

CATALOGUE OF MAMMALS IN THE ZOOLOGICAL SURVEY OF INDIA. I. PRIMATES : HOMINOIDEA.

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1. GENERAL INTRODUCTION.

The collection in the Zoological Survey of India comes from three sources, namely, Asiatic Society, Indian Museum, and Zoological Survey of India itself. Blyth in 1863 published a catalogue dealing with the collection of the Asiatic Society ; and later, after this collection had been made over to the Indian Museum, Anderson in 1881 and Sclater in 1891 published first and second parts respectively of Catalogue of Mammals in the Indian Museum. Finally the whole collection was transferred to the Zoological Survey of India on its creation in 1916. The desirability of the preparation of a revised catalogue has been keenly felt, as many changes have taken place in the collection since the publication of the last catalogue some sixty years ago. In the first place, there have been notable additions to the collection during this period, the wealth of information on which is not accessible except through occasional short reports published by the departmental staff. Secondly, the collection suffered a considerable loss and damage due to a number of unavoidable causes. In 1942, the headquarters of the Zoological Survey of India was shifted from Calcutta to Banaras under war emergency and as a natural consequence of shifting some damage to the collection occurred. Then came the most unfortunate tragedy, that is, the flood of the Varuna river at Banaras in September, 1943, when a major part of the collection was submerged in water for about three days ! Many specimens were lost ; and many, which were badly damaged, had finally to be rejected. In 1948-49, the headquarters was again shifted from Banaras to Calcutta and again the collection was subjected to the effects of transit. Under the circumstances, there was evidently a great need of assessing our possessions again ; and, consequently, the present work was undertaken.

In view of the rapid progress made by the science of taxonomy since the publication of earlier edition, every specimen had to be thoroughly studied before the work could be brought up-to-date. The numbers on the specimens have all been changed into Zoological Survey of India (Z. S. I.) Register Numbers. Since the collection has passed through many hands, the checking up of the old numbers was a colossal task. All the distinguishing characters of the forms are not enumerated, and only important variations as noted in comparison with typical characters have been recorded.

All the measurements of the skulls are obtained afresh, as those by earlier workers, wherever taken, are not properly defined. The measurements of skins are only given when they have been noted on fresh material by the collectors.

As the particulars of locality and date of collection are wanting in many cases, they have been given, wherever available, in the same column as the collector or donor. The date following a locality is the date of

collection and that following a collector or donor is the date of presentation and is given within brackets.

Wherever possible, the last catalogue numbers have been given along with the corresponding Z. S. I. Reg. Nos. and those of the former which do not appear in this catalogue may be taken as missing. It may, however, be noted that, as the labels of a considerable number of specimens were lost or badly damaged during the flood at Banaras, it has not been possible to ascertain in all cases whether a particular specimen given in the last catalogue is actually missing or present in the collection.

It has to be noted with great regret that earlier collectors seem to have paid little attention to such important particulars as the locality, the date of collection, measurements and colouration of skins in fresh state, field notes, etc. As a consequence, I have failed to base, in several cases, any sound conclusions on the data at my disposal, especially with regard to the geographical significance of the variations.

I am much indebted to Dr. S. L. Hora, Director, Zoological Survey of India and Dr. B. Biswas, Officer-in-Charge, Bird and Mammal Sections for careful perusal of MS. and many useful suggestions.

2. REMARKS ON THE CLASSIFICATION OF HOMINOIDEA.

Simpson's (1945) great work on the classification of mammals has been followed by me with regard to the arrangement of generic and super-generic groups. Since the two groups *Platyrrhini* and *Catarrhini* are too well defined, I propose to retain them in infraordinal ranks under the suborder *Anthropoidea* (*contra* Simpson, *op. cit.*, p. 184). Gibbons are retained in a separate family (*Hylobatidae*). For the use of the name *Simia* and consequently *Simiidae* I need give no explanation (see Chasen, 1940, p. 60); at least, I would like to retain these names till *Pongo* gets more familiarized and there are sufficient grounds to believe that it will not die the way its predecessor did.

For the classification of various genera Elliot (1913), Pocock (1927), Kloss (1929), Schwarz (1934), Allen (1939), and Chasen (1940) have been followed.

3. THE CATALOGUE.

Order PRIMATES

Suborder *ANTHROPOIDEA*

Infraorder CATARRHINI

Superfamily HOMINOIDEA

Family HYLOBATIDAE

Hylobates hoolock (Harlan).

