

28. On a Remarkable Case of Affinity between Animals inhabiting Guiana, W. Africa, and the Malay Archipelago. By OLDFIELD THOMAS, F.R.S., F.Z.S.*

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In the lower Vertebrates a considerable number of cases are known where there is an undeniable and direct affinity between forms inhabiting the opposite sides of the Atlantic, but among mammals such cases are excessively few, so that the discovery of an additional one deserves a special record. That this case, like the others, may be explainable without recourse to a land-bridge—which there is little reason to believe persisted into mammalian times—does not make it any the less advisable to publish the case, so that it may be properly considered by students of the subject.

Examples of a striking relationship between certain mammals of West Africa and of the Malay region are of course numerous, however difficult to explain quite satisfactorily, but it is noteworthy that the present instance of transatlantic affinity is also one of the best marked of the West Africa-Malay cases, and one that has been often recorded in that connection.

This is the case of the Pigmy Squirrels, of which there are some half dozen species in the Malay Archipelago, while a single form—*Sciurus minutus* Du Chaillu, the basis of my genus *Myosciurus*—inhabits Western Africa. Of the close relationship of *Myosciurus* to the Eastern *Nannosciurus* there can be no doubt whatever.

In 1789 Buffon described ‡ a little squirrel from Cayenne as “Le petit Guerlinguet,” a technical name, *Sciurus pusillus*, being attached to it by Desmarest later on. Then in 1867 Gray described a small squirrel bought from the dealer Parzudaki and said to have been collected by Castelnau in Brazil, as *Macroxus kuhlii*, and this was, and I believe rightly, synonymized with *S. pusillus* by Alston and other authors. Probably the specimen was not collected by Castelnau at all, but was accidentally included with Castelnau specimens by Parzudaki.

The skulls, both of this specimen and of another which was obtained by Mr. H. C. Rothey in Cayenne in 1845, were unfortunately so broken that no proper judgment on the characters

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† [The complete account of the new genus described in this communication appears here, but since the name and a preliminary diagnosis were published in the “Abstract,” No. 133, 1914, the genus is distinguished by the name being underlined.—ED.]

‡ Hist. Nat. Supp. vii. p. 263, pl. 66.

of the animal could be obtained from them, and merely on the basis of its small size and its possession of five cheek-teeth it has been placed in *Microsciurus*, a group of true squirrels found in Central and North-western South America.

Now at last the Museum has received from Mrs. McConnell, widow of the late Mr. F. V. McConnell, so long and frequent a contributor to the Museum collections, three specimens of the Guianan Pigmy Squirrel, one of them with a practically perfect skull.

An examination of this skull shows that instead of being in any way related to *Microsciurus* or other forms of American Sciurinae, the Guiana Squirrel is a member of the *Nannosciurinae*, in which it forms a special genus closely related to *Nannosciurus*. This genus may be diagnosed as follows:—

SCIURILLUS.

Abstract P. Z. S. 1914, p. 36 (May 12th).

General structure of skull and number of teeth as in *Nannosciurus*, agreeing with that genus and differing from *Myosciurus* in all the characters recorded by me* as distinguishing these genera from each other. An ectopterygoid present, broad, but not so long as in *Nannosciurus*.

Postorbital processes over posterior root of zygoma. Interorbital space as broad as the brain-case. Zygomata very broad and strong. Anteorbital foramen small, far in front of the teeth, as in *Nannosciurus*, its opening continued upwards as a peculiar curved groove along the front edge of the anteorbital fossa.

Cheek-teeth $\frac{5}{4}$, as in *Nannosciurus*. Molars low, as in other *Nannosciurinae*, their set normal, as in *Nannosciurus*, the last molar not facing outwards as in *Myosciurus*. Their upstanding cusps, both above and below, very little developed. Their surface more smoothly basin-shaped, with less evident transverse ridges.

Type. Sciurus pusillus Desm.†

As a genus, *Sciurillus* is very closely related to *Nannosciurus*, the reduction in the prominent transverse ridges of its molars, the peculiar structure of its anteorbital foramina, and its high but abruptly truncated ectopterygoids being its chief distinguishing characters. From *Myosciurus*, though both are undoubtedly of the same group, it is more widely separated.

In presenting this highly interesting case to students of geographical distribution, I may point out that the whole of North America is full of Squirrels of the other subfamily, the Sciurinae, and that these have penetrated into South America as

* Ann. Mag. N. H. (8) iii. p. 474 (1909).

† Should any doubt be thrown on the determination of *Sciurus pusillus*, the genus should be considered as founded on the species represented by the type of *S. kuhlii*.

far as the tropic of Capricorn, and Sciurinae cover the whole of Europe, North Africa, and the continent of Asia, the Nannosciurinae being in the Old World rigidly restricted to a small part of West Africa and to the Malay Archipelago. The addition of Guiana to the known distribution of the group is therefore of extraordinary interest.

Here, if ever, there would seem to be a case supporting the persistence of the now generally admitted * transatlantic connection into mammalian times, but bearing in mind how other cases—such as those of the Tapirs and Opossums—have become weakened by the discovery of fossil members of the groups in N. America, Europe, and N. Asia, it would be wise not to lay too much stress upon it, isolated and absolutely tropical as are the three genera of Nannosciurinae.

Moreover, the fact that in every character which separates the other two, the Guianan *Sciurillus* agrees with the Malay *Nannosciurus* and not with the African *Myosciurus*, is also against this case having any connection with the ancient "Gondwana-land," which at a time almost or quite pre-mammalian is supposed to have extended from Eastern S. America across Africa into the Malay region.

* Cf. Andrews, 'Tertiary Vertebrata of the Fayum,' Introduction, p. xxvi (1906).



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