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THE ZOOGEOGRAPHY OF SEXUAL DICHROMATISM IN THE BORNEAN GRIZZLED SURELI, *Presbytis comata* (Desmarest, 1822)

Douglas Brandon-Jones

INTRODUCTION

The grizzled sureli subspecies, *Presbytis comata canicrus* in east Kalimantan, Indonesia and *P. c. sabana* in Sabah, Malaysia, are chromatically monomorphic. The female of the central north Bornean subspecies however, diverges in pelage colour from the male by adopting at adulthood, a decidedly closer cephalic resemblance to that of *Presbytis potenziani* which is endemic to the Mentawai Islands, off the west coast of Sumatra, Indonesia. Categorical denials by Hose (1893) and Banks (1931), who had each collected and observed monkeys in Sarawak, Malaysia, for a significantly longer period than any rival, of the existence in coastal north Sarawak of the distinctive adult female morph, strongly indicate that the local subspecies, *P. c. hosei* with type locality Niah, is chromatically monomorphic. This implies that the inland population should be recognized as a distinct sexually dichromatic subspecies, *Presbytis comata everetti* (Thomas, 1893), with type locality Mount Kinabalu, Sabah, Malaysia. The geographic distribution of the four Bornean subspecies of *P. comata* is mapped and gazetteered. That of *P. c. hosei* has always been very small, and the subspecies is now probably extinct.

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ABSTRACT

The grizzled sureli subspecies, *Presbytis comata canicrus* in east Kalimantan, Indonesia and *P. c. sabana* in Sabah, Malaysia, are chromatically monomorphic. The female of the central north Bornean subspecies however, diverges in pelage colour from the male by adopting at adulthood, a decidedly closer cephalic resemblance to that of *Presbytis potenziani* which is endemic to the Mentawai Islands, off the west coast of Sumatra, Indonesia. Categorical denials by Hose (1893) and Banks (1931), who had each collected and observed monkeys in Sarawak, Malaysia, for a significantly longer period than any rival, of the existence in coastal north Sarawak of the distinctive adult female morph, strongly indicate that the local subspecies, *P. c. hosei* with type locality Niah, is chromatically monomorphic. This implies that the inland population should be recognized as a distinct sexually dichromatic subspecies, *Presbytis comata everetti* (Thomas, 1893), with type locality Mount Kinabalu, Sabah, Malaysia. The geographic distribution of the four Bornean subspecies of *P. comata* is mapped and gazetteered. That of *P. c. hosei* has always been very small, and the subspecies is now probably extinct.

INTRODUCTION

From 1893 to 1940, the Bornean grizzled sureli was almost invariably treated as polyspecific. Chasen (1940: xv, 78) considered it not only monospecific, but also conspecific with the grizzled surelis of Java and Sumatra. Although rejected by Medway (1970), Chasen's arrangement is vindicated by recent research (Brandon Jones, 1993; 1996a, b). Chasen's nomenclature, however, is unacceptable. Owing to disagreement as to whether it is applicable to the leaf monkeys, the macaques or the orang-utan, the genus-group name, *Pithecus* Geoffroy Saint-Hilaire and Cuvier, 1795 was suppressed in Opinion 114, International Commission on Zoological Nomenclature, 1929. Napier and Groves (1983) and Napier (1985: 47) have demonstrated that *Simia aygula* Linnaeus, 1758 pertains to the crab-eating

macaque, *Macaca fascicularis* (Raffles, 1821) and not to the Javan sureli as claimed by Thomas and Wroughton (1909: 373). Brandon-Jones (in Napier, 1985: 38) and Weitzel and Groves (1985: 401) concluded that *Presbytis mitrata* Eschscholtz, 1821 is a senior subjective synonym of *Presbytis fusco-murina* Elliot, 1906. The most senior available name for the Javan sureli is therefore apparently *Semnopithecus comatus* Desmarest, 1822. The nomenclature followed here is that advocated by Brandon-Jones (1984; 1996a).

Presbytis comata hosei (Thomas, 1889) was described from an adult male holotype skull and round skin (ZD.1889.1.8.1) collected by C. Hose and preserved at the Natural History Museum, London. Hose (1893: 11) recorded that it "was shot at a place called Niah in the Baram district", Sarawak, Malaysia. Thomas (1893a: 582) noted "the most striking uniformity in...coloration" in "many specimens, all from much the same district", sent to Europe by C. Hose. He therefore felt compelled to employ an adult female skull and round skin (ZD.1892.10.19.1), collected by A. [H.] Everett's hunters in March 1892 at about 3500 feet on Mount Kinabalu, Sabah, Malaysia, as holotype of a "closely allied...but...new" species, *Semnopithecus everetti*. It was principally distinguished by the expansion of the black crown coloration onto the forehead, nape and laterally to the middle of the ear. A spot just above the confluence of the eyebrows was pale yellowish white.