1834. *Simia hoolock* Harlan, *Trans. Amer. Philos. Soc.*, IV, p. 52, pl. II (Garohills, Assam).

Material.—

7457	♂	Skin and skull	J. Anderson.
7537	♂	Skin (mounted in the gallery)	W. Rutledge (30-8-1897).
7539	♂	Skin and skull	W. Rutledge.

7540		Skin and skull	. .	W. Rutledge.
7542	♂	Do.	. .	Do.
7544	♀	Do.	. .	Do.
7545	♀	Do.	. .	W. Rutledge (31-8-1897).
7546	♀	Skin	. .	Do.
7547	♀	Do.	. .	Do.
7548	♀	Skin and skull	. .	Do.
7649	♀	Skin	. .	Do.
7650	♂	Do.	. .	Zool. Gardens, Calcutta (7-7-1887).
7679	♀	Do.	. .	....
7754	♀	Skin and skull	. .	Zool. Gardens, Calcutta (5-5-1901).
7831	♀	Do.	. .	Do. (20-4-1903).
7832	♂	Do.	. .	W. Rutledge (16-4-1903).
7833	♀	Do.	. .	Do. (14-7-1903).
7834	♀	Skin	. .	Do.
7878	S.-ad. ♀	Do.	. .	Do. (14-12-1898).
7913	♀	Do.	. .	Do. (7-1-1901).
7923	♂	Skin and skull	. .	Zool. Gardens, Calcutta.
10728	♂	Skin	. .	Do.
10973	Young ♂	Skin (mounted in the gallery)		Kalanaga, Barail range, Manipur, Feb., 1936. Z.S.I. Party.
11426	♂	Skin and skull	. .	5 miles east of Nongpoh (3,500'), Khasi Hills, Assam, 28-5-1949. H. L. Hiteshi (Z. S. I. Party).
11427	♂	Do.	. .	7 miles west of Nongpoh (4,000'), Khasi Hills, Assam, 10-5-1949. H. L. Hiteshi (Z. S. I. Party).
11428	♀	Do.	. .	Manihar Basti, 8 miles north of Nongpoh (2,800'), Khasi Hills, Assam, 5-6-1949. H. L. Hiteshi (Z. S. I. Party).
11429	♀	Do.	. .	Nongpoh, Khasi Hills, Assam, 15-6-1949. H. L. Hiteshi (Z. S. I. Party).
11430	Young	Do.	. .	Manihar Basti, 8 miles north of Nongpoh (2,500'), Khasi Hills, Assam, 5-6-1949. H. L. Hiteshi (Z. S. I. Party).

11518	♂	Skin	.	Zool. Gardens, Calcutta (19-1-1910).
11519	..	Do.	.	Teng-yu-chow, Yunnan. J. Anderson.
11520	♀	Damaged skin with skull and bones of limbs	.	Cachar, Assam (1867). Mus. Collector.
11521	S.-ad. ♀	Skin and skull	.	W. Rutledge (24-6-1850 ?).
11522	S.-ad. ♂	Do.	.	Purchased (September, 1866).
11523	♀	Do.	.	Zool. Gardens, Calcutta (11-5-1909).
11524	S.-ad. ♀	Damaged skin	.	W. Rutledge.
11525 (I.M.6w)	♂	Imperfect skin	.	Hotha, West Yunnan (Kakhyen Hills). W. Yunnan Expedition (1868).
11526	Young ♀	Damaged skin	.	....
11527	S.-ad. ♀	Skin	.	..
11528 (I.M.6i)	Young ♂	Skin and skull	.	Purchased (29-5-1869).
11529 (I.M. 6r)	♂	Do.	.	Samaguting, Naga Hills, Assam. J. Butler (Oct., 1872).
11530	♂	Skin	.	Zool. Gardens, Calcutta (7-12-1915).
11577	♀	Skin and skull	.	Do. (8-11-1950).
11578 (I.M.6p)	♂	Do. (damaged)	.	W. Rutledge (30-6-1871).
11697	..	Skeleton (mounted in the gallery)	.	....
11733 (I.M. 6ii)	Young	Skull	.	....
11741	Young ♀	In spirit	.	Cachar, Assam. C. Brownlow (5-7-1872).
11742	♀	Skin and skull	.	W. Rutledge (17-3-1877).
11743	♀	Skin	.	Zool. Gardens, Calcutta (1877).
11744 (I.M.6y)	♀	Skin and skull	.	Tripura, East Bengal. W. Rutledge (18-8-1879).
11770 (I.M.6t)	♂	Mounted skeleton	.	Barrackpore menagerie (1842).
11784	..	Skeleton (incomplete)	.	Zool. Gardens, Calcutta (11-3-1909).
11799	♀	Skeleton without skull	.	Do. (8-10-1916).
11809 (I.M.6z)	♀	Skin and some bones	.	Do. (19-5-1877).
11810 (I.M.6cc)	♀	Skin	.	W. Rutledge (10-4-1880).
11974	Young ♂	Skull	.	Purchased (12-6-1869).
11975	Young	Do.	.	....

