

	mm.
Total length	110
Head	8
Width of head	5
Body	102
Fore limb	8
Hind limb	12
Tail	65

Three specimens obtained at Yallingup, S.W. Australia.

The above description is almost an exact reproduction of that of *L. peronii**, except for the absence of the fourth digit—a character which is common to the three specimens collected at Yallingup. As, however, among a large number of typical *L. peronii* from the Coolgardie district, W. Australia, presented by Mr. L. C. Webster, I find one with four fingers and three toes, I think it preferable to describe the tridactyle form as a variety or subspecies rather than as a species.

This interesting lizard adds a link to the chain of closely allied forms of the section *Hemiergus*:—

<i>Lygosoma initiale</i> , Werner.	Digits 5 + 5.
— <i>peronii</i> , Fitz.	„ 4 + 4 (rarely 4 + 3).
— —, var. <i>tridactylum</i> .	„ 3 + 3.
— <i>decresiense</i> , Fitz.	„ 3 + 3.
— <i>quadrilineatum</i> , D. & B.	„ 2 + 2.

X.—On the African Shrews belonging to the Genus
Crocidura.—III. By GUY DOLLMAN.

[Continued from vol. xv. p. 575.]

Group 6 (*zaphiri* and *olivieri*).

Size large. Colour above slaty brown or pale umber. Third upper unicuspid broader than second.

(23) *Crocidura zaphiri*, sp. n.

A dull, slaty, cinnamon-coloured species, with small upper unicuspid and a very bristly tail.

* Dr. Werner has proposed the name *L. quadridigitatum* to replace that of *L. peronii*, Fitz., on the assumption that Fitzinger's name is more recent than that of *L. peronii*, D. & B. But it is the reverse, and the latter species should bear the name *L. blackmanni*, De Vis, if both are placed in the same genus.

Size of body rather less than in *nyansæ*, more as in *olivieri*. Fur fairly long, hairs on back 6–6·5 mm. in length.

Colour above dull cinnamon-brown mixed with dark slate-grey, the new pelage about as in “deep mouse-grey” mixed with “fuscous,” and the worn coat “Prout’s brown” washed with “Saccardo’s umber.” Flanks rather more slaty, the transition to the slate-grey of the ventral surface gradual and indistinct. Belly dark slate washed with greyish buff (“deep neutral grey” washed with “light greyish olive”), darker than in *nyansæ* or *olivieri*. Backs of hands and feet dirty buff. Tail shorter than in *nyansæ*, brown above, a trifle paler below; bristle-hairs exceptionally numerous and long, from 14 to 17 mm. in length, and densely distributed throughout nearly the entire length of the tail, greyish in colour.

Skull with narrow maxillary region; teeth smaller than in *nyansæ*, *olivieri*, or *doriana*, about as in *flavescens*. Upper unicuspid small, especially the second, which appears considerably smaller than the third when viewed from above; last upper molar broad.

Dimensions of the type (measured in the flesh):—

Head and body 105 mm.; tail 60; hind foot 18·5; ear 11.

Skull (broken): length of palate 11·9; least interorbital breadth 4·6; greatest maxillary breadth 7·7; length of upper tooth-row 12·3.

Hab. Charada Forest, Kaffa, Abyssinia.

Type. Adult female. B.M. no. 6.11.1.12. Original number 100. Collected on June 2nd, 1905, by Mr. Zaphiro, and presented to the British Museum by W. N. McMillan, Esq.

The chief diagnostic characters of this species are the dull slaty-brown colouring, the great development of the caudal bristle-hairs, and the small size of the second upper unicuspid. *Crocidura macrodon*, Dobs., which is supposed to have come from the Sudan, is a very much smaller animal, the hind foot being only 14 mm. in length.

(24) *Crocidura olivieri*, Less.

Sorex olivieri, Lesson, Man. Mamm. p. 121 (1827).

A pale coffee-brown-coloured species allied to *zaphiri*.

About equal in size to *flavescens*, rather smaller than in the *nyansæ* group. Fur of back fairly short, hairs from 5 to 6 mm. in length.

General colour of upper parts considerably paler than in *zaphiri*, near "Saccardo's umber" mixed with "Prout's brown," the brownish tint changing on the lower flanks rather abruptly into the greyish white of the belly; ventral surface "light greyish olive," paler than in *nyansæ* or *zaphiri*, almost as pale as in *doriana*, but more silvery. Lateral gland white. Backs of hands and feet brownish. Tail dark brownish above and below, bristle-hairs long and fairly numerous, evenly distributed over the basal two-thirds.

