



Systematic Notes on the Philippine Slow Loris, *Nycticebus coucang menagensis* (Lydekker, 1893) (Primates: Lorisidae)

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The slow loris described as *menagensis* (genus *Nycticebus*), which was collected as part of the Menage Scientific Expedition to the Philippines in the early 1890s by Frank S. Bourns and Dean C. Worcester, has had a wide variety of problems associated with the authorship of the description, the lack of a type specimen, and the lack of a type locality. Herein we review the published and unpublished field notes from the collectors, all subsequent publications, and all extant specimens. We (1) reconfirm that the correct name for the Philippine slow loris is *Nycticebus coucang menagensis* (Lydekker, 1893); (2) designate the type locality as the vicinity of Tataan, Tawitawi Island, Republic of the Philippines, and the date of collection between 5 October and 5 November 1891; (3) conclude that the specimen upon which the name *menagensis* is based no longer exists; and (4) report a series of 17 additional specimens from the vicinity of Tataan (topotypes) collected in late October and early November 1892, which are deposited at the Bell Museum of Natural History in Minneapolis and at the Field Museum of Natural History in Chicago. Most of these extant specimens are adults with crania in excellent condition; some include postcranial elements. We provide cranial measurements for them.

KEY WORDS: slow lorises; *Nycticebus coucang*; Lorisidae; Philippines.

Slow lorises (family Lorisidae) of the genus *Nycticebus* are found in Southeast Asia from the Philippines, Borneo, Java, and Sumatra to Viet-

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nam, South China, and Assam. In the most recent revision of *Nycticebus*, Groves (1971) recognized two species, *N. pygmaeus* and *N. coucang*, including four subspecies of the latter. The subspecific name of one of these, *N. coucang menagensis* from the Philippine Islands, has long been a subject of confusion. The confusion, errors, and erroneous interpretations associated with these slow lorises are due, in part, to an array of unfortunate events dating back to the early 1890s. We (Timm and Birney, 1980) detailed some of the misfortune that befell the Menage Scientific Expedition to the Philippine Islands and Borneo and, subsequently, the specimens collected; however, additional problems remain with the slow lorises. The purposes of this paper are (1) to correct the errors and erroneous assumptions associated with *N. coucang menagensis*; (2) to specify the type locality for this subspecies as vicinity of Tataan, Tawitawi Island, Republic of the Philippines; and (3) to provide new information on the specimens that were collected on the Menage Scientific Expedition (Table I).

In his revision of *Nycticebus*, Groves (1971, p. 50) regarded Nachtrieb as the author of the name *menagensis* and considered the type locality to be in some doubt, reporting it as "Tawitawi: probable type locality of *menagensis* Nachtrieb." First use of the name *menagensis* was indeed by Henry F. Nachtrieb in 1892, when he published the description of a supposedly new species of primate from the Philippines. A separate document describing a single animal in detail was written by Dean C. Worcester and enclosed with his letter to Nachtrieb, then the president of the Minnesota Academy of Sciences, as part of a progress report on his collecting efforts with Frank S. Bourns (Bourns and Worcester, 1894; Worcester and Bourns, 1905; Timm and Birney, 1980). Worcester and Bourns represented the field crew of the so-called Menage Scientific Expedition, which collected approximately 4000 specimens of birds, >500 mammals, and some anthropological artifacts in the Philippines and Borneo from 1890 to 1893. Nachtrieb (1892) published the new species description based solely on Worcester's document despite the fact that he himself had not seen the specimen. However, Nachtrieb did not associate the proposed name, *menagensis*, with any generic name, stating only that it was ". . .an undescribed member of the Lemuridae" (1892, p. 147).

Although Nachtrieb (1892) used the word "Lemur" in the title of the new species description, we interpret this usage, as have other subsequent authors, to mean lemur as an inclusive common name for the family instead of a generic designation for the new species. *Lemur* was then, and still is, a valid generic name. It is clear from both the title and the text that it was not his intention to assign this animal to a genus for the following reasons. In the title of his paper, the specific epithet, *Menagensis*, appears in parentheses and is not italicized. The first sentence of the paper reads in

Table I. Selected Cranial Measurements (mm) of 11 *Nycticebus coucang menagensis* Collected on Tawitawi in October–November 1892 by Bourns and Worcester

