

## Species Status of the Black Howler Monkey, *Alouatta pigra*, of Belize

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**ABSTRACT.** Small troop sizes which averaged 5.23 members per troop and the early descent of male testes in *Alouatta pigra* show a marked difference from *A. palliata*. These differences strengthen SMITH's (1970) observations of morphological differences between *A. pigra* and *A. palliata*.

### OBSERVATION

Prior to 1970 *Alouatta palliata pigra* was considered another race of *A. palliata* which inhabited the Yucatan area of Mexico, the Peten of Guatemala and Belize (formerly British Honduras). SMITH (1970) noted skull, tooth and pelage differences in two sympatric populations which he maintained were different enough to warrant the species status, *A. pigra*. Whereas COELHO et al. (1976) felt SMITH's (1970) issues had not been resolved, I have since noted two important behavioral related characteristics which support the species status of *A. pigra*. The first involves the difference in troop sizes. Excluding the COLLIAS and SOUTHWICK (1952) census of *A. palliata* which was probably reduced by a yellow fever epidemic, *A. palliata* troops average 15-19 individuals (CARPENTER, 1934, 1953; BALDWIN & BALDWIN, 1972; MITTERMEIER, 1973; BERNSTEIN, 1964; GLANDER, 1980) and in general most troops are over 10 in number, often ranging higher than 20 and as high as 35 (CARPENTER, 1934, 1953, 1962) or 45 individuals (CARPENTER, 1965). *A. pigra* troop sizes in contrast averaged 6.22 (nine troops I observed at Bermuda Landing, Belize), 6.25 in Tikal for four troops (COELHO et al., 1976) and 4.23 for 13 troops sampled two years earlier at Bermuda Landing vicinity (BOLIN, 1981). Although some variation in troop size relative to ecology has been found (GAULIN, KNIGHT & GAULIN, 1980), these small troop sizes seem to be relatively constant despite the difference of the mature forest of Tikal and the secondary riverine growth at Bermuda Landing. COELHO et al. (1976) note that according to archeological recollections, Tikal's howlers have been in small groups of four to seven at least since the mid 1950's. In Belize, when I questioned local farmers and hunters, they always responded that eight was a large troop size. When observing a troop of ten my host VALLEN POPE said it was the largest troop he had ever seen.

The second difference between *A. palliata* and *A. pigra* is in the male genitalia. In *A. palliata* the male testis do not descend until subadult age and juvenile males appear similar to adult females (CARPENTER, 1934, 1965; GLANDER, 1980). In *A. pigra*, however, all males observed from at least 3 to 4 months of age exhibited white-pink colored descended testis. These often have pigmented spottings which aid as unique identification characteristics in males. COELHO et al. (1976) noted the genitalia to be pink-manila in contrast to the white ones of *A. palliata*. A similar situation occurs in the red howler, *A. seniculus* and as hypothesized by THORINGTON, RUDRAN and MACK (1979) this may be a relative factor in determining repro-

ductive success. I would further hypothesize that it is a factor in the lower troop sizes, in that *A. seniculus* also has small troops averaging between eight to nine members (RUDRAN, 1979; NEVILLE, 1972). In addition, *A. pigra* seems to parallel *A. seniculus* in showing greater sexual dimorphism, and greater enlargement of the hyoid with consequent lower sound qualities (see THORINGTON, RUDRAN & MACK, 1979).

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