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*Article*

# *Conus ebraeus* Linnaeus 1758: A New Cone Snail Hosted in Mediterranean

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**Abstract**

The Mediterranean basin is higly affected by the spread of non-native species (alien species). Most non-native species originate from the Indo-Pacific domain, via the Suez Channel, and a smaller number are of Atlantic origin and enter the Mediterranean through the Strait of Gibraltar. Many other NIS reach the Mediterranean through passive transport via ballastwater, the importation of fish and mollusc species for marine farming facilities, and also due to involuntary and/or voluntary releases by aquarium hobbists. Thanks to ongoing environmental monitoring and citizen science, most of these alien species have been recorded over the past 40 years. Molluscs are not exception; infact, thanks to their aesthetically pleasing shells, they are collected by ordinary peoples as well as professional researchers. It was precisely thanks to research projects aimed at NIS detection that the first record of the species *Conus ebraeus* Linnaeus 1758 was made for the Mediterranean basin. The first shell of this species was sampled from the coastal seabed of the Vendicari protected natural area (southeastern Sicily) in the spring of 2023. In the following years, four more specimens of this species were found in the same area as the first discovery, while two more specimens of *C. ebraeus* were found at Portopalo di Capo Passero, in the extreme southeastern part of Sicily, a few kilometers from Vendicari. To date, a total of seven specimens of *C. ebraeus* have been collected.

**Keywords:** *Conus ebraeus* Linnaeus 1758; Mediterranean Sea; Sicily; Vendicari; citizen science; environmental monitoring

## 1. Introduction

Although the Mediterranean Sea represents only 0.82% of the global ocean surface, its waters host approximately 8% of the world's known marine species; of these, 20-30% are endemic species (Bianchi and Morri 2000). This enormous biodiversity has been threatened for several decades by several factors, including rising average water temperatures, the spread of pathogens, and the arrival and establishment of non-indigenous species (NIS) [1] [2] [3] [4].

The expansion of NIS, which in many cases can become invasive (AIS), represents a very important factor, so much so that it alone is already managing to determine a shift in Mediterranean biodiversity toward something that could appear typical of tropical environments rather than temperate environments, such as those of the Mediterranean Sea [5] [6] [7] [8].

Added to all this is the phenomenon known as "global warming", which represents a critical issue and an emerging threat both within the Mediterranean basin and globally [9]. Given its semi-enclosed nature, or at least with a very slow water turnover rate (approximately 100 years), the Mediterranean is one of the basins most affected by marine warming, with evident negative effects on its biome [10].

These factors, combined, are leading to a steady loss of native species in favor of non-native species in the Mediterranean. This decline is most pronounced in the Levantine Basin, where the presence of the Suez Canal, combined with changing environmental conditions, is generating a continuous influx of warm-sea-affine species from the Red Sea or more distant areas of the Pacific and Indian Oceans [11] [12] [13].

Added to this is the fact that the eastern Mediterranean, historically the warmest, is not the only area affected by the arrival and invasion of non-native species. Indeed, the phenomenon of colonization by non-native species is now widely known even for the coldest areas of the Mediterranean basin, such as its north-western portions (e.g., the Ligurian coastline) [14] [15] [16]. In this area, recent changes in the biogeographical structure are increasingly evident and are leading to the presence of species that is, in part, characterized by an unusual presence of a large number of thermophilic and exotic species [17].

Sicily, thanks to its unique location right at the center of the Mediterranean basin, represents a natural divide for the three biogeographical sectors (western, central, and eastern) conventionally identified within the Mediterranean Sea. Consequently, almost all alien species entering the Mediterranean, through the Suez Canal or the Strait of Gibraltar, sooner or later reach the Sicilian coast, where they find an ideal habitat for expanding their range. This phenomenon has occurred with both plant and animal species, as demonstrated by the extensive literature on the subject, and is now occurring with *C. ebraeus*, the cone snail discussed in this article.

In this context, Citizen Science plays a vital role, which, as widely reported in the literature [18] [19], currently plays an extremely significant role in the study of biological invasions [20] [21]. The importance of Citizen Science has seen an ever-increasing growth thanks to the adoption of IT platforms through which it is possible to share the information collected among enthusiasts and researchers from any part of the world [22].

As a result, academic researchers and Citizen Scientists can interact more easily, providing official science with real-time information on the presence of non-native species in a given environment. It is precisely thanks to this ever-increasing interaction that organizations such as iNaturalist [23] [24] have emerged, thanks to which biological invasions have been documented practically in real time [25].

With regards to the marine environment, the most active group of Citizen Scientists is undoubtedly that represented by fishermen (both surface and underwater). Indeed, [25] believe that the contribution provided by this category of "scientists" is by far the most relevant as regards the systematic groups of fish and molluscs. Moreover, in the Mediterranean environment it has been certified that the most active group of Citizen Scientists is that of fishermen, after which come the naturalists [26] [27]. Suffice it to say that in the seas of Greece, as many as 31 alien molluscs were reported for the first time thanks to the contribution of amateur fishermen and divers [28].

There are over 700 species of cone snails worldwide, boasting an evolutionary history spanning approximately 50 million years, which has allowed them to evolve alongside many marine ecosystems ([29] [30].

Cone snails constitute a highly diverse group, sought after by collectors for the beauty of their shell ornamentation. They are characterized by a typically conical shell and a toxoglossal radula containing modified teeth that act like small harpoons, used by the animal to inject venom into prey, a feature unique to this group [31]. Indeed, over the course of their evolutionary history, cone snails have developed unique predation strategies, especially at the expense of other mollusc species. To do this, cone snails have developed a wide range of venoms called conotoxins, which they use to paralyze and/or kill their prey.

