

ing an open semitubular structure, but this is probably an artifact of preservation as found by Moreau et al. (1969) in white-eye (*Zosteropidae*) tongues. The tongue of *Hypogramma* is definitely not the closed tubular structure of most sunbirds but resembles instead the tongues of *Promerops* and honeyeaters.

b) The tip is quadrid. The primary division extends from the distal tip for about one sixth of the tongue's total length; the secondary division is about one-half the length of the primary division.

c) The tip is fimbriated, forming a rather simple brush tip. Fimbriation is confined to the inner edges of the outer tips which are extensively split, but the inner ones narrow into sharp, unfrayed tips.

d) It appears to be cuticular throughout most of its length, thus resembling sunbird and sugarbird tongues rather than the fleshy tongues of honeyeaters. However, fresh material is needed for detailed study of the cuticle and musculature as well as natural groove relationships.

Brush-tipped, quadrid tongues are characteristic of Meliphagidae, certain Dicaeidae (Mayr and Amadon 1947; Rand 1961), *Zosteropidae* (Moreau et al. 1969), and the "Promeropidae" (Rand 1967b). However, the tongue of *Hypogramma* differs from other known quadrid tongues in having the fimbriation restricted to the inner edges of the outer pair of tips. The simple unfrayed inner pair of tips of *Hypogramma*'s tongue resembles the simple central elements of *Promerops*' tongue. In overall structure the tongue of *Hypogramma* is closer to those of the Nectariniidae than to those of the Meliphagidae, but it especially resembles *Promerops*'.

Except for tongue structure, there is little reason to doubt that *Hypogramma* is a sunbird, despite examples of known convergence in such flower feeding birds (e.g., *Neodrepanis*, *Myzomela*, *Myzornis*, etc.). *Hypogramma*'s feeding behavior and nest structure (see Robinson 1927:305) support the traditional sunbird relationship, and its peculiar plumage pattern obscures only its subfamilial affinities. Its aberrant tongue structure, described here, supports its generic separation from other sunbirds but in no way allies *Hypogramma* to *Anthreptes-Nectarinia* as opposed to *Aethopyga-Arachmothera*.

The resolution of *Hypogramma*'s true affinities may ultimately bear on the question of the relationships

of the sugarbird (*Promerops*) of South Africa. However, the superficial resemblance of the tongues of *Hypogramma* and *Promerops* needs to be supplemented by additional lines of evidence before speculation as to their possible relationship will be worthwhile. Certainly *Promerops*' quadrid tongue structure is of even less value now than before as a taxonomic character indicating relationship with the Meliphagidae.

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HORNED GREBE SPECIMEN FROM ARIZONA

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On 23 November 1967, I collected a Horned Grebe (*Podiceps auritus*) on an irrigation pond about 7 mi. N of Tucson, Pima County, Arizona. It is a juvenile with dark patches of feathers below the eyes, on the front of the neck, and on the upper breast. Except for size, it was nearly indistinguishable from the approximately 15 Eared Grebes (*P. caspicus*) also present on the pond.

Although the AOU Check-list of North American Birds (Fifth ed., AOU, Baltimore, 1957) does not include Arizona within the range of the Horned

Grebe, Phillips, Marshall, and Monson (The birds of Arizona, Univ. Arizona Press, Tucson, 1964) consider it a rare transient, noting several sight records and one specimen record from along the Colorado River. This previous specimen (presently in the United States National Museum Bird Collection, Washington, D. C.) was taken on 27 October 1952 on Lower Havasu Lake. My specimen is the first record of this species in Arizona, east of the California-Arizona border. Its plumage lends much support to the suggestion of Phillips et al. (op. cit., p. 2) that "the scarcity of records for the state may reflect only the extreme difficulty of distinguishing the Horned Grebe in its winter plumage."

My thanks to H. B. Tordoff (University of Michigan) for confirming my identification of the specimen. The bird has been deposited in the University of Arizona Bird Collection, Tucson, Arizona.

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¹ Deceased.