ACTA PALAEONTOLOGICA POLONICA

Systematics and paleobiology of Carnivora and Hyaenodonta from the lower Miocene of Buluk, Kenya

Michael Morlo, Anthony Friscia, Ellen R. Miller, Ellis Locke, and Isaiah Nengo
Acta Palaeontologica Polonica 66 (2), 2021: 465-484 doi:https://doi.org/10.4202/app.00794.2020

Early Miocene carnivorous mammals from Buluk, Kenya, are described and discussed. Four taxa belonging to Hyaenodonta and four belonging to Carnivora are identified. Members of Hyaenodonta include *Hyainailouros sulzeri, Hyainailouros* cf. *napakensis*, a third taxon about the size of *Leakitherium*, represented only by postcranial material, and a fourth taxon represented by an edentulous jaw, in the size range of *Sectisodon*. Members of Carnivora include a new species of *Cynelos jitu*, which represents the largest species of *Cynelos* known. The first m2 of *Cynelos macrodon* is described, and the differentiation of this species from *Cynelos ginsburgi* and *Cynelos peignei* is confirmed. A third carnivoran species is represented by a mandibular fragment attributed to a viverrid similar to *Mioprionodon*, and a fourth taxon is represented by a feliform distal humerus, the size of that of a small cat. An ecomorphological guild structure analysis reveals that the Buluk carnivore have estimated body sizes spanning from 100 kg. Three very large species (>100 kg), and another two in the 30–100 kg range are present, while only two taxa are present in the 3–10 kg category. Carnivores in the 1–3 kg and the 10–30 kg categories are absent. Locomotor pattern could be obtained for only four taxa, and all are characterized by terrestrial locomotion. A minimum of three dietary classes (insectivorous, carnivorous, scavenging) are represented. The co-occurrence of multiple very large carnivores is not uncommon in early Miocene faunas, but the taphonomy of Buluk may also contribute to the favored preservation of larger and terrestrially adapted animals.

Key words: Mammalia, Carnivora, Amphicyonidae, Hyainailouridae, Viverridae, guild structure, Miocene, Kenya.

Michael Morlo [Michael.Morlo@senckenberg.de], Senckenberg Forschungsinstitut und Naturmuseum, Abt. Messelforschung und Mammalogie, Senckenberganlage 25, 60325 Frankfurt am Main, Germany. Anthony Friscia [tonyf@ucla.edu], Department of Integrative Biology and Physiology, University of California, Los Angeles, Los Angeles, California 90095 USA. Ellen R. Miller [millerer@wfu.edu], Wake Forest University, Department of Anthropology, Winston Salem, North Carolina 27109-7807, USA. Ellis Locke [ellis.locke@asu.edu], Institute of Human Origins, School of Human Evolution and Social Change, Arizona State

University, Tempe, Arizona 85281 USA. Isaiah Nengo [isaiah.nengo@stonybrook.edu], Turkana Basin Institute, Social and Behavioral Sciences, Stony Brook University, Stony Brook, New York 11794 USA.