

which, unaware of its publication five years previously, he recognised and defined under another appellation.

In order to illustrate this memoir more perfectly, I forward outline figures of the two species, a step which will doubtless meet with the approbation of the discoverer (now resident in a distant colony), who evidently intended the publication of his own original and beautiful drawings.

Dublin, July 1851.

P.S.—Dr. Pfeiffer writes, from London, that a perfect specimen of *Pterocyclos biciliatus* is to be seen in a collection there, and that the true *Cyclostoma planorbium* of Lamarck (Encycl. Méth.) must be referred to *Pterocyclos*, as well as *C. tenuilabiatum*, lately described by Mr. Metcalfe, from Borneo. Dr. Pfeiffer has failed, equally with myself, in procuring an examination of *C. spiracellum*, Adams and Reeve, which is not to be found in any London collection.

15th August, 1851.

#### EXPLANATION OF PLATE V.

Fig. 1. *Pterocyclos Blandi*.

Fig. 2. — *Troscheli*\*.

#### XVIII.—*A Catalogue of Rotifera found in Britain; with descriptions of five new Genera and thirty-two new Species.* By PHILIP HENRY GOSSE, A.L.S.

THE following catalogue contains the species of the class Rotifera that have occurred to my observations within the last three years, for the most part in the immediate vicinity of London, and all in fresh water where not otherwise stated. I have arranged them on the system of Professor Ehrenberg; not that I think his classification natural, but because none more convenient has been published. I hope soon to be able to give to the world an arrangement of this interesting group constructed more according to the organization and the natural affinities of its members. This list of species, however, needs not be delayed until that system be perfected.

Of the species here enumerated, one hundred and eight in number, seventy-one are found in Prof. Ehrenberg's 'Die Infu-

\* Figures of the following species will be found in the Nuremberg 2nd edition of Chemnitz, vol. Cyclostomacea :—

*P. rupestris*, pl. 24. f. 21-5.

— var. *minor*, pl. 31. f. 9-11.

— *hispidus*, pl. 24. f. 7-10.

— *parvus*, pl. 31. f. 12-14.

*P. anguliferus*, pl. 24. f. 3-6.

— *bilabiatum*, pl. 24. f. 11-14.

— *Albersi*, pl. 28. f. 1-5.

— *Cumingi*, pl. 31. f. 6-8.



sionsthierchen'; five have been described since, and thirty-two are new.

### Family ICHTHYDINA.

*Chaetonotus maximus*.

*C. squamatus* (Dujardin).

*C. larus*.

Gen. DASYDYTES. (*δασὺς*, hairy, and *δύτης*, a diver.) Eyes absent; body furnished with bristle-like hair; tail simple, truncate.

*D. goniathrix*. Hairs long, each hair bent with an abrupt angle: neck constricted. Length  $\frac{1}{146}$ th inch. Leamington.

*D. antenniger*. Hair short, downy; a pencil of long hairs at each angle of the posterior extremity of the body: head furnished with two club-shaped organs resembling antennæ. Length  $\frac{1}{170}$ th inch.

Gen. SACCULUS. One eye, frontal; body destitute of hair, and without a foot: rotatory organ a simple wreath; alimentary canal very large: jaws set far forward, apparently consisting of two delicate, unequal *mallei*, and a slender *incus*; very evanescent: eggs attached behind, after deposition.

*S. viridis*. Body pear-shaped; flattened ventrally; the anterior end the narrower: head conical, pointed, surrounded by a wreath of long cilia: digestive canal occupying nearly the whole body, and always filled with a substance of a rich green hue, in masses. Length  $\frac{1}{150}$ th inch. This curious animal, found in considerable number in a little pool on Hampstead Heath, must be placed in this family according to Prof. Ehrenberg's system, but the mode of carrying its eggs indicates an affinity with the *Brachionæa*.

### Family ECISTINA.

*Ecistes crystallinus*.

*Conochilus volvox* (?).

### Family MEGALOTROCHÆA.

*Megalotrocha velata*. Animals separate: disk partially enveloped in a cleft granular integument: eggs not attached to the parent after deposition. Length  $\frac{1}{55}$ th inch.

