

2. On the Small Mammals of Duval County, South Texas.
By OLDFIELD THOMAS.

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Mr. William Taylor, a resident of San Diego¹, the capital of Duval County, South Texas, has for many years past occupied himself in the useful task of studying and collecting the small mammals of that county, transmitting the specimens obtained to the British Museum, and at the same time making many valuable observations on the habits of the different species. These observations are embodied in the notes attached to the names of the several species below, and distinguished by having Mr. Taylor's initials appended to them.

Considering our ignorance of the variation and exact distribution of most small mammals, the value of such work as Mr. Taylor's cannot be exaggerated, and it is to be hoped that he will continue his observations, and, perhaps, extend his area of research into neighbouring counties, and even into North-western Mexico, where he has already made some preliminary expeditions. Mr. Taylor has been successful in discovering one new species, a diminutive Vesper-Mouse, besides adding no less than six species to our National Collection of Mammalia, a result for which Mammalogists in this country have every reason to be grateful. In all, of Insectivora, Chiroptera, and Rodentia, Mr. Taylor has obtained examples of seventeen species within the limits of Duval County, a number that would no doubt have been largely augmented had not his attention been mainly concentrated on the most difficult, and therefore the most important, group of all, that of the rats, mice, and other Myomorphs.

I N S E C T I V O R A.

1. SCALOPS AQUATICUS, L.

a. ♀, 4/86.

Head and body 107 millim., tail 29, hind foot 14·5, head 40, tip of muzzle to eye 17·6.

"Is common throughout the county. Although blind it is very cunning, and it is the only animal I have had in confinement that found out the way to lift the fastening of the cage-door and escape."—W. T.

2. SOREX (SOSEX) PERSONATUS, Geoffr. (?).

a. ♂.

Head and body 49 millim., tail 36, hind foot 10·5, ear 3·1.

I am not fully satisfied as to the determination of this specimen, but the dimensions agree so closely with those of *S. personatus* that I hesitate to distinguish it without seeing a larger series.

¹ About 98° 25' W. and 27° 50' N.

3. SOREX (NOTIOSOREX) CRAWFORDI, Baird; Coues, Bull. U. S. Geol. Surv. iii. p. 651 (1877).

a-e. In al., ♂ ♀.

f. Skin and skull.

	Head and body.	Tail.	Hind foot.	Ear.
<i>a.</i> ♂	59	28	9.9	4.0
<i>b.</i> ♀	60	26.5	10.0	4.4
<i>c.</i> Imm.	50	30	10.0	4.0

“Lives rather an exposed life and is generally found in heaps of rubbish and old piles of firewood.”—W. T.

4. BLARINA (SORICISCUS) BERLANDIERI, Baird, Mamm. N. A. p. 53 (1859).

a-c. In al.

	Head and body.	Tail.	Hind foot.
<i>a.</i> ♂	59	20	10.0
<i>b.</i> ♂	54	16	10.0
<i>c.</i> ♀	59	20	10.1

CHIROPTERA.

5. VESPERUGO GEORGIANUS, F. Cuv.

a. ♂. Forearm 33 millim.

“Rare; only occasionally found, and then in pairs.”—W. T.

6. ATALAPHA NOVEBORACENSIS, Erxl.

a. ♂. Forearm 38 millim.

“Fairly common. Lives mostly in and about trees.”—W. T.

7. NYCTINOMUS BRASILIENSIS, Geoffr.

a. ♂. Forearm 43 millim.

“Infests the houses.”—W. T.

RODENTIA.

8. SPERMOPHILUS SPILOSOMA, Benn.

a. ♀.

Head and body 155 millim., tail 69, hind foot 30, forearm and hand 42, head 42.5, ear 3. Mammæ 10.

9. NEOTOMA FLORIDANA, Ord.

a. Yg. al., ♂.

“Is the largest of the Cricetinae here. They are called ‘house builders’ by the Mexicans. Their houses are large holes in the ground covered over with a heap of dry sticks, cactus-leaves, pieces of bark, &c. Their underground rooms are extensive, and have rude grass nests in the corners of them. The species varies a good

deal in colour, especially in the underparts not being very white at times and the line of demarcation being very indistinct. They are sometimes ten inches long, and weigh one pound."—W. T.

10. SIGMODON HISPIDUS, Say & Ord.

"A family."

a-c. ♂ ♀ and yg., 4/86.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
♂	128	111	28·8	34	14
♀	132	112	28·5	36	16

Mammæ 2—2=8.

"This species is very common here, and one may see their rude nests at the foot of bushes everywhere. Besides these nests they make a good many burrows. They are sometimes gregarious, as I have seen fourteen killed at one place. They often have five young. They are very fierce and bite severely."—W. T.

