ought to be measured in biological fluids rather than the major urinary metabolite alone before conclusions can be drawn whether a drug inhibits only prostaglandin biosynthesis or catabolism or both. We are presently exploring this more complete approach towards the effect of drugs on the PG system with several other compounds which we have found to inhibit prostaglandin catabolism[20,21].

[20] We thank Drs. J. E. PIKE and U. AXEN, The Upjohn Co., Kalamazoo, U.S.A. for their generous supplies of prostaglandins.
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Zusammenfassung. Es zeigt sich, dass jedes der 3 Enzyme, die den Abbau von Prostaglandin in den Nieren erwachsener Ratten verursachen, durch schwache Konzentrationen von Indomethacin in steigendem Ausmass inhibiert werden können: 9-PGDH > 13-PGR > 15-PGDH.

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Identification of Precoccinellin in the Ladybird Beetle, *Coleomegilla maculata*[1-3]

Coccinellid beetles have long been known to possess defensive compounds associated with 'reflex bleeding'[4], and the investigation of several European lady bugs has yielded the structures of the specific alkaloids[5-7]. Likewise, during an investigation of the volatiles of the lady beetle, *Coleomegilla maculata*, we have isolated and identified a defensive alkaloid, precoccinellin.

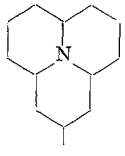
Isolation procedures. The beetles were steam-distilled for 2 h in an all-glass system, and the distillate was extracted with methylene chloride. The extract was concentrated in vacuo and chromatographed by GLC on a 20 ft, 1/8 inch O.D. stainless steel column packed with 10% SE-30. Column temperature was 160 °C, and carrier gas pressure at the inlet was 60 ψ. Retention time of the alkaloid was 10 min. I_k = 1475. The compound was collected from a stream splitter attachment on the gas chromatograph. *IR-spectrum.* The IR-spectrum in CCl_4 included ν_{max} 1020, 1040, 1120, 1130, 1325, 1385, 1450, 2775, 2860, 2925, 2950 CM^{-1}.

PMR-spectrum. The PMR-spectrum in CCl_4 showed ppm (δ) 0.89, 1.24, 1.38, 1.55, 1.64.

Mass spectrum m/e. 41 (100), 192 (66), 150 (51), 151 (47), 55 (47), 42 (44), 137 (34), 136 (32), 164 (28), 67 (26), 122 (25), 93 (22), 82 (19), 178 (18), 108 (15), 96 (13); M^+ = 193. Essentially the same as the precoccinellin isolated by TURSCH et al.[5].

Reactions. Hydrogenation (Pd on charcoal; hydrogen under pressure) – no effect. Lithium aluminum hydride reduction – no effect. NaOH treatment – no effect. HCl treatment – hydrochloride formed.

Based on these experiments and on data presented by TURSCH et al.[6], we propose that the compound isolated from *C. maculata* is precoccinellin:



(Dodecahydro-2-methylpyrido[2,1,6-*de*]quinolizine)

Extraction of whole beetles with methanol revealed no additional alkaloids. The compound is bitter to the taste, and it is assumed that it performs in a defensive mode as do other similar coccinellid alkaloids.

Zusammenfassung. Isolierung und Strukturzuteilung für ein Alkaloid aus *Coleomegilla maculata* (Coleoptera: Curculionidae).

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[1] Coleoptera: Curculionidae.
[2] In cooperation with the Mississippi Agricultural and Forestry Experiment Station, Mississippi State, Mississippi 39762. Received for publication.
[3] Mention of a proprietary product does not necessarily imply endorsement of this product by the USDA.
[4] R. M. HAPP and T. EISNER, Science *134*, 329 (1961).
[5] B. TURŠCH, D. DALOZE, M. DUPONT, J. M. PASTEELS and MARIE-CLAIRE TRICOT, Experientia *27*, 1380 (1971).
[6] B. TURSCH, D. DALOZE, M. DUPONT, C. HOUTELE, M. KAISIN, J. M. PASTEELS, and D. ZIMMERMANN, Chimia *25*, 307 (1971).
[7] R. KARLSSON and D. LOSMAN, J. chem. Soc., Chem. Commun. *11*, 626 (1972).
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Microheterogeneity of Staphylococcal Enterotoxin C_2

Staphylococcal enterotoxin C_2 belongs to a closely related group of simple proteins that are causative agents of staphylococcal food poisoning. The toxin has been purified to homogeneity, and several of its physical-chemical properties have been determined[1]. We also isolated enterotoxin C_2 in a homogeneous form as judged by gel filtration, immunodiffusion, ultracentrifugation, and N-terminal amino acid analysis (to be published elsewhere). However, disc-gel electrophoresis showed 2 bands that formed an immunoprecipitate with specific