*Measurements *of skulls.*—4 ♀-l, 108-114·6 (111·3); cb, 88·6-97·7 (92·1); zw, 66·2-73·8 (70·6); ow, 60·8-64·9 (63·4); mw, 28·6-31·8 (30·1); c¹-m³, 33·7-35·2 (34·4); ml 76·0-80·2 (77·2).

1 ♂-l, 105; cb, 87·5; zw, 64·7; ow, 54·0; mw, 28·8; ml, 73·0.

1 unsexed ad.-l, 115; cb, 92·5; zw, 7; ow, 60·5; mw, 32·6; c¹-m³, 37·9; ml, 75.

Measurements of skins.—7 ad. H. & B., 475-612 (528·1); H. F., 132-160 (148·6); Ear, 23-35 (27·5).

Remarks.—The collection consists mostly of young specimens. The white brow-band is, as usual, very prominent; but in almost all cases, a few white hairs are present around the face at all points, especially at the chin. Only in one adult male, they are entirely absent. In the females that are about to change the colour, the first appearance of the white is noticeable on the chin. In the next stages, it gradually spreads over the whole of the body in patches. All shades ranging from buffy brown to greyish white are present. According to Pocock (1939) there is a narrow line of white between and below the eyes in females. Only is one female from Assam, such a feature is noticeable. Almost all the skins of adult males and young ones are brownish and do not show jet black colour of the pelage, although about certain skins Anderson (1881) definitely stated that they were jet black at the time of collection. The change of colour is apparently due to foxing.

Pocock (1939, p. 22) has remarked that males are slightly larger than the females on the average. The present measurements prove the reverse. It is, therefore, advisable to assume that there is no sexual dimorphism in size.

Distribution.—Assam, Chittagong, Upper Burma to Western Yunnan.

Hylobates lar entelloides Geoffroy.

1842. *Hylobates entelloides* Geoffroy, *C. R. Acad. Sci. Paris*, XV, p. 717 (Malaya Peninsula, lat. 12° N.).

Material.—

4388 (I.M. 7t)	♀	Skin and skull	Mulayit range, Tenasserim 10-12-1880. Limborg and J. Anderson.
7162	Juv. ♀	Skin.	W. Rutledge.

* All measurements are in millimeters, and are the distances between the two points defined in straight lines, that is, the measurements of chords. The average values are given in parentheses.

Explanation of the abbreviations: cb, condylobasal length, measured from the hindmost point of the occipital condyle of one side to the anteriormost point of the premaxilla of that side; c¹-m³, maximum length between the anterior surface of the root of the upper canine and the posterior surface of the root of last molar of that side; l, maximum length of the skull, measured from the hindmost point of the occipital surface in the middle line to the anteriormost point of the premaxillary symphysis; ml, mandibular length, the distance between the hindmost point of the mandibular condyle to the anteriormost point on the symphysis of the two rami; mw, maxillary width, measured across the outer surfaces of the upper canines; ow, orbital width, maximum distance between the inner surfaces of the outer borders of the two orbits measured at right angles to the axis of the skull; zw., maximum zygomatic width, measured across the outer surfaces of the zygomatic arches at right angle to the axis of the skull.

11535	..	Skin	. .	....
11536	..	Do.	. .	Zool. Gardens, Calcutta (28-3-1909).
11698	♀	Skin (mounted in the gallery)		....
11747 (I.M.7o)	Young ♂	Skin	. .	W. Rutledge (2-3-1876).
11748 (I.M.7p)	Young ♂	Do.	. .	Zool. Gardens, Calcutta (7-5-1877).

Measurements of skin No. 11536.—H. B., 510; H. F., 130; Ear, 25.