Skull smaller and narrower than that of *nyansæ*. Teeth like those of *zaphiri*, third upper unicuspid larger in transverse section than the second. Basal cusp of anterior upper incisors quite small, as in *zaphiri*, *doriana*, and the *nyansæ* group.

Dimensions of five specimens from Giza, Egypt (two measured in the flesh and the others preserved in spirit):—

	Head and body.	Tail.	Hind foot.	Ear.
	mm.	mm.	mm.	mm.
♂. Giza	106	69	20	10
♀. "	110	65	18	10
♂. "	106	70	19	12
♀. "	94	64	19	10·5
♀. "	93	63	17·5	10·4

Skulls :—

	♂.	♂.	♀.	♀.	♀.	♀.
	mm.	mm.	mm.	mm.	mm.	mm.
Condyllo-incisive length	28·5	29	28	28	28	27·3
Greatest breadth	11·8	11·8	12	11·9	11·8	11·2
Least interorbital breadth ..	5·5	5·3	5	5·3	5	5
Length of palate	12·7	12·7	12·1	11·9	12·5	12
Postpalatal length	12	12·5	11·7	12·2	12·1	11·5
Greatest maxillary breadth ..	8·9	9·2	8·9	8·9	8·9	8·8
Median depth of brain-case ..	6·7	6·4	6·3	6·2	6·2	6·3
Length of upper tooth-row ..	13·1	12·9	12·7	12·5	12·1*	12·5

Hab. Egypt.

The much paler and yellower colour and less hairy tail immediately distinguish this Egyptian shrew from the Abyssinian *zaphiri*.

* Tips of incisors worn off.

Group 7 (*beiræ* and *hirta*).

Size medium to fairly small. Colour above dull coffee-brown, bright reddish buff, greyish buff, or dull chocolate; ventral surface light grey, rather distinctly marked off from the brownish flanks. Second and third upper unicusps about equal in size.

(25) *Crocidura beiræ*, sp. n.

Intermediate in size between *flavescens* and *hirta*.

Colour rather duller than in *flavescens*, above dark coffee-brown ("sepia" mottled with "neutral grey"), a shade darker than in the new unbleached coat of *flavescens*; the worn pelage is not markedly different, rather longer and paler in colour (near "raw umber"), not nearly so bright in tint as in *hirta* or *flavescens*. Flanks rather greyer than back, the brown colour passing fairly abruptly into the pale grey of the ventral surface. Belly darker than in *flavescens*, in the new pelage "smoke-grey," more buffy in the older phase, near "buffy brown." Backs of hands and feet dirty white or brownish. Tail long, rather more finely haired than in either *flavescens* or *hirta*, dark blackish brown above, brownish buff below; bristle-hairs fairly numerous, white in colour.

Skull markedly smaller than that of *flavescens*, but larger than in *hirta*. Interorbital region rather narrow and more parallel-sided. Teeth like those of *flavescens* in general shape, but much smaller.

Dimensions of the type and three topotypes (measured in the flesh):—

	Head and body, mm.	Tail, mm.	Hind foot, mm.	Ear, mm.
♂ (type). Beira. . . .	103	55	16	10·5
♂. "	106	62	15	11
♂. "	107	55	16	11
♂. "	97	50	15·5	10

Skulls of type and three topotypes :—

	♂ (type). mm.	♂. mm.	♂. mm.	♂. mm.
Condyllo-incisive length	25·3	24·5	25·3	25
Greatest breadth	10·7	10·6	10·7	10·6
Least interorbital breadth	4·6	4·8	4·6	4·8
Length of palate	10·5	10·2	10·6	10·5
Postpalatal length	11·2	10·9	11	11
Greatest maxillary breadth	7·8	7·9	7·9	7·9
Median depth of brain-case	6·8	6·7	6·7	6·8
Length of upper tooth-row	10·9	10·6	11	10·9

Hab. Beira, Portuguese East Africa.

Type. Adult male. B.M. no. 7. 6. 2. 28. Original number 1747. Collected on December 19th, 1906, by Mr. C. H. B. Grant, and presented to the British Museum by C. D. Rudd, Esq.

Its smaller size and duller colouring distinguish this Beira species from the South-African *flavescens*; the Tette form, *hirta*, is considerably brighter and lighter in colour and smaller in size.

