

primate importers which together permit compilation of the following categories of data for shipments: country of origin, exporter, import value, shipment fatalities, post-arrival fatalities for the first 90 days, transferal destination, and re-export value.

Such information supplied to the governments of habitat countries may be used in reaching decisions on the imposition of bans, quotas, and/or imposts on primate exports. These data also contribute to the assessment of the actual uses of primates in biomedical research and industrial production in the United States and countries receiving re-exported primates as well as the effects on wild populations of the U.S. policy, as enunciated in the National Primate Plan (Interagency Primate Steering Committee, 1978), of permitting continued importation rather than developing breeding self-sufficiency of primates for such purposes.

This paper reviews data available on primates imported into the United States during 1979. The U.S. government forms analyzed were obtained by the International Primate Protection League and Traffic (U.S.A.), World Wildlife Fund-U.S.

Primate neuroanatomy and the physical anthropologist. D. FALK, University of Puerto Rico, San Juan.

Primate brain evolution may be studied from two points of view: (1) paleoneurology which emphasizes direct study of endocranial casts and skulls (cranial capacities) of fossil primates and (2) comparative neurology which is based on study and comparison of a series of extant primate brains. Although the fossil record of primate brain evolution is extremely scanty, physical anthropologists have traditionally focused more on the paleoneurological than on the comparative approach. This narrow focus has had a negative impact on interpretations of brain evolution for at least one major group of primates. An early mistaken identification of a suture for the lunate sulcus in the Taung australopithecine natural endocast resulted in over 50 years of erroneously describing australopithecine cerebral cortices as human-like. Relatively new techniques including microelectrode evoked potentials, retrograde and anterograde degeneration methods in conjunction with lesions and new ways to determine fiber tracts such as the horseradish peroxidase method have led to an "information explosion" in comparative primate neurology. Physical anthropologists are just beginning to take advantage of these new techniques and paleoneurologists and comparative neurologists are beginning to synthesize their fields. Nevertheless, due to inadequacies of the fossil record,

future primate brain studies will focus more on comparative neurology than on paleoneurology, thus reversing the situation of the past.

Anatomical specializations in the hominoid lumbar region. A.G. FILLER, Harvard University, Cambridge.

The lumbar regions of hominoid and cercopithecoid catarrhines function within fundamentally different anatomical constraints. Dissection of dorsal epaxial muscles in Felis, Macaca, Papio, Symphalangus, Hylobates, and Pan together with osteological study shows that hominoids share a number of specializations not present in cercopithecoids or felids.

The axis of extension between successive lumbar vertebrae in Homo is at the dorsal margins of the two centra. The lumbar transverse processes arise from the bases of mamillary processes, dorsal to the axis, so they move toward each other during extension. In cercopithecoids, the lumbar transverse processes are ventral to this axis, but they cannot move away from each other in extension since they're embedded in the thick, relatively inextensible horizontal septum. Extension is permitted between post-diaphragmatic, rib bearing vertebrae (i.e. T10-T12) and at the lumbosacral joint, but most of the lumbar region is tightly constrained against hyperextension or sagging. The lumbar transverse processes are coplanar with or dorsal to the axis in all extant hominoids, in Australopithecus, and in a vertebra attributed to Drivopithecus major. Hominoids therefore lack the major structural complex that supports the arch of the spine in cercopithecoids and felids. The diverse locomotor repertoires of pongids and hylobatids often requires their lumbar spines to resist extension. This is achieved by a size graded reduction in the mean number of non-rib bearing dorsal vertebrae, from seven in cercopithecoids and felids to 5 in hylobatids, and to 4 in pongids. Further, the two largest species (80kg-200kg) have independently derived bony blocks against extension. In Gorilla, the prezygapophysis is received by a well buttressed notch in the preceding lumbar transverse process, and in Pongo, there's an analogous notch in the caudal margin of the lamina just ventral to the postzygapophysis. Such size graded modifications do not occur in felids; Panthera leo (110-180kg) retains 7 non-rib bearing dorsal vertebrae and an unmodified articular morphology essentially identical to that of Macaca. The vertebral morphology of D. major confirms the importance of orthograde locomotion in non-hylobatid Miocene hominoids.

In cercopithecoids, sheets of the iliocostalis lumborum originate on the iliac crest and the external surface of the epaxial aponeurosis, then run cranioventrally to insert on the horizontal septum. In hominoids, the sheets are less ventrally oriented, and the superficial fascicles run directly to insertions on angles of posterior ribs: in pongids and hominids, the origin is restricted to the iliac crest quite lateral to the midline. In Homo, this is the only epaxial muscle to show marked activity when a weight is held in the contralateral hand. It may be an important lateral fixator in hominoids during bipedalism, climbing, and one handed suspension.

The use of dental histology for age estimation on adult teeth from archaeological remains. M. FINNEGAN, Kansas State University Manhattan.

The use of the Gustafson (1950) method of utilizing longitudinal histological