body weight (RIW) was calculated as

$$\text{RIW} = \frac{W_i - W_0}{W_0} \times 100,$$

where W_i and W_0 are mean weight in the ith and zero week respectively.

In each group the trend of increase in body weight obtained as RIW was found to be rectilinearly dependent on duration of feeding. Regression equations were calculated and the lines of regression were drawn (figure 1). The results obtained show that the feeding with aflatoxin alone markedly retards the pace of RIW ($y = -1.95 + 4.31\,x$). This retardation is satisfactorily annulled in the group that received aflatoxin and vitamin C concurrently. Some improvement was also found in groups that received vitamin C before or after the toxin.

Though the exact mechanism of action of vitamin C in these situations is not yet known, it can. however, be inferred that a regular oral dose of vitamin C can, to a great extent, minimize the effects of aflatoxicoses.

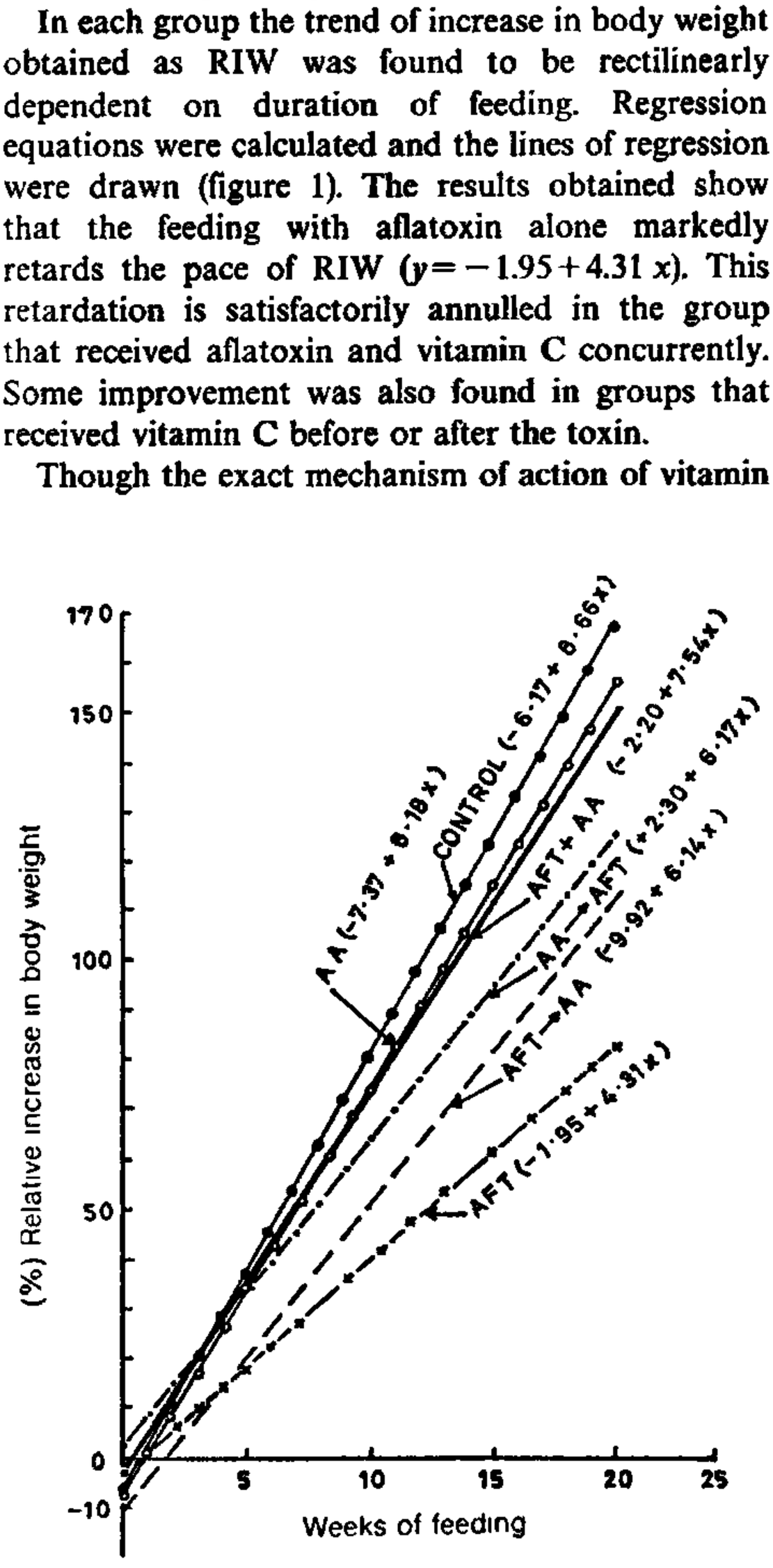

Figure 1. Lines of regression showing weekly relative increase in body weight after toxin and vitamin C treatments. ●———●, Control; O———O, ascorbic acid only (AA); ———, aflatoxin + ascorbic acid (AFT + AA); ·–·–·–·, ascorbic acid followed by aflatoxin (AA→AFT); – – –, aflatoxin followed by ascorbic acid (AFT→AA); – + – + –, aflatoxin only (AFT).

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PARASITES OF UZI FLY, *EXORISTA SORBILLANS* WIEDEMANN (DIPTERA: TACHINIDAE): A NEW RECORD

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In recent years five hymenopteran parasites, viz. *Brachymeria lugubris* (Walker), *Dirhinus himalayanus* (Chalcididae), *Nesolynx thymus* (Girault) (Eulophidae), *Spilomicrus karnatakensis* Sharma (Diapriidae), and *Exoristobia philippinensis* Ashmead (Encyrtidae), have been recorded as pupal parasites of uzi fly[1–4], a serious endoparasite of silkworm larvae *Bombyx mori* L.[5] These parasites were earlier reported as primary parasites of Calliphoridae, Muscidae, Sarcophagidae and Tachinidae, and secondary parasites of many lepidopterans through dipterans[6–10].

Recently two more hymenopteran parasites, viz. *Spalangia cameroni* Perkins and *Pachycrepoideus vindimae* (Rondani) (Pteromalidae), were tried on uzi fly maggots and pupae with a view to evaluate their usefulness in biological control of uzi fly[11]. These hymenopterans are usually predominant as house fly

parasites[12]. They did not parasitize uzi fly maggots but developed successfully on the pupae. These parasites are easily maintained in the laboratory. Average temperature and humidity recorded in the laboratory were 27±1°C and 72±5% RH respectively. For this study one pair each of male and female parasite were placed with 10 host pupae in each of five glass vials. Parasites were supplied with 50% honey solution as food.

