

## Erratum

In the article "Transcellular Strands of Cytoplasm in Sieve Tubes of Squash" by Robert Thaine and Margaret E. De Maria (*Nature*, **245**, 161; 1973) Fig. 2 was reproduced on too small a scale for the salient features to be clearly visible. It is reproduced again here.

of esters (4-7) of 5-benzyl-3-furylmethyl alcohol was lost in 4-6 h whereas the 3-phenoxybenzyl ester (11) lasted longer than 3 weeks. Similar deposits were also exposed out of doors under quartz plates which shielded them from rain and wind but admitted ultraviolet and visible light. In these accelerated tests, where films attained up to 50°C in bright weather, bioresmethrin (5) lasted 1-2 h, compared with about 4 d for the 3-phenoxybenzyl ester (11). Bioassays of deposits with *Drosophila melanogaster* also indicated comparable persistence of insecticidal activity, showing that the photodecomposition products were not toxic to insects in these conditions.

Although such greater stability should extend scope for pest control, persistence of the new esters is moderate and therefore the advantage of freedom from toxic residues should be retained. In addition, their mammalian toxicity is low (see Table 1); for instance, the (±)-*cis,trans*-dichlorovinyl ester (11) containing about 20% of *cis* component (easily obtained by heating the mixed acid chlorides before esterification), like resmethrin (4), had lower oral and intravenous toxicities to rats than pyrethrin I (1) or bioallethrin (3).

Work is in progress to identify the photodecomposition products and mammalian metabolites of the dichlorovinyl esters and to establish the behaviour of the compounds under practical pest control conditions.

The new compounds are protected by UK Patent Applications Nos 30838/72 and 59184/72. We thank Dr J. M. Barnes and Mr R. D. Verschoyle for communicating mammalian toxicity data, Mr F. Barlow for results with *Glossina austeni* and *Anopheles stephensi*, and the National Research Development Corporation for financial support.

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- <sup>1</sup> Crombie, L., and Elliott, M., *Fortschr. Chem. org. NatStoffe*, **19**, 120 (1961).
- <sup>2</sup> Elliott, M., and Janes, N. F., in *Pyrethrum the Natural Insecticide* (edit. by Casida, J. E.) (Academic Press, 1973) (in the press).
- <sup>3</sup> Elliott, M., *Bull. Wild Hlth Org.*, **44**, 315 (1971).
- <sup>4</sup> Chen, Y.-L., and Casida, J. E., *J. agric. Fd Chem.*, **17**, 208 (1969).
- <sup>5</sup> Verschoyle, R. D., and Barnes, J. M., *Pestic. Biochem. Physiol.*, **2**, 308 (1972).
- <sup>6</sup> Elliott, M., Farnham, A. W., Janes, N. F., Needham, P. H., and Pulman, D. A., *Nature*, **244**, 456 (1973).
- <sup>7</sup> Elliott, M., Farnham, A. W., Janes, N. F., Needham, P. H., and Pearson, B. C., *Nature*, **213**, 493 (1967).
- <sup>8</sup> Elliott, M., Janes, N. F., and Pearson, B. C., *Pestic. Sci.*, **2**, 243 (1971).
- <sup>9</sup> Koch, E., *Angew. Chem. Int. Ed. Engl.*, **9**, 288 (1970).
- <sup>10</sup> Barthel, W. F., *World Rev. Pest Contr.*, **3**, 97 (1964).
- <sup>11</sup> Elliott, M., Janes, N. F., Jeffs, K. A., Needham, P. H., and Sawicki, R. M., *Nature*, **207**, 938 (1965).
- <sup>12</sup> British Patent 1,223,217 (1971) to Sumitomo Chemical Company Limited.
- <sup>13</sup> Velluz, L., Martel, J., and Nominé, G., *C. r. hebdom. Séanc. Acad. Sci. Paris*, **268**, 2199 (1969).
- <sup>14</sup> British Patent 1,243,858 (1971) to Sumitomo Chemical Company Limited.
- <sup>15</sup> Ueda, K., Gaughan, L., and Casida, J. E., *J. agric. Fd Chem.* (in the press).

