

Riv. Ital. Paleont.	v. 88	n. 2	pp. 169-180	tav. 8-11	Marzo 1983
---------------------	-------	------	-------------	-----------	------------

DEVONIAN CONODONTS FROM SPITI HIMALAYA, INDIA

A. D. AHLUWALIA**, V. J. GUPTA**, K. J. BUDUROV*** and S. S. KANWAR*

Key-words: Conodonta, Biostratigraphy, Chronostratigraphy, Devonian, Himalaya.

Abstract. The present paper describes the lower Upper Devonian conodont fauna from the upper units of Muth Formation, Spiti Valley, Himalaya.

Introduction.

The Devonian rocks have very wide geographical distribution in different parts of the Himalaya. Good sections of these are exposed in Kashmir, Kishtwar, Ladakh, Lahaul, Spiti, Kumaun, Nepal and Bhutan. The present communication records the occurrence of lower Upper Devonian conodonts from the dolomitic limestone found intercalated within the upper units of the Muth Formation exposed along the left bank of the Takche nala, between Kunzam La ($32^{\circ}23'40''$: $77^{\circ}38'30''$) and Losar ($32^{\circ}26'30''$: $77^{\circ}45'10''$) (Spiti Valley)

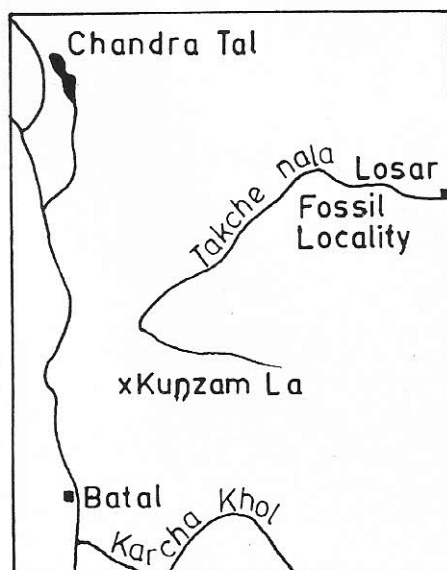


Fig. 1 – Geographical map showing location of fossiliferous outcrop.

* 98-100, Sector-17, Chandigarh-160014, India.

** Centre of Advanced Study in Geology, Panjab University, Chandigarh, India.

*** Geological Institute Bulgarian Academy of Science, Sophia, Bulgaria.

(Fig. 1). Lithologically, the conodont bearing beds consist of 0.2 metre thick horizon of buff weathering grey dolomitic sandy limestone which is interbedded with massive snow white quartzite. The conodont bearing horizon lies 6.9 metres below the contact of Muth Formation with the Lipak Formation (Fig.2).

