

79°30.2'W), and from several levels within the McLeary Formation on Flaherty Island, along the south shore of Eskimo Harbour. Both formations show evidence of peritidal deposition. The geological setting of the stratiform and domal algal mats of the two formations, yielding the palmeloid colonies illustrated in Fig. 1, is probably a large sebkha/algal flat/shallow basin complex, as attested by abundant desiccation features, laminated structure and the presence of halite and sulphate casts<sup>9</sup>.

In mode of preservation, level of organisation and palaeo-environmental setting, the new Belcher assemblage compares with other Precambrian assemblages such as those in the Gunflint or Bitter Springs cherts, but it is distinguished from them by its relatively small diversity of species. This probably reflects its mature biocoenotic character of uniform, environmentally restricted algal mats, rather than a lack of diversity of organisms existing about 2,000 Myr ago.

The half-dozen new microfossils and the stromatolites will be described formally elsewhere after further investigations. For this report the microfossils are assigned to the following categories. (1) Loose aggregates of oblong bacterioid cells without inclusions and without envelopes, 1.5–2  $\mu\text{m}$  wide and 3–4  $\mu\text{m}$  long (Fig. 1*b* and *c*). (2) Colonial unicells in loose clumps; composed of spheroidal cells averaging 2  $\mu\text{m}$  in diameter, with single dark inclusion and without envelope (Fig. 1*d–i*); some cells show evidence of division. (3) Compact, coherent colonial clusters and crinkled, pustulose stromatolitic layers composed of ellipsoidal to ovoidal cells with well differentiated protoplast, 3–5  $\mu\text{m}$  in diameter, dark inclusions 0.5  $\mu\text{m}$  across, cell wall, and a thick sheath which may be laminated around some cells and with an external form which is polyhedral because of close packing. (4) *Eomycetopsis*-like tubes 3–4  $\mu\text{m}$  across, possibly representing empty sheaths of filamentous algae (Fig. 1*j*). (5) *Gunflintia*-like trichomes less than 1  $\mu\text{m}$  across and up to 40  $\mu\text{m}$  or more long, made up of a chain of dark spheroidal bodies (Fig. 1*k* and *l*). (6) Filaments composed of a chain of dark bodies 1  $\mu\text{m}$  across, surrounded by a sheath 3–4  $\mu\text{m}$  in diameter (Fig. 1*m–o*). This type may represent more nearly complete individuals composed of forms (5) and (6).

The biological affinities of these fossils are not known, although an algal origin for the colonies seems the most plausible. Nor is it established whether the different unicellular types are really different organisms or whether two or more represent different ontogenetic or degradation stages of the same species.

Of special interest are the types with dark bodies (Fig. 1*d–i*; *p–v*), with well defined protoplasts. Similar inclusions, though in larger microfossils, from the Late Precambrian have commonly been interpreted as nuclei<sup>1</sup>. Without these bodies, the size range and morphology would invite comparison with such modern blue-green algae as *Chroococcus*, *Microcystis*, *Entophysalis* and *Gloeocapsa*. Recent experimental evidence indicates that such dark internal bodies may be entirely plasmolytic artefacts<sup>2</sup>. However, this does not necessarily mean that all microfossils with internal dark spots so far described should be reassigned to the prokaryotes: it provides an alternative explanation. Other possibilities are that the structures are remains of metabolically-functional organelles, vacuoles, intracellular symbionts<sup>10</sup>, or diagenetic artefacts. Present evidence, therefore, is inconclusive as to whether the structures are eukaryotic or prokaryotes preserved at different stages of plasmolysis. Evidence against the eukaryotic nature of the microfossils is the small size of the cells, and the lack of other unquestionable eukaryotes from rocks older than 1,000–1,200 Myr, although microfossils with attributes suggestive of eukaryotic organisation have been reported from the Aphebian<sup>4,11</sup>. Nevertheless, it is possible that the evolution of larger, chlorophytic algae with normal eukaryotic organisation began with the development of nuclear bodies and

organelles in primitive, cyanophyte-sized, ancestors at least 1,800–2,000 Myr ago; the Belcher microfossils would represent such remains.

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## Erratum

Unfortunately during preparation for the printer the axes of Fig. 2 were wrongly labelled in the letter "Ion fluxes in disk membranes of retinal rod outer segments" by W. T. Mason, R. S. Fager, and E. W. Abrahamson (*Nature*, **247**, 562; 1974). The corrected figure is now shown.

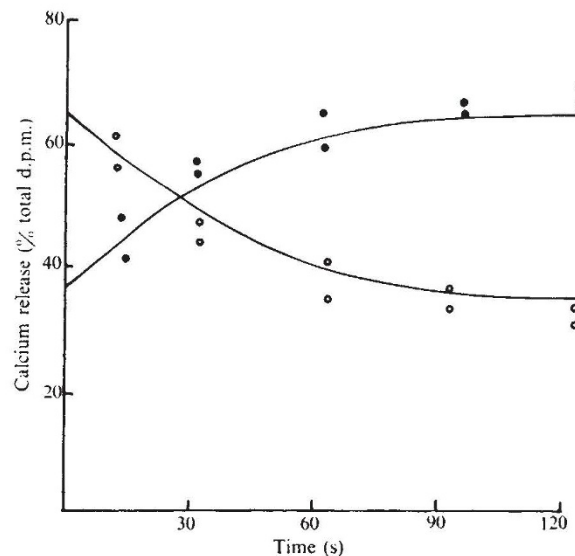


FIG. 2 Light-induced calcium release by sonicated bovine photoreceptor membranes over a time course of 120 s bleaching. Filled circles indicate percentage of  $\text{Ca}^{2+}$  in the extradisk space and open circles the percentage of  $\text{Ca}^{2+}$  in the intradisk space.