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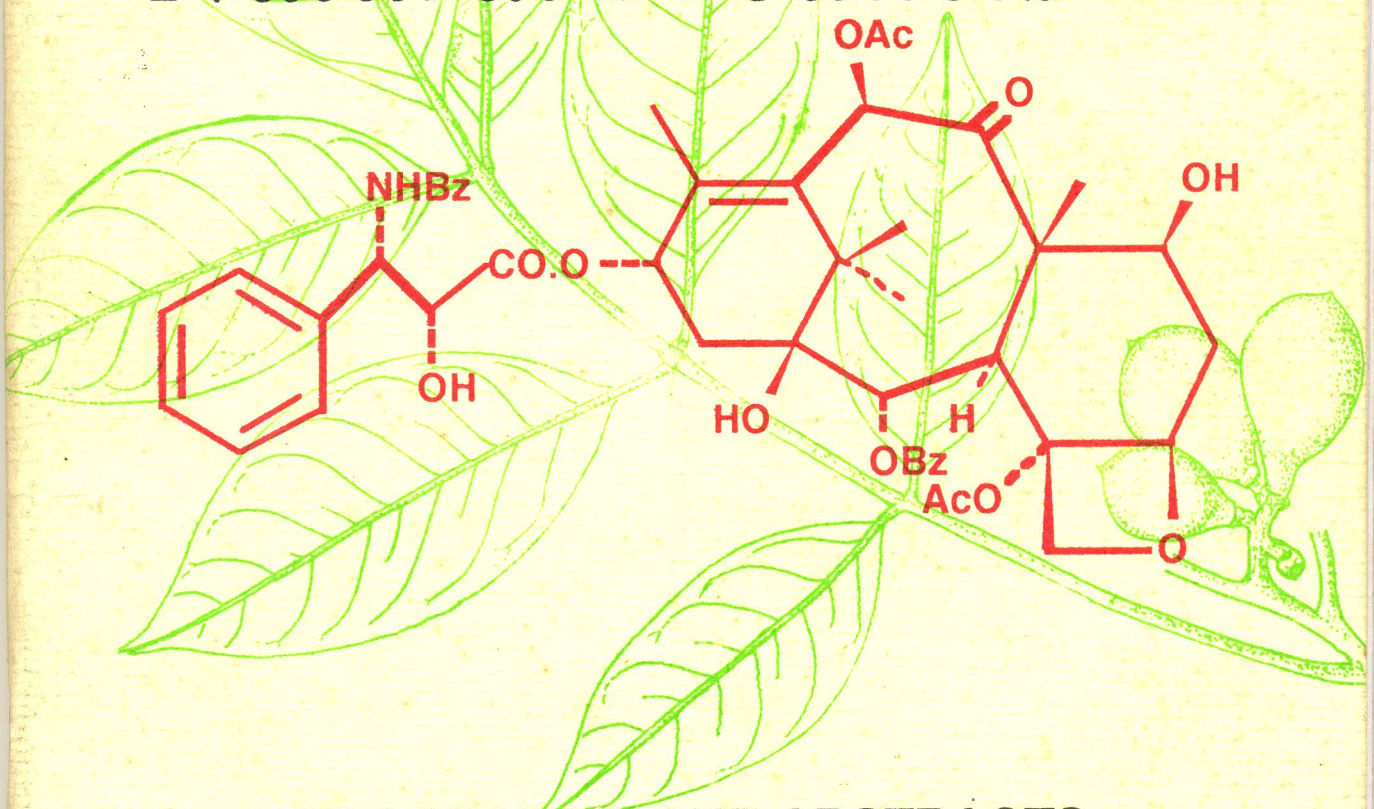

PROGRAMME AND ABSTRACTS

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EFFECTS OF AZADIRACHTIN ON SPECIFIC TISSUES IN THE LOCUST, *Schistocerca gregaria*

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Azadirachtin[1] was isolated from the seeds of the neem tree (*Azadirachta indica*) by solvent extraction and flash chromatography in >95% purity and identified by reversed phased HPLC, NMR and melting point determination. Pure azadirachtin was used to obtain the reduced derivative, (22,23)-dihydroazadirachtin and (22, 23-$^3H_2$) dihydroazadirachtin.[2,3] The latter was used to follow tissue uptake, metabolism and excretion in the locust, *Schistocerca gregaria*. It was found that an injected dose of the tracer was removed at a high speed from the haemolymph into many of the locust tissue, most likely by carrier-mediated specific mechanisms. Unlabelled analogues of azadirachtin and dihydroazadirachtin injected in large excess, inhibited the clearance of the tracer to different extents and the results suggested that azadirachtin and its dihydroderivative have different affinities for the uptake mechanism.

Radio-labelled dihydroazadirachtin applied topically to the locusts was shown to penetrate into the insect only to a limited extent whereas a large fraction of the tracer was absorbed into the fat body as well as into the gut, Malpighian tubules and nervous tissues. Binding of dihydroazadirachtin was persistent and not easily replaced. Metabolism of the dihydroazadirachtin was slow and largely restricted to fat body and crop.

References

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