Cone snails are widespread in warm tropical and subtropical seas, especially in the western Indo-Pacific region, which contains the greatest diversity of species in this systematic group, accounting for over 60% of the known species [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42] [43].

Due to their high collector appeal, the IUCN raised the alarm in 2011 by declaring 630 cone snail species as susceptible to anthropogenic pressure [44] [45]. Despite this, many cone snail species are currently used as a food source and for the production of medicinal products [44], while the beauty of their shells fuels a thriving and rapidly expanding market among collectors [41].

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To date, only 33 species of prosobranch mollusks have a trans-Pacific distribution, that is, they are present in both the eastern and western Pacific [46], and all have planktotrophic larvae. This characteristic has led to the hypothesis that the eastern Pacific populations are ephemeral populations that can only exist because of continuous recruitment from populations in the western Pacific [47] [46] [48]. According to this hypothesis, the prevalent distribution of cone snail species in the eastern Pacific is a process initiated by western Pacific populations that subsequently expanded their range [49].

In particular, among the cone snails, only three species of the genus *Conus* have a trans-Pacific distribution: *C. chaldaeus* (Röding, 1798), *C. ebraeus*, and *C. tessulatus* Born, 1778 (Emerson, 1991). These species are widely distributed along the eastern coasts of Africa to the eastern coasts of the central Pacific and are also present along the coasts of eastern Pacific islands such as Clipperton Atoll, Cocos Island, the Galapagos, the Revillagigedo Islands, and the coasts of many Central American islands [46] [50].

In particular, the larvae of C. ebraeus have a life cycle that includes a pelagic phase lasting about a month (>25–27 days) [51]; it is likely this characteristic that has allowed the species to disperse over greater distances and wider areas.

## 2. Materials and Methods

The Vendicari Protected Area is located along the southeastern coast of Sicily, in the central biogeographical sector of the Mediterranean Sea. The seabed of this area, like that of the entire Sicilian coast south of Syracuse, is characterized by calcareous rocks that slope gently into the sea, forming a vast plateau with sandy and muddy deposits and numerous rocky outcrops that sink offshore, forming the abyssal plains of the Ionian Sea [52] [53].

For over 15 years, the authors of this paper have coordinated and conducted monitoring activities in this protected area to survey and quantify the potential presence of non-native species along these coasts. Thanks to these activities, numerous alien species have been identified; some of them have even been recorded for the first time in Italian marine waters, such as the fish species Pterois miles, which was recorded by the authors of this paper in the waters of Vendicari as early as 2016 [54].

The first discovery of a *C. ebraeus* shell was made in spring 2023 during periodic monitoring activities for the census of alien species along the coastal marine environment of the Vendicari Protected Area. The shell lay in the sand, mixed with other shells, in front of the entrance to an octopus burrow at a depth of approximately 5 meters at the coordinates N 36.791903° - E 15.101848°.

In 2024 year, four more *C. ebraeus* shells were found in areas adjacent to the original discovery, always in the immediate vicinity or even at the entrances of octopus burrows. In the summer of 2024, three shells were found in an area just north of the original discovery, at the coordinates: N 36.819117° - E 15.108314°; N 36.819974° - E 15.107718°; N 36.820389° - E 15.107915°. During monitoring activities in 2025, other 3 *C. ebraeus* shell were discovered at coordinates N 36.790080° - E 15.102741° and at the southeastern coast of Sicily, ca.6 km SW of the Portopalo di Capo Passero village (Contrada Guardiana) a few kilometers from Vendicari, in the coordinates N 36.651330° - E 15.075769° and N 36.651172° - E 15.075211°. These latest specimens of cone snail shells were also found in front of octopus burrows at depths between 2.5 and 3 meters (Figure 1).

