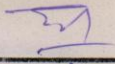
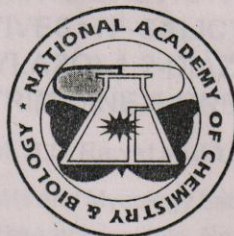


noted 
4/21/03

NATIONAL SEMINAR



ON

"PHARMACEUTICAL DIVERSITY IN HETEROCYCLIC COMPOUNDS"

31.05.2001 - 02.06.2001

ABSTRACTS

Cosponsored by :

Council of Scientific and Industrial Research (CSIR)

and

Council of Science and Technology U.P.

ORGANIZED BY:

NATIONAL ACADEMY OF CHEMISTRY & BIOLOGY (INDIA),
LUCKNOW, LUCKNOW UNIVERSITY, LUCKNOW-226 007

**SYNTHESIS AND TERMITICIDAL ACTIVITY OF PYRAZOLO
PYRIMIDINE DERIVATIVES : N¹-SALICYLOYL-4'-(SULPHA/
SUBSTITUTED PHENYLAZO)-1,2-DIAZOLE-4,6-DIMETHYL
PYRIMIDINE-5-ONE**

S.S. Nayal, B.S. Rawat and Y. Singh

Building Pests and Mycology Laboratory,
Central Building Research Institute, Roorkee-247 667

Pyrimidine and its derivatives have been extensively studied for their close association with life process. Barbiturates the most common derivatives of pyrimidine are well known for their CNS activity. Number of their derivatives are also used as herbicides, insecticides and antimicrobials. It has been studied that the introduction of aromatic amine/sulpha drugs at position 5 of 1,3-dimethyl barbituric acid exhibit broad spectrum of biological activity. Similarly diazoles and their derivatives are known to have wide variety of biological activity such as antiprotozoal, orthopodicidal and nematicidal activity. Few diazoles are reported to have pesticidal as well as fungicidal activity. Keeping these facts in view and in continuation of our earlier work on fused heterocyclic system, we have synthesized few pyrazolopyrimidine derivatives.

The present paper deals with the synthesis when diazotised sulpha drugs and aromatic amine are condensed at reactive methylene position of 1,3-dimethylbarbituric acid and thus sulpha/substituted phenylazo-1,3-dimethyl-2,4,6-pyrimidine trione are obtained. The condensed product on cyclisation with salicylic acid hydrazide using glacial acetic acid / DMF as condensing agent gives N¹-salicyloyl-4'-(sulpha/substituted phenylazo)-1,2-diazolo-4,6-dimethyl pyrimidine-5-one. The compounds were characterised by their sharp melting points, elemental analysis, IR, NMR spectra and R_f values. These compounds have been evaluated for termiticidal activity against *Microcerotermes beesonii*. Termite mortality were expressed in terms of LC₅₀ values and compared with standard pesticide Chlorpyrifos. The bioassay of compounds showed encouraging termiticidal activity in compounds N¹-salicyloyl-4'-(3-fluorophenyl), (2-chloro-4-nitrophenyl), (4-nitrophenyl), (2-sulphonamidobenzene), (N¹-2-thiazoloyl sulphonamidobenzene), (N¹-2-guanyl sulphonamidobenzene) azo-1,2-diazole-4,6-dimethyl pyrimidine-5-one, as their LC₅₀ value is 0.03360, 0.03226, 0.02259, 0.03091, 0.02757 and 0.02938 respectively.