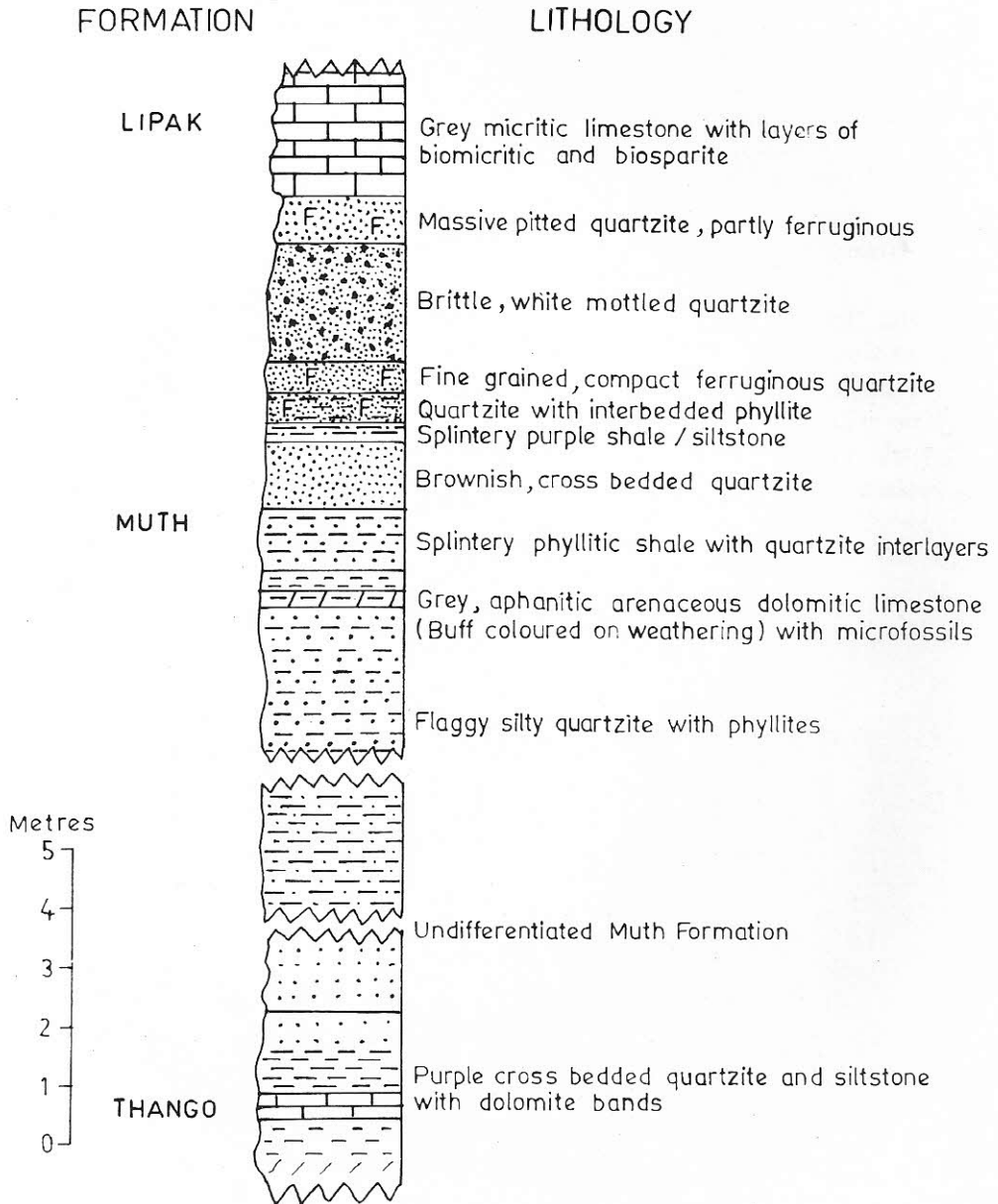


Fig. 2 – Stratigraphic column showing detailed lithological succession of Upper Muth in Takche nala, near Kunzam La, Spiti.

The Muth Formation is conformably overlain by the Lipak Formation of Tournaisian to Viséan age. Among the conodonts identified are *Ancyrodelia rotundiloba rotundiloba*, *Polygnathus linguiformis linguiformis*, *P. caelata*, *P. webbi*, *Schmidtnathus peracuta*, *Bryantodus* (?) *typicus*, etc. (Plates 8–11). The conodont fauna is associated with fish scales and teeth of *Cladodus* sp., *Cladolepis* sp., *Acanthodi*, (?) Placodermi and some fragments of Actinopterygii recalling dermal bones of *Moythomasia*.

The conodont fauna and the associated fish scales and teeth are identical to the similar fauna recorded earlier from the Upper Devonian of Kashmir, Ladakh, Lahaul and Kinnaur (Gupta, 1975 a; Gupta & Suneja, 1973; Gupta et al., 1967; Gupta & Janvier, 1979). The Upper Devonian conodont fauna similar to those being recorded from Spiti is also known to occur in Nepal.

For details of the systematic descriptions of the conodonts recorded in the present paper reference may be made to Gupta (1975 a, b).

REFERENCES

- Gupta V. J. (1975 a) - Devonian conodonts from Himalaya. *Chayanica Geologica*, v. 1 (1), pp. 99–121, Delhi.
- Gupta V. J. (1975 b) - Upper Devonian conodonts from Phulchauki, Nepal. *Him. Geol.*, v. 5, pp. 153–168, Dehradun.
- Gupta V.J. & Janvier PH. (1979) - Late Devonian vertebrate remains from Western Himalayas (Himachal Pradesh, India). *Bull. Ind. Geol. Assoc.*, v. 12 (2), pp. 161–171, Chandigarh.
- Gupta V. J., Rhodes F.H.T. & Austin R.L. (1967) - Devonian conodonts from Kashmir. *Nature*, v. 216, pp. 468–469, London.
- Gupta V. J. & Suneja I. J. (1973) - Devonian conodonts from the Baramula District, Kashmir, India. *Bull. Earth Sciences*, v. 2, pp. 21–24, Poona.

