TABLE I

The analytical and characterisation data of copper (II) Schiff base complexes[a,b]

Complex		%Cu	%N	Temp. (°K)	χ_M^{corr} (10^{-6} cgs unit)	μ_{eff} (B.M.)	J[c] cm^{-1}
Cu (hydroxy-ethanolamine)	Found:	22·1	4·9	297	1489	1·89	+67
$CuC_{13}H_{11}NO_2$	Reqd.:	22·96	5·06	155	2998	1·94	
				85	5805	2·01	
Cu (hydroxy-propanol-amine)	Found:	21·0	5·2	297	88	0·46	−846
$CuC_{14}H_{13}NO$,	Reqd.:	21·86	4·82				
Cu (hydroxy-isopropanol-amine)	Found:	21·0	4·9	297	1352	1·84	+28
$CuC_{14}H_{13}NO_2$	Reqd.:	21·86	4·82	118	3702	1·88	
				83	6048	2·01	

a Abbreviation: hydroxy = 2-hydroxy-1-naphthaldehyde.
b The magnetic moment was calculated using the Curie equation: $\mu_{eff} = 2{\cdot}84\,(\chi_M^{corr} \times T)^{1/2}$ B.M.
c Temperature independent paramagnetism term = 60×10^{-6} cgs. unit, $g = 2{\cdot}1$.

The synthesis and characterisation of copper (II) complexes using other alcoholamines like 2-amino-1-butanol, 4-amino-1-butanol and 2-amino-2-methyl-propanol are in progress. The corresponding oxovanadium (IV) complexes are also being studied in order to compare the magnetic properties of these $s = \frac{1}{2}$ systems.

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CHEMICAL EXAMINATION OF *TECOMELLA UNDULATA* (G. DON) SEEM

Tecomella undulata (G. Don) Seem (Bignoniaceae) is described to be useful[1,2] in curing urinary discharges, enlargement of spleen, gonorrhoea, leucoderma and liver diseases. Its bark has been the subject of extensive chemical study[2-4]. In continuation of our earlier work[5,6] on extractives from its heartwood, we now report the isolation and identification of veratric acid; which is the first report of its occurrence in free state from the heartwood of a tree.

Air dried and coarsely powdered heartwood (550 g) was successively extracted with petroleum ether 60–80° and acetone. A good yield of lapachol[5] was obtained from petrol extract. Acetone extract on concentration and keeping in refrigerator gave a solid (tecomelloside)[6]. Latter was removed by decantation. From the mother liquor, solvent was completely removed and the deep orange-red mass obtained was separated into ether-soluble (1·34 g) and ether-insoluble (3·15 g) fractions. The insoluble fraction contained mainly the glucoside. The ether-soluble fraction resisted crystallisation and therefore was subjected to column chromatographic resolution over diactivated silicagel. From ethylacetate-chloroform (2 : 3 and 1 : 1) fractions, after removal of solvent an orange-yellow solid (0·49 g) was obtained and was further purified by filtration of its chloroform solution through a column of silicagel and then crystallised from ethyl acetate-petroleum ether 60–80° (1 : 1) as needles, m.p. 181–182° (Found: C, 59·45; H, 5·63; OCH_3, 34·20; Calcd. for

$C_9H_{10}O_4$: 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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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.

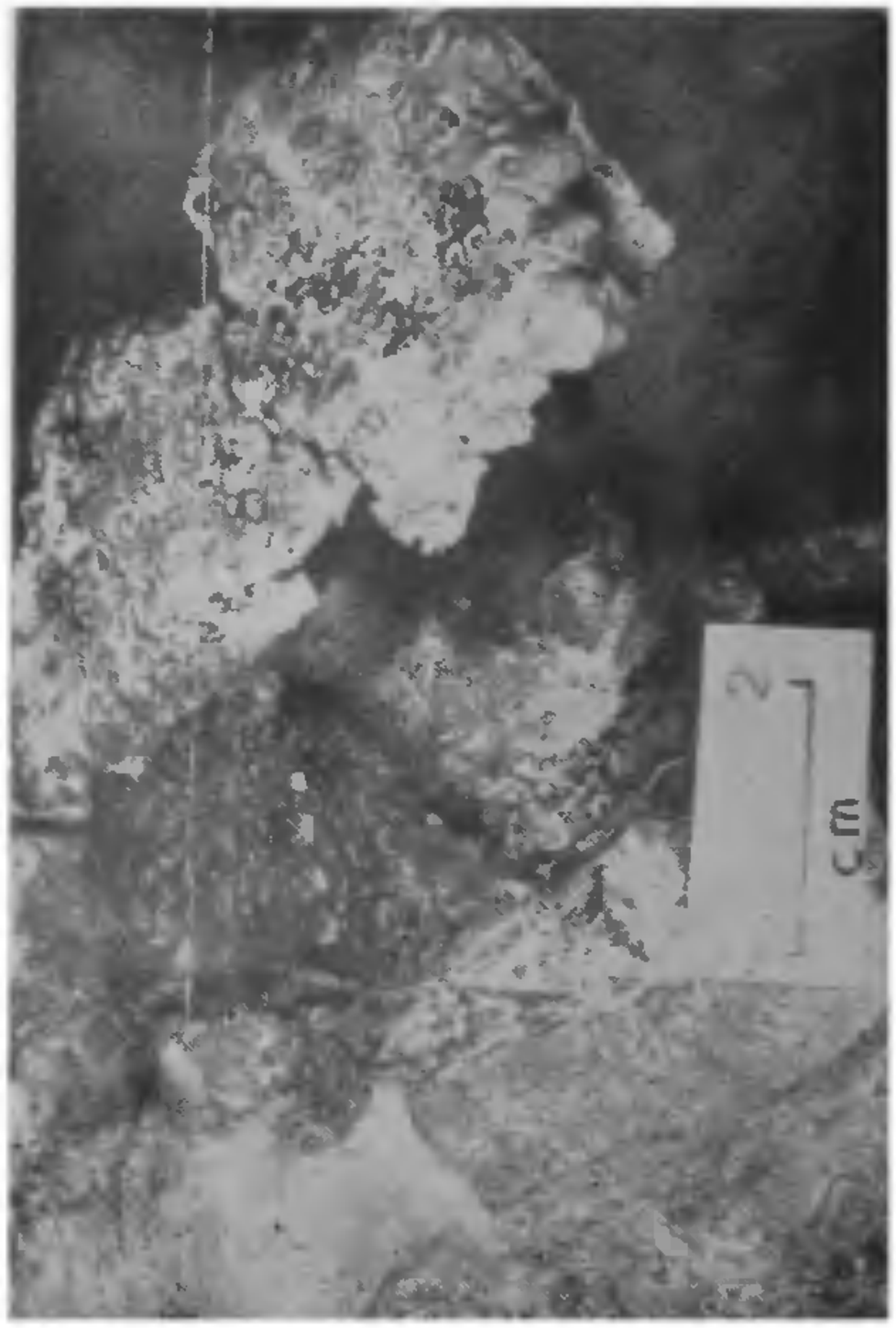

FIG. 1

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.