

Biddulphia parallela, n. sp. (?) (Plate XXIII. fig. 10; Plate XXVI. fig. 7.)

To the genus *Biddulphia*, and probably to the section *Amphitetras*, belong the forms here represented. In both cases one valve has a shorter diameter than the other—an appearance that may be explained by the fact that the two valves are not exactly in the same plane. The system of granulation, however, and the form of the processes, each of which terminates in a pseudo-opening, shows that the two specimens belong to the same species.

These interesting types were collected in the Sea of Japan.

Biddulphia pellucida, n. sp. (Plate XXVI. fig. 5.)

Valvis late ellipticis, inconspicue punctulatis; apicibus rotundatis parum productis; valvis ad centrum inflatis. Ad insulas Philippinas.

This organism, which is from the neighbourhood of the Philippine Islands, belongs to the Odontelloid section. Its sculpturing is so delicate that punctations can only be observed with great difficulty under oblique illumination, and with the best microscopes, so that it could only have been shown in the figure by the use of a much greater magnifying power than has been there employed. The encapsuling of the two valves by means of two hoops or belts, which extend over one another, is well seen, but no third protective hoop accessory to the process of deduplication, and possessing a distinct structure, is here found. The angles of this form are sharply prominent and rounded, while the centre of the valve is very protuberant.

The specific name, which has been applied to this new species, has reference to the great delicacy of its ornamentation.

Biddulphia pumila, n. sp. (Plate XXIII. fig. 12.)

E minimis; valvis hirsutis-convexis immediate connexis, quadrato ordine punctulatis; angulis productis conicis. E mari Japonico.

The series of frustules here represented are akin to *Biddulphia aurita* (Lyngb.)¹ Breb., but their extraordinary minuteness and the difference in the outline of the valval side, as well as the fact that the two valves join each other directly without a cylindrical intermediate zone, prevents me from uniting the two types. Moreover, in the present

¹ Brebessin, Cons. sur les Diat., 1838, p. 12; Ralfs, *Ann. Nat. Hist.*, vol. xii., 1843, pl. viii. fig. 4; Smith, *Synop. Brit. Diat.*, vol. ii. pl. xlv. fig. 319; *Microg. Dict.*, 1856, pl. xiv. fig. 10; Roper, *Micr. Journ.*, vol. vii. p. 10; Heiberg, *Consp.*, p. 40; Jan. et Rabenh., *Hondur.*, p. 5, pl. iii. fig. 14; = (1.) *Denticella aurita*, Ehrenb., *Mikrogeol.*, 1854, pl. xxxv. A 23, fig. 7; (2.) *Denticella gracilis*, Ehrenb., *Monatsber. d. k. Akad. d. Wiss. Berlin*, 1840, p. 207; (3.) *Diatoma auritum*, Lyngb., *Tent. Hydro. Dan.*, 1819; Hooker, *Brit. Flor.*, 1833, p. 404; (4.) *Odontella aurita*, Ag., *Consp. Crit. Diat.*, 1830, p. 56; Smith, *Eng. Bot.*, t. 2842, fig. 2; Harv., *Man.*, 1841, p. 201; Kütz., *Bac.*, 1844, pl. xxix. fig. 88; Kütz., *Spec. Alg.*, 1849, p. 136.