### Family FLOSCULARIA.

*Stephanoceros Eichhornii*.

*Limnias ceratophylli*.

*Melicerta ringens*.

*Floscularia complanata* (Dobie, Ann. Nat. Hist. 1849).

*F. ornata* (?). The 5-lobed variety; or species?

*F. cornuta* (Dobie).



## Family HYDATINÆA.

Gen. TAPHROCAMPA. (τάφρος, a ditch, and κάμπη, a caterpillar.) Rotatory organs wanting, body fusiform, annulose; tail forked: gizzard oval; *mallei* incurved, shorter than *incus*, which is also incurved\*.

*T. annulosa*. Occipital mass opaque, white; alimentary canal simple, wide, cylindrical: points of tail short, conical. Length  $\frac{1}{110}$ th inch. This species is evidently allied to M. Dujardin's *Lindia torulosa* (Hist. Nat. des Infusoires, p. 653), but differs from it in the structure of the dental apparatus, and of the digestive canal. It seems to connect the genus *Chatonotus* with the Hydatinæous genera *Notommata* and *Furcularia*, for it has the jaws of these larviform Rotifera, and the glandular occipital mass found in some of them, with the form, simple digestive canal, and manners of *Chatonotus*. It was found at Leamington.

*Hydatina senta* (?).

*Pleurotrocha gibba*.

*P. truncata*. Body subcylindrical; truncate behind, above the foot: toes short, straight, slender. Length  $\frac{1}{175}$ th inch.

*Furcularia gibba*.

*F. cæca*. Body cylindrical: eye wanting, or not discernible: toes slender, obtuse. Length, including toes,  $\frac{1}{135}$ th inch. Leamington.

*F. forficula*.

*F. gracilis*.

*Monocerca rattus*.

*M. brachyura*. Form that of *M. rattus*, but the foot short (one-fourth of total length), slightly curved, and horizontally flattened: a large eye in the occiput, and another small one in the breast. Length, including foot,  $\frac{1}{135}$ th inch.

*M. porcellus*. Body thick and plump; foot short, much curved and bent under the body, dilated, flattened horizontally, and carrying a smaller spine beneath it as in a sheath: front and chin each armed with a short sharp spine. Length, including foot,  $\frac{1}{110}$ th inch.

*M. bicornis*.

*M. stylata*. Body soft, irregularly oval; foot a nearly straight spine, less than one-third of total length: eye large, red, set like a wart on the back of the occipital sac: forehead conical, pointed. Length, including foot,  $\frac{1}{170}$ th inch.

*Asplanchna Brightwellii*.

*A. priodonta*. This genus was established by me in a paper published in the 'Ann. and Mag. of Nat. Hist.' for July 1850.

\* For the use of these terms the reader is referred to a paper "On the Anatomy of *Notommata aurita*," in the Trans. Micros. Soc. vol. iii. pt. 2.



The species named *A. Bowesii* in that paper must be cancelled, as it is identical with *A. Brightwellii*.

*Notommata parasita*.

*N. petromyzon*.

*N. lacinulata*.

*N. collaris* (?).

*N. aurita*.

*N. gibba* (?).

*N. decipiens*.

*N. centrura*.

*Synchaeta pectinata* (?).

*S. Baltica*. Sea-water : mouth of the Neeze, coast of Essex.

*S. tremula*. Leamington.

*S. oblonga* (?).

*S. mordax*. Body conical, subventricose : toes minute : auricles large, pendent : principal styles four, the larger (or lateral) pair sometimes branched : eye rather small, brilliant : two pairs of protrusile, snapping jaws. Length  $\frac{1}{72}$ nd inch.

*Polyarthra platyptera*.

*Diglena forcipata*.

*D. aurita* (?).

*D. (?) biraphis*. Body oblong, the head and abdomen gently swelling : toes long, slender, straight, and perfectly even in thickness : eyes placed close together, frontally : jaws protrusile : alimentary canal very large, projecting behind and above the gizzard, always filled with green matter. Length, including toes,  $\frac{1}{110}$ th inch.

