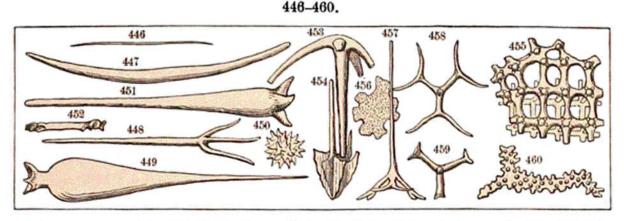
## HISTORICAL GEOLOGY.

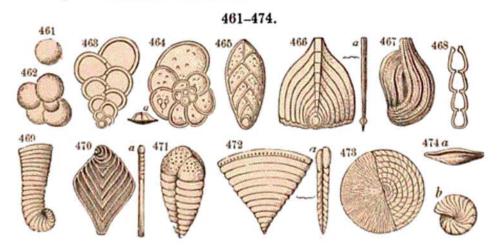
The hexactinellid sponge Euplectella (Venus's Flower-Basket), Fig. 29, page 57, which looks as if made of a network of spun glass, comes from a depth of 50 fathoms in the East Indies. The fossil Dictyophyton and Euphantania are related to Euplectella, as shown by Whitfield. Sponges are mostly marine; but a few, like the Spongilla, grow in fresh water and contribute siliceous spicules to peat and other swamp deposits. The death and decay of Sponges adds largely to the silica of the sea-bottom.



SPONGE-SPICULES. — Figs. 446-449, Geodia or allied: 450, Globostellate spicule, near Geodia; 451, Stelletta; 452, Carterella: 453, 454, Tetractinellid spicules: 455, Ventriculites, Hexactinellid; 456, Ragadinia annulata; 457, Tisiphonia; 458, the same?; 459, Racodiscula; 460, Plinthosella squamosa. Figs. 450, 453, 454 (×10); 456 (×68); others (×34). Hinde.

## 8. Protozoans.

Among Protozoans only the Rhizopods and Radiolarians have prominent importance. 1. Rhizopods (Foraminifers). — Species mostly minute, often forming shells; the shells, with few exceptions, not larger than the head of a pin: but the groups sometimes having the shape of disks an inch in diameter, and occasionally of large massive forms. They have usually calcareous shells called Foraminifers (from foramen), and these have contributed largely to the formation of limestone strata. They consist of 1 or more cells; and the compound kinds present various shapes, as illustrated in Figs. 461-474. The arrangement in a group is usually alternate or spiral. Others make a shell or test by the agglutination of grains of sand or other material.



Figs. 461-474 — RHIZOPODS, much enlarged (excepting 473, 474). Fig. 461, Orbulina universa; 462, Globigerina rubra; 463, Textularia globulosa Ehr.; 464, Rotalia globulosa: 464 a, Side-view of Rotalia Boucana; 465, Grammostomum phyllodes Ehr.; 466, a, Frondicularia annularis; 467, Triloculina Josephina; 468, Nodosaria vulgaris; 460, Lituola nautiloides; 470, a, Flabellina rugosa; 471, Chrysalidina gradata; 472, a, Cuneolina pavonia; 473, Nummulites nummularius; 474 a, b, Fusulina cylindrica. All but the last two magnified 10 to 20 times.