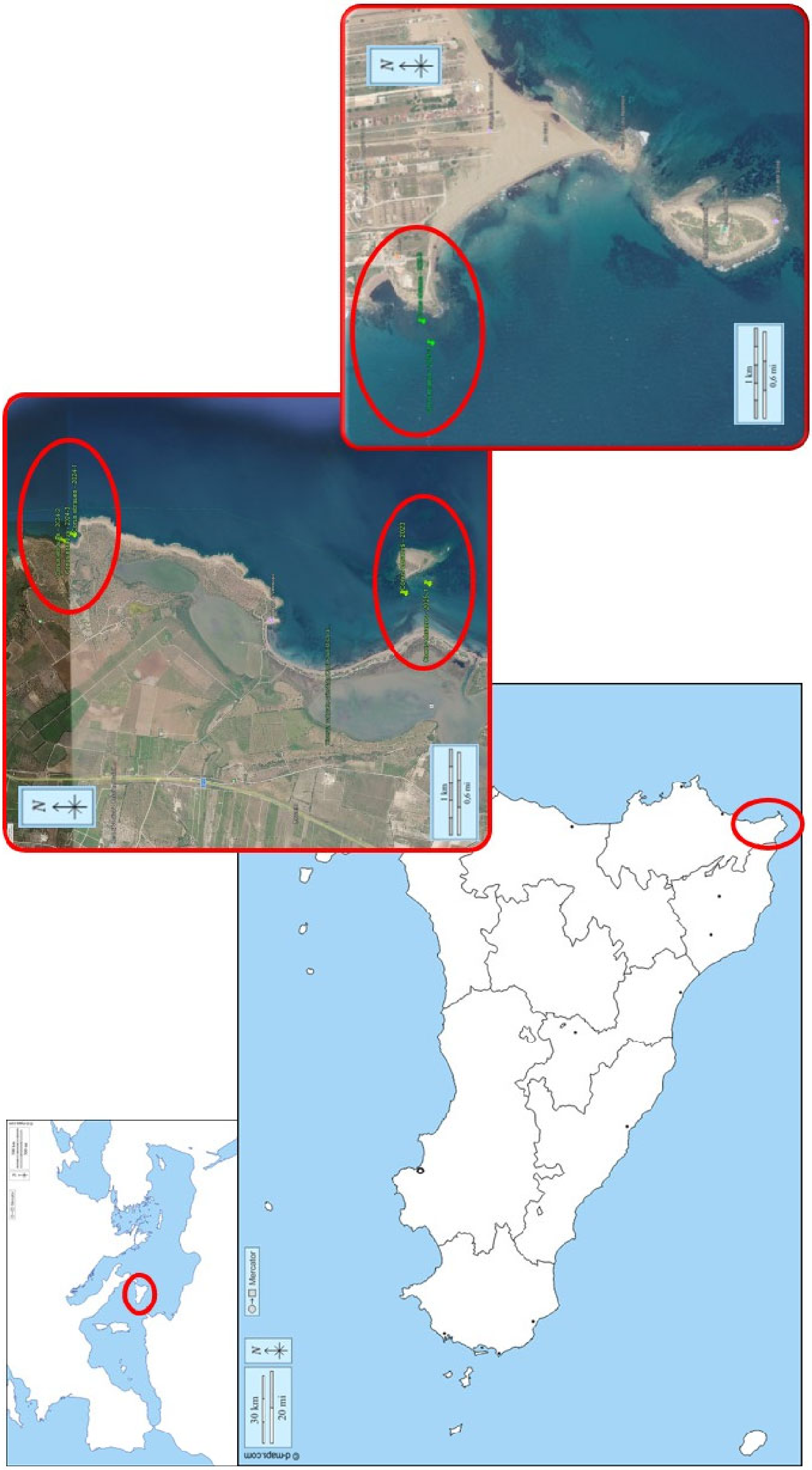


**Figure 1.** Map of sampling site in Vendicari protected area and Capo Passero (southeastern Sicily).

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All collected specimens were measured and the dimensions are reported in Table 1. The shells found are large enough to be attributed to adults; in fact, they measure between 32,2 and 19,1 mm in maximum length and between 18,3 and 11,5 mm in maximum width.

The *C. ebraeus* shells found in the Vendicari protected area are preserved in the collection of the CNR/ISAFOM branch in Catania (Figure 2).

