

FURTHER NOTES ON THE MOLLUSCA OF NORTH HANTS.

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The object of the following remarks is to place on record some progress made in the study of the subject since Mr. H. Purefoy Fitz-Gerald communicated the result of his observations on "The Mollusca of North Hants" published in an early number of our Proceedings; (Vol. I., part ii, p. 26) and the information here offered is intended to be read in connection with that paper, to which it is in some degree supplementary.

These additions to our knowledge lie chiefly in the number of the *varieties*; many students both of Botany and Zoology consider that varieties have little value or interest and are unimportant in themselves. This may be so, and the question of what constitutes a *species* is not perhaps yet quite settled, since every individual has his own opinion, but yet, however we may decide, it is at least desirable to place on record for future study and consideration the various forms we meet with.

The particular district included in our observations is that portion of the County known as the Candover Valley about eight miles in length, and extending from Alresford to Preston Candover. All the specimens mentioned below have been seen by the referees of the Conchological Society, especially a matter of importance, as the definitions are not in every case accessible through the usual manuals.

SPECIES.

PISIDUM milium, <i>Held.</i>	HELIX fusca, <i>Mont.</i>
PLANORBIS nautilus, <i>L.</i>	" pygmaea, <i>Drap.</i>
ZONITES radiatulus, <i>Alder.</i>	PUPA umbilicata, <i>Drap.</i>
" purus, <i>Alder.</i> type	VERTIGO edentula, <i>Drap.</i>
" nitidulus, <i>Drap.</i>	BALEA perversa, <i>L.</i>
" nitidus, <i>Mull.</i>	

VARIETIES.

LIMNÆA palustris, var. <i>tincta</i>	HELIX virgata, var. <i>maura</i>
SUCCINEA putris, " <i>subglobosa</i>	" " " <i>alba</i>
ZONITES alliaria, " <i>viridula</i>	" " " <i>depressa</i>
HELIX aspersa, " <i>albo-fasciata</i>	" caperata " <i>major</i>
" " " <i>minor</i>	" " " <i>minor</i>
" nemoralis, " <i>carnea</i>	" " " <i>fulva</i>
" " " <i>undulata</i>	" " " <i>gigaxii</i>
" hortensis, " <i>sub-albida</i>	" " " <i>roseolabiata</i>
" " " <i>hepatica</i>	" ericetorum, " <i>obliterata</i>
" " " <i>Baudonia</i>	" " " <i>griseus</i>
" " " <i>roseolabiata</i>	PUPA marginata " <i>brevis</i>
" " " <i>fusco-labiata</i>	CLAUSILIA rugosa " <i>Everetti</i>
" " " <i>arenicola</i>	COCHLICOPA lubrica " <i>hyalina</i>
" concinna, " <i>minor</i>	" " " <i>viridula</i>
" virgata, " <i>bifasciata</i>	" " " <i>Morseana</i>
" " " <i>ochroleuca</i>	CYCLOSTOMA elegans, " <i>pallida</i>
" " " <i>subdeleta</i>	" " " <i>maculosa</i>
" " " <i>lineata</i>	" " " <i>fasciata</i>
" " " <i>tessellata</i>	Ancylus fluviatilis " <i>gibbosa</i>

The distribution of some of these Mollusca presents curious puzzles which require explanation and are difficult to understand. Thus less than half a mile to the south of the Railway Station at Alresford, on the Cheriton road, *Helix virgata*, var. *alba*, is to be found, somewhat sparingly it is true, but not a single specimen has been detected to the north of this particular road, namely in the Candover valley where the vegetation seems in no way to differ, and neither in soil, which is chalk, nor in distance from water is there anything to explain this anomaly.

At Swarraton, about the centre lengthwise of this valley *Helix aspersa* is one of the rarer species and living specimens are not at all common; whereas every hedge bottom about Ropley, also the gardens about Alresford, are crammed with this usually too prevailing and destructive snail.

Near Preston Candover and the higher ground in the direction of Ellisfield and Herriard *Helix pomatia* resides, but nowhere else in the southern part of the valley, nor, indeed, I think in Hampshire. Attempts to colonize this really fine and handsome creature have been made in the surrounding district and at Swarraton where this has been tried it failed likewise; in twelve months the individuals had died out and all trace been lost.

The variety *Morseana* of *Cochlicopa lubrica* is an American form. One specimen only has been found at Swarraton; and

throughout the whole of Great Britain none other has yet turned up.

The colour form of *Helix hortensis* var. *lilacina* is absent whereas the reverse is the case in many places. It is common enough about Bristol, and probably occurs in other parts of the County. The bandless *lutea* with a brown, not white, lip is also absent and a somewhat similar variety *arenicola* is very scarce.

Helix nemoralis and *Helix hortensis* are the striped or banded snails of our woods and gardens. The latter is far the most abundant. The type of *hortensis* is characterized by the yellow ground colour and white lip with 5 bands, 3 above the periphery of the shell and 2 below. *Nemoralis* is larger, heavier and more partial to the woodland, the lip is dark brown, both these species are subject to very wide variation if the number, position, and colour of the bands, the more or less elevation or compression of the whorls and colour of the lip, are taken into account. The band formulæ of the sub-varieties for which more than a thousand specimens have been examined, are given below. It may be premised that the type of each has 5 bands written thus: 12345. The coalescence of one or more of these bands is indicated by brackets (). The suppression by a cypher 0. The unicolourous form by 5 cyphers. An x is added where the band is duplicated.

HELIX nemoralis, L. Type 12345 lip dark brown.

VAR., *libellula*, 00300—10345.

„ *rubella*, 00000—00300—12345—123(45)—12(345)—123x45.

HELIX hortensis, Mull. Type 12345, lip white.

VAR. *lutea*, (12345) — (123)(45) — 1(23)(45) — (12)3(45) — (12)345 — 123(45)
(123)45 — 1(2345) — 1(23)45 — (1234)5 — 12045 — 10345 — 10005 — 10045
00000 — 02345 — 00340 — 12x3(45).

Of *hortensis*, one reversed specimen has been met with, *i.e.*, the twist of the shell turning to the left hand instead of to the right.

There is an exceedingly pretty and elegant form of *Helix hortensis* occurring about Old Alresford. We have it also from the Grange Gardens (Lord Ashburton's) in some points

ranging under *coalita*, Moquin-Tandon. The shell is very dark brown with the exception of a *white* band running round the spire ending at the lip, adjoining the suture of the whorls; the lip is internally rosy and the base pale brown.

Helix arbustorum of Mr. Fitz-Gerald's paper (Vol. I. part 2, p. 30), seems to have been recorded by accident and should be cancelled.
