

Albinism in Gastropoda

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The incidence of albinism in Gastropoda is discussed and a few examples are given. The present author touches upon the question whether albinism in Mollusca is hereditary because he found local populations of albinotic snails.

Key words: Gastropoda, shell colouration, albinism, heredity.

INTRODUCTION

Albinism, i.e. the absence of melanistic pigments is known to occur in a number of animals including mammals and rarely in man, but in the taxonomic literature on Mollusca the incidence of albinism is hardly mentioned.

Dr A.C. van Bruggen (in litt.) kindly informed me that there are some reports of albinism scattered in the literature (also or mostly) in slugs, but these have up to now not been summarised in any textbook on Gastropoda. Quite recently Mienis (2004) reported an albino specimen of *Discus rotundatus* (Müller, 1774).

For the assesment of albinism one must exclude species that have but little pigment in their shell that looks glassy and/or hyaline (such as *Vitrina*, *Vitrea* and *Phylina aperta* (Linnaeus, 1767) and also those that lack pigment in their shell and look white on account of the chalk therein (*Arca noae* Linnaeus, 1758 and among the bivalves also *Spisula* and a species of *Tellina*). These species are not albinotic because in all individuals the whiteness is a constant feature whilst albinos appear occasionally in an otherwise normal coloured population.

EXAMPLES

The cause of albinism is unknown but since such albinos as we know from domestic animals (rabbits, rats, mice and cats) produce an albinotic offspring, albinism appears to be hereditary in at least certain mammals. It does not necessarily follow that albinism in other groups of animals is hereditary. This is not the case in the incidental occurrence of albinism in lions, tigers and members of the horse family (zebras), but there are at least two herds of fallow deer in a park or an estate with albinos and it follows that the albinism is hereditary at least in these cases. Since the cause is unknown one may accept that albinism in a species originates occasionally and that the change occurs in the genotype and is therefore, hereditary. One must also distinguish between albinism in the shell and in the mollusc animal (or in both). I came across a population of *Planorbarius corneus* (Linnaeus, 1758) with albinotic shells and albinism in the living animals. In an albinotic population of *Planorbis* I found albinism only in the shell.

SUGGESTION FOR AN EXPERIMENTAL STUDY

It would be interesting to cultivate specimens of albinotic snails because male and female individuals are required to produce an offspring (thus confirming the heredity). Coomans (1977) discussed albinism in the genus *Ancilla*, family Olividae.

Voucher specimens of the populations discussed above (the shells) have been deposited in what is now the National Museum of Natural History - Naturalis (RMNH - Leiden). Albinotic *living* animals cannot so easily be preserved, because the preservation liquid used for slugs and sea slugs may not only lead to shrinkage but might also effect a residual pigment pattern. One may also have some difficulty to extract the animal from the shell undamaged.

A colour photograph (if one has the appropriate equipment) is hardly necessary because the colour is pale. The photograph will have to be taken from the *living* animal.

REFERENCES

- COOMANS, H.E., 1977. Albinism in the genus *Ancilla*. Abstracts of the 6th European Malacological Congress: 56. Amsterdam.
- MIENIS, H.K., 2004. Landslakken langs spoordijken 4. Landslakken langs het traject Purmerend-Hoorn.-Spirula 336: 3.