would demand such a change, since the chelated hydrogen of the ligand has been replaced by the metal atom (together with the O–H hydrogen) and hence the band is now caused only by the N–H group which, from the breadth of the band, appears to be involved in weak intermolecular hydrogen bonding.

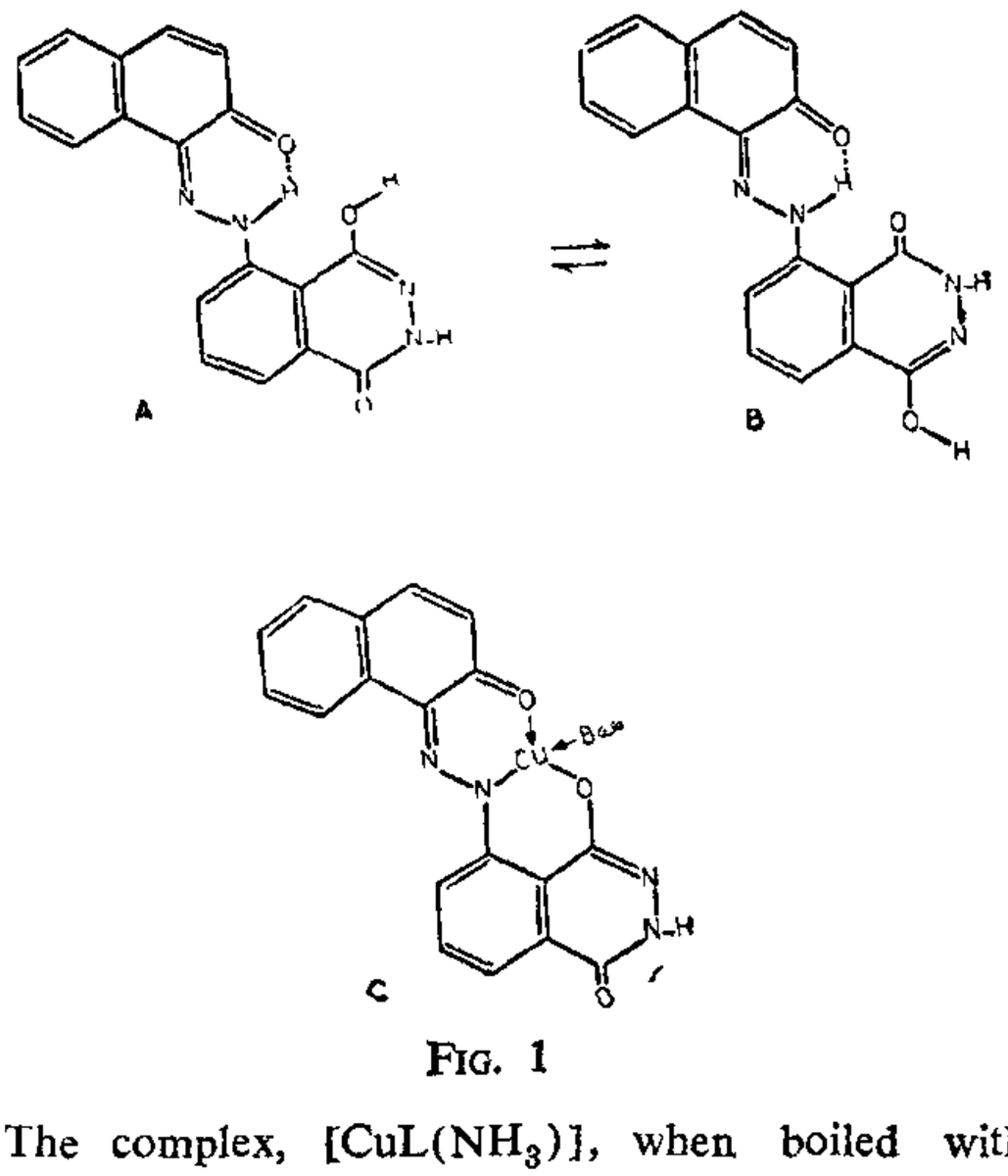

FIG. 1

The complex, $[CuL(NH_3)]$, when boiled with caustic alkali liberated the expected amount of ammonia. Thermograms of the complexes [CuLB] (B = base) reveal that the heterocyclic base is expelled preferentially and quickly in a single step at about 340° C, after which the rest of the molecule decomposes slowly.

The U.V. spectrum of the complex $[CuL(NH_3)]$ is very similar to that of the ligand. Hence it is evident that no rearrangement of the ligand occurs during chelation.

A copper chelate of the N-methyl derivative of the title ligand has been previously reported[9]. Although no structural study was attempted, the chelate has been assumed to have an analogous structure shown in Fig. 1 C.

The authors thank the C.S.I.R., New Delhi, for supporting this investigation.

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Ni (II), Cu (II) AND Pd (II)-CHELATES OF N-HYDROXYETHYLPYRROLIDENEIMINE SCHIFF BASE

N-HYDROXYETHYLPYRROLIDENEIMINE (abbr. H_2P) acts as a bidentate Schiff base and forms solid chelates with Ni(II), Cu(II) and Pd(II). The chelates have been characterised by elemental analysis, magnetic susceptibility measurements, electronic and infrared spectra.

