

This fine species is excessively thin, globose, roundly heart-shaped, inequilateral, transparent white, but rendered rather opaque by a thin dirty-white epidermis. The sculpture consists of numerous (about forty) very slender hair-like lines, which radiate from the beaks to the outer margin. They are fairly equidistant, and cover the whole surface with the exception of a small space in front of the umbones. The valves are also very finely striated by the lines of growth, a few at intervals, which apparently mark periods of arrested enlargement, being quite conspicuous. The umbones are large, prominent, well incurved, situated considerably in front of the centre, and inclined over towards the anterior side. The hinge-margin is very thin, and absolutely toothless. The principal ligament is short, entirely internal, attached under the dorsal margin a little behind the umbones, and supported or strengthened underneath by a rather strong callosity, which is rounded beneath, and deeply notched at the hinder end. In addition the valves are connected by a thin ligament along the hinder dorsal edge. The interior of the valves is glossy, somewhat pearly, and feebly radiately grooved, the fine striæ corresponding with the external liræ.

Length 23 mm., height 24, diameter 16.

*Habitat*.—Station 157, about 1100 miles south-west of Australia, in 1950 fathoms; Diatom ooze.

Of this fine species only a single much crushed specimen was obtained. It differs from *Lyonsiella jeffreysi*, with which it agrees in the character of the hinge and ligament, in form and in wanting the fine granulation on the surface.

*Lyonsiella grandis*, n. sp. (Pl. XXV. figs. 3–3b).

Testa tenuis, inflata, valde inæquilateralis, alba, epidermide tenuissima pallide straminea plus minusve induta, liris filiformibus radiantibus crebris ornata, incrementique lineis subcancellata. Margo dorsi anticus brevissimus, posticus paulo declivis, rectus. Margo ventralis semicircularis, postice oblique in latus arcuatim ambiens. Latus anticum obliquum, in medio rectiusculum, utrinque rotundatum. Umbones magni, pileiformes, prominentes, conspicue latus versus anticum involuti. Cardo edentulus. Ligamenti sulcus interni angustissimus, brevis. Cicatrix anterior formæ elongatæ irregularis infra umbones sita, posterior major prope medium lateris. Impressiones duæ minores infra lineam cardinis collocatæ.

This species is very thin, considerably inflated, very inequilateral, higher than long, white beneath a somewhat thin pale yellowish epidermis. The valves are very finely and closely radiately lirated, and exhibit rather distinct, elevated lines of growth which almost produce a cancellated appearance.

The umbones are inflated, prominent, cap-shaped, much curved over towards the front,