(26) *Crocidura beiræ nyikæ*, subsp. n.

Related to the Beira species, darker in colour and with a rather longer brain-case.

Size of body about as in *beiræ*.

Colour of dorsal surface dark brown ("blackish brown (1)" mixed with "mummy-brown"), about as in the *fumosa* group, considerably darker than in *beiræ*. Flanks similar in colour to back, the tint fading rather gradually into the dark brownish grey of the belly; underparts much darker and browner. Backs of hands and feet dark brown. Tail dark brown above and below, not lighter on the lower side; bristle-hairs fairly numerous, greyish brown in colour.

Skull like that of *beiræ*, but with a rather longer and more flattened brain-case; tooth-row a trifle shorter.

Dimensions of type (taken from dry skin) and two topotypes (in spirit):—

	Head and body. mm.	Tail. mm.	Hind foot. mm.	Ear. mm.
♀ (type)	89	50	16	9
♂	93	52	16	11
♂	95	47	14.5	11

Skulls of type and two topotypes:—

	♀ (type). mm.	♂. mm.	♂. mm.
Condyllo-incisive length.....	24.3	24.9	25.1
Greatest breadth	10.3	10.7	10.5
Least interorbital breadth	4.9	4.7	4.8
Length of palate.....	9.9	9.9	10.1
Postpalatal length	10.9	11.3	11.2
Greatest maxillary breadth	7.7	8.2	7.8
Median depth of brain-case	5.8	6.2	6
Length of upper tooth-row	10.6	10.6	10.7

Hab. Nyika Plateau, North Nyasaland. Altitude 6000–7000 feet.

Type. Adult female. B.M. no. 97. 10. 1. 50. Collected in July 1896 by Mr. A. Whyte, and presented to the National Collection by Sir Harry Johnston.

The much darker colour of the back, belly, and extremities, and dark ventral surface of the tail, and longer brain-case distinguish this Nyika form from the Beira shrew.

(27) *Crocidura hirta*, Pet.

Crocidura hirta, Peters, Reis. Mossamb., Säug. p. 78, pl. xviii. fig. 2 (1852).

Crocidura canescens, Peters, Reis. Mossamb., Säug. p. 83, pl. xviii. fig. 4 (1852).

Crocidura annellata, Peters, Reis. Mossamb., Säug. p. 85, pl. xviii. fig. 5 (1852).

A medium-sized cinnamon-brown species.

Size smaller than in *flavescens* or *beiræ*.

Colour, in unbleached state, pale slaty grey overlaid with wavy rufous markings ("mouse-grey" washed with "snuff-brown" and "drab"). In the worn pelage the colour is much redder, the grey of the hair-bases being completely hidden and the general colour bright yellowish brown ("russet"). The tint changes on the flanks rather abruptly into the greyish white of the ventral surface. In the unbleached and immature pelage the transition is much more gradual, the ventral surface being considerably darker and more slaty, the creamy-white hair-tips not so dominant as in the worn coat. Lateral gland white. Backs of hands and feet dirty white or brownish. Tail of medium length and rather coarsely haired, brown above, paler below; bristle-hairs fairly numerous, evenly distributed over basal two-thirds, whitish in colour.

Skull smaller than that of *beiræ*, with flatter and narrower brain-case and smaller teeth; second and third upper unicuspid about equal in size.

Dimensions (as given by Peters):—

	Head and body. mm.	Tail. mm.	Hind foot. mm.	Length of skull. mm.	Greatest breadth. mm.
♂	.... 85	55	15	22.5	10
♀	.... 82	50	14	21	9.25
♀	.... 75	45	14	21.75	9.5

Hab. Tette, Portuguese East Africa.

In the British Museum there is a very large series of

specimens from various localities which would appear to represent this species. The colour-change exhibited by these specimens is very remarkable, and for the present I am forced to conclude that *hirta*, *canescens*, and *annellata* are simply colour-phases of a single form. The immature grey coat, in which no rufous tint is present, is that described and figured for *canescens*. The gradual appearance of the rufous colouring, due to the bleaching of the hair-tips, gives the coat the same general appearance as is described and figured for *annellata*. Further bleaching results in the lengthening of the reddish hair-tips and complete concealment of the slaty colour of the hair-bases, combined with a gradual lightening of the underparts, contrasting more strongly with the rufous-tinted flanks than in either the grey phase or the condition described as "*annellata*." The dimensions given by Peters for *canescens* and *annellata* are as follows:—