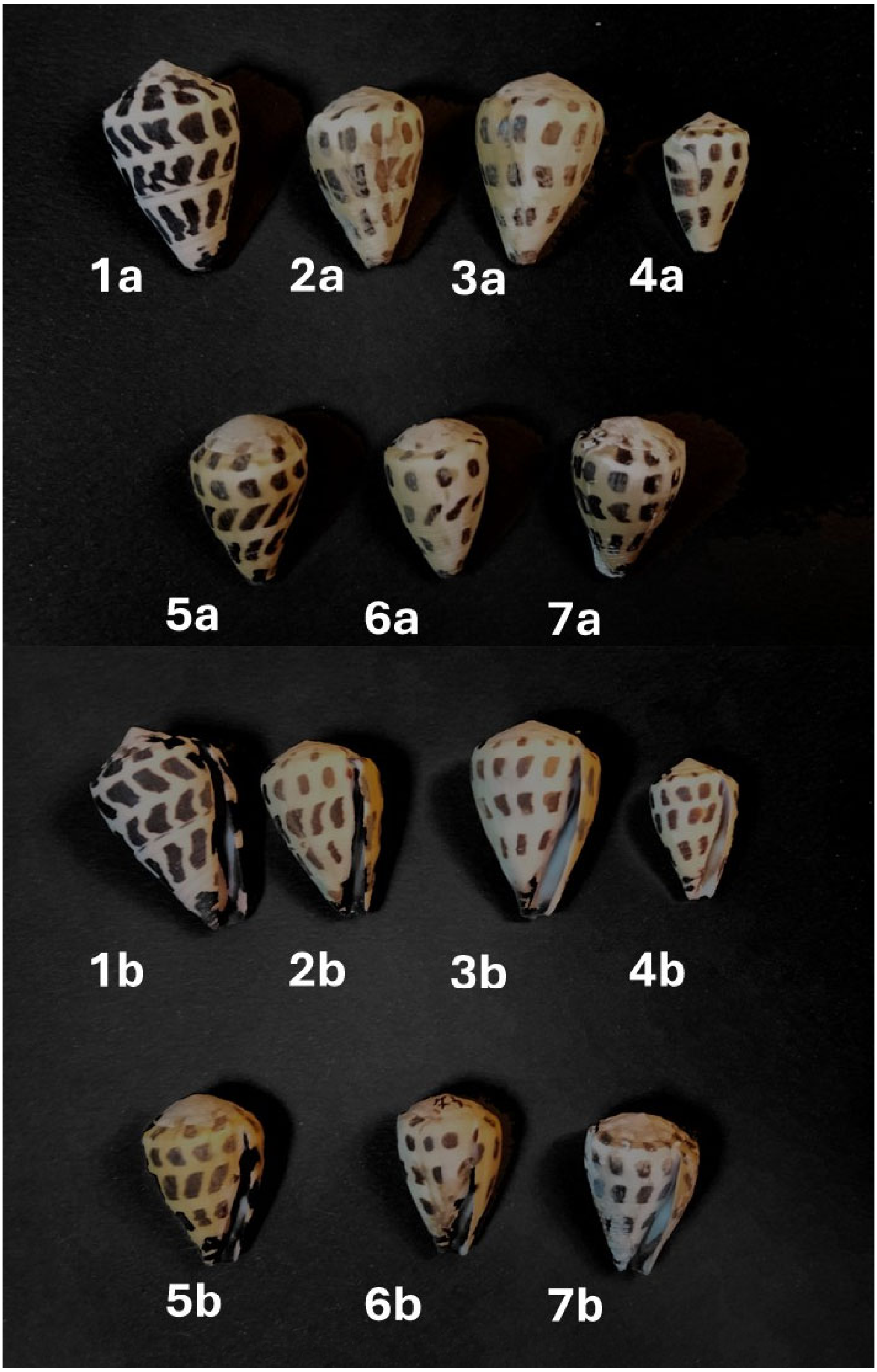


**Figure 2.** View of the 7 cone snails sampled: 1a to 7a) dorsal view; 1b to 7b) view from the opening side.

**Table 1.** Synoptic table of *Conus ebraeus* shells found in the coastal waters of the Vendicari protected area and Capo Passero (southeastern Sicily).

| Sample | Year | Lenght (mm) | Width (mm) | Depth (mt) | Coordinates |
|---|---|---|---|---|---|
| 1 | 2023 | 32,2 | 18,3 | 5,0 | N 36.791903° E 15.101848° |
| 2 | 2024 | 24,5 | 16,0 | 2,5 | N 36.819117° E 15.108314° |
| 3 | 2024 | 28,0 | 18,5 | 2,0 | N 36.819974° E 15.107718° |
| 4 | 2024 | 19,1 | 11,5 | 4,0 | N 36.820389° E 15.107915° |
| 5 | 2025 | 25,0 | 16,0 | 3,0 | N 36.790080° E 15.102741° |
| 6 | 2025 | 23,5 | 14,6 | 2,5 | N 36.651330° E 15.075769° |
| 7 | 2025 | 23,0 | 14,1 | 3,0 | N 36.651172° E 15.075211° |

## 3. Results and Discussions

During monitoring campaigns conducted over the past three years along the Vendicari coastline, some *C. ebraeus* shells were found, but no live individuals. Therefore, the species identification was based solely on morphological analysis of the shells found. Nevertheless, it was possible to definitively identify the species thanks to the distinctive features of *C. ebraeus* shells, which feature distinctive ornamentation and patterns that make them unique among cone snails worldwide.

An in-depth bibliographic research and consultation of specific online databases also allowed us to reconstruct the geographic distribution of the species *C. ebraeus*. This species is widespread throughout the circumtropical belt of the global ocean, with a higher density of records in the western Indo-Pacific region.

Bibliographic research and consultation of the major systematic databases also highlighted that this species has never been reported from the Mediterranean basin, although the GBIF portal, consulted on 31.03.2026, indicates the presence of *C. ebraeus* in the northernmost part of the Gulf of Aqaba, in the Red Sea, and along the eastern coasts of the Levantine Mediterranean basin (https://www.gbif.org/occurrence/search?country=IL&taxon_key=5728138&advanced=1). Neither bibliographic references nor the names of the authors are provided for these reports, but only the name of the institution where the specimen is kept, the name of the person who determined it and the coordinates of where it was supposedly found are reported (Figure 3) [55] [56].