11. CRICETUS¹ (ONYCHOMYS) LEUCOGASTER, Wied.

a. ♂ ad., 4/86.

b. ♀ sk.

c. ♂ skull:

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
a. ♂	114	54	23·8	31·5	13·5

The present is the most southerly locality that has been yet recorded for this species. The specimens differ from the ordinary northern ones in their slender feet and less densely pilous soles, but do not appear to be specifically or even varietally separable.

12. CRICETUS (VESPERIMUS) LEUCOPUS, Raf.

a-e. ♂ ♀, 12/85 and 4/86.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.	Heel to front of last foot-pad.
a. ♀	81	68	19·3	23·4	13·3	8·8
b. ♂	81	76	21	25·3	13·4	9·9
c. ♀	92	82·5	21·3	25·5	14	10·4
d. ♀	81	77	20·5	24·8	13	10·0

"This species is abundant in the neighbourhood. It varies greatly in colour, from whitish grey to the colour of old mahogany; but the colours of the underparts and feet are constant. The lightest specimens I have seen were caught in December. Its weight is about three times that of *C. taylori*."—W. T.

¹ My reasons for using this name instead of "*Hesperomys*" have been fully explained, P. Z. S. 1888, p. 133.

13. CRICETUS (VESPERIMUS) TAYLORI, THOS. ANN. MAG. N. H. (5) xix. p. 66 (1887).

a. Skin and skull, ♂, 24/11/86. *Type.*

b. Skin and skull, ♀, 2/87.

c-n. In al., ♂ ♀.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.	Head.	Heel to front of last foot-pad.
c. ♂ ..	60	40	12·8	15·5	7·6 × 8·2	20·5	5·5
b. ♂ ..	60	—	13·0	15·8	8·3 × 8·3	20	5·6
c. ♀ ..	67	44	13·4	17·0	8·0 × 8·2	21	5·8
d. ♀ ..	68	43	13·2	16·7	7·5 × 8·5	21	5·4

Skull (♀):—Basal length 15·7 millim., greatest breadth 10·3; nasals, length 7·1; interorbital breadth 3·5; interparietal, length 2·1, breadth 4·8; palate, length 9·2, breadth outside m.¹ 4·0, inside m.¹ 2·3; anterior palatine foramen, length 3·7; upper molar series, length 3·1.

Since my original description of this species was published, Mr. Taylor has sent home many well-preserved specimens of it in spirit, and I am therefore able to draw up a more complete description of this diminutive Vesper-Mouse.

Size very small; general appearance very like that of *Mus musculus*. Whole of upper surface grizzled brownish grey, exactly of the tone of the common house-mouse. Ears small, evenly rounded, about as broad as long; laid forward (in spirit-specimens) they reach to the posterior canthus of the eye; their anterior margin without any marked central projection; their surface very thinly clothed with minute greyish hairs. Chin white; throat, chest, and sides of belly greyish white, the hairs slaty grey basally, white terminally; centre of belly, in all the fourteen specimens examined, with a narrow pure white patch running from the sternum to the anus. Arms and legs like body; hands and feet white or greyish, thinly haired; palms and soles naked, the former with five, the latter with six small but prominent pads; fifth hind toe, without claw, reaching to the middle of the first phalanx of the fourth. Tail short, barely as long as the body without the head, thinly haired, brown above and white below; its scales very fine, the rings averaging from 25 to 30 to the centimetre. Mammæ 0—2=4.

Skull in its general shape and proportions curiously similar to that of a miniature *Mus musculus*, especially as its interorbital region has precisely the smooth upper surface and evenly divergent, square, but unbeaded, supraorbital edges so characteristic of that species. Interparietal very small. Outer wall of infraorbital foramen without an anterior projecting plate. Anterior palatine foramen extending nearly to the level of the middle of m.¹

Teeth as usual in the subgenus *Vesperimus*.

No detailed comparison is needed of this little mouse with its nearest allies, as it is at once distinguished from all by its diminutive size, its *Mus musculus*-like colour and shape of skull, and its small number of mammæ.

"These mice live in single families in well-sheltered places in woods and fields. They build neat nests of fine curly grass, corn, silk, or any soft substance they can find. They also build little houses of refuge away from the main dwelling. Their nests are firm and elastic, very unlike the rude nests of *Sigmodon hispidus*. If other mice live in the same place, they watch till the others disappear, then suddenly steal part of the other nest and run to their own with it. They again return slowly and repeat the same quick theft. They are somewhat like shrews in their movements. They creep under anything that is in their way, instead of bounding over it like *Cricetus leucopus* and *Ochetodon mexicanus*. They are very industrious, making many streets and alleys, and clearing off any obstructions that may get on to them. They do not like to eat in exposed places. They hardly ever try to bite when handled, and can hardly draw blood when they do bite, their jaws are so weak. The female has generally two, but sometimes three young at a time. This is remarkable, as many of the allied species have often five young ones at a time.

