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The identity and variation of *Pediculus humanus americanus*. HENRY E. EWING, U. S. Bureau of Entomology and Plant Quarantine.

In a former note presented to this society (Proc. Helm. Soc. Wash. 1:21) the writer reported the finding of a louse questionably identified as *Pediculus humanus americanus* Ewing, heavily infesting 2 monkeys at the National Zoological Park that had come from the Upper Amazon. These monkeys were *Pithecia monachus* and *Cacajao rubicundus*. I would like to report here further observations on these lice, as well as on some lice taken from a living American Indian.

Ferris (Stanford Univ. Pub., Biol. Sci. 2:58) in his beautifully illustrated but highly critical paper dealing with *Pediculus* does not recognize this variety or any of the other varieties of *Pediculus humanus*. This is not a new viewpoint. It is a conclusion reached some years ago by Nuttall, who by the way, furnished Professor Ferris with his extensive study collection of pediculi. And it is to him that Professor Ferris appropriately dedicates his work.

It is important to note that while Ferris examined the type of *americanus, which was taken from a prehistoric Indian mummy*, he chose to make his illustrations and comparisons from lice taken from living Indians. This fact furnishes the starting point for my present observations. The *americanus* specimens he describes are all but identical with those that I have taken from Brazilian monkeys and have received from a living Indian. They have been found to differ in the adult state from the *americanus* types in having small but very definite lateral lobes to the paratergal plates IV and V. This condition is at once recognized as an approach to the common types of lice found on spider monkeys, and raises certain questions: Did Ferris really figure my *americanus*, or did he figure a variety that now infests certain American monkeys and also living American Indians? Could it be that the head louse of prehistoric American Indians, in which there is a bare suggestion of lateral lobes to the paratergal plates, has so changed in its morphological characters as to be practically identical with lice now able to thrive on certain American monkeys. Can it be that this production of, or tendency toward production of lateral lobes on the paratergal plates in *Pediculus*—which is correlated with geographical distribution—is to be explained by orthogenesis? If so we might assume that in the "Mongolian head louse" (if the Mongolians had a head louse) there developed a tendency for certain louse individuals to show slight lobing of certain paratergal plates. This tendency may have been transmitted to their lineal descendents, the head lice of prehistoric American Indians. These lice on the prehistoric Indians may have spread later to American monkeys. On the monkeys the orthogenetic tendency to produce lobes continued until now we have a setup of several species or varieties on these monkeys. Personally the writer is inclined to favor the idea of orthogenesis causing the production of the lateral lobes on the paratergal plates. The production of these lobes certainly appears correlated with the spread of the head louse eastward from Asia; in particular the lobes become well developed on certain American monkeys.

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