

8. Nath, M. C. and Belavadi, *Indian J. Physiol. and All. Sci.*, 1951, 5, 139.
9. —, Sahu, V. K. and Chitale, R. P., *Biochem. J.*, 1953, 53, 684.
10. Hatwalne, V. G., Motiag, D. B. and Nath, M. C., *Annals Biochem. Exp. Med.*, 1955, 15, 73.
11. Nayudu, S. G., *Ph.D. Thesis*, Nagpur University, 1967.
12. Ohneda, A., *Tohoku J. Exp. Med.*, 1960, 72, 107.
13. Nath, M. C., Nath, N. and Reddi, T. G., *Indian J. Biochem.*, 1967, 4, 134.
14. Reddi, T. G., Idrees Bhai, Shivakumar, B., Nath, N. and Nath, M. C., *Enzymologia*, (In press).
15. Strehler, B. L. and Totter, J. R., *Methods in Biochemical Analysis*, Interscience Publishers, Inc., New York, 1954, 1, 341.
16. Reddi, T. G. and Nath, M. C., *Canadian J. Biochem.*, 1969, 47, 297.
17. Lowry, O. H., Rosebrough, N. J., Farr, A. L. and Randall, R. J., *J. Biol. Chem.*, 1951, 193, 265.
18. Tidwell, H. C. and Nagler, M. E., *Ibid.*, 1953, 201, 727.

**SOME AGGLUTINATED
FORAMINIFERS FROM THE MINIYUR
GROUP OF THE CRETACEOUS
FORMATION, TRICHINOPOLY AREA,
S. INDIA**

THE South Indian Cretaceous rocks have in recent times been receiving much attention from micropaleontological and biostratigraphical points of view. The pioneer work was carried out by Blanford (1862), followed by Warth (1895) and Kossmat (1895). Rama Rao (1936, 1956) has pointed out the distinctness of the 'Niniyur group' besides indicating its lithological constituents.

A detailed micropaleontological analysis of the gritty and compact limestones of the Niniyur formation has revealed the occurrence of a number of agglutinated Foraminifers not reported earlier anywhere from the rocks of this area.

Mapping of the exposures covering an area of about 28 square miles in the northern part of Niniyur formation of the Trichinopoly Cretaceous area was carried out. The gritty and compact limestones were collected from stream cuttings, nallas and well sections. As many as 250 samples drawn from outcrops near the villages—Niniyur, Udaiyankudikkadu, Sendurai and Authencoorchy, have yielded microfossils such as Foraminifers and Ostracodes. A detailed study of the Foraminifers has revealed the presence of agglutinated forms. Following the Russian system of classification given by Orlov, J. A. (1962), these agglutinated Foraminifers can be grouped into 18 species belonging to 9 genera and 4 families of the Order Astrorhizida. These species are as follows: Order

Astrorhizida, Superfamily Astrorhizidea, Family Astrorhizidæ—*Rhabdammina* sp., *R. irregularis* Carpenter, *R. abyssorum* M. Sars, *R. discreta* Brady, *R. cylindrica* Glaessner, *Crithionina dubia* Bulatova; Family Rhizamminidæ—*Rhizammina indivisa* Brady, *R. algæformis* Brady, *Bathysiphon nodosariaformis* Subbotina, *B. multiformis* Bulatova, *B. rzehaki* (Andreae), *B. aff. ruffescens* Cushman, *Arenosiphon* sp.; Family Hyperamminidæ—*Hyperammina* sp.; Family Saccamminidæ—*Tholosina* sp.

The detailed study pertaining to the description and biostratigraphic significance of the species identified is under progress.

The authors are highly indebted to Professor M. N. Viswanathiah for his constant encouragement and help. One of the authors (M. N. Malur) gratefully acknowledges the financial assistance given by the University Grants Commission for undertaking this work.

Dept. of Geology, V. VENKATACHALAPATHY,
Mysore University, M. N. MALUR,
Manasagangotri,
Mysore-6, June 16, 1969.