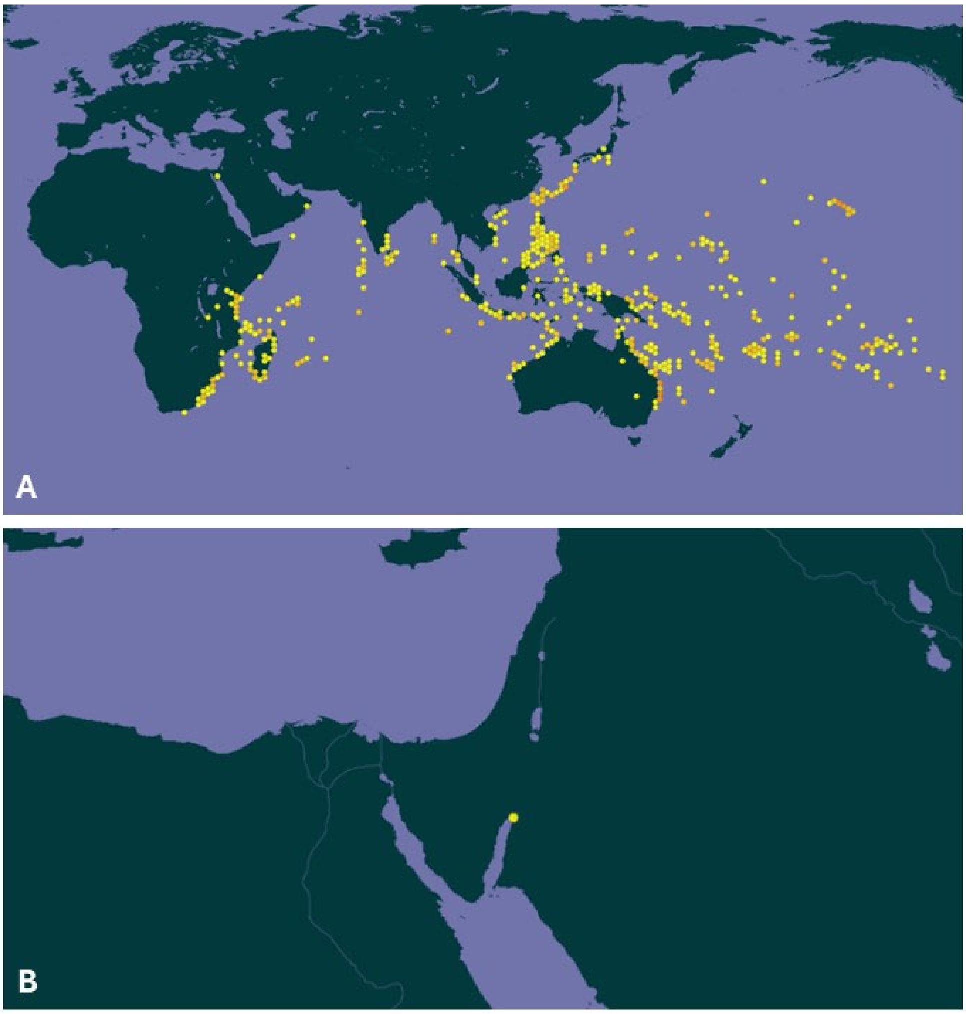


**Figure 3.** (A) Map of the global distribution of the species *Conus ebraeus* Linnaeus 1758 as reported in the BioGIS portal (consulted on 17 March 2026) with (B) a detail on the area of the northern Red Sea and the Levantine basin of the Mediterranean where there would be an unconfirmed presence of *Conus ebraeus*.

The iNaturaist portal reports some reports made by citizen scientists, including some for the species *Conus taeniatus* (Cones (Genus Conus) in XWX3+3Q2, Hurghada 1, Al-Bahr al-Ahmar 1960530, Egypt on August 30, 2025 at 08:05 AM by Chris · iNaturalist) and numerous reports for the species *Conus tessulatus* (for example https://www.inaturalist.org/observations/34537080). All these reports were made both near Hurghada and Safaga, in the Egyptian Red Sea, and in the Gulf of Aqaba, also in the Red Sea, near Dahab and Aqaba.

Consulting the iNaturalist portal, we also found a record of *Conus sp*. from the seabottoms of Hurghada, in the Red Sea; careful observation of the image attached to the report led us to suppose that the observed and photographed specimen could be a chromatic variant of *C. ebraues* (Conus taeniatus in Masbat, قسم سانت كاترين، محافظة جنوب سيناء، Egypte il Gennaio 6, 2026 alle 08:24 PM da Marleen Schouten. divesite light house (rechterkant) · iNaturalist). If so, this record could represent a sort of connecting link between the records of *C. ebraeus* in the Indian Ocean and the presence of *C. ebraeus* in the Mediterranean.

Our belief is also supported by the analysis of the diffusion pattern of the species *C. ebraeus*, as reported by [56] and schematized by the same Authors in fig. 1 of their paper.

Based on the literature, it can be hypothesized that the species *C. ebraeus*, thanks also to the long planktonic phase of its larva, was able to travel up the coasts of the Red Sea until reaching the northernmost reaches of this sea and then exploit the thrust of the currents entering the Mediterranean Sea to access and spread within this basin. It should also be noted that the larva of *C.*

*ebraeus* is also capable of feeding, which would allow it to travel long distances at the mercy of the currents and gives this species a truly high potential for dispersal [56].

The shells of *C. ebraeus* sampled at Vendicari and in Portopalo di Capo Passero village (Contrada Guardiana) show the typical coloration described by [58]: "*Shell white, sometimes rose-tinted, with three or four revolving bands composed of irregular longitudinal dark chocolate or nearly black markings; these markings also adorn the slightly coronated spire; aperture white with clouded bands corresponding to the exterior markings; surface more or less striate throughout, but striae more prominent toward the dark-stained base*."

Furthermore, all the shells are robust, thick, and heavy for their size, and have low, eroded spires. The periostracum is yellowish-olive in color, fairly smooth, and translucent, understandably given the conditions of the find.

The fact that all the specimens were found near octopus burrows suggests that the molluscs were preyed upon by these octopods, which subsequently used the shells to decorate their burrows.

During the monitoring activities, no live specimens of *C. ebraeus* were found, but in our opinion, this could be due both to the predatory habits and the camouflage ability of this species, which make it practically invisible during daylight hours, when monitoring related to research activities conducted in the Vendicari protected area is carried out.

The high level of camouflage that *C. ebraeus* achieves in the underwater environments of Vendicari may be a consequence of the fact that the species differentiated and evolved in environments very different from those of the Mediterranean. This ability is even greater when compared to the specific characteristics of the Vendicari seabed, consisting of rocky substrates of calcareous and carbonate origin (therefore light in color) as well as the algal cover, which is approximately 70% represented by erect Heterokontophyta species with arborescent and/or laminar growths ranging in color from light to dark brown, and by hair-like substratum species of the same coloration.

It follows that since the dominant color of the seabed is light and/or dark brown, it is quite easy for the shells of *C. ebraeus* to disappear from view, as they are colored in the same shades as the seabed.

