

role, if any, magnetostriction takes in the production of magnetic anisotropy in these alloys. The experiments form part of a larger programme undertaken jointly by this Laboratory and the Electrical Research Association.

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Antennal Oligomery in Heteroptera

Puttarudriah and Channabasavanna¹ state "... so far as we are aware, no reference occurs of an insect possessing antennae with unequal number of joints [*sic*] on the two sides, affecting its bilateral symmetry". In fact, antennal oligomery is a common phenomenon in the Heteropterous family Lygaeidae. Butler² records its occurrence in twenty of the sixty-six British Lygaeidae known to him, and in certain genera, for example, *Scolopostethus* Fieber, it occurs frequently. However, I have reported³ examining 208 specimens of *Ischnodemus sabuleti* ssp. *palustris* Carayon (stated by Butler to exhibit oligomery) without finding an oligomeric individual. Butler does not include *Heterogaster urticae* (F.) among the oligomeric species, but I have a male with normal 4-segmented left antenna and 3-segmented right antenna; this was the sole abnormal specimen in a catch of 75 of both sexes.

In Lygaeidae the absence of a segment, apparently the third, is partially compensated by an increase in length of the remaining segments. A French specimen of the non-British *Lygaeus pandurus* (Scop.) exhibits bilateral oligomery (a phenomenon not, it seems, previously noted), and comparison with the normal male antennae shows this compensatory elongation.

For these examples, as well as for the undetermined *Bracon* spp. reported by Puttarudriah and Channabasavanna, their term "teratological" does not seem apt; it should perhaps be confined to non-recurring anomalies. While most cases of true teratology, duplication of appendages, etc., are probably traumatic in origin, this is certainly not so in the Lygaeidae. Puttarudriah and Channabasavanna conclude "... the number of antennal joints forms one of the important taxonomic characters in the determination of many species of insects; and differences in the number of antennal joints in the same specimen vitiate the use of this character". As oligomery is restricted to such a minute part of the insect fauna, their fears are groundless.

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44 Abbey Road,
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¹ Puttarudriah, M., and Channabasavanna, G. P., *Nature*, **169**, 378 (1952).

² Butler, E. A., "A Biology of the British Hemiptera-Heteroptera" (Witherby, London, 1923).

³ Leston, D., *Ent. Gaz.*, **2**, 255 (1951).

Absorption of Silver on the Gills of a Freshwater Crab

UNDER this title, Dr. D. W. Ewer and Ivan Hattingh¹ quote in the following context a passage from a paper of mine²: "The localization of the silver-absorbing areas to certain gills which we have found in *Potamon* provides an exception to Koch's

statement that 'tous les organes décrits comme branchies chez les Crustacés . . . absorbent l'Ag.'." However, the complete passage reads as follows: "Pour être bref nous pouvons dire que tous les organes décrits comme branchies chez les Crustacés, aussi bien d'eau douce que marins, que nous avons observés, absorbent l'Ag . . . Les aspects obtenus diffèrent fortement d'une espèce à l'autre. C'est ainsi que chez *Asellus (aquaticus)* la 'région spéciale' (Kimus, 1898) des exopodites seule prend l'Ag: Kimus avait déjà constaté cette affinité pour l'Ag et l'a employée à des fins anatomiques . . ."

Dr. D. W. Ewer and I. Hattingh's findings thus extend rather than contradict my statement of 1934.

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¹ *Nature*, **169**, 460 (1952).

² Koch, H. J., *Ann. Soc. Sci. Brux.*, **54**, 346 (1934).

If I have followed Prof. Koch aright, his point was that at least somewhere on each respiratory appendage of the Crustacea there was an area which absorbed silver. In *Potamon*, however, there are no silver-absorbing areas on the more posterior gills. To the best of my knowledge this type of specialization has not been found before. I believe that this may be of importance in a study of the biochemical aspects of the absorption of silver and other ions, for the posterior gills act, in a way, as a biochemical control on the specialization found in the anterior gills. It is hoped to be able to extend these observations in the near future.

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"International Relations as a University Discipline"

THE leading article in *Nature* of April 5 on the brochure on "The University Teaching of International Relations" is a welcome indication of interest in the possibilities of the subject. May I hope, however, that readers will not be deterred from reading the brochure itself, for then they may find that the participants at the Windsor Conference, far from being muddle-headed about the function of university education, merely held—as might be expected at such an international gathering—a diversity of views on what is, as is recognized in the *Nature* article, a controversial subject. Furthermore, to suggest that with the founding of the College of Europe the teaching in British universities of international relations has become superfluous seems to me, if I may say so, like suggesting that the establishment of, say, the Hague Academy of International Law had rendered obsolete the Inns of Court.

It was also a little embarrassing to learn that I am held to endorse views, for example, that the subject can "accustom the student to making decisions in problematical situations", with which I do not agree and which, in the brochure, are clearly attributed to individuals at the Conference, at which I was not present.

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25 Queen's Gate Gardens,
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