

REPORT ON A SMALL COLLECTION OF FRESHWATER MOLLUSCA (*LIMNÆA* AND *PISIDIUM*) FROM TIBET.

By H. B. PRESTON, F.Z.S.

The Mollusca dealt with in the present paper were recently collected by Captain F. H. Stewart of the Indian Medical Service at high altitudes in Tibet, and were placed in my hands for identification by Dr. N. Annandale, Superintendent of the Indian Museum, Calcutta.

Though there are a good number of specimens, only three species appear to be represented, all belonging to the genera *Limnæa* and *Pisidium*, and I would take this opportunity of tendering my thanks to the Rev. E. W. Bowell and Mr. B. B. Woodward, who have kindly assisted me in working at these difficult groups.

*Limnæa hookeri*, Reeve.

From the following localities: Gyantse, 13,120 feet, in a pond which dries up in winter, two lots, adult and young; Mang-tsa, 14,500 feet, in a stream from a warm spring which only freezes during the coldest months (February and March; during the rest of the winter there is only a little ice at the edge), two lots, adult and young; Se-chen, 13,100 feet, in marshy pools, a number of specimens, mostly adult;—large quantities of spawn were observed under stones in this locality.

Though the shells vary somewhat in size and form, I am quite able with the series before me to link them all up into the present species.

With regard to the soft parts: Mr. Bowell reports that the genitalia are very similar to those of the common European form *L. auricularia*, Lin. The vas deferens is, however, markedly shorter, and the radula is remarkable for the length of the cusps and their subulate appearance, and also for there being no great distinction in type between the laterals and marginals.

*Limnæa bowelli*, sp. nov.

Shell rimate, acuminate ovate, rather solid, polished, shining, pale yellowish horn colour; whorls 4, shouldered above, marked with rather coarse lines of growth; sutures deeply impressed; columella descending obliquely and diffused above into a thick callus which joins the upper margin of the peristome; peristome simple; aperture ovately, inversely auriform.

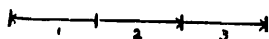


FIG. 1.—*Limnæa bowelli*, Preston.

Altitude	8.5 mm.
Diam., major	5.25 ,,
Aperture, alt.	5 ,,
,, diam.	3.75 ,,

Mr. Bowell informs me that the radula bears a strong resemblance to that of *L. glabra*, Müll., but has fewer laterals, the general appearance being more suggestive of the radula of a *Planorbis* than that of a *Limnæa*; the maxilla is also very remark-

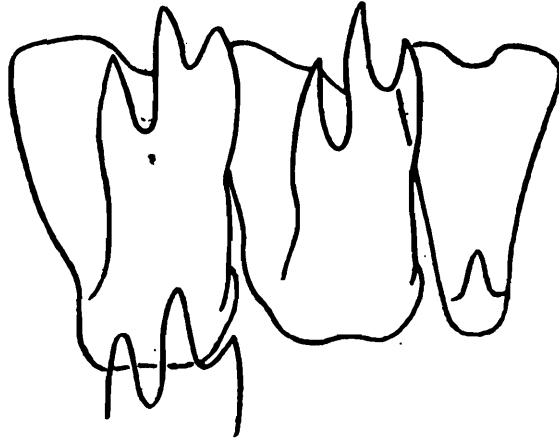


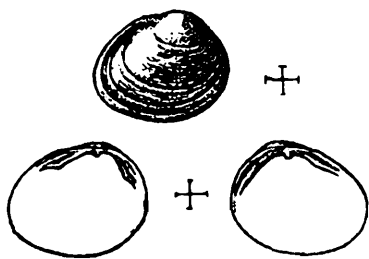
FIG. 2.—Radula of *Limnæa bowelli*, Preston.

able, with a large blunt beak arising from the centre of the semi-circular piece, and he goes so far as to suggest that this last character might possibly form the basis of a new genus.

Habitat—Te-ring Gompa, in a small hill stream arising from a spring, 14,000 feet (this stream does not freeze in winter); also from Mang-tsa, 14,500 feet; High Hill Gompa, Gyantse valley, in a small hill stream, among moss and stones, 14,500 feet; and Gyantse, 13,120 feet.

*Pisidium stewarti*, sp. nov.

Shell sub-trigonal, rather inflated, pale yellowish horn colour, marked with fine concentric lines of growth; umboes large; anterior lateral teeth somewhat curved with broad groove between, posterior lateral teeth long and straight; cardinal teeth broad and somewhat projecting in right, strong and sharply curved in left valve.



Long.	..	2.25 mm.
Lat.	.	3 ,,

Habitat—High Hill Gompa, Gyantse valley, in a small hill stream, among moss and stones, 14,500 feet (two specimens only).

FIG. 3.—*Pisidium stewarti*, Preston.

Mr. B. B. Woodward, who very kindly examined this species, tells me that he has seen no recent form resembling it, its nearest ally being a fossil from the tertiary deposits of Belgium which, I understand, still awaits description.