Remarks.—The following important variations in the colour pattern have been noted. In No. 11536, there are some white hairs mixed with the black ones here and there, especially around the neck. In No. 11748, the top of the head is darker. In No. 11747, there are two prominent pale patches on the back, the bases of the hairs especially on the legs and the arms are paler and there is a yellowish longitudinal band on the chest and the abdomen. There is also a pale narrow band tending to extend around the ears from the facial band. In Nos. 4388 and 7162, which are in pale phase, the dorsal side is slightly paler than the ventral. A peculiar feature to be noted in No. 4388 is that the hands and the feet are not white but match with the general colour of the body. Since the dorsal surface is also paler than the ventral, a characteristic feature of the pale phase of *H. hoolock*, it would be very difficult to distinguish such specimens from the pale phase of *H. hoolock* on the basis of colour alone. The extension of white over the hands and the feet varies. In No. 11536, the white extends a little beyond the wrists but not beyond the ankles. In Nos. 7162 and 11748, a few dark or brownish hairs are present towards the distal extremities of hands and feet. The facial white band in No. 11748 is expanded on the throat. In No. 11536, it is much reduced and the white hairs of the band are much mixed up with black ones. On the chin, though there is no mixture with the black hairs, the white hairs are very scanty. There is also an extension of the white hairs over the face.

Distribution.—Tenasserrim and lower Siam.

Hylobates lar lar (Linnaeus).

1771. *Homo lar* Linnaeus, *Mantiss, Plant.*, Appendix, p. 521 (Malacca).

Material.—

7404	♂	Skin	. .	W. Rutledge.
10529	♂	Do.	. .	D. Ezra (30-9-19137).
11533 (I.M.7a)	♀	Skin and skull	. .	....
11534	..	Skin	. .	....
11745	♂	Do.	. .	W. Rutledge (13-2-1877).
11746	Young ♂	Do.	. .	Do. (18-8-1877).

Remarks.—Several intermediates between the black and the pale phases are present. In the three sexed adults, the colour is dark brown with intermingling of pale hue. In the unsexed adult, there is a broad pale band on the back. The pale ring around the face is more expanded on the cheeks and the throat in the adults than in the young one. The young specimen still has pale colour quite pronounced on the postero-ventral part of the body. The adult male (No. 7404) is somewhat intermediate between *lar* and *entelloides*, as the white extends only beyond the wrists, and not beyond the ankles. There is no preputial tuft in this skin. In No. 11746, there is a mid-ventral white streak. In No. 11745, there are white hairs intermingled with others on the back and the outside of the arms. Extension of the white on the cheeks and the throat is also very variable. In Nos. 11745 and 11746, the white on the cheeks and the throat is much expanded. In No. 11745, the white on the throat is continuous with the grey ventral surface.

In No. 10529, the locality given in Java but, since Mr. Ezra, who presented the specimen, used to purchase specimens from dealers, the sources of his information were not much reliable. Hence no importance can be attached to this locality.

Distribution.—Malaya States.

Hylobates agilis Cuvier.

1821. *Hylobates agilis* Cuvier, in E. Geoffroy St. Hilaire and F. Cuvier's *Hist. Nat. Mammal Le Wouwou*, pls. v & vii (West Sumatra).

Material.—

7405	Young ♂	Skin	Sumatra. W. Rutledge.
11541 (I.M.8i)	♀	Skin, skull and bones of limbs	Purchased (24-12-1878).
11542	Young ♂	Skin, skull, and bones of trunk in extremely damaged condition	W. Rutledge (6-9-1869).
11615 (I.M.8f)	♀	In spirit (damaged)	Do. (28-7-1877).
11749 (I.M.8g)	♀	Skin, skull, and some bones (damaged)	Do. (3-5-1873).
11750 (I.M.8o)	Young ♂	Skin and skull	Do. (13-8-1875).
11751 (I.M.8k)	♀	Skin, skull, and bones of trunk	Purchased (25-2-1873).
11752 (I.M.9n)	♀	Skin and skull	W. Rutledge (2-3-1880).
11753 (I.M.8m)	♀	Skin (damaged)	Do. (9-12-1880).
11754	Young ♂	Skin	W. Rutledge (13-3-1881).
11761 (I.M.10a)	♀	Do.	Do. (13-6-1874).
11762 (I.M.10b)	Adol. ♀	Skin and skull	Zool. Gardens, Calcutta.
11777 (I.M.8j)	♀	Skull	W. Rutledge (14-7-1877).
11791 (I.M.8b)	Young ♀	Skin (mounted in the gallery)	Do. (16-1-1870).

