Surirella Turp.

S. biseriata de Bréb.—Evansdale, W2; Foveaux Strait, P.
S. contorta Kitt.[40]—Evansdale, W2; St Clair Beach, Dunedin, W2.
S. eximia Grev.—Wellington Harbour, W1; Evansdale, W2.
S. fastuosa (Ehrenb.) Kütz.—Hauraki Gulf, CW2; Lyall Bay, P; Foveaux Strait, P.
S. filholii Petit—Bruce's Rocks, Dunedin, W2; Foveaux Strait, P, (TYPE).
S. gemma (Ehrenb.) Kütz.—Hauraki Gulf, CW2, C1; Wellington Harbour, C1; Cook Strait, C2; Anderson's Bay, Dunedin, W2.
S. hastata A. Schmidt—Wellington, W1.
S. intermedia Lewis—Lyall Bay, P.
S. neumeyeri Janisch—Cook Strait, W3.
S. recedens A. Schmidt—Smith's Bay, Otago Harbour, W2.
S. splendida W. Sm.—Company Bay, Otago Harbour, W2; Smith's Bay, Otago Harbour, W2.
†**S. striatula** Turp.—Evansdale, W2.

APPENDIX I—Taxonomic Comments

1. *Actinocyclus* is placed in the Coscinodiscaceae by Hendey (1954; 1964) because the general valve structure resembles that of *Coscinodiscus,* and the small marginal ocellus is totally different from the ocelli found in the Eupodiscaceae where it is placed by Hustedt (1929) and Cleve-Euler (1951).
2. Cleve-Euler (1951) makes this a variety of *C. asteromphalus.*
3. Holmes and Reimann (1966) have shown that three morphological phases occur in the life cycle of *C. concinnus.* The post-auxospore valve is typical of *C. concinnus,* the pre-auxospore valve was previously undescribed, and the intermediate forms are typical of *C. grani.* This appears to confirm the views of the taxonomists Peragallo (1908: 425) and Pavillard (1931: 11) that *C. concinnus* and *C. grani* are not taxonomically distinct. However, Hendey (*in litt.*) has pointed out that the girdle of *C. grani* was described as simple and that of *C. concinnus* as complex (up to 12 annular rings), and the cells of *C. grani* are cuneate in girdle view. Holmes and Reimann do not appear to have examined the girdles of their specimens, and until this is clarified, the taxa are retained under their traditional epithets.
4. Mis-spelt *excentricus* in Crosby and Wood (1958), Cassie (1961), and Moreira (1966). *C. excentricus* sensu A. Schmidt is a synonym of *Thalassiosira decipiens* (Grun. in van Heurck) Jørg.
5. The taxonomy of the *C. gigas-janischii-pavillardii-wailesii* complex is obscure. Some of them may turn out to be phase variations of a polymorphic species. R. W. Holmes (*in litt.*) finds that a clone of *C. wailesii* undergoes considerable morphological modification with decreasing size. The components of this group are listed under their original determinations.
6. Following Hustedt (1928), *Hyalodiscus* is used for those species which possess an umbilical line at about half the valve radius.
7. Proskina-Lavrenko (1956) and Hasle (1960) have pointed out that the distinction between *Coscinosira* and *Thalassiosira* cannot be upheld.
8. This family is still ill-defined in spite of the monograph by Boyer (1901). The treatment here follows Hendey (1964).
9. *Comb. nov.* See Appendix II. These two species are not *Triceratium* as understood here. Hendey (*in litt.*) suggested that they would fit best in *Biddulphia.*
10. The specific name was originally *chinensis,* which is the spelling used by Crosby and Wood (1958) and Cassie (1960; 1961; 1966). Hendey (1964) corrected this orthographic variant to *sinensis* (which has been used by other authors as well) under the International Code (1952, Art. 82, p. 82).
11. Mis-spelt *thamesis* by Crosby and Wood (1958) and Cassie (1960; 1961).
12. Following Hendey (1964) this is restricted to species which possess cornutate processes and hexagonal areolation.
13. Cassie (1961) and Cassie and Cassie (1960) regarded a form characteristic of surf beaches as a new species on the advice of Hendey, who commented that the differences between the New Zealand form and the English *C. armatum* were probably sufficient to justify a new species (flat valves with no circular foramen, short setae lacking basal spines, and no submarginal corona of spines). Earlier, this form had been assigned to *C. armatum*