"Besides the females with young that I caught in different localities, I had three sets born in confinement, in a small box. They are bluish black before the hair begins to grow, which takes place at about five days after birth, and then they are sooty black. When danger is near the mother runs off carrying one in her mouth, like a cat, and not only the mother, but the male also takes one in his mouth, though somewhat awkwardly, and carries it to a safe place. When eight days old they have a fair covering of hair and take notice of what is going on. When twelve days old one of them ran away to protect itself, and commenced to wash its face like the old ones when perplexed. After the first week of their life, when danger is near, the mother gives them a sign to catch on to the teats, which they do, then she runs off, even jumps, with them both dangling behind her like the tender of a locomotive, and I never saw one fall off. When twenty days old each weighs 45 grains, they begin to eat, and assume the appearance of the grown ones except that they are much darker in colour. When one month old they are weaned, nearly half-grown, and foraging for themselves. In twenty days after the same female had another set of young. Full-grown *C. taylori* weighs 150 grains, about one third of an ounce. Their voice is a sharp squeak, very different from the yelping noise of *Cricetodipus flavus*."—W. T.

14. OCHETODON MEXICANUS, De Sauss.

a-g. ♂ ♀, 3/86.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
a. ♂	66	90	19·2	22	10·5
b. ♂	66	92	19·1	21·3	11·0
c. ♂	62	90	18·7	21	10·5
d. ♀	62	97	18·1	21	10·7

Mammæ 1—2=6.

"This species is rare in Duval County, and I have not seen more than one pair in one place; they build very comfortable nests of grass lined with feathers, cotton, or wool; these nests are very firmly put together, and look like those of some birds except that they have two openings; they are easily seen placed high on the top of some prickly cactus, or on a branch of some smooth tree or bush, where skunks and weasels seldom try to climb. I had a few of them in confinement, but they did not breed. They are the most active animals I ever saw—monkeys are slow compared with them; they can jump from the wires on one side of the cage, turning as they spring, and catch on the other side again and again, as fast as one can count. They vary greatly in colour, independently of season or locality, being sometimes as bright as *Cricetodipus flavus* and sometimes as sombre as *Mus musculus*."—W. T.

15. *DIPODOMYS AGILIS COMPACTUS*, True¹.

a. Ad. al., ♀.

b. Skull and dried foot.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
a.	98	122	33 ²	27	10·1

Mammæ 1—2=6.

Skull—Basal length 26 millim; greatest length from tip of nasals to back of bullæ 36·4; greatest breadth (across bullæ) 22·1; nasals, length 13·5; interorbital breadth 13; interparietal, length 3·0, breadth 2·6; greatest diameter (oblique) of bullæ 14·4; palate, length 16; diastema 8·5.

These specimens appear to represent a race of *D. agilis* so decidedly smaller than the typical form as to merit subspecific distinction, especially as the reduction in size is correlated with a decided difference in the relative development of the bullæ.

As to the difference in size, Mr. True³ has given a table of the measurements of all the alcoholic specimens of *Dipodomys* preserved in the United States National Museum. In this table only one of the eleven five-toed specimens has a hind foot measuring less than 39 millim., and this one, No. 2621, comes from Coahuila, Mexico, and therefore probably belongs to the present subspecies. All the other specimens have hind feet ranging from 39 to 45 millim. in length, including the claws.

¹ The above account was in type when I received Mr. F. W. True's "Description of *Dipodomys compactus*, a new species of Rodent from Padre Island, Texas" (P. U. S. Nat. Mus. xi. p. 159, 1888). The form described by Mr. True and that obtained by Mr. Taylor are, no doubt, the same, although no mention of the skull-characters is made by the former.

² With claw, 35. The dried foot of specimen *b* measures 31 millim. without and 33 with its longest claw.

³ P. U. S. Nat. Mus. ix. p. 411 (1886). In this admirable paper the distinction in the number of toes between *D. phillipsi* and *D. agilis* is first pointed out, and useful series of measurements and localities are given for both forms.

In the skull the most marked difference, apart from its smaller size, is in the lesser development of the bullæ, and the consequent increase of the space between them, as specially marked by the much greater breadth of the interparietal bones. These latter are very nearly as broad as long, while in all the specimens of *D. agilis* that I have seen their length is at least double and is often three times their breadth. The muzzle also is rather shorter and slenderer, the front edge of the anterior zygoma-root starts out from it at a sharper angle, and the supraorbital margins are much more nearly parallel to one another, and less divergent posteriorly, than they are in *D. agilis*.