Measurements of skulls.—1♀, *l*, 105.2; *cb*, 86.5; *zw*, 72.1; *ow*, 61.6; *mw*, 29.7; *c^l*, *m³*, 31; *ml*, 76.5.

Remarks.—The neck, the back, the outer parts of the legs (particularly of the thighs) and of the arms are pale brown. The crown, the cheeks, the throat, the shoulders, the ventral surface of the body and the inner parts of the legs are darker. The feet are paler, but the hands more or less match with the general colouration of the body. In the skull the supraorbital ridges are well marked. The left third upper molar is abnormally placed far behind and is just in the course of emerging. The right one is fully developed. The canines are singularly long. From the skull the specimen appears to be very old.

Distribution.—Northern parts of Borneo.

***Hylobates moloch abbotti* Kloss.**

1929. *Hylobates cinereus abbotti* Kloss, *Proc. Zool. Soc. London*, p. 119 (Landak River, Pontianak, South-West Borneo).

Material.—

11755	♀	Skin and some bones	.	W. Rutledge (10-4-1876).
11756	Young ♂	Do.	.	Do.
11757 (I.M.9k)	♀	Skin and skull	.	Zool. Gardens, Calcutta (21-8-1877).
11758	♀	Skin and some bones	.	W. Rutledge (1878).
11759 (I.M.9m)	Young ♂	Skin and skull	.	Do. (3-12-1879).

Remarks.—The general colour shows various shades of pale brown. All specimens show to a greater or less degree a paler area around the face with its expansion on the throat. In some cases it is as distinct as in *H. lar lar*. In Nos. 11756 and 11758, the hands are slightly darker than the general colouration. The dark cap which is present in the allied subspecies on the crown is absent, but there is a tendency towards its separation inasmuch as the paleness of the throat tends to extend towards the occiput. All specimens are paler on the ventral side of the body and on the rump and more buffy on the back.

Distribution.—Western Borneo.

***Hylobates moloch* (subsp.?).**

1797. *Simia moloch* Audebert, *Hist. Nat. Singes*, 1st fam., Sect. II, pl. 2 (Java).

Material.—

11595	..	Viscera in spirit	.	....
11786 (I.M.91)	Young ♂	Skull	.	W. Rutledge (10-12-1878).
11797 (I.M. 9a)	Young ♀	Do.	.	Purchased (1834).

Remarks.—The specimens cannot be assigned to any subspecies for want of proper data.

Distribution.—?

Hylobates syndactylus (Raffles).*

1821. *Simia syndactylus* Raffles, *Trans. Linn. Soc.*, XIII, p. 241 (Bencoolen, West Sumatra).

Material.—

7118	♂	Skin, skull, and some bones	. Zool. Gardens, Calcutta (October, 1889).
7241	♀	Skin and some bones	. . W. Rutledge.
7549	♂	Skin and skull	. . Do.
8043	♀	Skin and some bones	. . Zool. Gardens, Calcutta.
10530	♂	Do.	. . L. H. Goldsmith (3-8-1909?).
11579	Young	Do.	. . . . .
11580	♂	Do.	. . Zool. Gardens, Calcutta (3-12-1925).
11763 (I.M.5b)	♀	Do.	. . W. Rutledge (24-6-1873).
11764 (I.M.5f)	Young ♂	Skin	. Zool. Gardens, Calcutta (26-6-1880).
11765 (I.M.5g)	♂	Skin and skeleton	. . W. Rutledge (29-11-1880).
11785 (I.M.5c)	Young ♂	Skull	. . Do. (16-8-1873).

Measurements of skulls.—1♂-I, 128·7; *cb*, 107·7; *zw*, 85; *ow*, 66·3; *mw*, 39; *c¹-m³*, 41·0; *ml*, 92·6.

Remarks.—In the absence of requisite data, I am unable to determine the specimens subspecifically.

Distribution.—Malaya and Sumatra.

Family SIMIIDAE.

***Simia satyrus abelli* (Lesson).**

1827. *Pongo abelli* Lesson, *Man. Mamm.*, p. 32 (Sumatra).

Material.—

11726 (I.M.4a).	♂	Lower jaw	. . Sumatra : C. Cornfoot (1822).
11727 (I.M.4b)	♂	Skull	. . Do.

Measurements of the skull.—1, 241; *zw*, 172; *ow*, 92; *mw*, 76·5; *c¹-m³*, 73; *ml*, 187.

Remarks.—See p. 142.

Distribution.—Sumatra.