We therefore believe and hope that monitoring activities in the Vendicari protected area can continue in the years to come in order to fill the current gap relating to the lack of findings of live specimens of *C. ebraeus*.

**Supplementary Materials:** none.

**Author Contributions:** Conceptualization, V.D.M. and B.S.; Methodology, V.D.M. and B.S.; Validation, V.D.M. and B.S.; Investigation, V.D.M. and B.S.; Resources, V.D.M. and B.S.; Data Curation, V.D.M. and B.S.; Writing – Original Draft Preparation, V.D.M. and B.S.; Writing – Review & Editing, V.D.M. and B.S.; Visualization, V.D.M. and B.S.; Supervision, V.D.M. and B.S.; Project Administration, V.D.M.

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## References

1. Vezzulli L., Previati M., Pruzzo C., Marchese A., Bourne D.G., Cerrano C., VibrioSea Consortium. Vibrio infections triggering mass mortality events in a warming Mediterranean Sea. Environmental Microbiology, 2010, 12: 2007–2019, https://doi.org/10.1111/j.1462-2920.2010.02209.x
2. Carella F., Antuofermo E., Farina S., Salati F., Mandas D., Prado P., Panarese R., Marino F., Fiocchi E., Pretto T., De Vico G. In the wake of the ongoing mass mortality events: co-occurrence of Mycobacterium,

Haplosporidium and other pathogens in Pinna nobilis collected in Italy and Spain (Mediterranean Sea). Frontiers in Marine Science, 2020, 7: 48, https://doi.org/10.3389/fmars.2020.00048

3. Garrabou J., Gómez-Gras D., Medrano A., Cerrano C., Ponti M., Schlegel R., Harmelin J.G. Marine heatwaves drive recurrent mass mortalities in the Mediterranean Sea. Global Change Biology, 2022, 28: 5708–5725, https://doi.org/10.1111/gcb.16301
4. Tsirintanis K., Azzurro E., Crocetta F., Dimiza M., Froglia C., Gerovasileiou V., Langeneck J., Mancinelli G., Rosso A., Stern N., Triantaphyllou M., Tsiamis K., Turon X., Verlaque M., Zenetos A., Katsanevakis S. Bioinvasion impacts on biodiversity, ecosystem services, and human health in the Mediterranean Sea. Aquatic Invasions, 2022, 17: 308–352, https://doi.org/10.3391/ai.2022.17.3.01
5. Bianchi C.N., Morri C. Global Sea warming and "tropicalization" of the Mediterranean Sea: biogeographic and ecological aspects. Biogeographia–The Journal of Integrative Biogeography, 2003, 24, https://doi.org/10.21426/B6110129
6. Toso A., Furfaro G., Fai S., Giangrande A., Piraino S. A sea of fireworms? New insights on ecology and seasonal density of Hermodice carunculata (Pallas, 1766) (Annelida) in the Ionian Sea (SE Italy). The European Zoological Journal, 2022, 89: 1104–1114, https://doi.org/10.1080/24750263.2022.2113156
7. Trainito E., Doneddu M., Furfaro G. Aliens in changing seascapes: a newly reported non native sacoglossan (Mollusca, Heterobranchia) in the western Mediterranean Sea. Check List, 2022, 18: 545–551, https://doi.org/10.15560/18.3.545
8. Toso A., Musco L. The hidden invasion of the alien seagrass Halophila stipulacea (Forsskål) Ascherson along Southeastern Italy. Mediterranean Marine Science, 2023, 24: 96–100, https://doi.org/10.12681/mms.31497
9. Henson S.A., Beaulieu C., Ilyina T., John J.G., Long M., Séférian R., Tjiputra J., Sarmiento J.L. Rapid emergence of climate change in environmental drivers of marine ecosystems. Nature Communications, 2017, 8: 14682, https://doi.org/10.1038/ncomms14682
10. Schroeder K., Chiggiato J., Josey S.A., Borghini M., Aracri S., Sparnocchia S. Rapid response to climate change in a marginal sea. Scientific Report, 2017, 7: 4065. https://doi.org/10.1038/s41598-017-04455-5
11. Katsanevakis S., Wallentinus I., Zenetos A., Leppäkoski E., Çinar M.E., Oztürk B., Grabowski M., Golani D., Cardoso A.C. Impacts of marine invasive alien species on ecosystem services and biodiversity: A pan-European review. Aquatic Invasions, 2014, 9: 391–423, https://doi.org/10.3391/ai.2014.9.4.01
12. Albano P.G., Steger J., Bošnjak M., Dunne B., Guifarro Z., Turapova E., Hua Q., Kaufman D.S., Rilov G., Zuschin M. Native biodiversity collapse in the eastern Mediterranean. Proc Biol Sci 1 January 2021; 288 (1942): 20202469. https://doi.org/10.1098/rspb.2020.2469
13. Furfaro G., Fumarola L. M., Toso A., Toso Y., Trainito E., Bariche M., Piraino S. A Mediterranean melting pot: native and non-indigenous sea slugs (Gastropoda, Heterobranchia) from Lebanese waters. BioInvasions Records, 2025, 14: 197–221, https://doi.org/10.3391/bir.2025.14.1.16
14. Bianchi C.N.. Biodiversity issues for the forthcoming tropical Mediterranean Sea. Hydrobiologia 2007, 580: 7–21, https://doi.org/10.1007/s10750-006-0469-5
15. Bianchi C.N., Caroli F., Guidetti P., Morri C. Seawater warming at the northern reach for southern species: Gulf of Genoa, NW Mediterranean. Journal of Marine Biological Association UK, 2018, 98: 1–12, https://doi.org/10.1017/S0025315417000819
16. Morri C., Montefalcone M., Gatti G., Vassallo P., Paoli C., Bianchi C.N. An alien invader is the cause of homogenization in the recipient ecosystem: a simulation-like approach. Diversity, 2019, 11: 146, https://doi.org/10.3390/d11090146
17. Azzola A., Bianchi C.N., Merotto L., Nota A., Tiralongo F., Morri C., Oprandi A. The changing biogeography of the Ligurian Sea: Seawater warming and further records of southern species. Diversity 2024, 16: 159, https://doi.org/10.3390/d16030159
18. Chandler M., See L.; Copas K.; Bonde A.M.; López B.C.; Danielsen F.; Legind J.K.; Masinde S.; Miller-Rushing A.J.; Newman G.; et al. Contribution of citizen science towards international biodiversity monitoring. Biol. Conserv., 2017, 213, 280–294. https://doi.org/10.1016/j.biocon.2016.09.004

