

ABOUT THE “EYE-SPOTTED” DORSAL PATTERN IN SHELLS OF *EROSARIA TURDUS*

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Abstract: It is traditionally considered that the dorsal pattern in shells of *Erosaria turdus* consists of miniature round spots of different tinge. These spots together with larger blackish spots are present on the margins too. As the conchological practice shows, the larger blackish spots may be present also on the dorsum and sometime form an “eye-spotted” (ocellated) structure. In several specimens from the northern Gulf of Aqaba such a pattern is very prominent. This pattern is not the result of the damage to the shell or of other influence of the environment; it is perhaps the result of mutation or it is of other origin.

Key words: Mollusca, Gastropoda, Cypraeidae, *Erosaria turdus*, intraspecific variation, diagnostic characteristics.

Erosaria turdus (Lamarck, 1810) is a very variable shallow water species known in the northern Red Sea as a subspecies *Erosaria turdus pardalina* (Dunker, 1852). Fifteen its different forms are discussed in Heiman (2002). Shells of the species have white base with the outer lip constricted anteriorly and mostly the moderately wide aperture with white teeth. The only adornment to the shell is the dorsal pattern consisting of numerous miniature grey (or greenish or beige to brown) spots on the very light to white colored dorsum; even the dorsal line is rarely observed—Fig. 1.

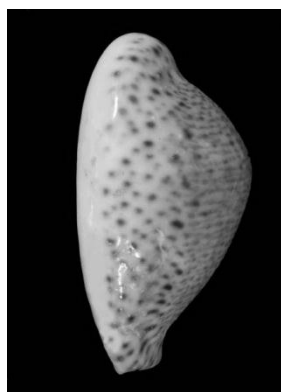
This modest pattern reminded Lamarck a small thrush. The dorsal pattern mostly spreads onto the margins where the spots are sometimes larger and almost black—Fig. 2.

The dorsal pattern may be distorted to a different degree in the process of building the shell due to attacks by marine animals and/or strong waves, which may disturb the mantle; this may result in a distorted pattern—Fig. 3. As a result the dorsal pattern may look like short grey lines of different size and width rather than miniature spots or a combination of both. This dorsal pattern can be attributed to the not typical form confused.

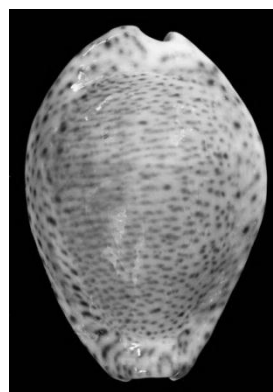
Sometimes the dorsal pattern may consists of solitary small scattered blackish spots and the miniature colored spots mentioned above; these may be situated at the distance from the blackish spots so an “eye-spotted” pattern is formed—Fig. 4. This kind of pattern looks as a well organized structure rather than form confused.



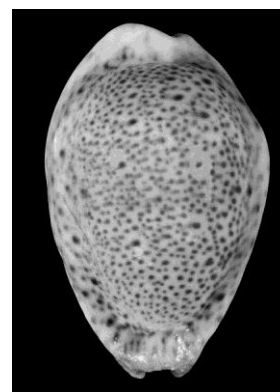
1. The typical dorsal pattern of *E. turdus pardalina*.



2. The left margin with larger blackish spots.



3. A distorted pattern: form confused.

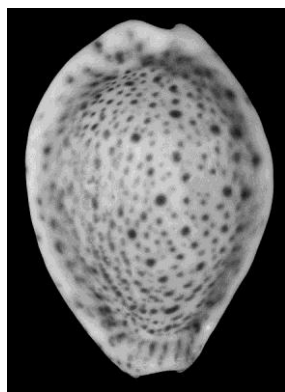


4. An “eye-spotted pattern,” 46.4 mm.

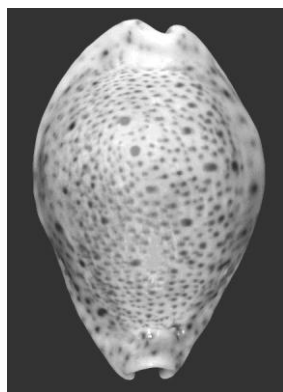
All specimens from the northern Gulf of Aqaba

Shells as Figs 1-3 are known along the whole range of distribution of the species. Those as Fig. 4 are known from an area of the northern Gulf of Aqaba and also from Abu-Ali, in the northern part of the Persian Gulf, near coasts of Saudi Arabia.

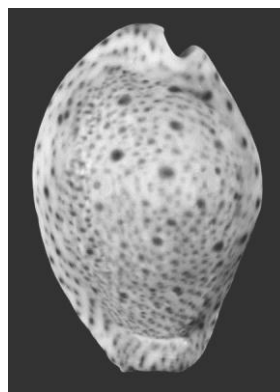
The most known conchological authors of the past: Reeve (1846), Sowerby (1870), Melvill (1888) and Schilder & Schilder (1938) mentioned miniature, colored dorsal spots as the main diagnostic shell characteristic (MDSC) of the species. According to the data of this short note the dorsal pattern of *E. turdus* varies and even demonstrates sometime the presence of the larger and blackish ocellated spots. Hence it is also should be taken into consideration as the MDSC. Variants of this “eye-spotted” (ocellated) pattern are shown in Figs. 5-8. Here the dark spots forming ocellations are substantially larger than in Fig. 4.



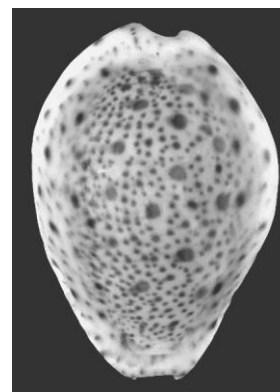
5. *E. turdus*, 36.1 mm,
Abu Ali, East coasts
of Saudi Arabia.



6. 50.2 mm.



7. 55 mm.



8. mm.

E. turdus pardalina, North of East Sinai, shallow water.

In several specimens from the northern Gulf of Aqaba such a pattern is very prominent. This pattern seems to be not the result of the damage to the shell or of the other influence of the environment.

One can expect that the main diagnostic shell character of any cowrie species is constant. Let us consider the dorsal pattern only and ignore the spots on the margins of the shell.

Schilder (1968) wrote describing a cowrie mutant from the Gulf of Thailand (*Mauritia arabica gibba* Coen, 1949):

“Mutants are hereditary variants which differ from typical specimens by one or a few striking characters; there are no, or only rare intermediates. The mutants live among the non-varied individuals of the same species and do not show any environmental specialization. They show a distinct centre of frequency and become gradually scarcer in populations living around the locality.”

Perhaps the ocellated dorsal pattern is the result of mutation but it is known within the almost whole range of distribution of the species, especially shells as Figs. 5-8. One cannot treat it as a form according to the postulate mentioned by Schilder.

If this is a mutation and if it will remain in populations of the species, it will apparently be necessary to change our definition on the MDSC of *E. turdus*.

It is also possible that the ocellated dorsal pattern is not a mutation but an atavism, in other words it belongs to the past and not to the future. Perhaps *E. turdus* evolved from a species the dorsal pattern of which was ocellated as in the pictures above. It is known that species-predecessors may remain in reduced numbers for a long period of time. In any case it will be interesting to trace a fate of this phenomenon in the future.

Literature

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