

Craniofacial shape and allometry in sister taxa of disparate body sizes: *Nasalis larvatus* and *Simias concolor*.

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Recent molecular phylogenetics confirm the close relationship between the proboscis monkey, *Nasalis larvatus*, and its smaller-bodied relative, the simakobu monkey *Simias* (= *Nasalis*) *concolor*). Isolated on the Mentawai Islands of Indonesia, the simakobu represents a rare instance of a probable endemic dwarf primate species.

This work compares the craniofacial morphology of the simakobu to that of the proboscis monkey, as a case study of derived reduction in body size. 3D coordinate landmark data, endocranial volume estimates, and a set of linear metrics were collected from wild-shot museum specimens to construct a holistic comparison of craniofacial shape and allometry between species. Only female individuals are considered in this presentation, as sexual dimorphism is significant in both taxa.

Unlike the paedomorphic cranial shape observed in many dwarfed mammals, the simakobu cranium displays a more “adult” shape in some respects relative to its larger sister species. Relative to the size of its skull, the simakobu monkey has a smaller neurocranium, a longer palate, and a more projecting mid-face than the proboscis. In contrast, compared to the proboscis, the simakobu face is juvenile in that its orbits are larger relative to its skull size. The composite of these shape differences seems to contradict accepted trends in primate craniofacial allometry. This example may be instructive in interpreting other potential cases of dwarfism in primates.

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