It is thus clear that only citric acid (0·9 per cent)[7], mucopolysaccharide (0·2 per cent) and fat (0·2 per cent), which were also estimated, can otherwise be present in significant quantities in dentine.

In connexion with this revision, attention may be directed to the widely ignored complaint[8] that incineration procedures as used are misleading if the amount of organic matrix in hard tissues is to be studied. The same objection—that combined water is also removed from the 'moisture-free' samples—applies when the organic matter is removed by extraction with alkaline ethylene glycol. However, Tomes considered that the combined water was released from the inorganic salts by incineration, whereas the present finding that water retained after drying at 100° is not retained by the residue dried after autoclaving at 120° favours the opinion that it is bound by the collagen. All the collagen samples from bone and dentine showed 18·3–18·4 per cent total nitrogen, as did hide collagen, after drying for 2 hr. at 100°. Prolonged drying is necessary to obtain the 18·6 per cent reported for hide collagen[3] prepared in the same way as the sample used for this comparison and kindly supplied by Dr. Joane H. Bowes of the British Leather Manufacturers' Research Association. It is of interest to note that the 19·6 per cent organic matter stated by Tomes[8] to be present in dentine, instead of the 25–28 per cent still generally quoted, is the sum of the 18 per cent collagen and other organic constituents listed here.

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Lepidopterous Eggs and Larvæ from the Exterior of Aircraft Fuselages

All aircraft arriving from abroad at Whenuapai Airport, Auckland, New Zealand, are sprayed with an insecticidal aerosol and then searched for insect remains by mosquito control personnel of the Medical Branch of the Royal New Zealand Air Force.

During a routine search on May 6, 1950, a number of insect egg masses and emerging larvæ were collected forward of the aerial on the underside of the nose of an R.N.Z.A.F. Dakota (*DC3*) aircraft, on its arrival from Nausori Airport, Fiji. The eggs, most of them containing late embryos, were in aggregations of several hundred, the masses measuring up to 10 mm. × 6 mm. × 2 mm. They are spherical to sub-spherical in shape, the chorion being ribbed and reticulated, and are embedded in a mass of fine hairs. The body of the larva is furnished with short setæ, but has no secondary hairs. Tubercles vi and vii on the sixth abdominal segment each bears a single seta. This segment has well-developed prolegs bearing a number of crochets, the arrangement of which appears to be linear. The prespiracular wart on the thorax has two setæ, while in the case of both meso- and meta-thorax tubercle vii is furnished with but one seta. Thus, from Chu's key[1], the larvæ, while being of too early a stage for specific identification, appear to belong to the family Noctuidæ (Lepidoptera), which contains many pests of agricultural crops.

A further collection of egg masses, the structure of the eggs appearing to be identical with that of those just discussed, was made from beneath the wings of another R.N.Z.A.F. Dakota on its arrival at Whenuapai from Nandi Airport, Fiji, on June 10, 1950. Neither emergent larvæ nor late embryos were present in the material forwarded to me for examination. In the first instance described above, the aircraft had been on the ground at Nausori for approximately 88 hr., whereas in the second one the machine concerned had been at Nandi for only 40 hr. The minimum period elapsing between oviposition and hatching in the case of the moth under consideration is thus between 40 and 88 hr. From the fact that only a minority of the eggs collected from the first aircraft had hatched, this period is probably not very far short of 88 hr.

Senior White and Kirkpatrick[2] in Trinidad, B.W.I., and Dumbleton[3] in Aitutaki and Western Samoa, have already recorded lepidopterous eggs as being carried on the exterior of aircraft fuselages. The first-named authors were able to hatch out some of the eggs in the laboratory (estimated interval between oviposition and hatching, about 72 hr.), identifying them as being those of a noctuid moth near *Phytometra*. The eggs discovered by Dumbleton resemble those described in the present account in being sub-spherical and in having a sculptured chorion, also in being mixed with fine linear scales or hairs, but the lepidopterous family concerned was not determined.

It appears probable that the carriage of lepidopterous eggs on the exterior of aircraft fuselages is of more common occurrence than has previously been suspected. From the fact that emerging larvæ were present in the first instance reported from Whenuapai, the suggestion made by Senior White and Kirkpatrick that such larvæ might easily be swept away during flight and thus be deposited over perhaps hundreds of miles of countryside, so rendering possible the establishment of invasion foci, assumes added significance.

The use of DDT as a control agent to guard against such contingencies would be of little value, because the insecticide would be liable to be washed away by rain during flight. Careful polishing of the whole exterior of aircraft fuselages before take-off would seem to offer the most promising means of control, but such a procedure is not considered practicable. However, at least at those international airports where insect control personnel are available, some measure of control could be achieved by visual inspections of aircraft fuselage exteriors both before the commencement and after the completion of flights.

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