

octahedral geometry for binuclear compounds^{11,12}.

In conclusion it can be stated that the two chlorine atoms of SiCl₄ moiety are coordinated to cobalt(II) schiff base moiety in the adduct.

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¹³C NMR EVIDENCE FOR THE STRUCTURE OF THEVEFOLIC ACIDS

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Two phenyl lactic acid derivatives named Thevefolic acids A and B were isolated from the more polar fraction of ethanolic extract of fresh flowers of

*Thevetia neriifolia*¹. They were characterized as (+)-methyl-β-(2-hydroxy-4-carboxy phenyl) lactate and (+)-β-(2-hydroxy-4-carboxy phenyl) lactic acid by chemical and spectral methods. Also, the stereochemistry of these compounds was determined subsequently and assigned² the R-configuration. Chopin³ however suggested that though the 1,2,4-substitution of benzene ring in the molecule was beyond doubt, the precise placement of OH and COOH groups in benzene based on the comparison of ¹³C resonances was not beyond doubt. We have therefore re-examined the structure of these compounds by analysing the ¹³C NMR spectrum from different angles and report our confirmation of the earlier structural assignment.

The ¹³C resonances of aromatic carbons were computed by using the resonances of aromatic carbons of β-phenyl lactic acid and the substitution effect⁴ on carbons on introducing 2-OH and 4-COOH as well as 2-COOH and 4-OH to β-phenyl lactic acid and comparing the agreement with observed values. The structure with 2-OH and 4-COOH was in good agreement (Computed: 116.63 d, 122.03 d, 129.59 s, 130.38 s, 130.66 d, and 156.16 s; Observed 115.60 d, 120.30 d, 129.50 s, 130.40 s, 131.70 d and 155.60 s).

The proton coupled ¹³C spectrum of the compound was recorded with NOE enhancement and the pattern of the coupled carbonyl carbon analysed and compared with the same expected for 2-COOH (4-OH) with two bond coupling with one proton (COOH proton) and three bond coupling with another (3-H), and 4-COOH (2-OH) with the same two bond coupling but three bond coupling with two protons (3- and 5-H). The pattern was in agreement for 4-COOH. The pattern of coupled carbon carrying-OH was so complex that a distinction between 2-OH and 4-OH could not be made to further confirm 2-OH (4-COOH) structure.

A consideration of the linear nature of these molecules and their preferential motion in solution (rotation around the linear axis) will result in observing⁵ significant differences in the relaxation time of 2-carbonyl carbon and lactic acid carbonyl carbon while there may not be much difference between 4-carbonyl carbon and lactic acid carbon. The relaxation time (T₁) measured (inversion recovery method) for the two carbonyl carbons (using two τ values, 0.2 sec and 2.0 sec) was found to be the same pointing to 4-COOH structure for the compound.

Thus, the precise analysis of the ^{13}C resonances of the folic acids has led to the confirmation of the structure proposed earlier¹ for these compounds. The proton coupled spectrum however revealed that the ^{13}C resonances reported earlier, based on theoretical consideration and off-resonance decoupling for the three methine carbons of the phenyl ring were to be revised as 115.6 replacing 120.3 which replaces 131.7 and the latter 115.6.

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DYROSAURID CROCODILE (MESOSUCHIA) FROM THE INFRATRAPPEAN BEDS OF VIKARABAD, HYDERABAD DISTRICT, ANDHRA PRADESH