	Head and body. mm.	Tail. mm.	Hind foot. mm.	Length of skull. mm.	Greatest breadth. mm.
<i>canescens</i>	80	46	13·5	21	9
<i>annellata</i> ♂ ..	83	52	15	23	9·5
„ ♂ ..	90	55	14	22	9·5
„ ♀ ..	72	45	14	22	9·5

The following are the flesh-dimensions of seven specimens in the Museum Collection:—

	Head and body. mm.	Tail. mm.	Hind foot. mm.
♀. Tette	87	48	15
♂. Salisbury	90	49	14
♀. „	80	43	13
♀. „	82	47	14
♀. E. Loangwa	75	46	13·5
♂. Katanga	90	53	15
♂. Angola	90	44	15

Skull-dimensions:—

	♀. Tette. mm.	♂. Mazoe. mm.	♀. Loangwa. mm.	♂. Angola. mm.
Condyllo-incisive length	21·7	22·8	22·5	23·7
Greatest breadth	9·6	9·8	9·5	10
Least interorbital breadth	4·5	4·3	4·3	4·5
Length of palate	8·8	9·6	9·4	9·8
Postpalatal length	9·3	9·9	10	10·2
Greatest maxillary breadth ..	6·7	7·5	7·2	7·5
Median depth of brain-case ..	5·3	5·3	5	5·5
Length of upper tooth-row ..	9·3	10	9·6	10·3

This species would appear to have a very wide distribution; in the Museum Collection are specimens from the following localities:—Tette, Salisbury, Mazoe, S. Nyasa, Loangwa, Katanga, and Angola.

(28) *Crocidura hirta flavidula*, Thos. & Schw.

Crocidura flavescens flavidula, Thomas & Schwann, P. Z. S. p. 264 (1905).

In dimensions agreeing closely with *hirta*.

Colour above (in worn pelage) more uniform than in the Tette species, the grey speckling not so dominant, general colour of back "Prout's brown" mixed with "cinnamon-brown." Flanks, ventral surface, extremities, and tail as in *hirta*.

Skull rather larger than in the specimens described by Peters.

Dimensions of the type and four topotypes (measured in the flesh):—

	Head and body. mm.	Tail. mm.	Hind foot. mm.	Ear. mm.
♂ (type). Umvolosi	102	51	14·5	10
♂. "	92	48	13	9
♀. "	97	49	13	9
♀. "	90	50	12·5	9·7
♀. "	93	48	14	8

Skull of type and two topotypes:—

	♂ (type). mm.	♂. mm.	♀. mm.
Condyllo-incisive length	23·5	23	23
Greatest breadth	10	9·8	9·6
Least interorbital breadth	4·6	4·6	4·7
Length of palate	9·8	9·4	9·7
Postpalatal length	10·6	10·1	10
Greatest maxillary breadth	7·4	7·3	7·2
Length of upper tooth-row	9·8	10·1	10

Hab. Umvolosi, Zululand.

Type. Adult male, B.M. no. 4. 12. 3. 29.

This Zululand shrew would appear to be very closely related to the Tette species, and it seems best to regard it as a race of that form rather than of the much larger and very much more distinct *flavescens*.

(29) *Crocidura hirta pondoensis*, Roberts.

Crocidura pondoensis, Roberts, Ann. Trans. Mus. vol. iv. pt. 2, p. 71 (1913).

Closely allied to *h. flavidula*.

Size about as in *hirta*; tail a little longer than in *h. flavidula*.

Colour described as the same as in *flavescens* (= *cinnamomea*).

Dimensions of the type (as given by Roberts):—

Head and body 78 mm.; tail 59; hind foot 13; ear 10.

Skull: condylo-incisive length 22; basal length 19; greatest breadth 9.5; length of upper tooth-row 9.3.

The range of variation in size is given as follows:—

Head and body 68–84 mm.; tail 51–59; hind foot 13–14; condylo-incisive length 20.6–22.1; greatest breadth 8.9–9.6; upper tooth-row 9–9.6.

Hab. Ngqueleni District, Pondoland.

Type. Male. Transvaal Mus. no. M. 901.

(30) *Crocidura sacralis*, Pet.

Crocidura sacralis, Peters, Reis. Mossamb., Säug. p. 82, pl. xviii. fig. 3 (1852).

A rather small species, with short, fairly thick tail.

