

specimens). In Collett's specimens the pectorals have 23 rays; in Lütken's they have 16-18, in rare cases 19 rays. The variation is accounted for by Lütken as dependent on difference of age. As I have already stated, my specimens have 18 rays, although they are very young. In both specimens the width of the head is greater than that of the body and equal to the length of the pectorals. The eyes are situated much nearer the snout than the neck. The ventrals lie exactly on the line that is supposed to connect the gill-openings at their base. Both individuals are devoid of scales. The mucous membrane of the mouth is white.

The smaller specimen (from Murchison's Sound) is nearly identical with Lütken's fig. 5 in the 'Dijmphna-Togt' with regard to both shape and colour. In both specimens the sides of the body and the dorsal are marked with irregular square spots with blackish margins. These spots are smaller and more numerous in the smaller specimen, which is much paler both in prevailing colour and marks.

Lund, Sweden,  
May 1895.

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XXXIV.—*Note on the Water-Voles of Bosnia, Asia Minor, and Western Persia.* By G. E. H. BARRETT-HAMILTON.

IN looking over the specimens of Water-Voles preserved in the British Museum collection I find examples of two forms from Bosnia and Asia Minor which I am unable to associate with any of the known subspecies found in Western Europe, and one of which at least seems to me to have been hitherto undescribed.

The Water-Voles of Western Europe, as is well known, have been the subject of a good deal of species-making, and our knowledge of the synonymy and relations of the various local races or subspecies is at present in a rather confused condition. My friend Mr. Gerrit S. Miller, Junior, Assistant Curator of Mammals at Washington, whose masterly paper "On the Genera and Subgenera of Voles and Lemmings" \* has already cleared away so many difficulties, has, in addition, imposed upon himself the task of unravelling the tangle which surrounds the subgenus *Arvicola*, Lacépède, to which the Water-Voles belong. As I do not wish to anticipate anything

\* U.S. Department Agriculture (Div. of Orn. & Mamm.): North-American Fauna, no. 12 (July 23, 1896).



which he may have to say, I merely give a description of the subspecies, leaving their relationships to be more exactly determined by Mr. Miller.

The specimens from Van, Asia Minor, were presented to the British Museum by Major W. H. Williams, R.A. They formed part of a valuable collection of mammals which has yielded two new species in *Ellobius lutescens* and *Alactaga Williamsi*, both of which were described by Mr. Oldfield Thomas in the 'Annals' for Sept. 1897, ser. 6, vol. xx. pp. 308-310. They belong to a large form allied to *M. Musignani*, de Selys, of South Europe, but readily distinguishable by the greater thickness of the fur, the colour of which on the upperside is yellowish brown rather plentifully sprinkled with black-tipped hairs, especially on the dorsal line and upper surface of the head. The upperside of the animal has thus a very peculiar grizzled appearance, which I have not observed in any other subspecies. The underside is whiter than in any other Water-Vole with which I am acquainted, Scandinavian, British, and Spanish specimens being very rufous underneath. Of the two males at my disposal, the larger and adult has the underside quite white, contrasting by a clearly marked line of demarcation with the yellowish-brown colour of the flanks; the smaller and younger specimen has the central portion of the belly slightly washed with yellow. In both the white colour is continued in a modified and less pure form to the upper lips, and also extends higher up on each side of the neck than in other Water-Voles. The tail is slightly bi-coloured.

The dimensions are given below. I find no distinctive characters in the skull; the nasals are distinctly compressed posteriorly, but I am not sure if that character will hold good for a series of specimens.

It seems best to identify the Kurdistan Voles (at least provisionally) with the form which de Filippi found very commonly in Western Persia and to which he gave the name of *persicus* (Viag. Persia, 1865). His description is not at all full, and consists mainly in the statement (on page 196) that *M. persicus* is markedly lighter on the underside than are the Water-Voles of Europe and (on page 344) that it may be distinguished from the ordinary race of Europe "per il colore che passa al fulvo sui fianchi, ed al bianco nelle parti inferiori. I caratteri osteologici sono assolutamente i medesimi." Yet since, so far as it goes, this description agrees with the specimens collected by Major Williams, I prefer to



make use of de Filippi's name rather than to add another to a genus already overburdened.

The British Museum possesses the skull of a Water-Vole from the Altai Mountains, which, in the absence of a skin, I am obliged to associate provisionally with this subspecies.

For the Water-Vole of Bosnia I propose the name

*Microtus Musignani illyricus*, subsp. n.

A large Water-Vole intermediate between the subspecies *M. persicus*, de Fil., and *M. Musignani*, de Selys, of Spain, and in that the upperside lacks the almost rufous-brown tint of the ordinary Spanish specimens and is grizzly yellowish brown, not, however, so marked as in *M. persicus*. The thickness of the coat also agrees with that of Spanish specimens, and not with that of *M. persicus*. The dirty white colour of the under-side is indistinctly marked off from the yellowish-brown flanks, is not washed with yellow, and does not extend to the upper lips or high up on the sides of the neck.

The type (no. 94. 1. 5. 1 of the British Museum collection) is from Bosnia, and was collected by Dr. Floericke. I believe it represents a subspecies occurring in the Turkish peninsula and which is intermediate between *M. Musignani* of Spain and Italy and *M. persicus* of Asia Minor.

The following are the dimensions of the specimens in millimetres :—

	Head and body.	Tail.	Hind foot.	Ear.	Greatest length of skull.
<i>M. persicus</i> . Brit. Mus. Coll. no. 97. 6. 4. 10. Adult male from Van, Asia Minor (dug out of a hole by a stream, Dec. 23, 1897) .....	195	126	29	16	42
<i>M. persicus</i> . Brit. Mus. Coll. no. 97. 6. 4. 9. Young male from Van, Asia Minor (dug out of a hole by a stream, Dec. 13, 1897) .....	153	104	31	16	38
<i>M. illyricus</i> . Brit. Mus. Coll. no. 94. 1. 5. 1. Bosnia. (Measured in dried skin.) ..	190	100	30	..	about 40 (damaged)



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