

## CORRESPONDENCE AND NOTES

## Supposed Precambrian trace fossils from Jersey, Channel Islands

SIR – Squire (1973) described and figured fossil burrows, ascribed to *Sabellarites*, from the Upper Proterozoic Brioverian Jersey Shale Formation of Jersey, Channel Islands. The meander-like structures are from calcisiltite beds within a turbiditic sequence and were collected from low intertidal reefs. Re-examination by all of us of one of Squire's specimens (Jersey Museum, La Hougue Bie, SJM C 2026; Squire, 1973, plate 1a) and more decisive material (SJM C 1002, 5 specimens), collected later from the same reefs by Stéphane Rault, confirms that the structures are attributable to modern polychaetous annelids, almost certainly to *Polydora* sp., an attribution with which Dr J. D. George (Head, Polychaeta Section, British Museum (Natural History)) concurs. *Polydora* is associated with a wide range of substrate preference, constructing borings in hard calcareous substrates, pseudoborings on the inside of shells and true burrows in loose sediment. In the Jersey material the irregular, but quite typical, U-form tubes have been formed along open joint planes with slight dissolution of the rock, or along thin calcite-filled veins, also with dissolution of the rock. The joints occur at all angles to the bedding. Very pertinent is the attitude of the tubes, which is principally normal to the rock surface rather than to the bedding. No tubes have been seen on freshly broken surfaces and in no instance has a tube been seen to enter the rock, though there are numerous moulds of pyritic concretions which happen to be of about the same diameter as the width of the tubes. *Lithothamnium* sp. is patchily distributed over the rock surface and locally penetrates into the joints, showing that they were open.

One of us (A.D.S.) would add that the Jersey Shale Formation does, however, display chlorite and prehnite concretions in a calcareous siltite, and carbonaceous concretions of possible organic origin at numerous locations throughout the succession (Hill, 1980; Mourant, 1961, 1965; Robinson, 1940, 1960; A. D. Squire, unpub. Ph.D. thesis, Univ. London, 1974). Another of us (B.H.B.) would also add that this reappraisal should not be allowed to throw doubt on the presence of trace fossils in the Brioverian. The specimens illustrated by Lebesconte (1887, plate 34) from Montfort-sur-Meu, near Rennes, (conserved at the Musée d'Histoire Naturelle, Nantes) are convincingly of organic origin. Professor F. Doré (Caen) has shown B.H.B. a well-preserved bedding-parallel burrow. There is a substantial collection at the Institut de Géologie, Université de Rennes (personal communication, J.-J. Chauvel). All the trace fossil localities are now regarded as Upper Brioverian (Cogné & Wright, 1980). Isotopic dating suggests an age

between 550 and 700 Ma for the traces, an age consistent with the microfossil evidence (Chauvel & Schopf, 1978).

## References

- CHAUVEL, J.-J. & SCHOPF, J. W. 1978. Late Precambrian microfossils from Brioverian cherts and limestones of Brittany and Normandy, France. *Nature* **275**, 640–2.
- COGNÉ, J. & WRIGHT, A. E. 1980. L'orogène cadomien. In *Colloques géologique de l'Europe, 26<sup>e</sup> Congrès géologique internationale, Paris*, pp. 29–55.
- HILL, L. A. 1980. Geological Section Report for 1979. *Bulletin annuel de la Société jersiaise* **22** (4), 382–4.
- LEBESCONTE, P. 1887. Constitution générale du massif Breton comparée à celle du Finistère. *Société géologique de France, Bulletin, série 3*, **14** (1886), 776–820.
- MOURANT, A. E. 1961. The minerals of Jersey. *Bulletin annuel de la Société jersiaise* **18** (1), 69–90.
- MOURANT, A. E. 1965. Geological Section Report for 1964. *Bulletin annuel de la Société jersiaise* **19** (1), 19–23.
- ROBINSON, A. J. 1940. Geological Section, 1939. *Bulletin annuel de la Société jersiaise* **14**, 13–15.
- ROBINSON, A. J. 1960. Geological Report for 1959. *Bulletin annuel de la Société jersiaise* **17**, 290–2.
- SQUIRE, A. D. 1973. Discovery of late Precambrian trace fossils in Jersey, Channel Islands. *Geological Magazine* **110**, 223–6.
- B. H. BLAND  
61 Hanover Road, Willesden, London, NW10 3DL, U.K.
- G. EVANS  
Department of Geology, Imperial College of Science and Technology, Prince Consort Road, London SW7 5BP, U.K.
- R. GOLDRING  
Department of Geology, University of Reading, Whiteknights, Reading, RG6 2AB, U.K.
- A. E. MOURANT, F.R.S.  
The Dower House, Maison de Haut, Longueville, St Saviour, Jersey, Channel Islands, U.K.
- J. T. RENOUF  
States of Jersey Education Department, P.O. Box 142, Highlands, St Saviour, Jersey, Channel Islands, U.K.
- A. D. SQUIRE  
19 Devonshire Road, Horsham, West Sussex, RH13 5EF, U.K.

15 October 1986