In all these characters, both cranial and external, *D. agilis compactus* seems to stand on one side of *D. agilis typicus* exactly where *D. deserti*, Stephens¹, does on the other, for just as *D. compactus* is distinguished by its smaller size, smaller bullæ, and broader interparietal, so is *D. deserti* distinguished by its larger size, larger bullæ, and narrower interparietal; the three forms apparently therefore represent three stages in one single series of development.

16. PEROGNATHUS FASCIATUS, Wied.

a-j. ♂ ♀, 12/85 and 4/86.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
a. ♂	96	98	22·2	26·5	6·3
b. ♂	99	97	23	26·5	7·0
c. ♂	90	90	22·7	26·6	6·1
d. ♀	107	104	24·4	29	6·6
e. ♀	99	99	22·9	27	6·5
f. ♀	101	99	23·5	27	6·5

Mammæ 1—2=6.

“These pocket-mice are found all over the county, but individuals are scarce. They remain in their burrows during winter, but live a rather exposed life when grass and weeds cover the ground. They are strong and active, and the ones I had caged were very silent, but made a considerable fuss filling and emptying their pockets. I placed a heap of corn near their nest to see how fast they would remove it; I think a pair could move a peck one yard in six or seven hours. They appear to fight a good deal, as I often find them with scars and broken tails.”—W. T.

17. CRICETODIPUS FLAVUS, Bd.

a-e. ♂ ♀, 12/85 and 3 & 4/86.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
a. ♂	52	50	13·5	16·0	4·7
b. ♂	51	48	14·2	16·3	5·2
c. ♂	52	52	14·1	17	4·4
d. ♂	51·5	52	13·7	16·4	4·5

¹ Am. Nat. xxi. p. 42 (1887). The author unfortunately does not state whether his species has four or five hind toes.

	Head and body.	Tail.	Hind foot.	Forearm and hand.	Ear.
<i>e.</i> ♀	49	52	13·3	16	4·6
<i>f.</i> ♀	53	49	14·2	16·6	4·0
<i>g.</i> ♀	52	51	14·0	16·7	4·5
<i>h.</i> ♀	50	49	14	16·5	4·1
<i>i.</i> ♀	49	48	13·0	16	4·0
<i>j.</i> ♀	50	46	13·5	16·7	4·0

Mammæ 1—2=6.

Besides the measurements of this species recorded in Dr. Coues's Monograph (p. 518), a set of those of the allied *C. parvus*, Bd., have been given by Mr. True¹, who has pointed out the distinguishing characters of the two species.

"These pigmy pocket-mice are found in all parts of the county, although they are scarce. They build their little nests in holes in the ground, or among old cactus-leaves. They have often seeds in their pockets when caught. I have had single ones in confinement, but never a pair, so I do not know if they readily breed; they have seldom more than two young at a time. This is the smallest mouse here, weighing only one quarter of an ounce."—W. T.

3. Liste supplémentaire des Oiseaux recueillis en Corée par M. Jean Kalinowski². Par M. L. TACZANOWSKI, C.M.Z.S.

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Notre voyageur a continué encore ses travaux en Corée depuis la moitié de mars 1887 jusqu'à la fin de janvier 1888; puis le 5 février il se mit en route de retour à pieds vers la Mantchourie russe, chassant et collectionnant tant qu'il lui était possible pendant cette traversée pénible et dangereuse, qu'il a accompli dans deux mois jusqu'à la frontière russe.

Le point le plus méridional qu'il a visité dans ce pays est éloigné de 60 kilomètres au sud de la capitale; mais comme il y a trouvé la contrée plus pauvre encore en végétation et en gibier que dans les environs de Séoul il a résigné à s'avancer plus loin dans cette direction. Toute la contrée septentrionale du pays jusqu'à la frontière est également non boisée, et habitée partout par une population dense, même dans les montagnes au sommet des quelles il y a aussi des habitations. Les plus grands bois qu'il a vus et qui ne sont pas nombreux dans ce pays, ne dépassent pas une dizaine d'hectares; tous les renseignements qu'il a pu recueillir s'accordent qu'il n'y a point de plus grandes forêts nulle part dans le fond du pays. De tout ce qu'il a vus la meilleur contrée pour la chasse aux mammifères et aux oiseaux est située entre Séoul et Ginzan dans les environs d'Ara-Sambo, où il y a des sangliers, des cerfs, des chevreuils, le

¹ P. U. S. Nat. Mus. iv. p. 475 (1882).

² See P. Z S. 1887, p. 596.