

Table 4 Molar ratio for Fib. to Alb. on various surface

Time of exposure to HEMA and Irrad.	Molar ratio Irrad. in air F/A	Irrad. under N ₂ atm. F/A
Bare (irradiated)	0.23	0.83
5'	0.46	1.20
10'	0.47	1.29
15'	0.31	1.22
20'	0.34	1.31
Bare (non-irradiated)	1.6	—

to possess lowest ratio as compared to the other HEMA exposed samples (table 4); the relative number of fibrinogen molecules is smaller on this surface to encourage platelet adhesion. In our results bare-irradiated polymer surface shows even a lower value. Since the molar ratio (F/A) is lower in air irradiated cases as compared to the nitrogen atmosphere, such surfaces should be studied in *in vivo* experiments for further understanding the nature of these surfaces.

The authors are thankful to Thomas Chandy, George Joseph and Miss Nirmala for their suggestions and assistance.

24 January 1984; Revised 11 October 1984

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RECORD OF LATE PERMIAN AMMONOID CYCLOLOBUS FROM ZOJILA LA, KARGIL DISTRICT, JAMMU AND KASHMIR

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THE authors in the course of detailed geological studies in the Zoji La-Minamarg section along

Srinagar-Leh road, collected ammonoid fossil *Cyclolobus* sp. of late Permian age at Zoji La and 2.5 km ESE of it, in the Kargil district, Jammu and Kashmir (figure 1).