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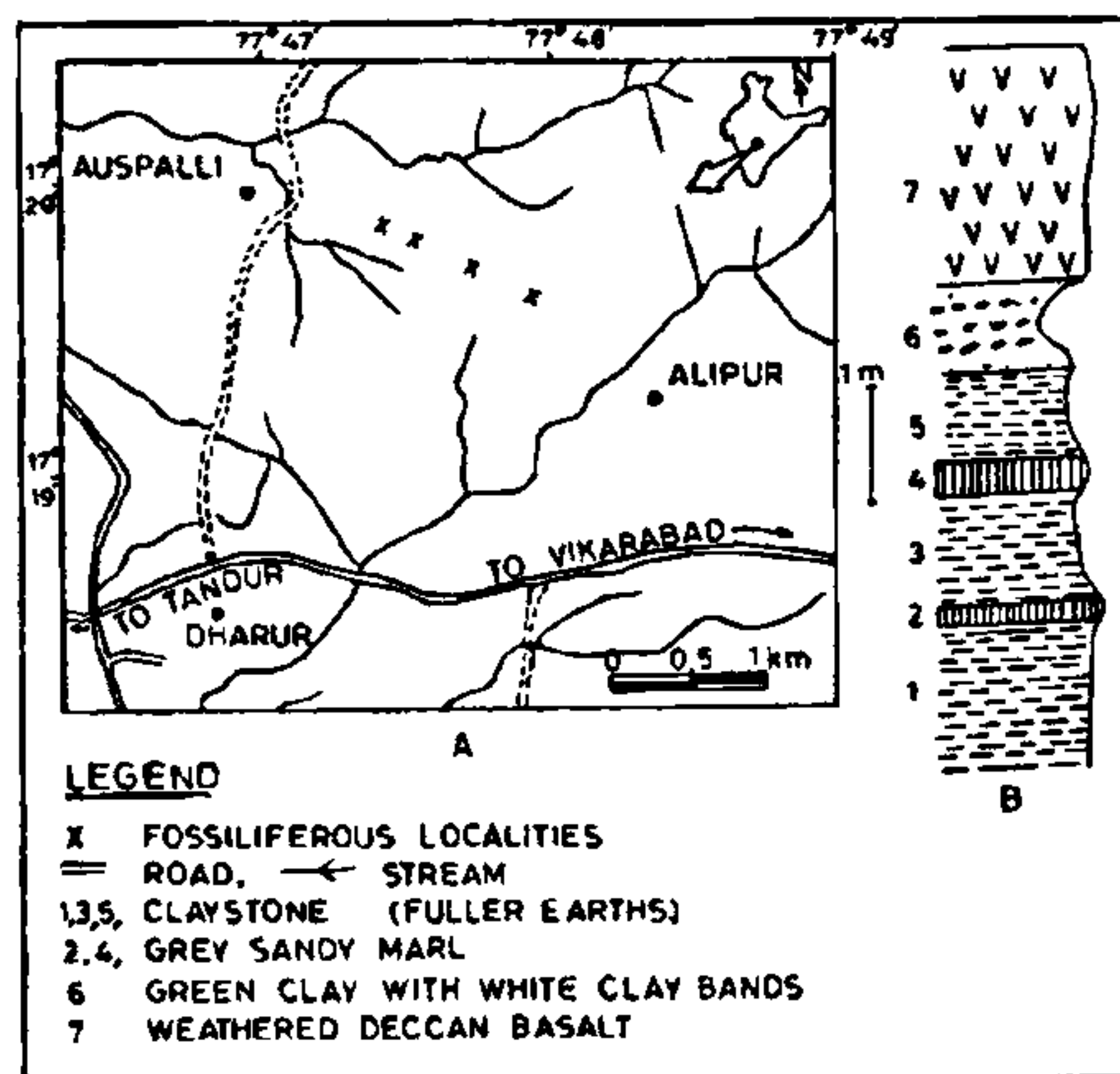
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GEOLOGICAL and palaeontological investigations of the Infra and Intertrappean beds of the western part of Hyderabad District (near Vikarabad) during February, 1986 suggest that the Infratrappean beds yield fossil vertebrates. Though the Intertrappeans of the area were shown to be fossiliferous¹, there was no previous report of Infratrappean (Lameta Formation) fossils. The Infratrappean beds exposed in patches in a wide region, rest directly above the Archaean rocks (granites, gneisses, schists and quartzites) and in turn are overlain by the Deccan basalt.

The ossiferous Infratrappean locality (figure 1A) is situated 1 km south of Auspalli village (17°20' 77°47') and 1.5 km west of Alipur (17°19' 77°48'). A 5.93 m thick section was measured at a quarry near Auspalli where the base is not exposed (figure 1B). The basal unit is greenish grey and fine grained, soft clayey stone (Fuller's earth) and is followed by alternating claystone and greenish grey calcareous sandy marl with abundant recrystallized calcite. The uppermost unit is a green friable clay with thin white bands. The top of the section is covered by basalt weathered to a reddish or greenish colour.

The faunal assemblage from the Infratrappean (Lameta Formation) horizon is represented by *Lepisosteus* fish scales, dyrosaurid amphicoelous crocodile vertebra and teeth and abundant turtle carapace and plastron fragments. The amphicoelous vertebra is assigned to the family Dyrosauridae (Suborder-Mesosuchia) and is the first report from India. Till now dyrosaurids were known from *Cardita beaumonti* beds (Maestrichtian-Danian) of Sind Baluchistan^{2,3}, Kala Chitta area (Eocene) of Pakistan³⁻⁵, Pondaung Formation (Priabonian) of Burma^{3,6}, the Maestrichtian of Brazil^{5,7}, Maestrichtian to Danian of New Jersey, USA⁹ and Maestrichtian to Lutetian sequences of northern and western Africa^{3,5}.



Figures 1A-B. A. Location map, showing fossiliferous localities. B. Stratigraphic section near Auspalli.