

Hand preferences in owl monkeys (*Aotus* spp.) using a single task assessment

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In the past 25 years, there have been a number of studies published on systematic investigation handedness in nonhuman primates. The goal of these studies have been to evaluate whether prosimians and anthropoids show patterns of hand preferences that resemble the right handedness found in humans and the general consensus is that handedness is inconsistent both within and between species. Handedness has never been investigated in the only nocturnal anthropoid, the owl monkey. We investigated hand preferences in 13 captive owl monkeys (7 males and 6 females all adult) living outdoors. A foraging single task assessment was presented to each monkey shortly after awakening for the night. Trials lasted for 10 minutes and median number of trials (n=13) was conducted for each monkey. Ten of the monkeys showed a distinct left hand preference and three a right-hand preference ($p < 0.005$, t-test) and there was no significant difference in hand preference between males and females. With our limited amount of data, we were nonetheless impressed that each monkey studied showed a hand preference for this particular task. However, the manual asymmetry was not nearly as pronounced as in humans. We are currently conducting additional trials, adding additional subjects as well as an additional task, insect foraging, to continue to investigate this phenomenon. As owl monkeys live high in the canopy and are active at night, hand preferences in this genus can likely only be investigated in captivity. Correlations between hand preference and neurology (cerebral lateralization) as seen in humans, remain to be explored.