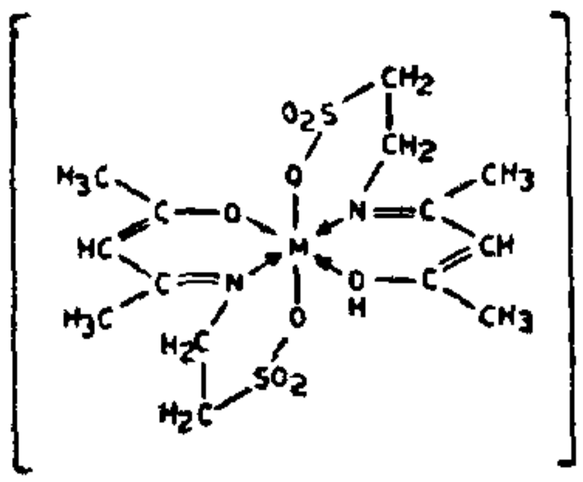
paramagnetic (Table II). From the magnetic moments which are very close of spin, only values it is apparent that in these compounds there is no metal-metal bonding and hence no spin-exchange occurs and they exist as monomer.

In the I.R. spectra of H_2OE three bands were observed at 1090 cm^{-1}, 1610 cm^{-1} and 3500 cm^{-1} assignable to νSO_3H, $\nu C=N$ and νOH respectively. In the metal chelates the band at 1090 cm^{-1} disappeared suggesting coordination through sulphonate group. $\nu C=N$ of H_2OE around 1610 cm^{-1} was shifted to lower frequency on chelation indicating the participation of azomethine nitrogen in coordination. Two more bands in the narrow ranges of 530–520 cm^{-1} and 440–410 cm^{-1} reflect M–O and M–N bonds in the metal chelates which may have the octahedral stereochemistry as shown in Fig. 1.



where M(III) = La, Ce, Pr, Nd. Sm, Gd, Tb, Dy, OR Ho.

FIG. 1. Rare-earth chelates of 2-(-*a*-2-oxopentylideneimino) ethane sulphonic acid.

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Department of Chemistry, University of Jodhpur, Jodhpur, *December* 16, 1978.

C. P. GUPTA.
N. K. SANKHLA.
R. K. MEHTA.

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SEED-BORNE INFECTION OF RICE BY *PYRICULARIA ORYZAE* IN KARNATAKA

THE rice disease caused by *Pyricularia oryzae* Cav. is one of the worst diseases of rice in Karnataka. The disease is said to be seed borne[1–5]. Kapoor and Singh[6] reported failure to demonstrate the seed borne nature of the pathogen. Studies were therefore undertaken to know the seed borne nature of infection of this pathogen.

Seed samples were collected from the Regional Research Station, Mandya, Karnataka, during December 1978 and stored at room temperature. Testing of the seed samples was done by Blotter method.

The seeds were sown on three layers of moistened blotters placed in Petri dishes at the rate of 25 seeds per dish. The dishes were incubated at 24 ± 2°C under alternating cycles of 12 h near fluorescent tubes (40 cm from the top) and darkness.

Out of fifty seed samples tested, only twelve seed samples showed the infection of *Pyricularia oryzae* (2–52%). The *P. oryzae* produced effuse growth of greyish mycelium with conidiophores arising singly or in groups, covering a part of the seed near hilum region. Conidiophores are slender, straight, greyish or pale brown, smooth, bearing clusters of conidia which are typically obpyriform or obclavate, hyaline, 2 septate, 20·0–27·0 × 8·0–10·0 μ.

Neergaard[7] stated that blast of rice *P. oryzae* is frequently seed-borne in all rice producing countries. The blotter method used in this investigation was employed earlier by Neergaard and Saad[8]. The seed-borne infection of *P. oryzae* is definitely established in the present investigation.

Department of Plant Pathology, University of Agril. Sciences, Bangalore 560 024, *May* 5, 1979.

K. G. RANGANATHAIAH.
S. M. SRINIVASAIAH.
S. SANNE GOWDA.

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