19. Marchante E., López-Núñez F.A., Duarte L.N., Marchante H. The role of citizen science in biodiversity monitoring: When invasive species and insects meet. In Biological Invasions and Global Insect Decline; Academic Press: Cambridge, MA, USA; 2024, pp. 291–314.
20. Roy H., Groom Q., Adriaens T., Agnello G., Antic M., Archambeau A., Bacher S., Bonn A., Brown P., Brundu G. et al. Increasing understanding of alien species through citizen science (Alien-CSI). Res. Ideas Outcomes, 2018, 4, e31412.
21. Encarnação J.; Teodósio M.A.; Morais P. Citizen science and biological invasions: A review. Front. Environ. Sci., 2021, 8, 602980. https://doi.org/10.3389/fenvs.2020.602980
22. Johnson B.A.; Mader A.D.; Dasgupta R.; Kumar P. Citizen science and invasive alien species: An analysis of citizen science initiatives using information and communications technology (ICT) to collect invasive alien species observations. Glob. Ecol. Conserv., 2020, 21, e00812. https://doi.org/10.1016/j.gecco.2019.e00812
23. iNaturalist. Available online: http://www.inaturalist.org (accessed on 31 March 2026).
24. EASIN. European Commission—Joint Research Centre—European Alien Species Information Network (EASIN). Available online: https://easin.jrc.ec.europa.eu/ (accessed on 30 March 2026).
25. Kousteni V.; Tsiamis K.; Gervasini E.; Zenetos A.; Karachle P.K.; Cardoso A.C. Citizen scientists contributing to alien species detection: The case of fishes and mollusks in European marine waters. Ecosphere, 2022, 13, e03875. https://doi.org/10.1002/ecs2.3875
26. Giovos I.; Kleitou P.; Poursanidis D.; Batjakas I.; Bernardi G.; Crocetta F.; Doumpas N.; Kalogirou S.; Kampouris T.E.; Keramidas I.; et al. Citizen-science for monitoring marine invasions and stimulating public engagement: A case project from the eastern Mediterranean. Biol. Invasions, 2019, 21: 3707–3721. https://doi.org/10.1007/s10530-019-02083-w
27. Michail C., Tanduo V., Crocetta F., Giovos I., Litsiou S., Kleitou P. Engagement of fishers in citizen science enhances the knowledge on alien decapods in Cyprus (eastern Mediterranean Sea). Aquat. Ecol, 2024, 58: 107–116.
28. Crocetta F.; Gofas S.; Salas C.; Tringali L.P.; Zenetos A. Local Ecological Knowledge versus published literature: A review of Non-Indigenous mollusca in Greek marine waters. Aquat. Invasions, 2017, 12: 415–434. Local ecological knowledge versus published literature: a review of non-indigenous Mollusca in Greek marine waters
29. Zhao Y., Antunes A. Biomedical potential of the neglected molluscivorous and vermivorous conus species. Mar. Drugs, 2022, 20, 105. https://doi.org/10.3390/md20020105
30. Duda T.F., Kohn A. J., and Palumbi S. R. Origins of diverse feeding ecologies within Conus, a genus of venomous marine gastropods. Biol. J. Linn. Soc., 2001, 73, 391–409. https://doi.org/10.1006/bijl.2001.0544
31. Díaz J. M., Gracia A. M., and Cantera J. R. Checklist of the cone shells (Mollusca: gastropoda: neogastropoda: conidae) of Colombia. Biota Colombiana, 2005, 6, 73–85.
32. Stoliczka F. The gastropoda (Vol. 1) (Office of Superintendent of Government Printing), 1868, 524pp
33. Tryon G.W. Family Conidae. Manual of conchology, structural and systematic, with illustrations of the species Vol. 1. Academy of Natural Sciences of Philadelphia, 1883: 3–150.
34. Winckworth R. Holten's systematic list of the shells of Chemnitz. Proc. Malacological Soc. London, 1943, 25, 146–150.
35. Cernohorsky A. R. The conidae of Fiji. Veliger, 1964, 7, 61–94.
36. Kohn. A.J. The conidae (Mollusca: gastropoda) of India. J. Natural History 1978, 12, 295–335. https://doi.org/10.1080/00222937800770171
37. Coomans H. E., Moolenbeek R. G., and Wils E. Alphabetical revision of the (sub) species in recent Conidae 2 abbas to adansonii, Zoological Museum, Amsterdam. Basteria, 1979, 43, 9–23.
38. Filmer R. M. A catalogue of nomenclature and taxonomy in the living Conidae 1758-1998 (Leiden: Backhuys Publishers), 2001, 388pp.
39. Franklin J. B., Apte D. A. Three new distribution records of Conidae (Gastropoda: Neogastropoda: Conoidea) from the Andaman Islands, India. J. Threatened Taxa, 2021, 13, 18378–18384. https://doi.org/10.11609/jott.6891.13.5.18378-18384

