

DIATOMS OF THE INDIAN OCEAN: FINE STRUCTURE OF FOUR COSCINODISCOID DIATOMS OF SPECIAL INTEREST

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We are currently updating a checklist of Indian Ocean diatoms originally created by Professor TV Desikachary as a companion to his *Atlas of Indian Ocean Diatoms*, by updating the nomenclature, adding new records from the literature, and examining archived samples of marine diatoms from the collection of Prof. Desikachary, as well as additional materials collected by AKSKP. Here we describe the fine structure of four coscinodiscoid diatoms of special interest. *Coscinodiscus alboranii* Pavillard is noteworthy for its weakly silicified structure, two types of areolae on the valve face and a marginal ring of endochiastic areolae. Two macrolabiate processes are located ~120° from each other in the ring of endochiastic areolae; a ring of microlabiate processes is located farther from the edge of the valve. *Coscinodiscus reniformis* Castracane is easily recognized by the reniform shape of the valve. In *C. reniformis* there is a ring of closely spaced microlabiate processes near the edge of the valve, connected on the exterior by narrow slits; numerous additional microlabiate processes are scattered over the valve face. Two macrolabiate processes are located away from the edge at ~180° from each other along the short axis of the valve. The structure of *Coscinodiscus* sp A is more typical of the genus *Coscinodiscus*. However, in this case, instead of single macrolabiate processes in the ring of marginal processes, they occur in pairs or triplets, sometimes in conjunction with one or more microlabiate processes. All three of these taxa challenge our current understanding of the genus *Coscinodiscus*. We also examined dominant populations of what we identify as *Coscinodiscus concinnus* Wm. Smith sensu E. Cupp 1943 from net hauls collected from the adjacent waters of the Gulf of Thailand that may represent a previously unrecognized taxon in the *C. concinnus*-*C. concinnoides*-*C. concinniformis* species cluster.