

X. *On two new British Species of Mytilus, in a Letter to the Rev. E. J. Burrow, F.R.S. and L.S. By the Rev. Revett Sheppard, F.L.S.*

Read January 18, 1820.

DEAR SIR,

THE publication of the Transactions of the Linnean Society has been attended with great benefit to the concerns of natural history. Many important discoveries are there registered which would not otherwise have become generally known; and every new discovery adds a fresh link to a chain of wonders, which ought to inspire us with admiration of Him, who by a word called them into existence. Nothing of this kind should be lost; wherefore I am now desirous of transmitting, by your hands, to the Society an account of two new species of British Fresh-water *Mytili*.

So great has been the influx of new species within a few years, that the existence of a necessity for making alterations in the characters of such subjects as have been described by Linnæus, must be readily allowed by all. Doubtless that great man would have done so himself, had he been in the vigour of life at this time; or he would have had the mortification of seeing his works rendered of little utility, owing to the inconvenience of the characters given to one species often answering to several others. Thus, *Mytilus cygneus*, *M. incrassatus*, *M. anatinus*, and *M. Macula*, I consider as distinct species: yet Linnæus's specific character of *M. anatinus* will answer to them all. He adds indeed to his character of *M. cygneus*, "*cardine laterali*," which he does

not notice in that of *M. anatinus*; but the hinge in the first species is scarcely more lateral than in the last, and not so much as in my *M. incrassatus*. In the *M. anatinus*, he speaks of the umbones as being decorticated; but mentions not that circumstance in his description of the *M. cygneus*; thereby leading us to suppose that they are not so in that shell; whereas, the four species have their umbones decorticated,—in a greater degree, indeed, in the *M. anatinus* than in the rest.

With respect to the accompanying plate, indifferent as it is, it may be useful for determining the species by bringing them into one point of view. The outlines are the size of specimens in my collection; and the shells having been laid on the paper and their circumferences taken, their exactness may be depended upon.

1. MYTILUS CYGNEUS.

M. testa ovata, anterieus compressiuscula, fragilissima, margine membranaceo, umbonibus decorticatis, anticâ baseos adscendente.

TAB. V. FIG. 3.

Habitat in rivis et stagnis.

Long. 2 poll. $7\frac{1}{2}$ lin. Lat. 5 poll.

On this species and *M. anatinus* I need not enlarge, they being so well described by Dr. Maton and Mr. Rackett in their admirable paper upon the British *Testacea*. I shall only observe, that what was omitted by Linnæus has been unnoticed by them, viz. that the margin of *M. cygneus* is membranaceous, though not in so great a degree as that of *M. anatinus*; and that its umbones are decorticated. It arrives at a much greater size than the one figured, or than the largest specimens of *M. anatinus*.

2. MYTILUS

2. MYTILUS INCRASSATUS.

M. testa ovali, anterieus compressiuscula, margine membranaceo, umbonibus decorticatis, posterius ab umbonibus versus basin gradatim incrassata, ligamento valde exserto.

TAB. V. FIG. 4.

Habitat in rivis.

Long. 2 poll. 5 lin. Lat. 4 poll. 2½ lin.

A very distinct species; rough and dark-coloured on the outside, thicker and stronger than the rest; the hinge towards the posterior extremity. Remarkable for its large exerted ligament; and posterior part, in a slope from the umbones to the base, being much incrassated, which gives that part in the inside a white milky appearance; whereas the rest is of a fine pearly hue.

In the river Trent at Holme, near Newark, Nottinghamshire.

The variety of *M. cygneus*, given by Dr. Maton and Mr. Rackett, ought perhaps to be considered a variety of this species.

3. MYTILUS ANATINUS.

M. testa ovali, anterieus compressiuscula, fragilissima, margine membranaceo, umbonibus decorticatis, areâ anticâ basique parallelis.

TAB. V. FIG. 5.

Habitat in aquis dulcibus.

Long. 3 poll. ¾ lin. Lat. 6 poll. 7½ lin.

The shells of *M. anatinus*, when they grow to a large size, are proportionably as ventricose as those of *M. cygneus*. My specimen, the outline of which accompanies this paper, I took many years since from the pond in the garden of my revered friend the Rev. William Kirby of Barham.

4. MYTILUS

4. MYTILUS MACULA.

M. testa ovali, anterieus compressiuscula, fragilissima, margine membranaceo, umbonibus decorticatis, areâ anticâ ad angulum adscendente.

TAB. V. FIG. 6.

Habitat in stagnis.

Long. 1 poll. $5\frac{1}{2}$ lin. Lat. 2 poll. $5\frac{3}{4}$ lin.

A smooth, thin, fragile shell. The hinge towards the posterior extremity. Its particular character arises from the anterior area being sloped upwards, so as to form an angle with the forepart of the shell; this, with the large purple blotch (which, however, may be removed by rubbing with a brush), and which in some specimens occupies two-thirds of the outer superficies (and whence its name), stamps it as a distinct species. In the inside the umbones and a small space around them are buff-colour; the rest blue, mingled however with green at the forepart of the shell.

Some specimens exceed in size the one figured; the largest I have obtained is 1 inch $7\frac{1}{2}$ lines in length, by 2 inches 11 lines in breadth.

They are in vast abundance in the canals in the garden at Campsey Ash, the seat of my eldest brother.

As I have determined the characteristic of *M. anatinus* to be the *anterior slope running parallel with the base*, perhaps it would be as well to consider what is given as a variety of that species in the Linnean Transactions to be a variety of *M. Macula*.

To bring the specific differences above enumerated into one point of view, *Mytilus anatinus* is distinguished from *M. cygneus* by its anterior area running parallel with its base; and again, from *M. Macula* by the anterior area in the latter sloping upwards,

wards, and forming an angle with the forepart of the shell. In *M. cygneus* the base slopes upwards; and the *M. incrassatus* differs from them all by its large exerted ligament, superior roughness on the outside, and in having the posterior part in a slope from the umbones to the base incrassated.

I am, &c.

Wrabness Parsonage, Essex,
Dec. 18, 1819.

REVETT SHEPPARD.