Catalog No.	Museum acronym ^a	Sex	Greatest length of skull	Zygomatic breadth	Least orbital constriction	Least postorbital constriction	Breadth across tooth row	Length of maxillary tooth row	Mastoidal breadth	Mandibular length	Height of coronoid process
4176	MMNH	M	54.4	39.8	4.5	18.8	18.7	20.6	34.5	34.5	19.4
4178	MMNH	M	55.9	40.3	4.2	18.9	18.7	21.1	35.1	35.6	20.0
4180	MMNH	?	48.8	—	3.1	18.8	—	—	29.7	29.3	14.7
4181	MMNH	?	52.7	36.2	4.8	18.2	17.6	20.6	32.2	32.1	18.0
4182	MMNH	?	56.4	39.3	5.2	18.9	18.6	22.0	36.3	35.2	20.8
4183	MMNH	?	49.4	33.0	4.0	19.4	17.2	—	31.6	30.7	14.9
4185	MMNH	?	54.7	37.5	4.5	19.1	17.8	21.2	34.2	34.2	19.7
4476	MMNH	F	54.4	39.5	4.3	19.3	18.7	20.7	34.5	34.9	19.1
4477	MMNH	?	55.7	39.5	4.0	17.8	18.7	21.2	34.9	34.9	20.7
1168	FMNH	F	55.5	38.2	4.8	19.0	18.6	20.5	34.5	33.8	20.8
129502	FMNH	M	57.0	41.5	5.3	20.0	19.1	20.4	36.2	32.7	20.5

^aFMNH—Field Museum of Natural History, Chicago; MMNH—James Ford Bell Museum of Natural History, Minneapolis.

part: “. . . of what appears to the Expedition to be an undescribed member of the Lemuridae” (p. 147). Even more telling is one of the paper’s concluding sentences that reads, “The description sent the Academy is insufficient for determining the genus” (p. 148). Thus, it is clear that Nachtrieb was uncertain as to the generic placement of this animal based upon Worcester’s letter.

The formation of an acceptable binomial for the Philippine slow loris awaited compilation of the Zoological Record for 1892 by Lydekker (1893), wherein he presented the combination *Lemur menagensis* along with reference to the original account of the species published by Nachtrieb (as written by Worcester). Thomas (1908), apparently unaware of Lydekker’s (1893) use of the combination *Lemur menagensis*, credited Trouessart (1898–1899) as the author, because he referred to *Nycticebus menagensis* in his *Catalogus Mammalium*. Subsequent authors, including Jenkins (1987) in her recent catalog of the Primates in the British Museum, have continued to list Trouessart as the author of *menagensis*. However, we concur with Lyon (1909) that Lydekker, and not Nachtrieb, Worcester, or Trouessart, is the correct authority for the species group name *menagensis*. Following the revision by Groves (1971), which regards *menagensis* as a subspecies of *N. coucang*, the correct scientific name of the Philippine slow loris is *Nycticebus coucang menagensis* (Lydekker, 1893).

In our report on mammals collected by the Menage Expedition (Timm and Birney, 1980), we correctly followed Lyon, as discussed above, in regarding Lydekker as the authority for the name *menagensis*. However, we incorrectly considered the series of this loris obtained by Bourns and Worcester as the type series on which the name *menagensis* is based. Recent study of field notes, specimen numbers, dates of letters, and published papers reveals that none of the existing specimens (those we reported) had yet been collected when Worcester wrote his report (dated 12 November 1891) to Nachtrieb or when Nachtrieb submitted the manuscript for publication (12 January 1892). Field notes written by Worcester and Bourns clearly record three important facts: (1) at the time the description was written the only available specimen was labeled with their field number 44; (2) field numbers of the currently existing material all are in the range of 512 through 531; and (3) these specimens were obtained on a subsequent trip to Tawitawi made in later October and early November 1892, 11 to 12 months after the original letter of description was written. As best we can determine, the original specimen (with field number 44), upon which Worcester based his description, no longer exists.

This original specimen apparently did not make it back from the Philippines to Minnesota. Marcus Ward Lyon, Jr., Curator of Mammals at the U.S. National Museum of Natural History in Washington, D.C., stated

(1906, p. 531) that he had received a letter from Nachtrieb dated 7 June 1906, in which Nachtrieb wrote, "I can not find out whether that specimen of *menagensis* ever reached Minneapolis or not . . . the account of the 'New Lemur' was not my account . . . Mr. Worcester, I think, was the author of the account printed . . . the idea of giving a specific name before having determined the generic name struck me as rather odd . . . lost boxes . . . possibly this lemur was in that lot." These brief notes written by Nachtrieb to Lyon are quite informative in that they (1) state as early as 1906 that the original specimen of *Nycticebus* was not with the other specimens at Minneapolis; (2) reconfirm that neither Nachtrieb nor Worcester had placed this new lemur in a genus; and (3) confirm the problem of authorship of the original account. Nachtrieb quite clearly submitted, and subsequently published, Worcester's document describing this new lemur. Although Nachtrieb denies in the letter to Lyon that he was the author of the 1892 account, he did not publish a formal retraction nor did he formally credit the paper to Worcester.

In studying all available correspondence and the published works from the time, we interpret that Nachtrieb considered himself as the transmitter of the description to *Zoologischer Anzeiger*, and not its author per se. Nachtrieb clearly added a short introduction (two sentences) and a short conclusion (two sentences) to the description he received from Worcester. Worcester's text forms the body of the paper and is entirely enclosed within quotation marks. However, in the published account he does not mention Worcester or Bourns by name but, instead, refers to them as "the Expedition."