H_2P was synthesised by refluxing an equimolecular mixture of ethanolamine and pyrrole-2-carboxaldehyde in benzene for an hour at 110° C. Water was removed azeotropically with benzene. After distilling out the benzene a yellow solid m.p. 72° was obtained. It gave satisfactory C, H and N analysis.

The metal chelates were prepared by refluxing a mixture of hydrated metal (II)-acetates and H_2P in 95% ethanol for two hours. The solid material formed was filtered, washed with ethanol, dried and recrystallised from methanol. The metal chelates gave satisfactory elemental analysis and display 1 : 2 metal-ligand stoichiometry.

Cu(II)-chelate was found paramagnetic (μ_{eff} 1·87 B.M. at 303° K) while Ni(II)– and Pd(II)-chelates diamagnetic.

The electronic absorption spectra of Ni(II)-chelate in methanol exhibit two bands at around 16200 and 17500 cm^{-1} suggesting the square-planar configuration of the Ni(II)-chelate[1]. The Cu(II)-chelate solution in methanol consist of two broad bands at 16700 and 24200 cm^{-1} which indicate the square-planar geometry of its molecule[2]. Pd(II)-chelate greatly favours a square-planar configuration[2]. Solution spectra of Pd(II)-chelate indicate three bands at 22200, 26400 and 30500 cm^{-1} assignable to the transitions $^1A_{1g} \rightarrow {}^1B_{1g}$; $^1A_{1g} \rightarrow {}^1E_{1g}$ and $^1A_{1g} \rightarrow {}^1A_{2u}$, respectively which reveal a square-planar configuration of the compound. Thus H_2P functions as a bidentate ligand in all the three metal chelates of interest.

In the i.r. spectra of H_2P, three bands were observed at 3610, 3310 and 1600 cm^{-1} assignable to νOH, νNH and νC=N respectively. νC=N of H_2P around 1600 cm^{-1} was shifted to lower frequency side (1590 cm^{-1})[4] showing the participation of the azomethine nitrogen in complexation. The appearance of a new broad band at 600 cm^{-1} suggest M–N bonding in the chelates. Thus the metal-chelates may be represented by the structure shown in Fig. 1.

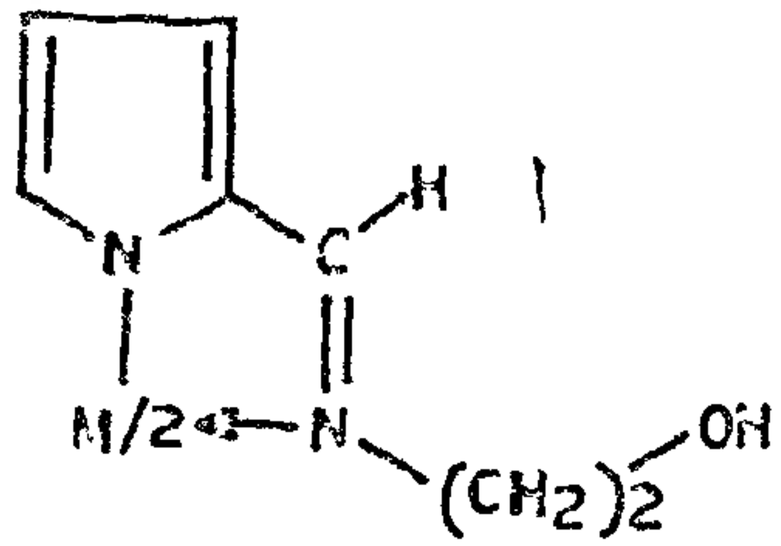

Fig. 1. Metal chelates of N-hydroxyethyl ethylenediamine Schiff base.

The authors are thankful to UGC, India, for award of fellowship to one of them (PKK).

