

after exit, assuming respectively the forms of *Amæba* and *Actinophrys*.

- Fig. 14. Old cell of *Euglena viridis* presenting one large granuliferous *Amæba* instead of several small ones; a portion of effete matter left in the cell, and the *Amæba* throwing its processes through its crevices.
- Fig. 15. Portion of a filament of *Oscillatoria* (*princeps*, Kg. (?)), in which a development of some germs of *Ædogonium* having taken place in the midst of the cells of the *Oscillatoria*, they are bursting through its sheath.
- Fig. 16. Furcularian rotiferous animalcule in which the tubulating cell has become developed: (a) dilated round form assumed by the extremity of the tube before bursting.

X.—*Amended Description of the Genus Scaphula*, Benson, a freshwater form of the Arcacea; with characters of a new species from Tenasserim. By W. H. BENSON, Esq.

SINCE the year 1825, when the little bivalve Arcaceous shell, *Scaphula Celox*, described in the 'Journal of the Calcutta Asiatic Society' for 1836, occurred to me in the rejectamenta of the River Jumna in Bundelkhund, no species has been added to the genus. In the past year a rich collection of land and freshwater shells, containing many new species, was made in the British provinces of Burmah, from the frontier above Prome on the Irawadi to Mergui, by Mr. W. Theobald, jun., who has obligingly submitted them to my examination. Among them I find a very distinct species of *Scaphula*, with the epidermis strongly developed, and the hinges joined by the ligament, as was the case with one of my specimens of *S. Celox*, which exhibited vestiges of a light epidermis. A conjecture has been hazarded by an English naturalist, probably from the view of the specimens presented to the Zoological Society in 1834, that the shell was a subfossil extinct form. The present discovery must set that opinion completely at rest. Besides the specimens of *S. Celox* from the Jumna, some were subsequently procured from the bed of its tributary, the River Cane, at Banda, and in 1835 I observed the species in a collection of shells made in the vicinity of the Khassya Hills to the east of Bengal.

The new form was found in some abundance in the Tenasserim River, and we may now hope that other species will yet be found in Burmah, and in the countries extending to Cochin China, as they become gradually open to the naturalist.

Scaphula was first made known in the 'Zoological Journal' for 1834. In 1840 Swainson applied the same name to a form of the *Olivacea*, having overlooked the previous employment of the term as a generic designation. The more perfect state of

the Tenasserim species, and the variation of characters, will permit of a more correct diagnosis of the genus than was possible from the typical species, specimens of which are exceedingly rare. No conchologist has collected in Bundelkhund since the period of my residence in that province, and a search which I made for specimens of the shell, during a hurried visit to Banda in 1844, proved fruitless.

Scaphula, Benson. Zool. Journ. 1834, vol. v. p. 464-5.

Testa æquivalvis, valde inæquilateralis, subtrapeziformis, carina valida ab umbonibus distantibus usque ad marginem posteriorem et basalem extendente; cardo rectilinearis, medio tenuis, ad extremitates sulcidentatus latior, dentibus anterioribus 4, crenulatis, minutis obliquis, posterioribus lamellatis, parallelibus, intus oblique descendentibus, 4 ad 6, primo obliquis, demum transversis, raro bifurcatis, munita; ligamentum exterius, rhombiforme, inter umbones situm; epidermis tenuis vel crasse lamelloso-rugosa; musculi adductoris impressio antica unica, posteriores duæ subdistantes quorum inferior oblongo-quadrata; pallii impressio integra.

The genus is at once distinguished from its nearest allies, *Arca* and *Cucullæa*, by the hinge being linear and edentate in the middle and for the greatest part of its length, and by the form and position of the teeth at the extremities; the laminar posterior ones, which are sometimes ramose, running obsoletely and obliquely into the interior of the shell. The two distinct adductor muscular impressions, and the squareness of the lower one on the posterior side in both species, are peculiar features supporting the claims of the type to generic distinction.

Scaphula Pinna, n. s.

Testa elongato-triangulari, subtrapeziformi, extus sub epidermide albida, intus cærulescente, antice angusta, extremitate subacute angulata, arcuatim descendente, postice subalata, expansa, extremitate superne arcuata, infra rectangulari; carina acuta, compressa; pagina postica majori subremote, antica confertim concentrice sulcata, utrinque radiatim striatula; epidermide fusco-nigra, crasse rugoso-lamellata, marginem nigrescentem excedente; musculi anterioris impressione ovato-rotundata, posterioribus duabus, superiori subcardinali elongata, angusta, inferiori elongato-quadrata.

Long. 11, alt. 5, crass. 6 mill.

Habitat in flumine Tenasserim.

The River Tenasserim has a course through nearly three degrees of latitude, between the coast ranges and the high interior chain which forms the British boundary towards Siam, before it turns suddenly towards its embouchure at Mergui.

The appearance of a slight iridescence on the bluish enamel

of the interior in this species, is due, when visible, solely to weathering, and is evidently not the normal state of the surface. At first sight the shell might be taken for a species of *Modiola*, and by its discoverer was supposed to be a species of *Dreissena*. It was not until the hinge had been submitted to the lens that its true characters were ascertained.

A description of the typical species may here be subjoined in an amended form.

Scaphula Celox, Benson. Journ. As. Soc. Calc. vol. v. p. 750

Testa elongato-trapeziformi, albida, marginibus (superiori et inferiori) parallelibus, antice rotundata, postice oblique truncata; carina vix compressa; pagina antica, multo majori, costulis exiguis radiatis munita, postica lævi; epidermide tenui cornea induta; musculi anterioris impressione ovata, posterioris inferiori elongato-quadrata.

Long. 12, alt. 5, crass. 8 mill.

Habitat in fluminibus Jumna et Cane, necnon in rivo quodam Bengalix citra Gangem.

In one specimen, from the River Cane, the keel has a disposition to be double, with an intervening furrow. This is apparently only an accidental variation.

Cheltenham, 10th January 1856.

XI. — *Description of Tanystoma tubiferum, a Burmese form related to the Genus Anostoma of Lamarck.* By W. H. BENSON, Esq.

THE only Eastern shell hitherto made known which bears any relation to the Brazilian genus *Anostoma*, is the little species discovered by the late Capt. Boys in Rajpootana, designated by me as *A. Boysii*. It was separated by Pfeiffer under the generic name of *Boysia*, and soon after by Albers as *Hypostoma*. A singular Anostomatous shell, still more minute than *Boysia*, was found by Mr. W. Theobald on the banks of the Irawadi. Its open umbilicus, differing from the closed rimate volution of the known types, and especially the curious solute and protracted last whorl and trumpet-mouthed aperture (which is dentate, as in the ancient genus *Anostoma*), render it desirable to characterize the shell as a new type of form, under the name of *Tanystoma*, which may be considered as generic or sectional according to the views of systematists, some of whom do not admit the claim of *Boysia* to generic separation.

Ann. & Mag. N. Hist. Ser. 2. Vol. xvii.



Benson, W. H. 1856. "X.—Amended description of the genus Scaphula, Benson, a freshwater form of the Arcacea; with characters of a new species from Tenasserim." *The Annals and magazine of natural history; zoology, botany, and geology* 17, 127–129. <https://doi.org/10.1080/00222935608697482>.

View This Item Online: <https://www.biodiversitylibrary.org/item/19391>

DOI: <https://doi.org/10.1080/00222935608697482>

Permalink: <https://www.biodiversitylibrary.org/partpdf/11301>

Holding Institution

Natural History Museum Library, London

Sponsored by

Natural History Museum Library, London

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.