Although the type locality for *menagensis* has been in question since the early 1900s, Jenkins (1987) quite correctly stated that Tawitawi is the type locality for *N. coucang menagensis*. In studying the correspondence and published works, we now feel that there is no doubt that the first specimen, the one upon which the name *menagensis* is based, came from Tawitawi. Furthermore, we now can further restrict the type locality and we can fix a narrow range of dates of collection.

The confusion over the locality of collection arose, at least in part, because there is no mention of a locality in the original published description. In Worcester's letter (a progress report) to Nachtrieb dated 12 November 1891, 1 week after they returned from their first trip to Tawitawi, he described how the animal was obtained and provided considerable additional information pertinent here:

I now come to the curious mammal of which I enclose description. Shortly before we left for Tawi Tawi the Jesuit priest here, Padre Marche, informed us that just before our arrival he had made a trip to Tawi Tawi, and had bought of the Moros there a curious animal. He said it had the face of a bear, the hands of a monkey,

moved like a sloth, and was called "cocam" by the natives. He sent it as a gift to Padre Sanchez, the priest in charge of the Jesuit museum, in connection with the college at Manila. I believe nothing of this kind has been found in the Philippines before, and it makes an important addition to the rather meager list of Philippine mammals. It is evidently one of the Lemuridae, but as generic characteristics are not given in the book I have, I cannot go farther. I am very sure the creature is nocturnal. We had a hard time to get a single specimen, but I have got a track of a place where it is abundant. We expect to return to Tawi Tawi, and may obtain additional specimens. I partially skinned the specimen we have and then preserved it bodily in alcohol, so that the skin can be saved and an anatomical study made if desirable. (Worcester and Bourns, 1905, p. 149)

Worcester's (1898) narrative of their work on Tawitawi states that they used the Spanish garrison at Tataan, which is on the north coast of the island, as a base camp during their entire stay on the island, and because of the "piratical, slave-hunting Moros" they avoided the south shore. Also, both the Spanish and Malay soldiers and the local people feared being in the forest at night, thus making it unlikely that they could have taken an extended collecting trip or even camped out one night. The longest collecting trip from Tataan of which we found evidence was 6 to 8 mi to a river near the center of the island. Thus, we can specify that this first specimen came from the vicinity of Tataan.

These accounts now allow us to establish several important facts including the following: (1) Worcester and Bourns knew of the presence of the cocam on Tawitawi before their 1891 trip there—they did not, however, see the animal that the Jesuit priest obtained and sent to Manila; (2) the animal upon which Nachtrieb's published description was based was obtained on the first trip to Tawitawi and was the only one they obtained on that trip; and (3) this animal came from the vicinity of Tataan and was collected between 5 October and 5 November 1891.

Bourns was able to return to Tawitawi 1 year later, in late October and early November of 1892, and obtained the additional specimens they were seeking. Although we cannot document it, the specimens collected by Bourns in 1892 (all of those extant today) almost certainly also came from the vicinity of Tataan and are likely from the same population as the original specimen.

In our previous paper (Timm and Birney, 1980), we stated that the collections of the Field Museum of Natural History contained a single specimen of *Nycticebus coucang* from Sarawak, Malaysia (FMNH 1168). Locality data for this specimen were taken for us directly from the specimen tag, and we accepted it because Worcester and Bourns collected in Sarawak for some time after their work in the Philippines. However, subsequently we examined this specimen and conclude that it is part of the series collected on Tawitawi in 1892. The original field number (519) is still associated with the specimen. The field number 519 falls within the range (512–531) of those used by Bourns on Tawitawi in October and November of 1892.

The mislabeling of this specimen almost certainly occurred at the time it was received and cataloged at the Field Museum in the mid-1890s. Additionally, the original field number (519) was misread at the time of cataloging as 319, and since then that number has been associated erroneously with the specimen. These errors are especially unfortunate, as the Field Museum's extensive primate collections are heavily used by a wide array of investigators. The specimen is now properly labeled. Thus of the apparent total of 21 specimens collected by Bourns and Worcester, we can account for 17.

In 1980 we reported that one specimen from this series collected on Tawitawi by Worcester and Bourns was housed at Western New Mexico University (WNMU) in Silver City. Subsequently, Dr. Bruce J. Hayward has generously transferred this specimen to the Field Museum of Natural History, where it will be more readily accessible to researchers interested in both primates and Philippine mammals. The specimen consists of the skull and partial skeleton of an adult male (field number 529) and is in excellent condition. It is now cataloged at Field Museum as number 129502 and has been installed into the main primate collection there.

Fooden (1991) recently reviewed and mapped the geographic distribution of *Nycticebus coucang* in the Philippines and corrected a spurious report of a specimen allegedly collected on Mindanao. The type locality of *N. c. menagensis* on Tawitawi is now the easternmost documented record of the species.

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