

Abstract

A unique endemic group of anoles from Cuba - the *Chamaeleolis* group - is distinguished from other representatives of the genus *Anolis* by many morphological and behavioural features. Although they are one of the largest representatives of the genus, they are an understudied group. The aim of this paper was (in the context of current knowledge of the taxonomy, morphology and biology of lizards of the family Dactyloidae) to contribute to the understanding of these large species of Cuban anoles previously placed in their own genus *Chamaeleolis*. Using methods of comparative morphology, spectrophotometry, visual modelling and mtDNA analysis, I taxonomically evaluated the collected material of these anoles. This allowed us to describe a new species of anolis, *Anolis sierramaestrae* sp. nov. and to highlight another new species of *Anolis* sp. (awaiting description). As *Chamaeleolis* species are malacophagous specialists focused on gastropods with a shell, this anole group is an excellent model for investigating the relationship between preferred food and dentition morphology, including postnatal changes in dentition morphology. It has been shown that juvenile dentition exhibits features likely to be related to malacophagy and that these features are interspecifically differentially expressed, and that adult dentition also exhibits interspecific differences in adaptation to malacophagy. This could be indicative of different feeding requirements. I was also interested in the skull morphology and bite force of *Chamaeleolis* anoles, including comparisons with other malacophagous but phylogenetically distant lizards (*Dracaena guianensis*, Teiidae). I also paid attention to sexual dichromatism and dimorphism, which is quite atypical within the genus in a newly described population of *Chamaeleolis* anole (*Anolis* sp.). The formation of sexual dimorphism during ontogeny was also the focus of a study on another Cuban species, the Baracoa anole (*Anolis baracoae*), which was also a representative of insectivorous/saurivorous anole in an odontological comparative study.