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WITH THE COMPLIMENTS OF:

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Sivapithecus

A Middle-to-Late Miocene Asian fossil ape, probably related closely to the orangutan. *Sivapithecus* was one of the earliest fossil apes to be discovered, fragments now thought to belong to it having been reported in India as far back as 1837. The name *Palaeopithecus* was first applied to Siwalik Miocene ape fossils, but it turned out that this name had previously been given to some Mesozoic trackways and was thus unavailable. *Sivapithecus indicus* was named in 1910 by G. Pilgrim for an upper tooth, and the species *sivalensis*, originally placed in *Palaeopithecus*, was transferred to the new genus. Many other genera were named for a variety of Siwalik Miocene ape fossils until 1965, when E. L. Simons and D. Pilbeam reviewed all of them and recognized only *Sivapithecus* (then as a subgenus of *Dryopithecus*) and *Ramapithecus*. Further study has led to the synonymy of *Ramapithecus* with *Sivapithecus* and the general recognition of four (now three) species. Two of these appear to be time-successive in the Indo-Pakistan Siwaliks between ca. 12.5 and 8.5 Ma, but, as the original type specimens are so fragmentary, there has been some controversy about which names to use. *S. indicus* is generally considered to date to ca. 9.5–8.5 Ma and to be represented by the best material, including a partial cranium and numerous postcrania from Pakistan. The older specimens (12.5–10.3 Ma) are usually termed *S. sivalensis*. A third, larger species, *S. parvada*, was named in 1987 for material from a single locality in Pakistan: Sethi Nagri (Loc. Y311), dated to 10 Ma. Teeth and jaw fragments from Xiaolongtan (Yunnan Province, China, perhaps ca. 13 Ma) may also represent a species of *Sivapithecus*, but they are too fragmentary to preserve the diagnostic features. Finally, specimens from the Yassiören locality in the Sinap Beds of Turkey (9.8 Ma) were originally termed *Ankarapithecus metei* but, generally have been included as a fourth species of *Sivapithecus*. A recent find published by B. Alpagut and colleagues in 1996 suggests that they differ sufficiently in the upper face to merit retaining a separate genus.

The cranial remains of *Sivapithecus* from Pakistan reveal numerous derived similarities with *Pongo*. These include an expanded and flattened zygomatic region, giving the face a concave aspect; no glabellar thickening; narrow distance between the eyes; no browridges; and a rotated premaxilla, giving a smooth floor to the nasal cavity and an extremely reduced incisive canal with no incisive fossa. The upper lateral incisors are very small relative to the central, and the molar enamel is of intermediate thickness. The proximal humerus is less modern than expected for a member of the derived great-ape group, but it seems more likely that this reflects the adaptations of *Sivapithecus* itself, rather than contradicting the close relationship with orangutans implied by the cranio-dental remains.



The face and lower jaw (in left oblique fronto-lateral view) of Sivapithecus indicus from Late Miocene deposits in the Pakistan Siwaliks. It shows many characteristics of the face found also in Pongo, the orangutan. The lower panel compares the left lateral view of the face in a chimpanzee (Pan), Sivapithecus, and an orangutan. Courtesy of David Pilbeam.

See also Ankarapithecus; Ape; Asia, Eastern and Southern; Asia, Western; Hominidae; Ponginae; Siwaliks. [E.D.]

Further Readings

Ward, S. (1997) The taxonomy and phyletic relationships of *Sivapithecus* revisited. In Begun, D., Ward, C., and Rose, M., eds. *Miocene Hominoid Fossils: Functional and Phylogenetic Implications*. New York: Plenum, pp. 269–290.