40. Kumar P.S., Kumar D.S., Umamaheswari S. A perspective on toxicology of Conus venom peptides. Asian Pacific J. Trop.Med. 2015, 8, 337–351. https://doi.org/10.1016/s1995-7645(14)60342-4
41. Ravinesh R., Bijukumar A., Kohn A. J. Conidae (Mollusca, gastropoda) of lakshadweep, India. Zootaxa, 2018, 4441, 467–494. https://doi.org/10.11646/zootaxa.4441.3.3
42. Venkitesan R., Barua S., Hafiz M. Contribution to the knowledge on Indian Marine Molluscs: Family Conidae. Records of the Zoological Survey of India, 2019, 119 (2), 165–184. https://doi.org/10.26515/rzsi/v119/i2/2019/144125
43. Rout S.S., Dash B., Subba Rao N.V., Surya Rao K.V., Raman, A.V., Raut D. New records of Conidae (Mollusca, Gastropoda) from Andhra Pradesh, east coast of India. Indian J. Geo-Marine Sci., 2022, 50, 641–647. https://doi.org/10.56042/ijms.v50i08.36599
44. Peters H., O'Leary B. C., Hawkins J. P., Carpenter K. E., Roberts C. M. Conus: first comprehensive conservation Red List assessment of a marine gastropod mollusc genus. PloS One, 2013, 8, e83353. https://doi.org/10.1371/journal.pone.0083353
45. Tenorio Jimenez M., Abalde S., Pardos-Blas J. R., Zardoya R. Taxonomic revision of West African cone snails (Gastropoda: Conidae) based upon mitogenomic studies: implications for conservation. Eur. J. Taxonomy, 2020, 663, 1–89. https://doi.org/10.5852/ejt.2020.663
46. Emerson W.K. 1st records for Cymatium mundum (Gould) in the eastern Pacific Ocean, with comments on the zoogeography of the tropical trans-Pacific tonnacean and non-tonnacean prosobranch gastropods with Indo-Pacific faunal affinities in West American waters. Nautilus, 1991, 105: 62–80
47. Emerson W.K. Mollusks with Indo-Pacific faunal affinities in eastern Pacific Ocean. Nautilus, 1978, 92: 91–96
48. Emerson W.K., Chaney H.W. A zoogeographic review of the Cypraeidae (Mollusca, Gastropoda) occurring in the Eastern Pacific Ocean. Veliger, 1995, 38: 8–21
49. Briggs, J.C. (1974) Marine Zoogeography. McGraw-Hill Book Company, New York, 475 p.
50. Röckel D., Korn W., Kohn A.J. Manual of the living Conidae. Verlag Christa Hemmen, Wiesbaden, Germany; 1995, 517pp
51. Kohn A.J., Perron F.E. Life history and biogeography: patterns in Conus. Clarendon Press, Oxford, 1994, 106pp
52. Bianchi C.N., Morri C. Marine biodiversity of the Mediterranean Sea: Situation, problems and prospects for future research. Marine Pollution Bulletin, 2000, 40: 367–376, https://doi.org/10.1016/S0025-326X(00)00027-8
53. Bianchi C.N., Morri C., Chiantore C., Montefalcone M., Parravicini V., Rovere A. Mediterranean Sea biodiversity between the legacy from the past and a future of change. In: "Life in the Mediterranean Sea: A Look at Habitat Changes", Publisher: Nova Publisher; Noga Stambler editor. 2012, 749 pp., Chapter 1: 1-55.
54. Azzurro E., Stancanelli B., Di Martino V., Bariche M. Range expansion of the common lionfish Pterois miles (Bennett, 1828) in the Mediterranean Sea: An unwanted new guest for Italian waters. BioInvasions Records 2017, 6(2): 95–98. https://doi.org/10.3391/bir.2017.6.2.01
55. Horvitz N., Mienis H. BioGIS - Marine snails - HUJ collections. Version 1.0. The National Natural History Collections. Occurrence dataset https://doi.org/10.15468/o6o6kw accessed via GBIF.org on 2026-03-31. https://www.gbif.org/occurrence/1094275694
56. Horvitz N, Mienis H. BioGIS - Marine snails - HUJ collections. Version 1.0. The National Natural History Collections. Occurrence dataset https://doi.org/10.15468/o6o6kw accessed via GBIF.org on 2026-03-31. https://www.gbif.org/occurrence/1094276041
57. Duda T.F. and Lessios H.A. Connectivity of populations within and between major biogeographic regions of the tropical Pacific in Conus ebraeus, a widespread marine gastropod. Coral Reefs, 2009, 28: 651–659. doi: 10.1007/s00338-009-0485-9
58. Tryon G.W. Manual of Conchology, structural and systematic, with illustrations of the species. Vol 6: Conidae, Pleurotomidae. Academy of Natural Sciences of Philadelphia, 1884: 20

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