1. Blanford, H. F., *Mem. Geol. Surv. Ind.*, 1862, p. 4.
2. Bulatova, *Foraminifers from the Cretaceous and Paleogene Deposits of Western Siberian Peninsula*, 1964, p. 131, pl. 9, fig. 16.
3. Glaessner, M. F., "Studien über foraminiferen der Kreide und dem Tertiär des Kaukasus, I. Die Foraminiferen der ältesten Tertiärschichten des Nordwest Kaukasus," *Probl. Paleont. (Moscow)*, 1937, 2-3, 349, pls. 1-4.
4. Kossmat, F., *Rec. Geol. Surv. Ind.*, 1895, 28, pt. 2.
5. Orlov, J. A., *Fundamentals of Paleontology* Published in English by the Israel Programme for Scientific Translations, Jerusalem, 1962.
6. Rama Rao, L. R. and Pia, J., *Mem. Geol. Surv. Ind., Pal. Indica, N.S.*, 1936, 21, No. 4.
7. —, *Proc. Ind. Acad. Sci.*, 1956, 44, B (4), 185.
8. Sars, M., *Fortsatte Bemaerkninger over dyrske lives Udtereding i Havets Dybder. Vidensk. Selsk. Forh.*, 1868, p. 246.
9. Stoliczka, F., *Mem. Geol. Surv. Ind. Pal. Ind.*, 1861-73, Ser. 1 & 3, Vol. 1, Ser. 5, Vol. 2, Ser. 6, Vol. 2, Ser. 8, Vol. 4.
10. Subbotina, N. N., *Trudi, Vrigri, New Ser.*, issue 51, 1950, p. 67, pl. 1, fig. 4.

PREPARATION OF A SOURCE OF Lu₇₁¹⁷¹

WE describe the preparation of a thin source of Lu₇₁¹⁷¹ for β -ray spectroscopy.

The internal beam of the alpha-particles of the Synchrocyclotron of the Lyons University hit a target of Tu¹⁶⁹ with an intensity of 5 microamperes, the total charge on the target-support being 35 microampere-hours, and the energy of the projectile 30 Mev. The activity of Lu¹⁷¹ was more preponderant than that of Lu¹⁷². There were no noticeable traces of

Lu¹⁷⁰. Chromatographic separation was employed over a Dowex Column 50 × 12 cm. for 6 hours with the aid of alpha-hydroxy-isobutyric at pH 3.7. The fraction of the recuperated Lu¹⁷¹ was placed at pH 1 with HNO₃, 8N charged over a Dowex Column 50 × 12 cm. in the form of H⁺, and 100 c.c. of distilled water percolating. The activity was collected by HNO₃ in the first two c.c. of the Column. To get all the activity, two slow reductions at dryness conditions were necessary.

This fraction in the presence of acetic acid 0.01N, and alcohol in the ratio 1:1 was placed in an electro-deposition cell, whose capacity was 0.1 c.c. A current of 1 mA provoked electrolysis of the rare-earth hydroxide at the cathode, constituted by a platinum wire of 100 microns.

The source was then placed in a semi-circular spectrograph to study the low energy conversion electron spectrum. Preacceleration was employed to accelerate the electrons, and nuclear emulsion plates were used as detectors.

This work is a part of the Doctoral Thesis, presented by the author at the Lyons University in 1967.

Institute of Geology,
1, rue Blessig,
Strasbourg University,
France, July 1, 1969.

M. ANTONY.

ON A NEW SPECIES OF
LITHOPORELLA FOSLIE (CORALLINE
ALGAE) FROM THE BAGH BEDS OF
MADHYA PRADESH

THE present communication reports a new species of *Lithoporella* Foslie from the Upper Coralline Limestones of the Bagh Beds of M.P. Fossil algae from the Bagh Beds have been reported by Chiplonker (1944), Singh (1950), and more recently by Ghosh and Pal (1968, 1969) and Pal (1968).

The term *Lithoporella* was used by Foslie in 1904 (Weber van Bosse and Foslie, p. 73) for thin crustose coralline algae whose thalli are built of one or only a few layers of cells, as a subgenus under *Mastophora*, with *Mastophora melobesioides* Foslie as its type. Later, Foslie (1909, p. 59) raised *Lithoporella* to full generic rank. This was accepted by most American geologists, and Marshall A. Howe (1919, p. 17) states: "Foslie's establishment of a genus *Lithoporella* to receive the monostromatic calcified forms that he had previously referred to *Mastophora* seems justified". However, Mme. Lemoine (1917, p. 174) preferred

to consider *Lithoporella* as a subgenus under *Melobesia*. In recent years, American geologists have tended to follow Howe's example and consider *Lithoporella* as an independent genus, while European geologists and botanists have followed Mme. Lemoine.

Lithoporella has very thin monostromatic crustose thalli except around conceptacles where they thicken, and several layers of smaller cells may be present. The cells are rectangular, vertically elongated, and form a palisade-like layer. Rhizoids are absent. The thalli commonly grow superimposed or alternating with other crustose algae or encrusting foraminifers to form thick crusts. Conceptacles are large, with a single aperture.

