

That such a habit characterized the *Laelaps* is very probable; the tail was nearly cylindric, and from the extent of the condyles of the femur, the hind limb must have been considerably flexed. The small size of the fore limbs must have rendered them far less efficient as weapons than the hind feet, in an attack on such a creature as *Hadrosaurus*; hence perhaps the latter were preferred in inflicting fatal wounds. The exceedingly eagle-like character of the digits and claws and ornithic type of sacrum elucidated by Prof. Owen, suggest a resemblance in the use of the limb.

The bulk of the species, as compared with that of *Hadrosaurus*, illustrates again the law observed in the relation between *Felis* and *Bos*, *Thylacoleo* and the herbivorous implacentals of its time, and the other raptorial and herbivorous *Dinosauria*, which might probably be reduced to exact terms.

The remains indicate an animal of near 18 feet in length, which could probably raise itself to a height of six feet at the rump.

To recapitulate; the genus *Laelaps* belongs to the family *Dinodontidæ*, which is characterized by its contractile raptorial claws and slender digits, and compressed sabre-shaped teeth. It differs from *Megalosaurus* in its femur, and from *Dinodon* in that teeth of the latter have two posterior serrate edges separated by a posterior plane. From supposed *Dinosaurian* genera of doubtful affinity, it differs e. g. from *Regnosaurus* *Mant.* in the totally different humerus, and from *Pelorosaurus* and *Streptospondylus* in the vertebræ. *Cetiosaurus* and *Cimoliasaurus* were perhaps mutilate like the *Cetaceans*, according to Owen and Leidy.

In connection with the same fossil were found *Cucullæa* and *Baculites* sp., and not more than twenty feet off a femur of *Hadrosaurus*; also portions of *Mosasaurus*, *Hyposaurus*, *Thoracosaurus* and *Bottosaurus*, occurred in the neighborhood.

The phalanges figured by Prof. Leidy (*Smithsonian Contributions* xii.) *Cretaceous Reptiles*, Tab. 17, fig. 8—11, probably belong to the present species. They are included under the head of animals allied to *Hadrosaurus*.

In conclusion, the thanks of scientific men are due to Superintendent Voorhees for the interest and care evinced in the preservation of these valuable specimens. Were all persons engaged in digging marl equally interested in the preservation of bones which come under their notice, we might have been far nearer an elucidation of this, one of the most extraordinary faunæ which have been placed upon our planet.

August 28th.

The President, DR. HAYS, in the Chair.

Fourteen members present.

Gen. S. Wylie Crawford, M. D., U. S. A. was elected a Member.

The following paper was presented by permission, reported on favorably by the Committee appointed, and ordered to be published:

Notes on the *VESPERTILIONIDÆ* of Tropical America.

BY H. ALLEN, M. D.

I.

The study of the *Vespertilionidæ* of Tropical America has never been undertaken by any one having large collections at his command. With others, I have hitherto refrained from entering a field where such facilities, and an acquaintance with type specimens, appeared to be necessary aids to produce
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results of value. In these particulars I am now no better prepared than at any other time; since but comparatively few specimens have reached me from its localities, and all its types are to be seen only in European museums. But having been compelled while studying the fauna of California to institute comparisons between some of its members and those of the Mexican provinces, to determine questions of distribution, I some time ago drew up a few descriptions of forms, which I now think are new. These, together with notes upon two bats from Aspinwall and Maracaibo, I propose to submit under provisional names. Should any or all of them prove to be old species, their descriptions can, without confusion, be appended to the original meagre diagnoses, and may thus add to what little we know of these obscure animals.

a. *Interfemoral membrane relatively small; each joint of tail a third shorter than each of β ; terminal joint of tail exerted. Color of membranes and auricle blackish.*