Size of body about as in *butleri*.

Colour of upper parts pale brownish buff, rather paler on the flanks, the tint gradually passing into the greyish white of the ventral surface. Backs of hands and feet whitish. Tail short, thick at base, dirty brown above, greyish white below.

Skull smaller than that of *hirta*, about as in *smithi*. Teeth much as in *hirta*, but third upper unicuspid rather smaller than second.

Dimensions of the type (as given by Peters):—

Head and body 70 mm.; tail 37; hind foot 13; ear 7.

Skull: length 21; greatest breadth 8.5.

Hab. Cabaceira Peninsula, Mozambique.

Type. In Berlin Museum.

(31) *Crocidura mariquensis*, Smith.

Sorex mariquensis, Smith, Ill. Zool. S. Afr. i. pl. xlv. fig. 1 (1849).

Size about as in *hirta*, but with smaller skull and teeth.

Colour described as “brownish red, the head and tail

lightest, the throat, breast, and belly the same colour, only lighter and with a distinct tint of pearly grey." Smith's co-types, which are preserved in the British Museum, are so faded as to make it impossible to add to this brief description to any extent. The ventral surface appears to have been darker than in *hirta*, and merges very imperceptibly into the brownish tint of the flanks. Backs of hands and feet brownish. Tail brownish above, paler below; bristle-hairs apparently about as in *hirta*. The coloured figure given by Smith is quite unlike either his description or the co-types now before me; it is evident that either some radical change has taken place in the pigment used or else the artist has painted some entirely different animal; the dimensions are those of *mariquensis*, but the colouring is more like what is found in the genus *Neomys*.

Skull smaller than that of *hirta*, with narrower muzzle and smaller teeth; small upper unicuspid about equal in size.

Dimensions of adult co-type (45. 7. 3. 37):—

Head and body 84.6 mm.; tail 48; hind foot 15.

Skull (occipital region broken): length from front of upper incisors to junction of sagittal and lambdoidal sutures 19.2; greatest breadth 9.4; least interorbital 4; length of palate 8; greatest maxillary breadth 6.1; median depth of brain-case 5.5; length of upper tooth-row 8.6.

Hab. "Wood near the Tropic of Capricorn," South Africa.

Co-types. B.M. nos. 45. 7. 3. 37 and 45. 7. 3. 60.

The affinities of this species are extremely difficult to decide, the co-types being in such a bad state of preservation that it is almost impossible to come to any conclusion regarding the general colour or exact dimensions. For the present it seems most convenient to regard it as related to the *hirta* group.

(32) *Crocidura hindei*, Thos.

Crocidura hindei, Thomas, Ann. & Mag. Nat. Hist. (7) vol. xiv. p. 237 (1904).

Allied to *hirta*, but distinguished by its larger skull and teeth.

Size of body much as in *hirta*.

Colour of dorsal surface bright reddish fawn (near "russet" mixed with "Prout's brown"), the fawn tint

passing rather abruptly into the light greyish white of the underparts. Backs of hands and feet white. Tail brownish above, white below; bristle-hairs numerous. The immature pelage of this species would appear to be considerably greyer than in the adult stage, as is the case in *hirta*, the reddish tint only appearing as the hair-tips become bleached.

Skull rather larger than that of *hirta*, with larger teeth; upper unicuspid broad, with well-developed cingula, which project beyond the external alveolar border, second and third upper unicuspid about equal in size.

Dimensions of the type (from dry skin):—

Head and body (stretched) 95 mm.; tail 50; hind foot 14.

Skull: condylo-incisive length 24·5; greatest breadth 24·3; least interorbital breadth 4·4; length of palate 10; post-palatal length 11; greatest maxillary breadth 7·8; depth of brain-case 5·8; length of upper tooth-row 10·6.

Hab. Machakos, British East Africa.

Type. Adult female. B.M. no. 1. 8. 7. 2.

This species is undoubtedly closely related to the *hirta* group, agreeing with it in general colouring, but possessing a larger and heavier skull.

(33) *Crocidura hindei diana*, subsp. n.

A pale brownish-buff form related to *hindei*, but with narrower unicuspid.

Size about as in *hindei*.

Colour of upper parts (in worn pelage) very pale brownish buff (near "wood-brown"), the grey hair-bases not nearly so dominant as in *hindei*. Underparts rather whiter. Extremities and tail quite as in the East-African species.

