$C_9H_{10}O_4$: C, 59·34; H, 5·53; OCH_3, 34·06%). It gave acidic reactions and showed ν_{max} (KBR) : 2778–2500 $(OH)^T$, 1684 (C=O), 1503, 1520, 1475 (Ph), 1272 (C=O) and 926 cm^{-1} etc; λ_{max} (EtOH) : 222, 258, 290 mμ; NMR signals ($CDCl_3$, δ) : 13·21 (s, COOH, 1 H), 4·06 (s, 2 OCH_3, 6H); aromatic protons 7·8 (1H, d, J=2 cps), 7·1 (1H, d, J=9 cps) and 8·0 (1H, dd, J=9 and 2 cps); MS (m/e) : 182 (M^+), etc. These data indicated the compound to be veratric acid; confirmed by co-TLC, m.m.p. and by preparation of methyl ester (CH_2N_2), m.p. 57–58° (Reported[11] 59–60°).

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Department of Chemistry, K. C. JOSHI.
University of Rajasthan,
Jaipur 302 004, India,
and
Department of Chemistry, L. B. SINGH.
St. Andrew's Post-Graduate College,
Gorakhpur 273 001, India, *September* 3, 1976.

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RECORD OF PERMIAN AMMONOID *CYCLOLOBUS* FROM THE TILEL AREA, BARAMULLA DISTRICT, KASHMIR

THE authors place on record the discovery of *Cyclolobus walkeri* (Diener, 1903)[1], a characteristic index fossil of uppermost Permian in the Tilel area of North Kashmir. The fossil specimen was collected from a fallen block of a compact shaly slate in the Badogam Nala (34° 34′ : 75° 04′) of Tilel area, Baramulla District. The Badogam Nala drains a predominently Salkhala country which is overridden by Dras Volcanic belt further north. However, this find indicates the existence of patches of marine Upper Permian, probably as infolds, within the Salkhala. Such occurrences of Permian have been reported further NW in the Burzil valley[3].

Cyclolobus is a comparatively rare genus in the Permian of the Himalayas. The present specimen (Figs. 1 and 2) is characterised by large shell, planispiral, involute, almost flat flanks, whorl section almost lanceolate ventrolateral shoulders and venter rounded, and small umbilicus.