Preliminary observations indicate that *S. cameroni* is a solitary endopupal parasite. Development from egg to adult took 27–29 days. The adult emerged by cutting a circular hole at the anterior end of the host puparium. Sex ratio, male:female, was 1:2.5. A single female parasitizes 1–2 host pupae. Males lived for 6–7 days while females survived for 9–11 days when provided with 50% honey solution.

P. vindimae is also an endopupal parasite. The life cycle was completed in 24–26 days. From a single pupa 3–4 parasites emerged by cutting 2–3 small holes in the wall of the host puparium. Sex ratio, male:female, was 1:4. A single female parasitizes 2–3 host pupae. Males survived for 8–9 days while females lived for 15–17 days when provided with 50% honey solution.

Studies to evaluate the usefulness of these basically house fly parasite types in biological control of uzi fly and to compare their potential with that of the originally reared parasites of uzi fly are in progress.

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EFFECT OF THE ESSENTIAL OIL FROM THE GUM OLEORESIN OF *BOSWELLIA SERRATA* ROXB. ON THE GONADS OF MALE *DYSDERCUS SIMILIS* F.

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THE role of juvenile hormone (JH) or its analogues in the male reproductive system in insects is not fully understood. However, the effects of JH on testis development and spermatogenesis have been reported in various insects[1,2]. Earlier we have reported JH-mimicking effects (morphological and gonadotrophic)[3] of the gum oleoresin of *Boswellia serrata* on *Dysdercus similis*. In the present communication, the histological derangements in the gonads of male *D. similis* caused by the essential oil of *B. serrata* are reported.

Twenty freshly moulted fifth instar nymphs were taken from stock culture and maintained under controlled conditions at 27±1°C and 70±5% RH. Nymphs were topically applied with *B. serrata* essential oil (1 μl per insect, 1:30 in acetone). The oil has one acyclic monoterpene (myrcene), seven monocyclic monoterpenes (D-α-phellandrene, β-phellandrene, limonene, dipentene, α-terpinene, *p*-cymene and terpinene-4-ol), and five bicyclic monoterpenes (α-pinene, β-pinene, α-tujene, camphene and bornyl acetate). Controls were treated with pure acetone only. Control and treated insects were fed on water-soaked cotton seeds.

Control and treated insects were dissected in insect Ringer's solution. The reproductive organs

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