careful approach to their taxonomy involved study of Eastern Mediterranean material. With the present record the eulimids are no longer an exception to this pattern. Eulimidae are a world wide family of ptenoglossate gastropods characterised mainly by their way of life, nearly all species being parasite of Echinoderms, with two possible exception, one parasite of Echiurans and one of stony-corals (WARÉN, 1983). During the recent «AK-DENIZ '92» campaign in the South coasts of Turkey (see OLIVERIO *et. al*, 1992, for a preliminary report and the description of the stations), special attention was paid to the associations between echinoid echinoderms and eulimid gastropods. A single specimen of an underscribed species of this family was collected on the sea-urchin *Centrostephanus longispina* (Philippi, 1845) at Kash, Turkey, stn. AKD 92.13. Several additional shells were found sorting out bioclastic sands from Greece, Cyprus and Turkey. This same species has been recently figured by TORNARITIS (1992) under the erroneous name of *Eulima incurva*. It does not appears to be an Indo-Pacific species and is here described as new.

Systematics

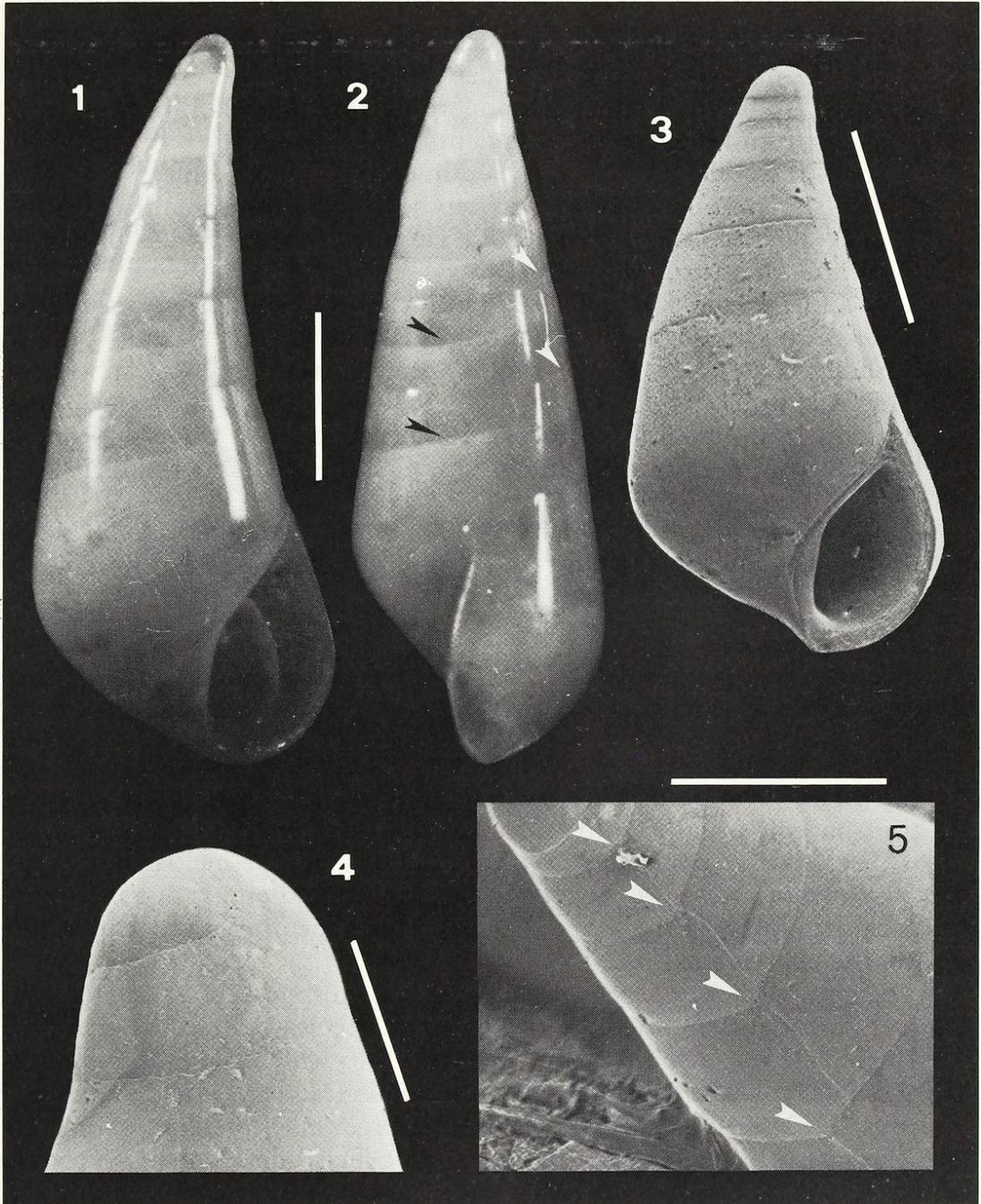
ordo CAENOGASTROPODA Cox, 1959
subordo PTENOGLOSSA Gray J.E., 1853
family Eulimidae Adams H. & A., 1853
genus *Vitreolina* Monterosato, 1884
(type species *Eulima incurva* B.D.D., 1883)