Skull similar in shape; upper unicuspid narrower, the cingula not projecting out beyond the external alveolar border.

Dimensions of the type (measured in the flesh):—

Head and body 86 mm.; tail 48; hind foot 14; ear 7.

Skull (occipital region broken): length from front of incisors to junction of sagittal and lambdoidal sutures 22·3; greatest breadth 10·3; least interorbital breadth 4·5; length of palate 10; greatest maxillary breadth 7·3; median depth of brain-case 4·9; length of upper tooth-row 10·4.

Hab. Lake Chad.

Type. Adult female. B.M. no. 7.7.8.50. Original number 11. Collected by the late Captain Boyd Alexander during the Alexander-Gosling Expedition.

The narrower unicuspid and paler colour separate this form from *hindei*, *hirta*, and the allied races.

(34) *Crocidura sericea*, Sund.

Sorex sericeus, Sundevall, Vet.-Ak. Handl. Stock. pp. 173 & 177 (1842).

Crocidura strauchii, Dobson, Ann. & Mag. Nat. Hist. p. 225 (1890).

Allied to the *hirta* and *hindei* groups, general dimensions rather larger.

Colour very variable, the usual bleached pelage grey washed with cinnamon-brown, the general effect as in "snuff-brown" speckled with "neutral grey." In some cases where the bleaching process has been carried still further the grey tint is much less conspicuous, the colour between "snuff-brown" and "cinnamon-brown." Underparts pale greyish white, the transition from the reddish brown to the light grey rather sudden. Backs of hands and feet dirty white or buff. Lateral gland white-haired. Tail brownish above, white below; bristle-hairs very long and conspicuous, evenly distributed over nearly the entire length of the tail.

Skull with a rather larger brain-case than in *hindei*; teeth about equal in size, small upper unicuspid narrower, more oval in transverse section, and of equal size.

Dimensions of the type (as given by Sundevall):—

Head and body 90 mm.; tail 49; hind foot 14.

Skull: length 22; interorbital breadth 4.5.

The following are the dimensions of a series in the Museum Collection (measured in the flesh):—

	Head and body.	Tail.	Hind foot.
	mm.	mm.	mm.
♂. Bahr-el-Ghazal	94	55	15
♂. "	90	60	15
♀. "	90	60	15
— Fashoda	105	65	15
♂. Lake No, Sudan	87	62	15
♀. " "	82	53	15

Skull-dimensions :—

	♀. Lake No.	♂. Bahr-el- Ghazal.	♂. Bahr-el- Ghazal.	♀. Bahr-el- Ghazal.
	mm.	mm.	mm.	mm.
Condyllo-incisive length ..	25	25	24·5	24·8
Greatest breadth	10·7	10·6	10·7	10·4
Least interorbital breadth.	4·5	4·5	5	4·8
Length of palate	10·3	10·4	9·8	10
Postpalatal length	11	11	10·9	11
Greatest maxillary breadth.	7·5	7·8	7·8	7·7
Median depth of brain-case.	5·5	5·5	5·5	5·5
Length of upper tooth-row.	10·8	10·8	10·5	10·7

Hab. Near Bahr-el-Abiad.

(35) *Crocidura beta*, sp. n.

Darker than *hindei*, with a considerably smaller and narrower skull.

Size of body given as about in the Machakos form, hind foot smaller.

Colour of upper parts dull chocolate-brown (near "sepia") mottled with greyish buff, the brownish tint gradually fading on the flanks and passing rather imperceptibly into the greyish white of the ventral surface. Belly rather strongly tinged with yellow, a condition probably due to some secretion of the lateral glands, which are marked by a streak of short white hairs. Backs of hands and feet dirty buff. Tail darker above than in *hindei*, as dark as the general colour of the back, below white; bristle-hairs numerous, white in colour.

Skull considerably smaller, with narrower and rather flatter brain-case. Teeth all a little smaller, second and third unicuspid less circular in transverse section, more triangular, and crushed closely together.

Dimensions of the type (measured in the flesh) :—

Head and body 85 mm.; tail 45; hind foot 12·5; ear 12·5.

Skull: condyllo-incisive length 22·8; greatest breadth 9·7; least interorbital breadth 4·3; length of palate 9·5; post-palatal length 10; greatest maxillary breadth 7·5; median depth of brain-case 5·1; length of upper tooth-row 10.

Hab. Charnia River, British East Africa.

