

- position different from those prepared in glassware.
5. S. W. Fox, *J. Chem. Educ.* **34**, 472 (1957).
 6. L. E. Snyder and D. Buhl, *Sky Telescope* **40**, 1 (November 1970).
 7. Y. Wolman, S. L. Miller, J. Ibanez, J. Oró *Science* **174**, 1039 (1971).
 8. However, comparison of experimental results in our paper shows that different ratios of formaldehyde to ammonia gave different products; HMT can hardly be a sole intermediate.
 9. J. Oró, A. Kimball, R. Fritz, F. Master, *Arch. Biochem. Biophys.* **85**, 115 (1959). Another reason we cited Pavlovskaya and Pasynski, and Reid, but not Oró *et al.* in (3) is that they reacted formaldehyde and ammonia, subsequently identified as components of interstellar matter. Oró *et al.*, however, used formaldehyde and hydroxylamine; the latter compound has not been identified as galactic (6).
 10. We did in fact report free amino acids from Apollo 11 fines [see P. E. Hare, K. Harada, S. W. Fox, *Proc. Apollo 11 Lunar Sci. Conf.* **2**, 1799 (1970)] as did M. E. Murphy, V. E. Modzeleski, B. Nagy, W. M. Scott, M. Young, C. M. Drew, P. B. Hamilton, H. C. Urey (*ibid.*, p. 1879). However, another explanation for their being obtained in the free state is that the free amino acids resulted from par-

tial hydrolysis of precursors during extraction of lunar dust with hot water.

11. The reference by Wolman *et al.* (7) to our Apollo 12 work is incorrect; we have not submitted a paper for the volume they refer to. That study has been reported in *Science* (2).
 12. We would have been pleased to report, from actual analyses, in conformance with the conjecture of Wolman *et al.*, that HMT is present in lunar dust. Such occurrence would have signified to us the presence of lunar formaldehyde and ammonia, as intermediates of non-terrestrial origin in the moon's crust. Indeed, we found a peak in the basic amino acid region of hydrolyzates, with RT corresponding to that of HMT (S. W. Fox, P. E. Hare, K. Harada, C. R. Windsor, *Proc. Int. Ass. Geochem. Cosmochem. Tokyo, September 1970*, in press). The peak is however present in some acidic hydrolyzates, whereas it is absent in the extract prior to hydrolysis. The behavior of HMT in the pure state is opposite to that observed for this peak; the postulate of the presence of HMT in lunar dust is thus not supported.
 13. K. Harada and S. W. Fox, *Nature* **201**, 335 (1964); S. W. Fox, *ibid.*, p. 336.
- 13 October 1971 ■

20-Hydroxyecdysone, What It Can Do

Wright *et al.* (1) showed that 20-hydroxyecdysone inhibits egg maturation in the stable fly. This same inhibition occurs in other species of insects (2). Application of [³H]uridine to ecdysone-treated adult females and subsequent autoradiography has revealed that the role of the nurse cells in egg maturation has been impaired by the hormone treatment. Wright *et al.*, without further study, come to the conclusion: "In contrast, the oocytes within the ovarian follicle of the controls changed significantly from a spherical shape (follicle stage 6) to an elongated shape, which indicated that protein was synthesized in the nurse cell cytoplasm for vitellogenesis." A few lines further down, without giving additional data they write: "The 20-hydroxyecdysone thus prevented the synthesis of the lipid material necessary for vitellogenesis and final egg maturation."

Demonstration of impaired transport of RNA out of the nurse cell nucleus of an egg follicle is not evidence for impaired protein synthesis, and the change in shape of a growing egg taken as proof for protein synthesis is reminis-

cent of 18th-century biology. No data are given to demonstrate that 20-hydroxyecdysone prevented lipid synthesis. Impaired RNA transport is no evidence for prevented lipid synthesis.

The inhibitory role of ecdysones on egg maturation in insects has not only been shown in the species cited by the authors (1, 2) but also in *Leucophaea maderae*, an ovoviviparous cockroach (3). In this case either implantation of active prothoracic glands or injections of α -ecdysone into adult females inhibited egg maturation; with graded doses of α -ecdysone a graded response was obtained.

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20 September 1971 ■

Stability in Zoological Nomenclature

One of the most frequently expressed criticisms of the rules of zoological nomenclature has been that the procedure for protecting a well-established name against the revival of previously forgotten older names is so cumbersome. To meet this criticism

the International Zoological Congress at London (1958) adopted a *Statute of Limitation* (Article 23b of the Code) (1) giving automatic protection to names that had been in unchallenged use for 50 or more years. The wording of Article 23b, as originally adopt-

ed, was somewhat ambiguous and raised questions. Some zoologists, particularly entomologists, considered it unworkable. Nevertheless, it was confirmed by a small majority at the International Congress in Washington (1963). However, the Congress instructed the International Commission of Zoological Nomenclature to prepare a Declaration that would clarify the provisions of the Statute. In November 1969 the Commission adopted by more than two-thirds majority (16 to 7) an improved wording of Article 23b, to be issued as a Declaration (2). The wording that was adopted is as follows:

(b) *Limitation.* A name that is in general current use and has been available for at least 50 years shall not be displaced after 1960 by an unused senior synonym.

(i) A name is to be considered as in general current use when, in the immediately preceding 50 years, it has been applied to a particular taxon, as its presumably valid name, by at least five different authors and in at least ten publications.

(ii) A senior synonym is to be considered unused when, during the immediately preceding 50 years, it has not once been applied to a particular taxon as its presumably valid name. An unused senior synonym employed after 1960 in violation of the provisions of Article 23b, whether explicitly to replace the junior synonym or not, does not thereby lose its status as an unused name.

(iii) The mentioning of a name in a synonymy or its mere listing in an abstracting publication, or in a nomenclator or other index or list of names does not constitute usage in the sense of Article 23b.

(iv) Each citation of a name is to be considered on its own merits regardless of the nature or the title of the work in which the name appears.

(v) A zoologist who considers the existence of an unused senior synonym in the literature a source of confusion may apply to the Commission to place the name on the appropriate Official Index [of rejected and invalid names].

(vi) A zoologist who considers that an unused senior synonym should displace a junior synonym that is in general current use, may apply to the Commission for a ruling under the plenary powers.

(vii) Nothing in Article 23b affects the question of the Law of Homonymy. A name rejected under the provisions of Article 23b is rejected for the purposes of the Law of Priority but not for those of the Law of Homonymy.

(viii) An unused senior synonym rejected under the provisions of Article 23b is termed a *nomen oblitum*.

Article 23b, in its new version, continues to be an integral part of the International Code of Zoological Nomenclature. The preceding improved wording of the Article, having been adopted by more than two-thirds of

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