

On some of the RARER or UNDESCRIBED SPECIES of DIATOMACEÆ. Part I. By T. BRIGHTWELL, F.L.S.

It is my purpose to give in this and some following papers descriptions of some of the many undescribed or unfigured species of Diatomaceæ, chiefly marine, which still are found in our cabinets; illustrated by Mr. Tuffen West's excellent figures, they will, I trust, be acceptable and useful to algologists.

1. *Eumotia eruca*.—Valve slightly arcuate, from three to five or six flexures or undulations above and below; extremities slightly produced, striated. Varies in length from $\cdot 0018$, with three flexures, to $\cdot 004$ with five flexures. Striæ 20 in $\cdot 001$. *Amphicampa eruca* (Ehr., 'Mikr.,' Pl. xxxi, F. vii). Fresh-water lagoon, near Melbourne, New South Wales; Mackie. (Pl. IX, fig. 1, and fig. 1 a.)

2. *Cocconeis coronata*, n. sp.—Valve oval, slightly constricted at the extremities, stout marginal band, with from thirty to thirty-two transverse canaliculi; disc striated, moniliform; striæ 15 in $\cdot 001$. Valves $\cdot 002$ long by $\cdot 0014$ broad. Shell cleanings. West Indies. (Pl. IX, fig. 2.)

3. *Cocconeis fimbriatus*, n. sp.—Oval, margin fringed with a band indented internally, disc striated, with lines of dotted striæ. Corsican Algæ. (Pl. IX, fig. 3.)

4. *Campylodiscus striatus*, Ehrenb.—Disc in the middle part smooth, with a double series of parallel canaliculi on each side, eleven in the smaller to twenty in the larger specimens. Kützing, Species 'Alg.' p. 33, No. 11. Vera Cruz. (Pl. IX, fig. 4.)

5. *Surirella limosa*, Bailey.—V. broadly ovate, acuminate, faintly punctato-striate. Canaliculi seventy-five to eighty, short and indistinct, not reaching more than 1-6th across the valve, leaving a large blank centre. Length $\cdot 01$ by $\cdot 045$ in breadth. Striæ very indistinct, 22 in $\cdot 001$.

Professor Bailey, MS.? This species was, Mr. Tuffen West thinks, sent to Professor Smith, with this name.

New Zealand, Mackie. Mud, Hudson River, New York,

N.A., Professor Bailey. Mr. T. West has seen a specimen from Thames mud. (Pl. IX, fig. 5.)

6. *Stauroneis fulmen*, n. sp.—F. V. oblong; V. lanceolate acute. Margin with a marked double inflexion on each side. Stauros very slightly, if at all, dilated towards the margin of the valve. Striæ fine and sharp, 22 in $\cdot 001$. Length from $\cdot 008$ to $\cdot 015$.

Fresh water, Melbourne, N. S. W., Mackie. (Plate IX, fig. 6 *a*, V.; 6 *b*, F. V.)

7. *Pleurosigma longina*, P. Smith.—V. lanceolate, flexure moderate, extremities greatly elongated; acute; colour faint straw; striæ transverse, 36 in $\cdot 001$; length from $\cdot 02$ to $\cdot 025$. Arctic Regions, Dr. Sutherland. (Pl. IX, fig. 7.)

8. *Odontidium speciosum*, n. sp.—Valve subcruciform or rhomboidal, angles rounded, naked, costæ short, distinct, sixteen on each side. (Pl. IX, fig. 8, *a*, side view; *b*, front view.) Shell cleanings.

9. *Odontidium punctatum*, n. sp.—Valve subrhomboidal, angles pointed, cellular, obscurely punctato-striate, without costæ. (Pl. IX, fig. 9.) Shell cleanings.

10. *Odontidium Baldjickii*, n. sp.—Valve ovately rhomboidal. Costæ about twenty on each side the median line, distinct, reaching nearly to, but leaving a linear open space down the centre. (Pl. IX, fig. 10.)

From a clay or earthy deposit found on bones imported from Baldjick, near Varna, Mr. Norman.

The species last described are allied to *O. Harrisonii* of Professor Smith, and we refer to his observations ('S. B. D.,' vol. i, p. 18), as to their true position in a systematic arrangement.

11. *Rhabdonema mirificum*, Professor Smith.—“Septa with three to twelve irregular perforations.”

See Dr. Walker Arnott's observations, 'Mic. Journal,' vol. vi, p. 92. (Pl. IX, fig. 11.)

12. *Triceratium* (?) *dubium*, n. sp.—Valve clypeate, punctate, with six rounded projections, the lower one elongate.

Mauritius. (Pl. IX, fig. 12, *a*, side view; *b*, front view.)

We place this species (which is not of unfrequent occurrence) provisionally among the Triceratia. It probably forms the type of a new genus.

13. *Amphitetras crux*, n. sp.—Valve cruciform, with the extremities widely rounded, cellular punctate. (Pl. IX, fig. 13, *a*, front view; *b*, side view.)

14. *Amphitetras antediluviana* (?) (Pl. IX, fig. 14.)—Mr. T. West believes this to be a valve of a sporangial frustule, of this species. Its unusually large size, imperfect shape and thinness, the cellular appearance of its punctation, and its occurrence among a large number of valves of the regular form lead to this conclusion.

15. *Biddulphia Balæna*.—V. ovate, elongated at the extremities; F. V. quadrate. Frustule punctato-striate.

Zygoceros Balæna, Ehr.—See Roper, on *Biddulphia*, 'Trans. Micr. Soc.' vol. vii, p. 20.

Arctic Regions, Cornwall Island, N. Lat. 75°, Dr. Sutherland.