Lithoporella closely resembles *Mastophora* Decaisne, but *Mastophora* has long rhizoids for attachment, and normally the thalli do not grow superimposed. Another genus of close resemblance is *Heteroderma* Foslie which differs from *Lithoporella* in consisting of one or two layers of isodiametric cells which are not vertically elongated to form palisade-like layers. Adjacent thalli become confluent but never superimposed. *Melobesia* Lamouroux differs from *Lithoporella* by having horizontally elongated cells in the basal layer; the thallus may be several layers thick and the conceptacles have a number of openings.

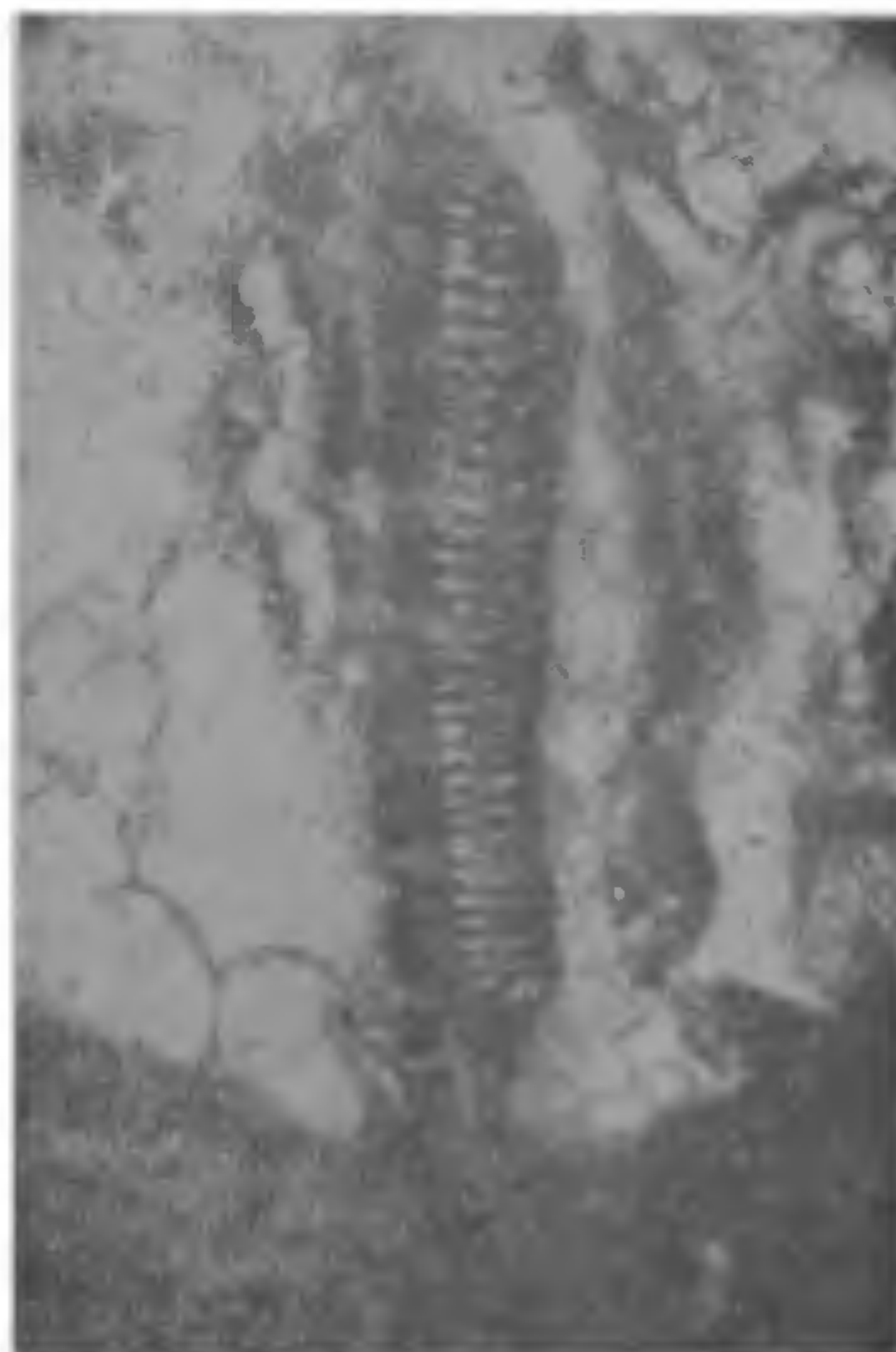


FIG. 1, × 100.