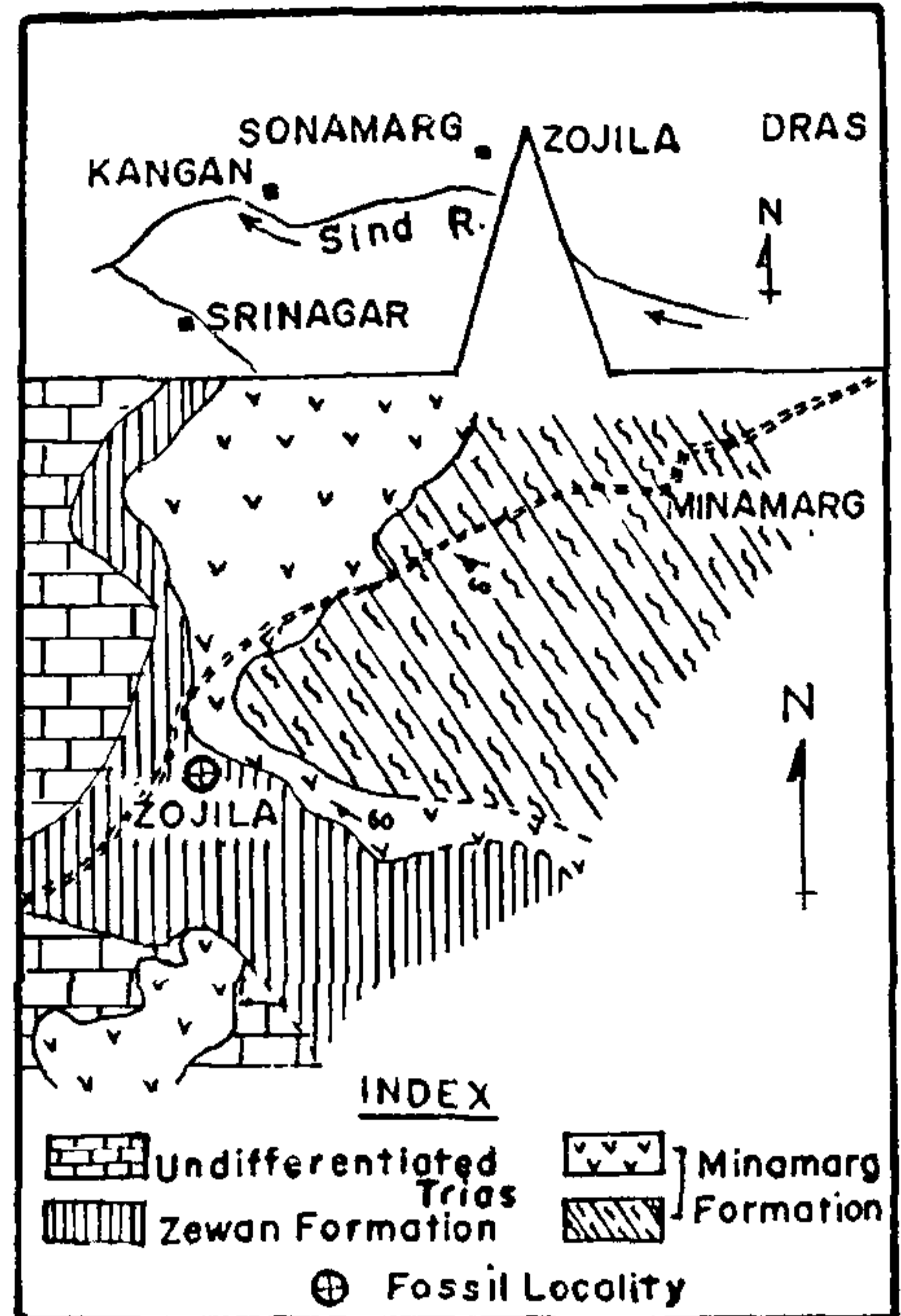


Figure 1. Fossil locality and geological map.

The rocks exposed at Zoji La have been variously correlated and considered as Middle Trias by Middlemiss¹ and Raina², Permo-Carboniferous (Mughalpur Formation) by Raina *et al*³, and Permo-Trias (Zoji La Formation) by Shah *et al*⁴.

The present studies have revealed the following lithostratigraphy in the area:

Undifferentiated Triassic	Massive limestone Interbedded limestone and shale.
Zewan Formation (Upper Permian)	Dark grey phyllite with thin limestone. <i>Cyclolobus</i> cf. <i>C. walkeri</i> . Brownish grey sandstone
	Unconformity

Minamarg Forma- ii) Basic metavolcanics, sub-
tion³ (Precambrian?)ordinate metasedimentaries.

i) Slate, phyllite, quartzite,
marble, schist with gneissic
bands and basic metavol-
canics.

Base not exposed

The Zewan Formation exposed at Zoji La has yielded five specimens of ammonoid *Cyclolobus*. Specimens are not well preserved; surface weathering has destroyed most of the ornamentation and to some extent the sutures. One specimen (GSI Type 19985, figures 2, 3) which is complete in its outline shows characteristic morphologic features of *Cyclolobus*. It has the conch diameter of 57.4 mm and is planispiral and involute in nature with small umbilicus (4.7 mm) and a rounded venter. The sutures are fairly well preserved on a part of the shell exhibiting nine lateral lobes increasing in size towards venter in arcuate fashion (figures 2, 3). The ninth lobe is situated on the umbilical shoulder. The sutural details are comparable with *C. walkeri* Diener (figure 2⁵, p. 168, figure 1⁶).

The other specimen is a broken part of a bigger form showing ill preserved sutures of *Cyclolobus* sp. and subtriangular whorl section (figure 4). Another small specimen (GSI Type No. 19986, figure 5) of 21 mm diameter exhibits three prominent constrictions at shell diameter of 11 mm.

The gastropod belongs to bellerophonotid (GSI Type No. 19987, figures 6, 7).

The ammonoid genus *Cyclolobus* is characteristic of Dzhulfian stage (Chidruan) on late Permian^{5,6}. It has earlier been recorded in the northwest strike extension of the present area in Tilel, Baramulla district⁷ where Upper Permian transgression is recognised directly over the Precambrian Salkhala rocks.

