

Damase Ekondzo

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PSEUDOPOTTO MARTINI: A NEW POTTO?

Pseudopotto martini Schwartz, 1996, is a newly described genus and species of potto, or potto-like primate. The generic name means "false potto", and the specific name honours the well-known primatologist Bob Martin, who is Professor of Anthropology at the University of Zürich-Irchel.

The type specimen is the complete skeleton of an adult female (which formerly lived in Zürich Zoo and was said to have come from "Equatorial Africa") in the Anthropologisches Institut und Museum, University of Zürich-Irchel. Like the potto *Perodicticus potto* it has a fairly broad muzzle, forward-looking orbits, a reduced index finger and somewhat lengthened

spines on the neck vertebrae (third cervical to second thoracic). It differs from the potto in its less broadened snout, in details of the skull and teeth, especially the very long upper first premolar (resembling the fork-marked lemur *Phaner furcifer*) and very reduced third molar, and in some quite marked postcranial features: it has a long tail (the incomplete tail of the type specimen appears to have 15 vertebrae, whereas the potto illustrated by Schwartz (1996) for comparative purposes has five or six), the neck vertebrae are much less elongated and the second cervical vertebra is not modified at all, the humerus has an entoepicondylar foramen, and the styloid process at the distal end of the ulna is less hooked (suggesting greater mobility of the wrist). It is small in size, at the lower end of the size range of pottos.

While the skull could be mistaken for that of a potto (and the specimen was catalogued as a potto in the museum), and its modified hand and neck spines ally it to the potto and angwantibo *Arctocebus calabarensis*, some features suggest that it is primitive compared to both potto and angwantibo—neither of these, for example, possesses an entoepicondylar foramen, and the position of the lacrimal fossa in *Pseudopotto* (inside, not outside, the anterior margin of the orbit) recalls *Nycticebus*. Its possession of a long tail implies that the tail may have been shortened independently in the African and Asian lorises, and the less hooked shape of its ulnar styloid suggests that this is another feature in which Asian and African slow-climbers have converged.

Is it just an odd-looking potto? If it differed from other pottos in only one feature, this would be feasible; but it has a long list of differences. Also, Schwartz (1996) identified a second specimen, the skull of a juvenile from Cameroon (exact locality unknown), also in the Zürich collection, which possesses the same cranial and dental oddities.

Schwartz (pers. comm.) searched the records of Zürich Zoo but could find no further information on the animal, and no photograph is known of it when alive. The false potto is evidently a fairly rare beast; the Zürich collection has only two specimens, but over 30 of *Perodicticus* (which, incidentally, Schwartz and Beutel (1995) divide into five "morphs", which they suggest are probably different species!). No other specimen is known, or at least has so far been identified, in any other collection. We do not even know precisely where it lives, except that it is reportedly somewhere in Cameroon.

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PSEUDOPOTTO: WHEN IS A POTTO NOT A POTTO?

The naming of a new genus of potto (*Pseudopotto*), based on two museum specimens, highlights the problem of how we recognise and name 'cryptic' species and genera (see the preceding two notes in this issue on *Pseudopotto martini*). Cryptic species are those animals that museum taxonomists find hard to tell apart but which actually have different specific mate recognition systems, for example, many owls, bats, rodents, frogs and crickets (Vbra, 1985).

The slow-moving African pottos (*Perodicticus*) and angwantibos (*Arctocebus*) are among the most cryptic of all primates, being extremely secretive and quiet. However, as with their Asian counterparts, the slow and slender lorises (*Nycticebus* and *Loris*), it is becoming increasingly clear that superficial similarities mask more fundamental differences that have passed unnoticed (Bearder, 1987). Although tradition dictates that there is just one species in each genus (*P. potto*, *A. calabarensis*, *N. coucang* and *L. tardigradus*), a more critical look is beginning to reveal some striking local differences. Are these peculiarities merely intra-specific variations, or are we dealing with an array of species that cannot interbreed, some of which have had a sufficiently long history of isolation to justify separation at a generic level, as in the case of *Pseudopotto*?

Parallel studies of galagos (or bushbabies) by the Nocturnal Primate Research Group at Oxford Brookes University, suggest a way forward. Galagos are the sister group to pottos in Africa. They are well known for their loud calls which penetrate the forest at night and help to distinguish between species that look almost identical (Bearder *et al.*, 1995). Populations of galagos with distinctive call repertoires also vary systematically in details of their hard anatomy (skulls and limb bones), soft anatomy (reproductive organs, arrangement of hand and foot pads and hair structure), behavioural ecology (diet, habitat use and social

structure), and biochemistry (mitochondrial DNA sequences, chromosome arrangement, *etc.*).

Thirty years of research on galago diversity leads us to estimate that there could be up to 40 galago species in Africa, of which less than half have been studied and named so far. Sound proves to be a useful diagnostic feature for galago taxonomy since it is an important means of attracting the opposite sex. It follows that those species which rely mainly on scent to locate their mates will be much harder to distinguish, including the pottos, other members of the family Loriscidae, and many other nocturnal mammals (Bearder *et al.*, 1996).

Returning to the case of pottos, close inspection of photographs in the wild and records of animals in captivity point to some interesting divergence. For example, some separate populations of pottos have different gestation lengths. Tail lengths vary from about 4 cm (an almost invisible stump) to some 30 cm (approximately the same length as the head and body), with gradations between these two extremes in different parts of Africa. Even short-tailed pottos can look very different from one another when seen side by side. Two individuals of unknown origin, confiscated separately at Schipol airport, Netherlands, and then housed together, showed an obvious contrast; in one the eyes were large and protruding whereas in the other they were relatively small and sunken.

Some taxonomists now recognise two species of angwantibo (*Arctocebus calabarensis* and *A. aureus*) (Groves, 1989), and there is serious doubt over the number of species within both the slender and slow loris genera. We are convinced that an appropriately rigorous taxonomic study of pottos, using the multidisciplinary approach outlined above for galagos, will reveal further species. It is perhaps time to move away from the limitations of our own sensory specialisations and recognise that similarity in outward appearance can be profoundly misleading as an indication of species. More rigorous and fine-grained studies are required to show what is actually there—a rich array of nocturnal primates and other mammal species that have been largely ignored.

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