

A CAUTIONARY NOTE ON PHTHALATE ESTERS OF CRYPTOTAENIA CANADENSIS

D. H. Munnean

Geochemistry Unit, School of Chemistry, The University, Bristol 8, England.

(Received in UK 22 December 1967)

The recent report (1) of alkyl phthalates in Cryptotaenia canadensis is of doubtful validity. These very alkyl phthalates (di-methyl, di-isobutyl, iso-n-butyl, di-n-butyl, di-iso-amyl, di-n-amyl, di-n-hexyl, and di-2-ethylhexyl) are commonly used plasticizers (2). The occurrence of butyl phthalate as a contaminant in extracts has been specifically noted and its mass spectrum given (3) to avoid just such erroneous reports. With the widespread use of plastics in the laboratory, unless extreme care is exercised, plasticizers and other soluble compounds from plastics may often exceed in weight the genuine extract. For example, Cavell and MacMillan (4) found a neutral oil in extracts of Gibberella fujikuroi that far outweighed (0.6 g to 1.0 g) the sum total of the other compounds present. This oil has since been shown to be a plasticizer extracted from PVC tubing (5). A recent report (6) has shown how much work may be spent in elucidating the structure of a biologically active artifact extracted from neonrene.

In this laboratory trace quantities of phthalate esters were detected in extracts from a Carboniferous oil shale but careful study revealed that these esters were contaminants derived from small plastic items used during work-up (7). If phthalate esters were reported every time they were first encountered in extracts they might well become one of the most widespread series of compounds in nature.

REFERENCES

- (1) S. Hayashi, Y. Asakawa, T. Ishida, and T. Hatsuura, Tetrahedron Letters 5061 (1967).
- (2) G. L. Clark and G. G. Hawley, The Encyclopedia of Chemistry, 2nd Edition, p. 839, Reinhold, New York (1966).
- (3) M. Pascaud, Anal. Biochem., **18**, 570 (1967).
- (4) B. D. Cavell and J. MacMillan, Phytochemistry, **6**, 1151 (1967).
- (5) R. J. Pryce, personal communication.
- (6) B. S. Brown, Chemistry in Britain, **3**, 524 (1967).
- (7) C. Eglinton and K. Douraghi-Zadeh, unpublished results. (This work and that of the author supported by the National Aeronautics and Space Administration NSG 101-61.