***Simia satyrus satyrus* Linnaeus.**

1766. *Simia satyrus* Linnaeus, *Syst. Nat.*, I, p. 34 (Borneo).

Material.—

11709	♂	Skeleton	. . . . . Sadong, Borneo. J. Brook (1855).
11710	♀	Skull	. . . . . Borneo. Do.

*Following Miller (1933), the subgeneric status of the species under the name *Symphalangus* is here accepted, though some competent students like Simpson (1945, p. 67) still continue to give it a generic distinction.

11711 (I.M.3oo)	♂	Skull	Borneo, W. Nicholls (1855).
11713 (I.M.3ww)	♀	Do. . . .	Do. R.W.G. Frith 1836).
11723 (I.M.3nn)	♂	One ramus of lower jaw .	Do. M. Gregory (July, 1838).

Measurements of skulls.—3♂.-*l*, 220-230 (229.7); *cb*, 187.1-193 (190.4); *zw* (2 specimens), 164-170 (167); *ow*, 80-89 (84.3); *mw*, 64-70.7 (67.5); *c*¹-*m*³, 68-72 (70); *ml*, 173-181 (178.2).

1♀.-*l*, 188; *cb*, 149; *zw*, 131.4; *ow*, 72.4; *mw*, 53.7; *c*¹-*m*³, 59.6; *ml*, 146.6.

Remarks.—See p. 142.

Distribution.—Borneo.

***Simia satyrus satyrus* and *Simia satyrus abelli*.**

The specimens listed below represent a mixture of the two subspecies, and for want of proper data cannot be separated.

Material.—

7220	Young ♂	Skin	W. Rutledge.
7225	♂	Skeleton without skull .	Do.
7325	Young ♀	Skin . . . .	..
7326	Young ♂	Skin and skull . .	....
7327	♀	Skull without lower jaw	W. Rutledge (13-3-1893?).
7440	Young ♂	Skin .	B. M. Roy.
7456	Young ♂	Skin and skull .	W. Rutledge.
7492	Young ♀	Do. .	Do. (17-9-1896).
7518	Young ♂	Do. .	Do. (9-7-1897).
7533	Young ♂	Skin . .	Do. (10-2-1897).
7569	Young ♂	Skin and skull .	Do. (1-7-1897).
7571	Young ♂	Do. . . .	Do. (23-6-1897).
7805	Young	Do. . . .	Do. (6-8-1902).
7806	Young ♂	Do. . . .	Do. (13-4-1877).
7867	♀	Incomplete skeleton . .	Do.
7879	Young	Skin and skull . .	Do. (20-8-1902).
7961	♂	Skull	Do. (15-12-1894).
7927	♂	Skin and skull	Zool. Gardens, Calcutta.
7964	♂	Skeleton . . . .	....
7966	Young ♂	Skeleton without skull .	W. Rutledge.
7967	♀	Skull	Zool. Gardens, Calcutta.
7970	Young ♂	Incomplete skeleton without skull	W. Rutledge (20-2-1897).

7971	♀	Incomplete skeleton without skull	W. Rutledge.
7972	Young ♀	Do.	....
8005	..	Skeleton	Do. (10-12-1903).
8422	♂	Skin and skull	Zool. Gardens, Calcutta.
9026	S.-ad. ♂	Skin	Zool. Gardens, Calcutta.
10039	♂	Do. (mounted in the gallery)	D. Ezra (23-3-1915).
11513	..	Stuffed skin and skull	....
11514	..	Do. . . .	....
11515	..	Do. . . .	....
11516	..	Do. . . .	....
11517	..	Do. . . .	....
11692	♂	Skin (mounted in the gallery)	....
11693	♂	Do. . . .	....
11694	♀	Do. . . .	....
11695	Young	Do. . . .	....
11696	..	Skeleton Do. . . .	....
11712	Young	Skull . . . .	....
11714 (I.M.3ccc)	..	Skull and brain in alcohol .	Purchased (July, 1867).
11715 (I.M.31)	Young ♂	Skull	W. Rutledge (20-3-1879).
11716 (I.M.3g)	S.-ad. ♀	Skin and skull	Do. (10-8-1880).
11717 (I.M.3r)	Young ♂	Part of skin and skull	Do. (1-6-1880).
11718 (I.M.3f)	S.-ad. ♂	Skull	Zool. Gardens, Calcutta (13-12-1879).
11719 (I.M.3j)	♀	Do.	W. Rutledge (3-3-1879).
11720 (I.M.3b)	Young ♂	Do.	. Purchased (28-7-1879).
11721 (I.M.3d)	S.-ad. ♂	Skin	Zool. Gardens, Calcutta (1880).
11722 (I.M.3w)	Young ♂	Skin and skull	W. Rutledge (19-5-1877).
11724	Young	Skull . . . .	....
11725 (I.M.3n)	Young ♂	Do. . . .	W. Rutledge (1-3-1876).