*Triarthra longiseta*.

*T. breviseta*. Body cylindrical : pectoral and caudal spines each about one-fifth of total length and very slender. Length, including foot,  $\frac{1}{85}$ th inch. Leamington.

#### Family EUCHLANIDOTA.

*Monostyla cornuta*.

*M. quadridentata*.

*M. bulla*. Body ovate, inflated, the back very gibbous : lorica plicated along each side with a deep furrow ; the occipital and mental extremities deeply incised. Colour yellowish brown. Length of lorica  $\frac{1}{75}$ th inch.

*Mastigocerca carinata*.

*Euchlanis luna*.

*E. triquetra* (?).

*E. deflexa*. Body semi-oval : ventral surface of the lorica divided longitudinally, and the edges of the fissure bent out at right angles : foot furnished with two pairs of bristles ; toes spindle-shaped. Lorica  $\frac{1}{80}$ th inch.



*E. pyriformis.* Outline of body (viewed dorsally) nearly oval with a slight constriction in the middle: lorica divided longitudinally along the ventral surface, the gape widening anteriorly: toes parallel-edged: eye minute. Lorica  $\frac{1}{62}$ nd inch.

*E. hipposideros.* Body nearly oval in outline; the ventral side flat; the dorsal greatly arched, and ridged down the middle: lorica formed of two distinct plates; the dorsal plate enveloping the back and reaching half down the sides; the ventral separated from it by a wide space, and hollowed in the middle so as to present the figure of a narrow horse-shoe, whose points are forwards: foot armed with one pair of bristles. Lorica  $\frac{1}{110}$ th inch.

*Salpina spinigera.*

*S. mucronata.*

*S. brevispina.*

Gen. DIPLAX. Resembles *Salpina*, but the eye is wanting; and the lorica (which, as in that genus, is cleft down the back) is destitute of spines both in front and rear: foot and toes long and slender. It forms a connecting link between *Salpina* and *Dinocharis*. The name ( $\delta\iota\pi\lambda\alpha\xi$ , double) alludes to the gaping lorica, which forms two parallel plates.

*D. compressa.* Form of lorica (viewed laterally) nearly a parallelogram, greatly compressed. Lorica  $\frac{1}{176}$ th inch. Leamington.

*D. trigona.* Lorica three-sided, a section forming a nearly equilateral triangle; surface delicately punctured or stippled: toes long and slender. Lorica  $\frac{1}{160}$ th inch. Leamington.

*Dinocharis tetractis.*

*D. pocillum.*

*Colurus bicuspidatus.*

*C. deflexus.*

*C. caudatus.*

*Metopidia lepadella.*

*M. solidus.* Much resembles *M. lepadella*, but is considerably larger: lorica nearly circular, brilliantly transparent: a slight puncturing runs round near the edge, like the legend on a coin. Lorica  $\frac{1}{150}$ th inch.

*M. acuminata.*

*M. triptera.*

*M. oxysternon.* Resembles *M. triptera*, but the dorsal keel is much higher and thinner; the anterior two-thirds of the ventral surface form a prominent ridge terminating abruptly like the breast-bone of a bird; and the posterior portion is hollowed out remarkably. Viewed laterally the outline of the back is very gibbous behind. Lorica  $\frac{1}{175}$ th inch.

*Stephanops lamellaris.*

*S. muticus.*



## Family PHILODINÆA.

*Callidina bidens*. Body spindle-shaped: jaws furnished with two distinct teeth. Length  $\frac{1}{45}$ th inch. Perhaps this is no other than Prof. Ehrenberg's *C. elegans*, of which he describes the jaws as having many delicate teeth. I have, however, examined numerous specimens, and have always found them distinctly two-toothed.

*Rotifer vulgaris*.

*R. citrinus*.

*R. macrurus*.

*R. macroceros*. Wheels large; antennal process (the "respiratory tube" of Prof. Ehrenberg) very long and mobile. Length  $\frac{1}{100}$ th inch.

*Philodina roseola*.

*P. citrina*.