PLATE 8

Fig. 1 - 6 — *Polygnathus linguiformis linguiformis* Hinde. 1-3) Oral view; 4-6) aboral view.

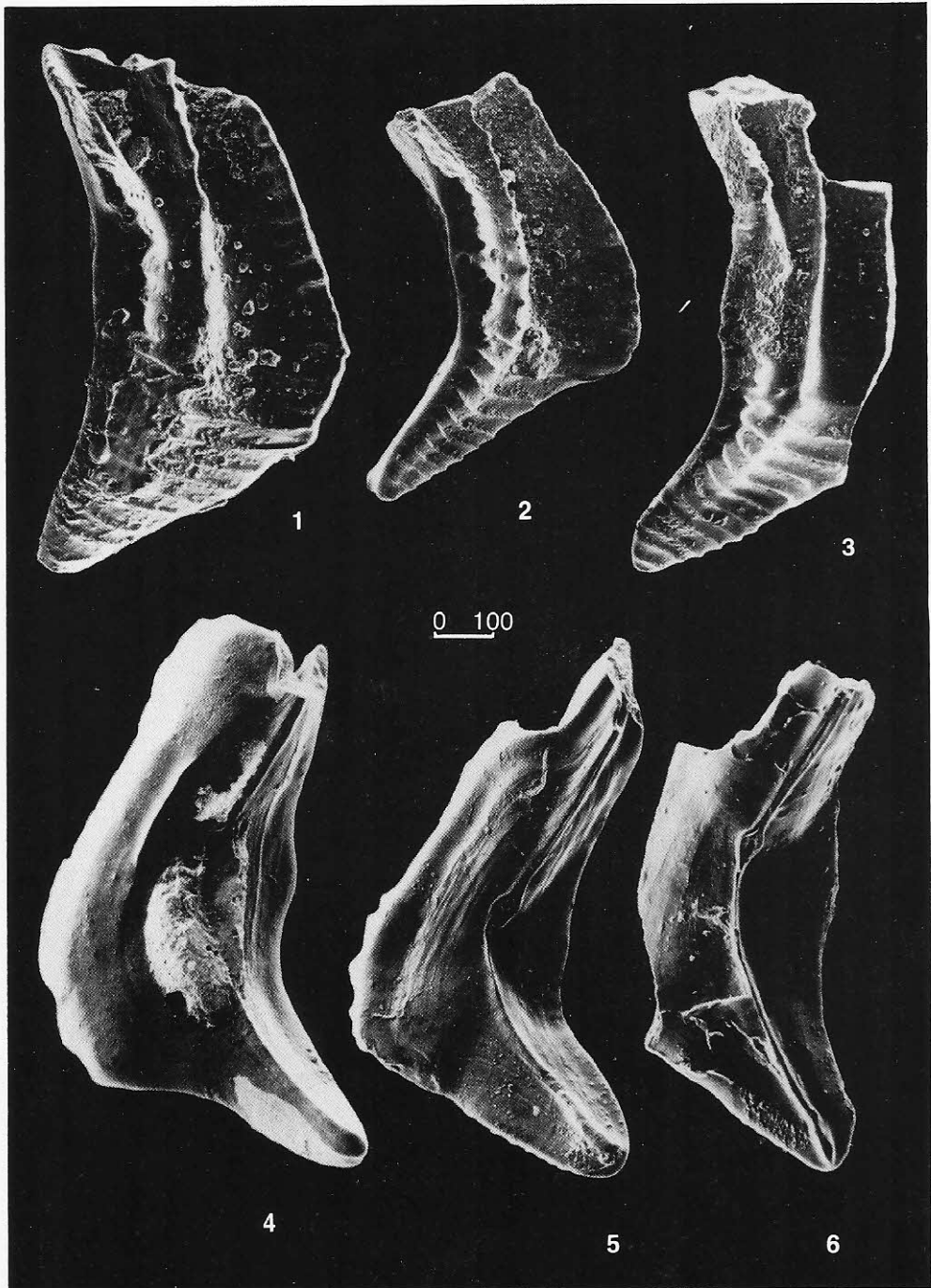


PLATE 9

Fig. 1 - 4 — *Ancyrodella rotundiloba rotundiloba* (Bryant). 1-2) Oral view; 3-4) aboral view.