11729	♂	Skeleton	.	W. Nicholls (1853).
11730 (I.M.3hh)	Young ♀	Do.	.	Purchased (20-9-1869).
11731	♀	Do.	.	W. Rutledge (21-11-1919).
11732	♂	Part of skin and skeleton	.	Zool. Gardens, Calcutta (25-5-1914).
11737 (I.M.3k)	Young ♀	In spirit	.	J. Anderson (21-1-1867).
11738	..	Do.	.	Do.
11739 (I.M.3o)	♀	Uterus in spirit	.	Zool. Gardens, Calcutta (8-4-1879).
11766	Young ♀	Skull	.	W. Rutledge (12-6-1900).
11767	Do.	Skull without lower jaw	.	....
11768 (I.M.3q)	Young ♂	Skull	.	W. Rutledge (26-6-1875).
11769 (I.M.3aaa)	Young	Skull without lower jaw	.	Rajindra Mullick (1863).
11770	..	Do.	.	Zool. Gardens, Calcutta.
11771	Young	Do. (damaged)	.	....
11772	..	Do.	.	....
11773	..	Do.	.	....
11774	Young	Do.	.	....
11775	..	Skull (damaged)	.	....
11778	Young ♀	Skeleton (incomplete and without skull)	.	Purchased (24-11-1883).
11779 (I.M.3i)	Young ♂	Skull	.	W. Rutledge (7-4-1877).
11780	..	Do.	.	Purchased (20-10-1875).
11781	♀	Skeleton (incomplete and without skull)	.	W. Rutledge (15-1-1876).
11782	♀	Do.	.	Do. (7-1-1876).
11783	♂	Do.	.	Do. (19-5-1877).
11794	..	Incomplete skeleton	.	Zool. Gardens, Calcutta.
11795	..	Skull	.	....
11796	..	Skin and incomplete skeleton	.	.... (16-8-1904).
11797	Sub-ad. ♂	Skin and skeleton	.	Zool. Gardens, Calcutta (10-10-1916).
11798	Young ♀	Do. (without skull)	.	Do. (8-10-1916).
11800	..	Some bones of hand and foot	.	....
11801	..	Left first to fifth metacarpals	.	Asiatic Society.

11802	..	Second phalanges of hand and foot	Zool. Gardens, Calcutta. (8-10-1916).
11803 (I.M.3aaa)	Young ♂	Skull . . .	....
11804 (I.M.3eee)	Young ♂	Do. . .	Purchased (17-10-1870).
11805 (I.M.3bb)	Young ♀	Skull . . .	W. Rutledge.
11811	Young	Skin . . . .	....
11977	Young ♂	Skull (damaged)' .	..

Measurements of skulls.—

Z.S.I. Reg. Nos.	Sex	<i>l</i>	<i>cb</i>	<i>zw</i>	<i>ow</i>	<i>mw</i>	<i>c¹-m³</i>	<i>ml</i>
11696	..	210.5	176	172	85.5	69.5	65	167
11719 . .	♀	181	141.5	124	69.5	50.9	57.4	..
11773	215	171	165.5	84	66.5	62.5	..

Remarks.—The colour of the skins shows various shades of dark and reddish brown. Only two male skins are with cheek expansions. One of them appears to be subadult from its size.

As shown by the measurements (pp. 138, 139) the skull of *abelli* is much larger than that of *satyrus*. The variations in the characters of the cranial ridges have been much discussed by various workers (Anderson, 1881 ; Sonntag, 1924) and I have very little to add to their observations. Sonntag (1924) states that in the pterion the alisphenoid articulates with the parietal separating the squamosal from the frontal. This type of the pterion is considered by him as a distinguishing skull character of *Simia* from the African Simiidae. In conformity with Ashley Montague (1930) and others, my observations show that great variations exist in the composition of pterion in *Simia*. Thus, out of thirty five skulls examined, twelve have the squamosal united with the frontal, four have this arrangement on the left side only, and two on the right side only. Thus, in one and the same skull the two types of pterions may co-exist. The non-union of the orbital ridges across the nose is found to be a constant character throughout. Great variations are present in the number and the arrangement of the cranial foramina. The parietal foramen is observed in only one young skull. The number of infraorbital foramina varies from one to four on each side. The number of the condyloid foramina is one or two. Simognathism or the curvature of the facial line varies from almost a right angle (a very young skull) to nearly a straight line. The outline of the orbits varies from subcircular to elliptical.