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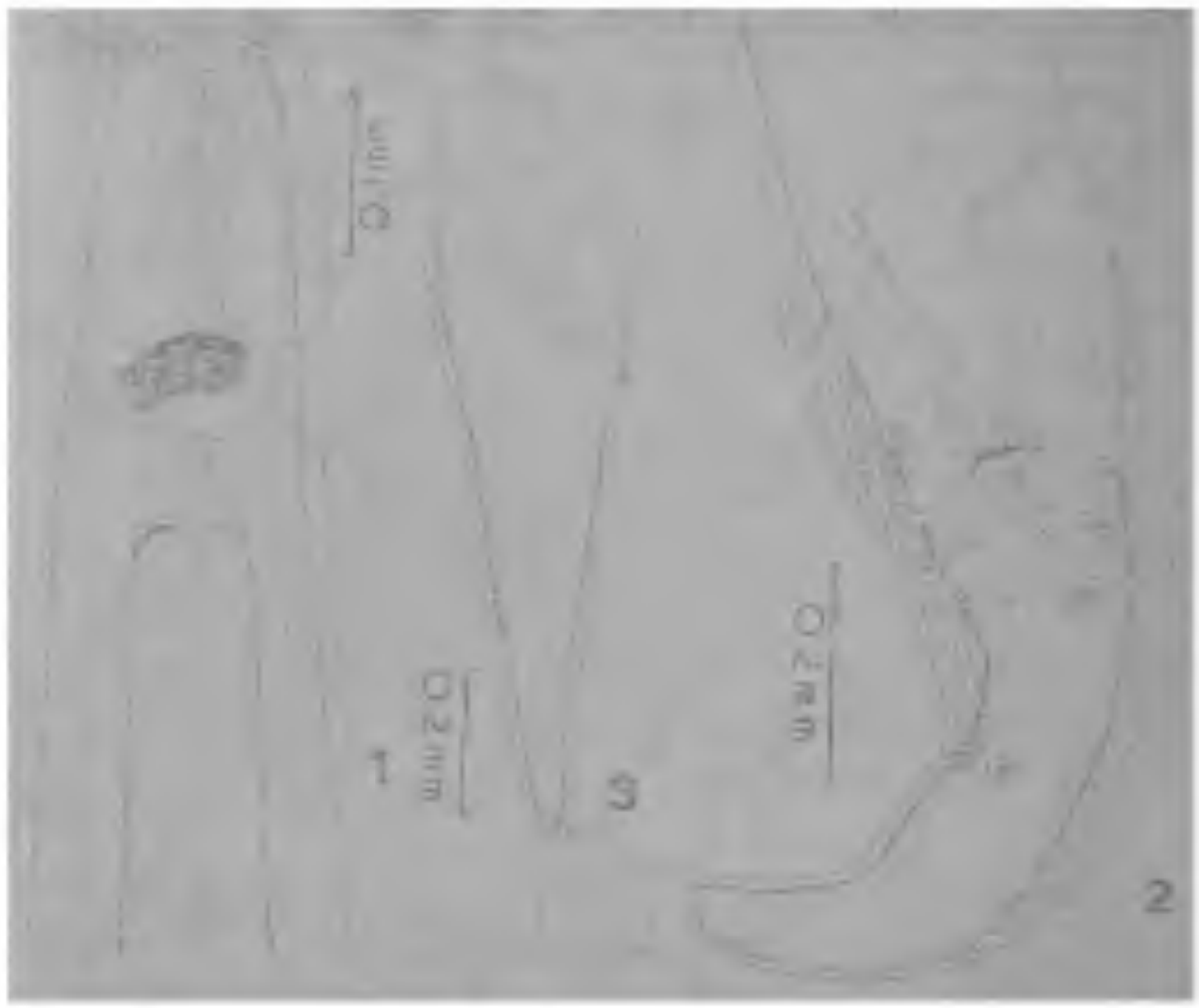
ON A NEW AVIAN NEMATODES, *PHYSALOPTERA ACCIPITERI* SP. NOV. (FAMILY : PHYSALOPTERIDAE LEIPER, 1908) FROM A SHIKRA, *ACCIPITER BADIUS* (GMELIN) FROM LUCKNOW

A few specimens were collected from the gizzard of the bird, *Accipiter badius*. These specimens represent a new species and are designated *Physaloptera accipiteri* sp. nov. The nematodes were fixed in alcohol-formaline, acetic acid and cleared in lacto-phenol.

Physaloptera accipiteri sp. nov. (Figs. 1–3).

Description—Body fairly stout (Fig. 1). Cuticle of anterior region loosely attached and reversible prepuse-like. Mouth with two papillae on external surface and two teeth on inner surface. Head without ornamentation. Oesophagus consisting of two parts, an anterior shorter, narrow muscular portion and a posterior longer, wider glandular portion. Cuticle thick, transversely striated.



Figs. 1–3. *Physaloptera accipiteri* sp. nov. Fig. 1. Anterior end of male. Lateral view: Fig. 2. Posterior end of male. Ventral view Fig. 3. Female tail. Lateral view.

Male—Caudal alae well developed extending upto tip of tail (Fig. 2). Tail conical. Fifteen pairs of caudal papillae with four pairs preanal and eleven pairs postanal. Of preanal papillae, two pairs pedunculated and two pairs sessile. Of postanal papillar, four pairs pedunculated and seven pairs sessile. Of pedunculated postanal papillae, three pairs lying near anus and one pair lie midway between close and posterior end Spicule short, tubular, similar and equal. Gubernaculum absent.

Female—Tail conical (Fig. 3). Vulva preequatorial, Uterus filled with numerous thin-shelled eggs.

Discussion—The new form is referred to the genus *Physaloptera* Rudolphi, 1918. The following species are known from avian hosts from India, viz, *Physaloptera alata Rudolphi*, 1819; *P. acuticauda* Molin, 1860; *P. crosi* Seurat, 1914; *P. galinieri* Seurat, 1914; *P. rapacis* Monning, 1921; *P. reevesi* Chu, 1931; *P. lowseni* Ortlepp, 1937; *P. mexicana* (Caballero, 1937) Lucker, 1956; *P. brachycerca* Kreis, 1938; *P. buckleyi* Ali, 1961; *P. microcauda* Ali, 1961; *P. indiana* Ali, 1961 and *P. sultanae* Ali, 1961.