

Identification of norbormide, a new *Rattus* specific rodenticide

SIR,—A new rodenticide, norbormide [Shoxin, 5-(α -hydroxy- α -2-pyridylbenzyl)-7-(α -2-pyridylbenzylidene)norborn-5-ene-2,3-dicarboximide] has recently become commercially available. It is claimed that this substance is specific to *Rattus*, and has no harmful effects on domestic animals even when consumed in massive quantities (Roszkowski, Poos & Mohrbacher, 1964). As it seems likely to become widely used, its identification will become a matter of importance in forensic science, and it will be necessary to distinguish it from other alkaloidal compounds of more general toxicity.

Norbormide may be recovered from biological material in the alkaline-chloroform fraction of a Stas-Otto or similar extraction process. On a citrate buffered paper chromatogram (Curry & Powell, 1954) it gives a bright blue fluorescent spot at Rf 0.87, positive with iodoplatinate solution and with Dragendorff's reagent. On a thin-layer chromatogram [Silica gel-sodium hydroxide-methanol (Sunshine & Fike, 1964)] it gives a similar spot at Rf 0.84. The ultraviolet spectrum in 0.1 N hydrochloric acid shows maxima at 300 m μ and 240 m μ , a shoulder at 258 m μ and a minimum at 287 m μ . The compound gives a blue colour with ammonium molybdate/sulphuric acid (Clarke & Williams, 1955), and dense yellow rosettes, forming slowly, with platinum chloride solution (Clarke & Williams, 1955). These characteristics enable microgram quantities of norbormide to be distinguished from other basic compounds.

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References

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Book Reviews

RESEARCH PROGRESS IN ORGANIC-BIOLOGICAL AND MEDICINAL CHEMISTRY. Edited by U. Gallo and L. Santamaria. Vol. 1. Pp. xvi + 583. Società Editoriale Farmaceutica, Milan, 1964. \$19.00.

This volume, initially planned as a single dedicatory volume to the first centenary of the "Bollettino Chimico Farmaceutico" (1861-1961), appears as such, containing contributions only by Italian research scientists. It serves, also, as the first of what is to be a series of volumes on "Research Progress in Organic-Biological and Medicinal Chemistry", inviting contributions on an international basis. Whilst the present volume is especially to be welcomed as a centenary volume, marking the contribution of Italian scientists to pharmaceutical research and to research in allied subjects, the wisdom of launching yet