

Dr James Rae, R.N., and kindly placed at my disposal in connection with my present work, I found this singular frustule, which, although brought from the interesting and rich deposits of St Monica in California, I have deemed worthy of being figured in order to convey a clear idea of its remarkable structure. The large disc possesses six compartments, and the valve is delicately granulated in a quincuncial manner. The large cellules or areolæ possess a subquadrate form—a character which is not represented in any other type. At the margin numerous large denticules occur; these are irregularly distributed, and project from the inner part of the margin so as to cause the frustule to assume the appearance of an irregularly toothed wheel.

The specific name which has been given is in honour of its discoverer, Dr James Rae.

Actinoptychus erosus, n. sp. (Plate VII. fig. 8.)

Frustulum disciforme in decem septa a tot lineis lævibus divisum, et decussatim granulatum; granulis prope marginem et alibi quandoque cessantibus; area centrali hyalina rotunda. In Atlantico meridionali.

This form, which was collected in the South Atlantic, is divided into ten compartments by ten smooth lines which do not quite reach the centre, this being occupied by an umbilical hyaline area. The compartments are granulated in a quincuncial manner, except in some small irregular spots, which are smooth, as if the valve had been eroded at the places in question. The margin consists of a smooth narrow belt.

The eroded-like aspect of the compartments has suggested the specific name.

Omphalopelta (Ehrenb.), Cstr.

Much confusion has hitherto existed in connection with the genera *Actinoptychus* and *Omphalopelta*, both of which were instituted by Ehrenberg. The definition of the latter genus, as given by Pritchard in his History of the Infusoria (p. 841), is as follows:—“Frustules simple, disciform; disc cellulose or punctate, divided by imperfect septa into cuneate rays; centre hyaline; spines one to each compartment.”

Among the four species given by Pritchard under this genus, *Omphalopelta cellulosa*, Ehrenb., and *Omphalopelta areolata*, Ehrenb.,¹ have marginal spines in three of the alternate compartments, while *Omphalopelta punctata*, Ehrenb., is said to have obsolete spines. But it is difficult to understand how forms possessing such a structure can be ascribed to this genus. With respect to the so-called *Omphalopelta punctata*, Ehrenb., there can be no doubt that it should rather be designated *Actinoptychus punctatus*, as it coincides with all the requirements of that genus, while in the case of the other two above-mentioned species, either the original definition given by Ehrenberg must be modified, or they must be enrolled in a new genus.

¹ Ehrenberg, Mikrogeol., pl. xxxv. A 18, fig. 12. = *Actinocyclus areolatus*, Brightwell, *Micr. Journ.*, vol. viii. p. 93, pl. v. figs. 1a and 1b.