Fig. 5 — *Bryantodus* (?) *typicus* Bassler.

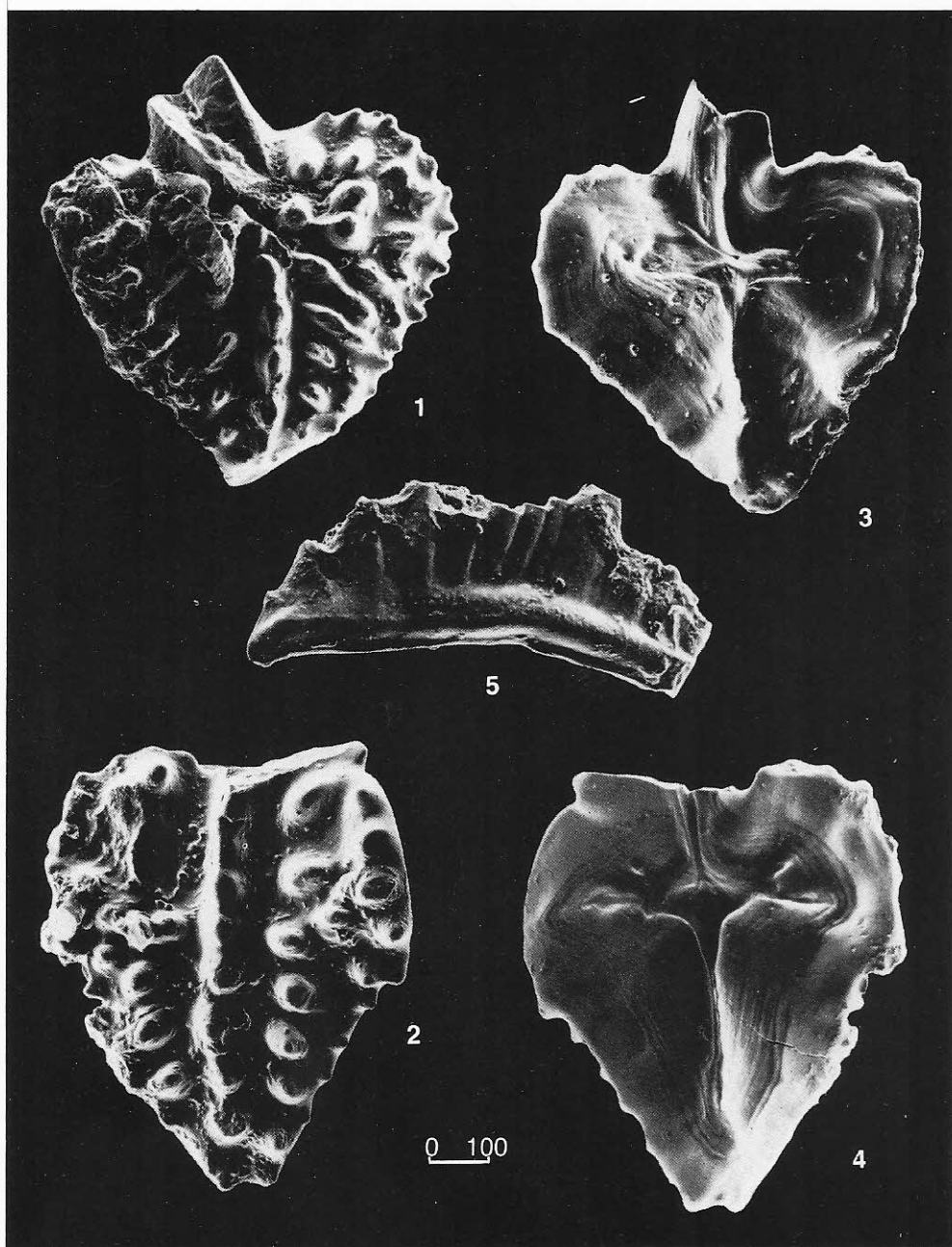


PLATE 10

Fig. 1 - 4 — *Polygnathus caelata* Bryant. 1-2) Oral view; 3-4) aboral view.