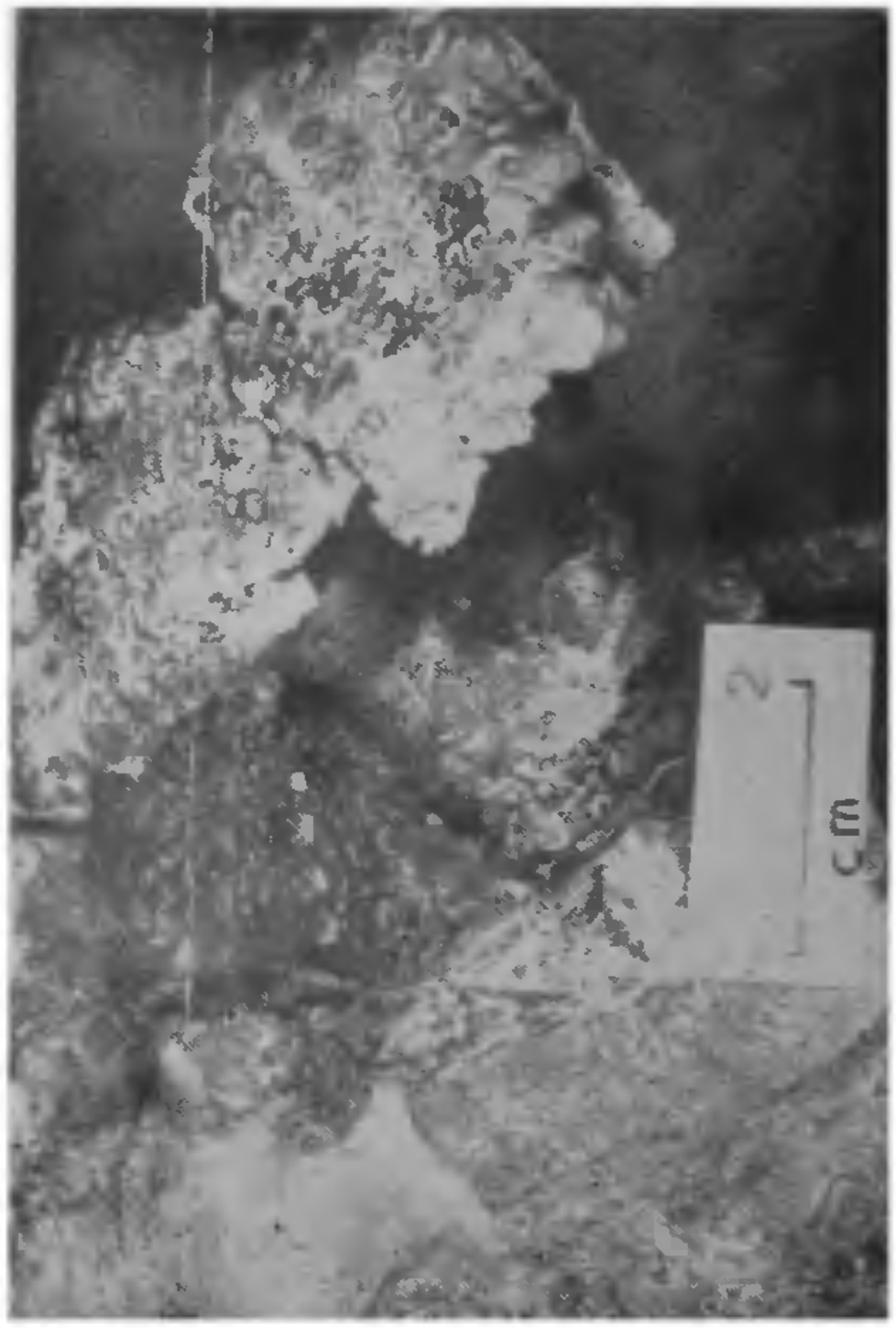

FIG. 1

Furnish *et al.*[2] reported *Cyclolobus walkeri* (Diener, 1903) from the Guryul Ravine section in Kashmir. Our specimen bears close resemblance to this specimen in having almost flat flanks, rounded ventrolateral shoulders, venter with small umbilicus and identical sutural details. However, the present specimen differs from the Guryul Ravine specimen in having constrictions upto a conch diameter of 32 mm.

The horizon yielding *Cyclolobus walkeri* can be correlated with the top of Zewan formation of Kashmir, the upper Kuling shale of the Central Himalayas, the Upper Chhidru formation of the Salt Range and its Ankitohazo beds of Madagascar.

All the above occurrences have been interpreted by Furnish *et al.*[2] as representing the Chhidruan stage of the middle Ozhulfian Series.

FIG. 2

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Geological Survey of India,
Kashmir Circle, Rajbagh,
Srinagar—J and K,
August 4, 1976.

B. K. RAINA.
R. K. KHORANA.

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DIURNAL RHYTHMIC ACTIVITY OF ALKALINE PHOSPHATASE IN THE SCORPION, *HETEROMETRUS FULVIPES*, C. KOCH.

A REVIEW of the literature has shown that dehydrogenases[1,2] and esterases[1] exhibited diurnal rhythmic activity in the scropion, *Heterometrus fulvipes*, C. Koch. In view of the existence of diurnal variations in the scorpion, it is of interest to find whether such changes would also occur in the activity of alkaline phosphatase (EC 3·1·3·1), an enzyme that catalyzes the hydrolysis of phosphamides and compounds other than simple orthophosphoric acid monoesters[3]. Hence an attempt has been made to study the activity of alkaline phosphatase in different tissues of the scorpion.