In the article "Potent Pyrethroid Insecticides from Modified Cyclopropane Acids" by M. Elliott *et al.* (*Nature*, **244**, 456; 1973) two references should be added:

- <sup>14</sup> Crombie, L., Doherty, C. E., and Pattenden, G., *J. chem. Soc., C*, 1077 (1970).
- <sup>15</sup> Brit. Pat. 1,270,270 (to Roussel-Uclaf, S.A.).

and so refs 10 and 11 on Fig. 2 should be changed to 14 and 15 respectively.

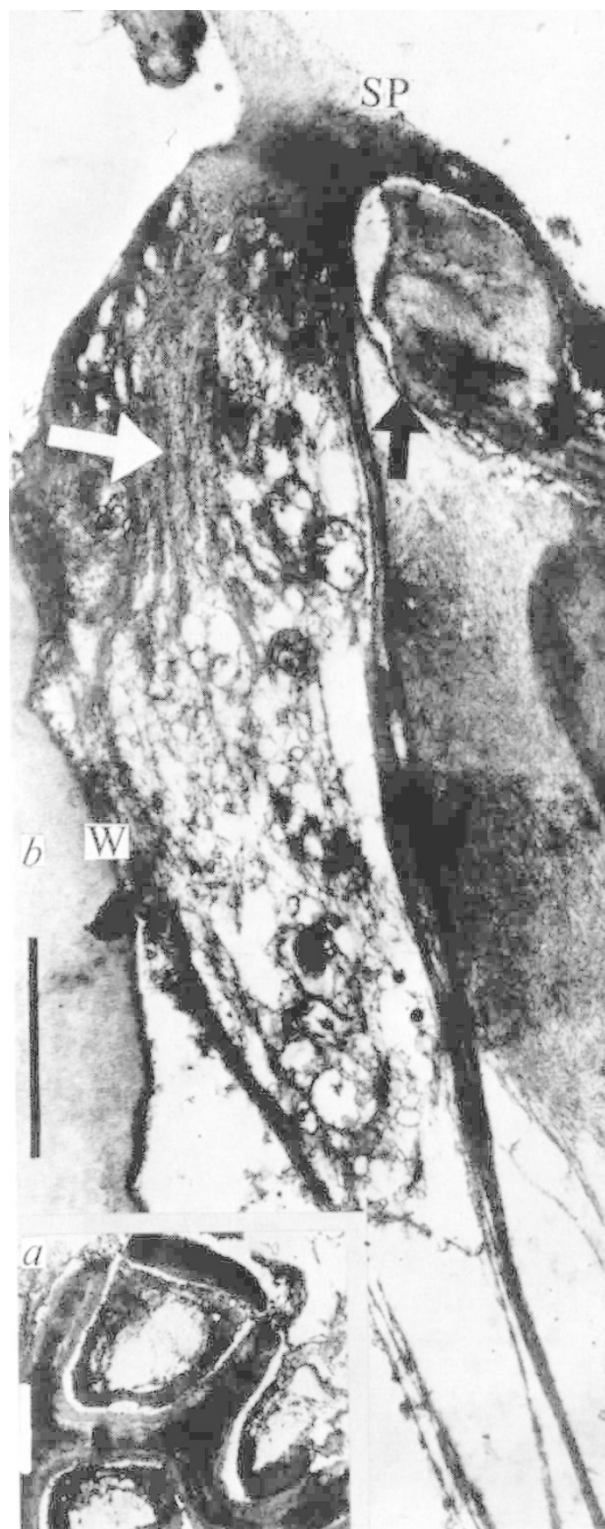


Fig. 2 *a*, An electron micrograph from a transverse section of a sieve plate in which pores have a tubular lining of densely stained material. The bar represents 2  $\mu$ m. *b*, An electron micrograph from a longitudinal section showing a strand extending from a sieve pore (SP) into the sieve element. W, Sieve tube wall. Black arrow, plasmalemma; white arrow, a group of parallel structures which can be followed from the constricted end of the broken strand (see text). The bar represents 2  $\mu$ m.