***Vitreolina levantina* n. sp. (Figs. 1-5)**

DESCRIPTION - Shell of medium size for the family (3-4 mm), white semitransparent, rather broadly conical, regularly curved. Protoconch of only the embryonic whorls, indicating a non-planktotropic development. Teleoconch of 4.5-5 smooth, nearly straight whorls with a false suture more evident than the real one. Several incremental scars are evident producing distinct dips at the real suture. The periphery has a slightly keeled appearance. The aperture is classical for the genus, small, rounded anteriorly and low. The outer lip is protruding at its medium height.

Anatomy not studied. Two black eyes are visible in transparency in the specimen from Kash.

The name derives from the area of the Mediterranean where the original material has been collected, namely the Levant basin.



Figures 1-5. *Vitreolina levantina* n. sp. 1-2. Holotype, Agya Napa (Cyprus): black arrows indicate the false suture, white arrows the real suture. (Scale bar = 1 mm). 3. Paratype, Turgutreis (Turkey). (Scale bar = 1 mm.). 4. Paratype, Turgutreis (Turkey). Particular of the protoconch. (Scale bar = 200 μ m). 5. Paratype, Turgutreis (Turkey). Particular of the dip scars (white arrows) at the suture (Scale bar = 500 μ m).

TYPE MATERIAL AND DISTRIBUTION - *Agya Napa* (Cyprus) is designated as type locality. All type material consists of empty shells, with the exception of the specimen from Kash (Turkey). The holotype (Fig. 3) and a paratype, both from Cyprus Is. are deposited in the malacological collections of the Civico Museo di Zoologia (Rome, Italy). Paratypes are deposited as follows:

- 3 shells from type locality, beached: coll. L. Tringali, Rome.
- 2 shells from type locality, 6 m depth: MNHN, Paris.
- 2 shells from type locality, 6 m depth: NHRS, Stockholm.
- 2 shells from type locality, 6 m depth: AMS, Sydney.
- 1 shell from type locality, 6 m depth: coll. R. Villa, Rome.
- 7 shells from type locality, 6 m depth; 5 shells from Phaliraky (Rhodes), 2 m depth; 10 shells from Turgutreis (Turkey), 2-3 m depth: coll. G. Buzzurro, Monza.
- 1 specimen from Kash, Turkey [stn. AKD 92.13: on *Centrostephanus longispina*] malacological collection DBAU, Rome.
- 2 shells coated for SEM, from Turgutreis (Turkey), 2-3 m depth: DBAU, Rome.
- 3 shells from Phaliraki (Rhodes), 2 m depth: coll. M. Oliverio, Rome.
- 1 shell from Turgutreis (Turkey), 2-3 m depth: coll. D. Di Massa, Trieste.

The new species occurs only in the Eastern Mediterranean, being known to our knowledge, only from the above mentioned localities.

REMARKS - The genus *Vitreolina* includes species of small size, vitreously transparent, usually with curved shells (WARÉN, 1983; WARÉN *et al.*, 1984). Their taxonomy still needs a careful revision. The inclusion of *levantina* in *Vitreolina* can even be considered as provisional and is due mainly to a general similarity in the shape of the aperture, the dips of the scars at the suture, the curved shell, etc.

