NEW EARLY EOCENE PERISSODACTYL FAUNAS FROM THE CONTINENTAL UPPER GHAZIJ FORMATION OF BALOCHISTAN, PAKISTAN

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The phylogenetic and biogeographic origins of the mammalian order Perissodactyla remain elusive despite a long history of research. Many studies have focused on Asia, with at least some recent hypotheses suggesting a prominent role for poorly known faunas of the Indian subcontinent. Two or possibly three early Eocene perissodactyl faunas are known from the upper Ghazij Formation in Balochistan (Pakistan), and these include both dental and postcranial remains.

The most abundant are small forms, including 108 dental specimens from a single locality, Gandhera Quarry, that belong to two closely similar species of Isectolophidae. Among larger taxa, the most common elements represent a puzzling group of bunodont perissodactyls that display some similarities to both the supposed anthracobunid *Nakusia* from the marginal-marine middle Ghazij Formation and to the enigmatic middle Eocene perissodactyl *Hallensia* from Europe. Brontotheriidae are represented by three species in two genera that are morphologically similar to primitive forms known from the North American middle Eocene (Bridgerian). A *Lophialetes*-like ceratomorph and *Litolophus*-like chalicothere are rare elements in the faunal assemblage, but they do indicate affinities with middle Eocene Asian assemblages.

Ghazij mammals, together with those from Vastan (India), are currently the only early Eocene taxa from the Indian Subcontinent. With the possible exception of the Cambaytheriidae described from Vastan, the Ghazij material represents the oldest known perissodactyls from this region. Taken as a whole, the new Ghazij perissodactyls represent a broad taxonomic diversity, and further study promises to increase our understanding of perissodactyl phylogeny. Ghazij perissodactyls clearly suggest faunal exchange between the Indian subcontinent and most or all of the northern continents, and they thus have biogeographic importance as well.