Two paratypes supplied by Hose, were collected at 3000 feet on Bukit Dulit, Sarawak, in June [1892]. One of these is adult female skull and round skin, ZD.1892.10.20.1. The other is unaccounted for. Thomas (1893a) inferred that *S. everetti* was purely montane. *S. hosei* occurred both in the plains and at considerable altitudes on Bukit Dulit, but its existence on Mount Kinabalu was unconfirmed. Before seeing the holotype of *S. hosei*, Whitehead (in Thomas, 1889a) had described as grey "with white all over the sides of the head and throat", a species he had seen frequently "in certain patches of forest on and near Mount Kina Balu". He had preserved the skull only of a specimen obtained at 4000 feet. Thomas (1893a) now fairly confidently reassigned this skull to *S. everetti*, while conceding the possibility of intergradation with *S. hosei*, and the concomitant reduction of *S. everetti* to subspecific rank. Hose (1893) had demurred at their specific separation, but acknowledged the uniformity of pelage colour in the specimens he had since obtained. Both species were found on Bukit Batu Song as well as Bukit Dulit, but *S. everetti* had as yet (i.e. from 1884 to 1892, see Hose, 1893: 4) not been found in the low country. This observation, reiterated by Hose (1929: 107), was substantiated by Banks (1931: 102), who asserted that "it is never found

on the lowland plains or in coastal areas but inhabits only the hilly districts and mountains from their foot up to as much as 4 and 5000 feet".

The only live example of the *S. everetti* morph Banks (1931) had seen, was an individual which left its troop, descended to the lower canopy and threatened Banks' party. Not only had it proved "to be a very large female, (weighing 14lbs. against the 10lbs. and 11lbs. of male *hosei*) but a typical white-fronted immature male *hosei* was shot from the same flock to which this *everetti* belonged". Everett (in Banks, 1931: 102) noted that "of ten Kinabalu specimens, the eight females were *everetti* and two males *hosei*". Prompted to further investigation independently by Shelford and Chasen, Banks "made a point of collecting these monkeys and comparing the [Sarawak Museum] skins already collected". He reported that five adult dark-browed skins were female. Three "half grown" and five adult pale-browed skins were all male except one. Banks did not specify the age of this female, but stated that it "was only obtained from the headwaters of the Baram River after four males had been secured". He also recorded two females of unspecified age in transitional coat. Banks (1931: 103) concluded that: "Nearly all *hosei* are male, all *everetti* are female; *hosei* lives on lowlands and mountains, *everetti* only on mountains, mixed flocks being recorded where their distribution overlaps". This was "strong if not complete evidence...that they are really one kind, *everetti* being perhaps but the old female of *hosei*...What old *hosei* do down on the plains where *everetti* is absent is so far uncertain but it appears that the female of this species is dimorphic".

Chasen and Kloss (1932: 7) examined 24 skins, including probably the same two "older females...(skulls not seen)" in transitional coat, examined by Banks. They concluded that it "seems probable that the juveniles of both sexes are similar and that females, when immature, pass through a phase in which they are very like the adult male". Their preoccupation as to whether "*everetti*" could be categorised as a "submontane form", led them to neglect the evidence indicating its absence from the coastal area of north Sarawak. Examination of the material in the British Museum convinced Pocock (1935: 920), "in 1928, that the differences [between *hosei* and *everetti*] are sexual, and this conclusion was confirmed by Chasen and Kloss [1932] on a different series of skins." W.C.O. Hill (1939: 300) cautiously reiterated this conclusion. Allen and Coolidge (1940: 140) claimed that their skins confirmed "that the adult female departs in head pattern from the normal coloration of the species which led to the description of *everettii* [sic]. Our juvenile female has the head pattern of the adult male which differs from the two adult females".

Hooijer (1948: 236) noted that the "head markings of *P[resbytis] aygula hosei* (Thomas) show a sexual difference, the white of the forehead, temples and cheeks being less extensive in the females than in the males. One adult female from Mt. Kalulung has but a small median white patch on the forehead, but the white on the sides of the neck is as marked as in the males". Medway (1965: 79) employed the same scientific nomenclature. Davis (1958: 126; 1962: 61), Medway (1977: 67) and Payne *et al.* (1985: 226) treated *Semnopithecus everetti* as a synonym of "*Presbytis hosei hosei*". Davis (1962: 61) explained that in "females, originally described as a separate species (*everetti*), the white is less extensive, sometimes absent on crown and forehead". Medway (1970: 533) elaborated: "The head pattern of *hosei* is sexually dimorphic, with more extensive dark pigmentation in old females than in males. In northeastern Sabah, *hosei* is replaced by *sabana* Thomas, in which the head pattern shows less divergent sexual dimorphism...Further south and east, the species is represented by a third gray and white subspecies, *canicrus* Miller, which exhibits no sexual dimorphism". Weitzel *et al.* (1988: 52) remarked that "Thomas [1893a] mistakenly described the female as a separate species, *everetti*, noting the difference in pelage. To add to the confusion, the skins sent by Everett had been prepared over a campfire. This left the white parts bright yellow, which Thomas took to be the colour of what is in fact a fabricated species".

DISCUSSION

Ironically, were it not for Bornean blowflies, *Semnopithecus everetti* Thomas, 1893 might never have been described. On 19 March 1888, John Whitehead's party shot four "large grey-backed, white-chested monkeys" on Mount Kinabalu (Whitehead, 1893: 183). Both sexes were probably represented, although Everett (in Banks, 1931) collected two males and eight females; Banks' Ulu Baram tally was four males and one female; and Whitehead's description of the species (in Thomas, 1889a) as "white all over the sides of the head and throat", allows that they may have all been male. Had blowflies not intervened and Thomas had examined the four skins, the sexual dichromatism of the species might have been evident. As it was, he received only a male skull (ZD.1895.10.4.41, probably the one so adeptly prepared for Whitehead by Kuro, the suspected head-hunter). The imputation that it is a fabricated species, is therefore particularly unwarranted.

The existence of both white- and cream-marked *S. hosei* museum specimens alerted Shelford (in Banks, 1931) to the artificiality of the cream