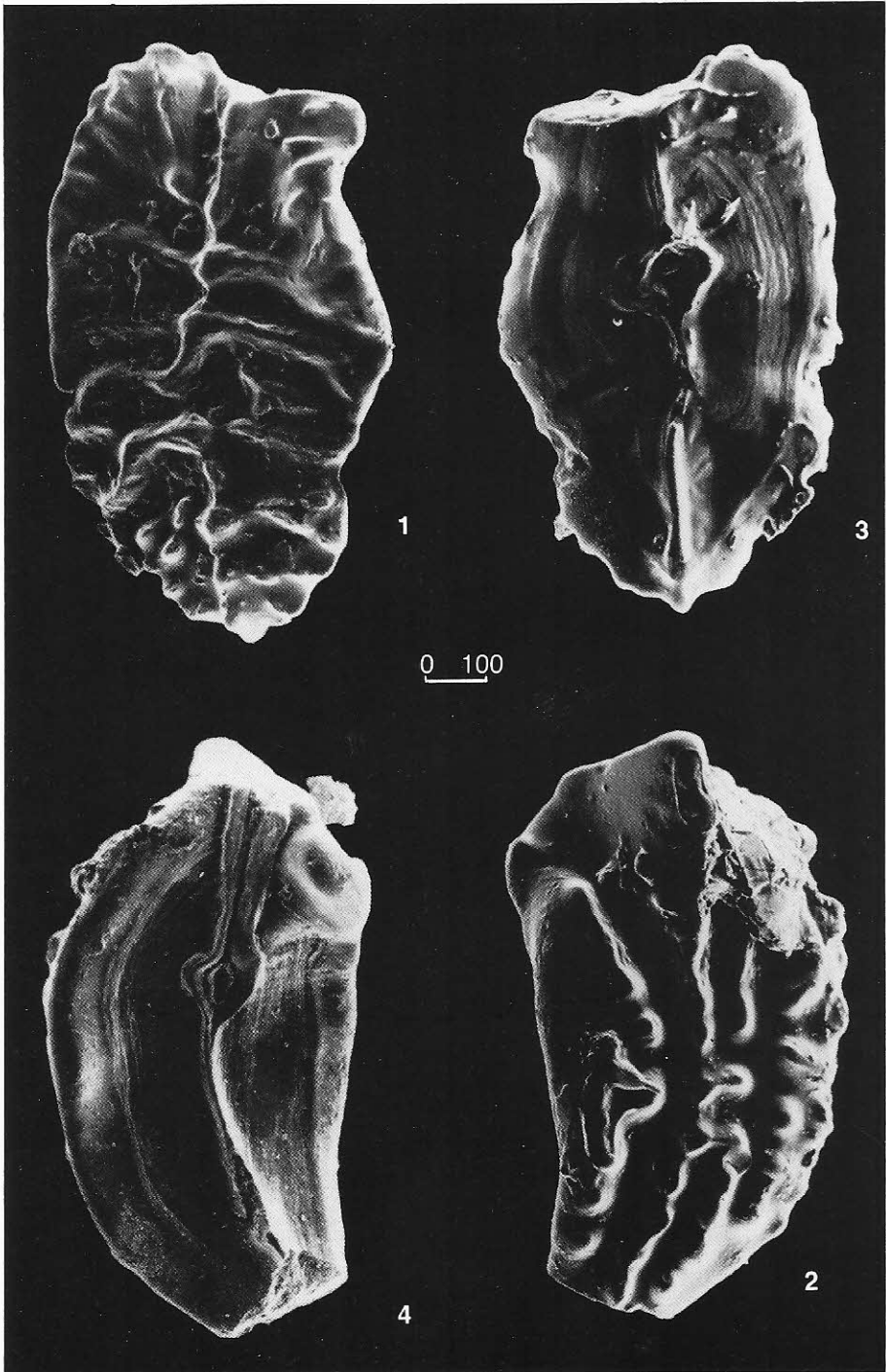


PLATE 11

Fig. 1 - 4 - *Schmidtnathus peracuta* (Bryant). 1-2) Oral view; 3-4) aboral view.

Fig. 5, 6 - *Polygnathus webbi* Stauffer. 5) Oral view; 6) aboral view.