Another feature of interest is the separation of small pieces of bones from the larger ones. In No. 11772, a small bone has separated away at the union of the sagittal and the lambdoidal sutures. In No. 11725, in addition to two similar bones there is another small bone separated at the point where the squamosal, the occipital, and the parietal meet. In 11775, there is separation of a piece of bone from the lower border of

the parietal ; and in Nos. 7971, 11719, and 11766, similar bones are present on each side of the occipital region.

The cusps of molars vary from four to five. In No. 11773, there is a supernumerary upper molar on the left side. On the right side it has not yet emerged. In No. 11767, there are only two molars on the left side, which of course, is not due to age.

Pan troglodytes troglodytes (Blumenbach).

1799. *Simia troglodytes* Blumenbach, *Handb. d. Naturgesch.*, p. 65 (Mayumba, French Congo).

Material.—

7671	..	Skin (mounted in the gallery)	Purchased (Berlin Mus.).
11736 (I.M.c)	Adol. ♂	In spirit .	British Mus. Exchange.

Remarks.—In the unsexed specimen (No. 7671), the tan spots on the face are prominently present specially on the nose. The forehead is thinly haired or almost bald. The parting of the hairs on the crown is partially noticeable. The fur is long, black, and somewhat soft. The hairs are noticeably scanty on the belly and on certain parts of the legs and the arms. In the other specimen (No. 11736) also the parting of the hairs on the crown is only faintly visible. There is no bald spot on the forehead. The cheeks are hairy and there is a very small beard on the chin. The ears are markedly large.

Distribution.—West coast of Africa (undefined).

Pan troglodytes subsp.?

Material.—

10993	♂	Skin (mounted in the gallery)	Zool. Gardens, Calcutta.
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Remarks.—The face has a brownish red tinge. There is a marked parting of the hairs on the crown with a frontal bald spot. The hairs are abundant and fall over the ears and the regions between the eyes and the ears as in the youngs of *P.t. verus* Schwarz. The chin is beardless. The fur is black, long, coarse, and quite abundant, but thin on the belly and certain parts of the legs and the arms. The hands and the feet are black.

Distribution.—?

Pan troglodytes subsp.?

Material.—

11691	..	Skeleton (mounted in the gallery).
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Remarks.—The superciliary arches are not well developed. The brain case does not steeply descend behind from the parietal region. The face is markedly concave.

Distribution.—?

Gorilla gorilla gorilla (Savage and Wyman).

1847. *Troglodytes gorilla* Savage and Wyman, *J. Boston Nat. Hist. Soc.*, V., p. 417 (Mpongwe, Gaboon River).

Material.—

11687	♂	Skin (mounted in the gallery)	....
11688	♀	Do.	....
11689	♂	Skeleton (mounted in the gallery)	....
11690	♂	Do.	....

Measurements of skulls.—

	<i>l</i>	<i>cb</i>	<i>zw</i>	<i>ow</i>	<i>mw</i>	<i>c¹-m³</i>	<i>ml</i>
♂	306·7 (approx.)	210·4	171	112·5	73·0	..	192
♀	231·4	175	149	111	62·5	84	159

Remarks.—The hairs of the male are black at the tips with alternate black and brownish bands below. On the back the hairs are shorter and paler, and there is a very broad transverse pale band in the middle of the back. The hairs on the legs are also paler. The head, the neck, and the chest are naked. A peculiar character of the male specimen is the union of the third and the fourth fingers. In the female the colour on the whole is paler. In the skulls, the occipital regions are broad with the centres of the lambdoidal crests blunt.

Distribution.—North and North-West of the Congo river, Africa.

Family HOMINIDÆ.

Homo sapiens Linnaeus.*Material.*—

1758. *Homo sapiens* Linnaeus, *Syst. Nat.*, ed. 10, p. 20.

11788	♂	Skeleton (mounted in the gallery).	India.
11789	Young ♂	Do.	Do.
11790	Young ♀	Do.	Do.
11791	Young ♀	Do.	Do.
11977	Young ♀	Mounted skeleton	Do.
11978	Ad.	Incomplete skeleton

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