Type. Adult male. B.M. no. 12. 7. 1. 67. Original number 10. Collected on December 23rd, 1910, by

A. Blayney Percival, Esq., and presented by him to the British Museum.

The much darker and duller colouring and smaller-sized skull separate this shrew from the *Machakos hindei*.

(36) *Crocidura velutina*, Thos.

Crocidura velutina, Thomas, Ann. & Mag. Nat. Hist. (7) vol. xiv. p. 237 (1904).

Size rather smaller than in *hindei*, but considerably larger than *hildegardæ*. Fur quite short, the hairs on the back 2·5–3·5 mm. in length. Colour above dull coffee-brown (between "mummy-brown" and "Prout's brown"), the hairs almost entirely brown, only the extreme basal portions slate-coloured. Brown tint on flanks passing fairly abruptly into the silver-grey of the ventral surface, but line of demarcation less marked than in *hindei*; belly rather greyer, less white. Backs of hands and feet dirty white. Tail brown above, a trifle paler below, not sharply as bicoloured as in *hindei*; bristle-hairs short and slender.

Skull in general shape very like that of *hindei*. Teeth about equal in size, the second upper unicuspid appearing rather smaller in transverse section than the third.

Dimensions of the type (measured from dry skin):—

Head and body 83 mm.; tail 47; hind foot 14.

Skull (occipital region broken): length of palate 9·8; greatest breadth 9; greatest maxillary breadth 7·4; length of upper tooth-row 10·1.

Hab. Usambara, German East Africa.

Type. Adult. B.M. no. 99.6.25.1.

The chief characters which serve to distinguish this shrew from *hindei* are its duller colour, darker extremities and tail, and the rather smaller size of the second upper unicuspid.

(37) *Crocidura lutrella*, Hell.

Crocidura lutrella, Heller, Smith. Misc. Coll. vol. lvi. no. 15, p. 4 (1910).

Smaller than *velutina*, with dorsal and ventral surfaces sharply contrasted.

Colour of upper parts described as "light broccoli-brown, this colour descending on the sides unchanged." Underparts "from level of mouth and underside of tail light greyish buff," in marked contrast to the darker dorsal

surface. Feet whitish. Lateral glands white. Tail covered by scattered long white hairs throughout its whole length.

Skull about equal in length to that of *jacksoni*.

Dimensions of the type (as given by Heller):—

Head and body 80 mm.; tail 40; hind foot 12.

Skull: condylo-incisive length 21; greatest breadth 9.3; length of upper tooth-row 9.

Hab. Rhino Camp, Lado Enclave.

Type. Adult male. U.S. Nat. Mus. no. 164640.

The smaller dimensions at once distinguish this shrew from *hindei* and its allies, while its light underparts, distinctly marked off from the darker dorsal colouring, render it quite distinct from the *jacksoni* group.

[To be continued.]

XI.—On the Entomostraca of the Albert Nyanza.

By WILLIAM A. CUNNINGTON, M.A., Ph.D.

THE scientific exploration of the great lakes of Central Africa has never been undertaken systematically; therefore it is hardly a matter for surprise that in some cases we still know relatively little of the smaller and more obscure forms of life which no doubt exist in them. In consequence of the very exceptional nature of the fauna of Tanganyika, no less than three British Expeditions (the most recent of which I had the honour to conduct) have been sent to investigate that lake. Though Tanganyika was, of course, the first consideration, a good deal of attention was paid to other lakes, particularly Nyasa and Victoria Nyanza, while Prof. Moore, on his second expedition, visited Kivu, Edward Nyanza, and Albert Nyanza in addition. It is, however, the fact that Albert Nyanza has received comparatively little attention, and it therefore becomes the more desirable to place on record any additional information concerning it.

In order to get a knowledge of the plankton organisms, it is clearly necessary to secure a series of tow-nettings, and, as far as I am aware, this had never been attempted for Lake Albert until the summer of 1907. In July of that year a small quantity of material was obtained by my friend Dr. R. T. Leiper, Helminthologist to the London School of Tropical Medicine, who was accompanying an expedition despatched to Uganda by the Egyptian Survey Department. After collecting two samples, one from the surface and the other from near the bottom in about 30 feet of water,



Dollman, J. G. 1915. "X.—On the African shrews belonging to the genus *Crocidura*.—III." *The Annals and magazine of natural history; zoology, botany, and geology* 16, 67–81. <https://doi.org/10.1080/00222931508693688>.

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