The hepatopancreas, heart, pedipalpal muscle and nervous tissue were isolated from the live scorpions of similar size at six different timings of the day (*viz.*, 08·00, 12·00, 16·00, 20·00, 00·00 and 04·00 hrs.) The tissues were immediately transferred to pre-chilled glass tubes and 2% (w/v) homogenates were prepared in 0·25 M ice-cold sucrose solution and centrifuged at 2500 rpm for 10 min; 0·4 ml of each supernatant, containing 8 mg. of tissue, was assayed for the alkaline phosphatase activity by the method of Fiske and Subba Rao as given by Oser[4].

Figure 1 indicates that, in general, the enzymic activity on the basis of gram weight of tissue followed the order hepatopancreas > heart > pedipalpal muscle > nervous tissue. The enzyme exhibited maximal

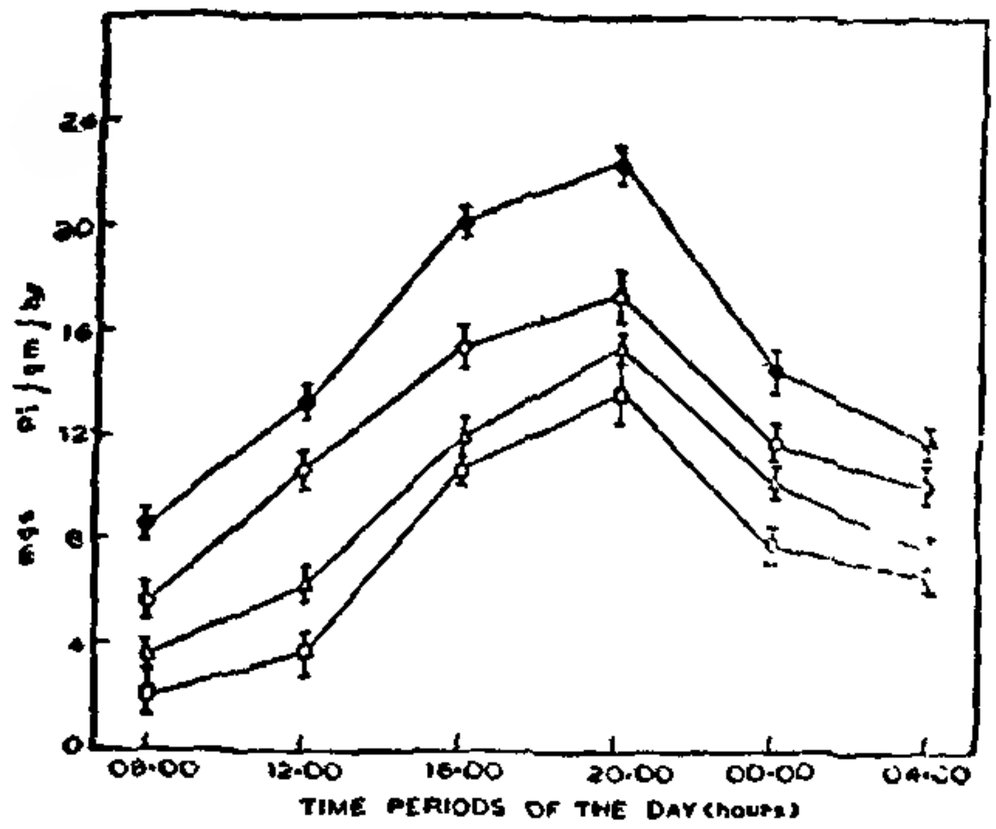

FIG. 1. Diurnal rhythmic activity of alkaline phosphatase in different tissues of the scorpion. (Values, expressed as mgs pi/gm/hr, are mean ± S.D. of five observations.)

●—● Hepatopancreas; O—O Heart;
△—△ Pedipalpal muscle and
□—□ Nervous tissue.

activity at 20·00 hr. and minimal activity at 08·00 hr. of the day (Fig. 1). The higher levels of enzymic