*P. aculeata*.

*P. megalotrocha*.

## Family BRACHIONÆA.

*Noteus quadricornis*.

*Anuraea curvicornis*.

*A. fissa*. Lorica smooth, hyaline, swollen at the sides and at the back; flattish on the belly; truncate in front, without any spines, attenuated and truncate posteriorly. There is a deep fold running down each side, or else the ventral plate is distinct from the dorsal; the ventral is also cleft through its medial line. Eye very large, pale. Length  $\frac{1}{220}$ th inch.

*A. tecta*. Nearly agrees in form with *A. curvicornis*, but the posterior extremity is rather more pointed, and the tessellations are different; being larger and arranged on each side of a mesial dorsal ridge, which gives to the back the form of a vaulted roof. Length  $\frac{1}{200}$ th inch.

*A. acuminata*.

*A. aculeata*.

*A. brevispina*. Nearly agrees with *A. aculeata*, but the posterior spines are very short; the frontal spines are much less curved forwards; the surface is not punctated; and it is colourless. Length  $\frac{1}{146}$ th inch.

*A. cochlearis*. Lorica spoon-shaped; with six spines in front; the medial pair curving strongly forwards: posterior extremity attenuated into a long slender spine, inclined forwards: back ridged and tessellated as in *A. tecta*.

*A. serrulata*.

*Brachionus pala*.

*B. oön*. Lorica ovate, the back swelling with an uniform curve, by which it is distinguished from *B. pala*, which is truncate or



slightly cavate posteriorly: anterior spines four, straight, wide at the base and pointed; the occipital pair taller than the lateral. Lorica  $\frac{1}{12\frac{2}{3}}$ th inch.

*B. dorcas.* Lorica ovate, or subconical; occipital edge with four long slender spines, the middle pair curving forwards, and bent first from, and then towards, each other, like the horns of an antelope; mental edge undulated, with a notch in the centre. Lorica  $\frac{1}{60}$ th inch.

*B. amphiceros.*

*B. urceolaris* (?).

*B. rubens.*

*B. Mülleri.* Kenilworth Castle.

*B. hepatotomus.* Lorica ovate; occipital edge cut into six saw-like teeth much shallower than in *B. Mülleri*, with the central notch deeper and rounder than the rest; mental edge with four rounded lobes separated by notches: posterior extremity with two nipple-like points: biliary (or pancreatic) glands very large and cleft into two lobes almost to their base. Hence the name, ἥπαρ, the liver, and τέμνω, to cut. Lorica  $\frac{1}{10\frac{1}{3}}$ rd inch. Sea-water; mouth of the Neeze, Essex.

*B. Bakeri.*

*B. angularis.* Lorica hexagonal-oval in a dorsal aspect; occipital edge with two small teeth divided by a rounded notch (in some specimens there are obsolescent traces of a lateral pair); mental edge slightly undulated, sometimes with two low points divided by a notch, like the occiput, but still more faintly: posterior extremity with two short, blunt, well-marked processes. The general surface is roughened with angular ridges, and is sometimes subopaque and brown. Lorica  $\frac{1}{200}$ th inch. This curious species has relations with *Noteus* and with *Pterodina*.

*Pterodina patina.*

*P. elliptica.*

*P. clypeata.* Sea-water; mouth of the Neeze, Essex.

Gen. POMPHOLYX. Two frontal eyes: foot wanting: rotatory organ double in the rear, entire in front: eggs attached behind, after deposition. The name alludes to the resemblance of the lorica to a round flat smelling-bottle.

*P. complanata.* Lorica much depressed, nearly circular, with the lateral edges rounded; anteriorly truncate; occipital edge gradually rising to a central blunt point; mental edge with two rounded lobes, divided by a central notch. Lorica  $\frac{1}{300}$ th inch.

De Beauvoir Square, July 28th, 1851.





Gosse, Philip Henry. 1851. "XVIII.—A catalogue of Rotifera found in Britain; with descriptions of five new genera and thirty-two new species." *The Annals and magazine of natural history; zoology, botany, and geology* 8, 197–203.

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