The new species differs from all other known species of *Vitreolina* from the Mediterranean. From the series of small species related to *V. philippi* (De Rayneval, van den Heck & Ponzi, 1854), to which the names *incurva* (B.D.D., 1883), *anteflexa* Monts., 1884, *devians* (Monts., 1878), *perminima* (Jeffreys, 1883) could apply, differs in the larger size, the non completely transparent shell and the non-planktotrophic larval development. From *V. curva* (Monts., 1874), the more straight whorls can be taken as an additional difference. *V. cionella* (Monts., 1878) has a completely different teleoconch, straight and of smaller size and vitreously transparent (GAGLINI, 1992). The new species has some superficial resemblance with some short forms of the white and solid species of *Melanella* (i.e. *M. boshi*, *M. doderleini/altavillensis*): it differs in the shape of the aperture (*Vitreolina*-like) and in the more blunt protoconch.

A single specimen of *Vitreolina levantina* n. sp. has been found at Kash [stn. AKD 92.13] on a specimen of the diatematid sea-urchin *Centrostephanus longispina* (Philippi, 1845) together with a specimen of *V. philippi*. It must be remarked here the peculiar plasticity of the genus *Vitreolina* (see WARÉN, 1983) and of *V. philippi* in particular. For the later species the record on *C. longispina* is a new one and add to a long list of hosts already known: among others *Paracentrotus lividus* (Lamarck, 1816), *Arbacia lixula* (Linné, 1758), *Sphaerechinus granularis* (Lamarck, 1816) and *Psammechinus microtuberculatus* (Blainville, 1825) (MIFSUD, 1991; L. Tringali pers. comm., and pers. obs.). Therefore, we refrain from indicating the diadematid as the unique host of *V. levantina*.

V. levantina shares with *V. cionella* (Monterosato, 1878) the non-planktotrophic development; they can be probably regarded as siblings of other Mediterranean species with planktotrophic development according to a common evolutionary pattern in the basin (OLIVERIO, 1991, 1994).

Acknowledgments

The AKDENIZ '92 campaign was partly supported by MURST (40%) funds. Dr. A. Warén (Stockholm) confirmed our identification of the new species and provided precious informations on several taxa. G. Fusco (Rome) assisted during SEM study.

REFERENCES

- GAGLINI A., 1992. *Eulima cionella* Monterosato, 1878. *Bollettino Malacologico*, **28**: 203-206.
- MIFSUD C., 1991. *Vitreolina philippi* (Ponzi, De Rayneval & van den Heck, 1854) found living on the echinoid *Paracentrotus lividus* (Lamarck) in infralittoral Maltese waters. *Bollettino Malacologico*, **26**: 165-168.
- OLIVERIO M., 1991. Larval ecology and speciation of marine prosobranchs (Mollusca, Gastropoda). 3rd Congress of European Society for Evolutionary Biology, Debrecen 1-5 sept. 1991, Workshop on «Subdivision of Species», Abstracts' Volume: 238.
- OLIVERIO M., 1994. Contrasting developmental strategies and speciation in NE Atlantic Prosobranchs: a preliminary analysis. *Journal of Molluscan Studies*, in press.
- OLIVERIO M., R. VILLA, C. COLLI, E. FARAGLIA & M.S. RAMBELLI, 1993. Campagna «Akdeniz '92» in Turchia Meridionale. Rapporto preliminare. *Notiziario S.I.M.*, Palermo, **11**: 15-19.
- TORNARITIS G., 1987. *Mediterranean Sea Shells Cyprus*. Proodos Print. & Publ. Co. Ltd., Nicosia, 190 pp.
- WARÉN A., 1983. A generic revision of the family Eulimidae (Gastropoda, Prosobranchia). *Journal of Molluscan Studies, Suppl.* **13**: 1-95.
- WARÉN A., B.L. BURCH & T.A. BURCH, 1984. Description of five new species of Hawaiian Eulimidae. *The Veliger*, **26**: 170-178.



Oliverio, Marco, Buzzurro, Giovanni, and Villa, Raimondo. 1994. "A new eulimid gastropod from the eastern Mediterranean Sea (Caenogastropoda, Ptenoglossa)." *Bollettino malacologico* 30, 211–215.

View This Item Online: <https://www.biodiversitylibrary.org/item/199357>

Permalink: <https://www.biodiversitylibrary.org/partpdf/184188>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In Copyright. Digitized with the permission of the rights holder

Rights Holder: Società Italiana di Malacologia

License: <http://creativecommons.org/licenses/by-nc/3.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.