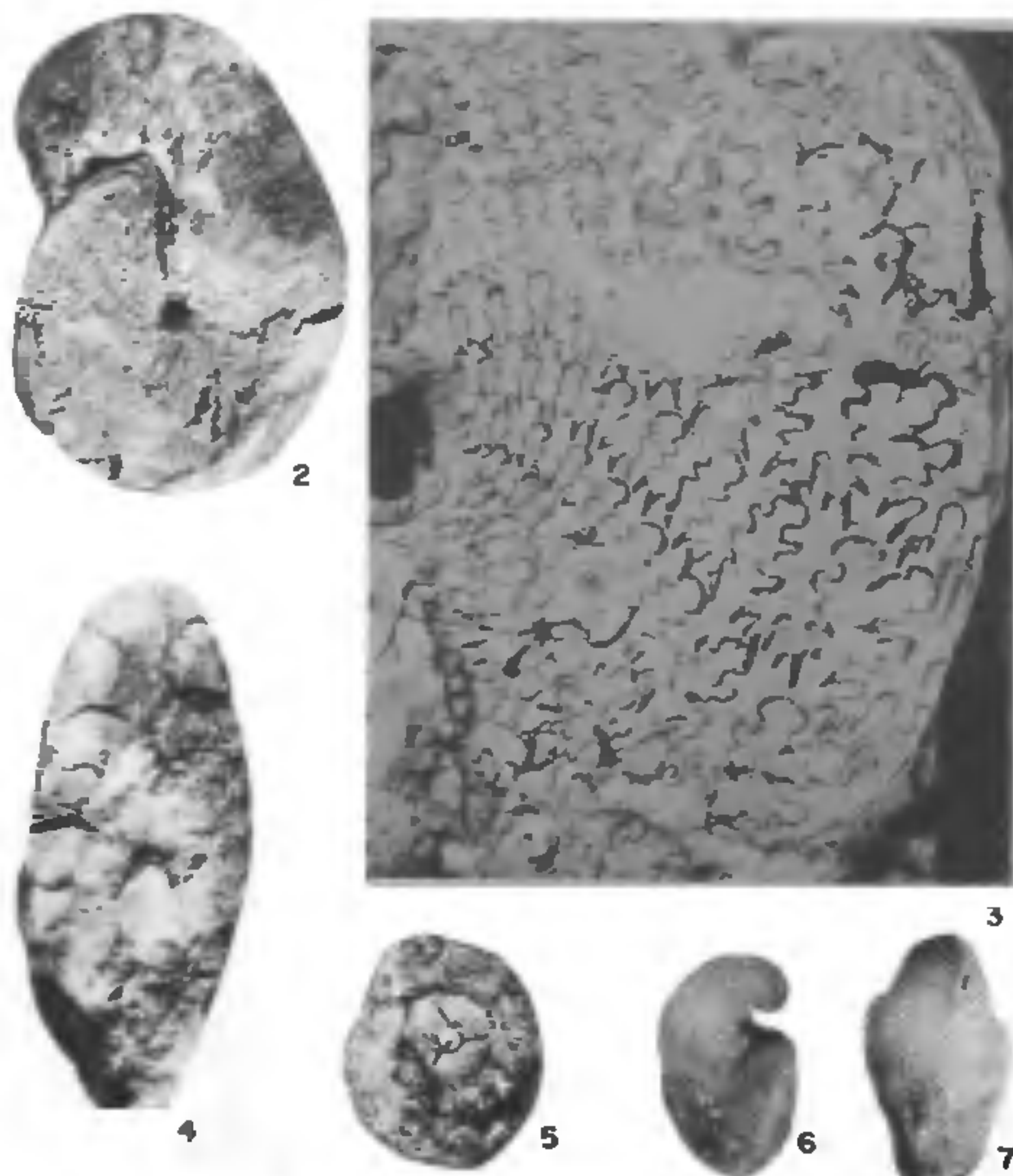
The above fossil find has established the age of the strata exposed at Zoji La as Upper Permian belonging to the Zewan Formation of Kashmir basin and not to Permo-Carboniferous, Permo-Trias or Middle Trias.

The specimens have been deposited in the Palaeontology and Stratigraphy Division, Geological Survey of India, Calcutta, bearing GSI Type Nos. 19985, 19986, 19987.

The authors are thankful to Messrs G. L. Wakhaloo, B. S. Jangpangi, H. M. Kapoor, G. Kumar, B. K. Raina and Dr D. K. Bhatt for encouragement, discussions and technical assistance.

9 May 1984; Revised 26 November 1984

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Figures 2-7: 2. *Cyclolobus* sp; 3. Sutures of figure 2 enlarged 4 times. 4. Apertural view of *Cyclolobus* sp; 5. *Cyclolobus* sp. lateral view showing constrictions; 6 & 7 Bellerophonotid, 6 Lateral view $\times 2.5$, 7 Dorsal view $\times 2.5$.