V. MUNDUS, n. s.

Fur above long and silky, and obscurely tri-colored; basal third mottled greyish-brown, with border toward skin whitish-grey; apical third blackish-fawn, with a tip of decided light dirty yellowish-brown. This tip hue is more marked toward coccyx, and everywhere mingles with the blackish-fawn, so that the prevailing color is seen to be mottled brown fawn, flecked with the lighter shade just mentioned. Beneath fur more bi-colored, base being blackish, with a faint white line at root; tip being pale grey, verging to a whiter shade at pubis, where it is almost uni-colored. The fur here also extends in a sparse degree nearly to the region of the elbow. Head less clothed than the other species. Base of foot claws sparsely furnished with glistening brown hair. Auricle upright, narrow; tragus subulate. External basal lobe of ear obscurely quadrate, rolled inward at upper free border; tip of auricle bluntish; external border very slightly emarginate. Phalangeal callosity prominent, brownish. Wing membrane to base of phalanges of toes; small whitish tubercle at fibular side of ankle; membrane over calcareum also whitish. Membrane very small; interfemoral membrane triangular; joints to the tail nine, the last free; nostrils oblique, palmar; lower border thin, upper border swollen. *Teeth*.—Central incisors placed obliquely to the dental arch, bicuspid, internal the larger; lateral placed at right angles to dental arch; cusps of equal length; molars $\frac{5}{6}$, most probably in adult $\frac{6}{6}$. *Inferior incisors overlapping; lateral incisors quadrilobed.*

Measurements.

Length of head 6'''	Length of foot 3'''
" " body 11'''	Height of auricle 5'''
" " tail 1''·1'''	" " tragus 3'''
" " humerus 1''·2'''	2d joint index finger $\frac{1}{16}$ "
" " thumb 2 $\frac{1}{2}$ '''	Expanse 6''·6'''

Young ♀, No. 5547, Museum of Smithsonian Institution. Alcohol. Maracaibo, Ven.

V. CONCINNUS, n. s.

Fur above silky; prevailing hue obscure chestnut-fawn. Indistinctly bi-colored, basal half being brownish-black. Upper portion of interfemoral membrane sparsely covered with fur of the same color. Beneath fur more distinctly bi-colored, the basal half or two-thirds being as above; apical portion, however, being light greyish-brown, verging to yellow toward region of pubis and russet about the neck. Head woolly, of nearly the same color as the fur of the back, somewhat lighter, and in one specimen nearly unicolored. The basal third of posterior surface of auricles furnished with unicolored light greyish-brown hair. Upper lip very faintly whiskered. Auricle erect, bluntish at tip; internal basal lobe acute, less so, however, than *V. subulatus*. External border very faintly scooped out; external basal obscure, turned inward at upper border;

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tragus subulate, basal cusp turned forward; nostrils palmate, inferior border not well defined nor much swollen above; lower lip not free. Membrane to base of toes; tubercle at base of fibula very faint, as the calcaneum is slightly developed. Membrane over both of the same color as that elsewhere; *joints of tail ten, terminal one half exsert.* *Teeth.*—Central incisor in line of arch, the medial cusp the larger; lateral more at right angles to arch; posterior cusp much smaller than anterior; palatal ridge absent; first and second premolars subequal, the first being slightly the larger, and both thrown slightly inward from dental arch; molars, $\frac{6}{6}$. *Inferior lateral incisors quadri-lobed.*

Measurements.

Head 7'''	Foot 3'''
Body 11'''	Auricle 6'''
Tail 1'' 4'''	Tragus 5'''
Humerus 1'' 4'''	Length 2d joint index finger 2'''
Thumb 2½'''	Expanse 9'''

Two individuals. Nos. 1114, 1115, Mus. of Academy. Alcohol. San Salvador.

V. EXIGUUS, n. s.

Fur above basal three-fourths blackish; apical fourth grey. Toward the coccyx the basal hue is more brownish, the tip glistening brown. Basal third of upper surface of inter-femoral membrane covered with a thin patch of nearly unicolored glistening hair. Beneath fur more tri-colored; thin line of whitish hairs at base; distal two-thirds blackish-fawn, apical third greyish. Toward the pubis hair almost white, mixed with dirty yellow, and the membranes to near elbow and basal third of interfemoral membrane possess a scattering pelage of the same hue. Tip of auricle bluntish, internal basal acute, *external basal well marked, broadly crescentic*; tragus narrow, acuminate, emarginate on the upper two-thirds; nostrils with a well-defined lower edge, palmate (as in 5547); membrane to base of toes; joints of tail nine; scarcely any ex-calcaneal lobe; calcaneum slender. Teeth as in *V. mundus*. Individual young, and the second premolar above is not yet fully erupted. Lateral incisors below obscurely quadrilobed.

Measurements.

Length of head 7'''	Length of foot 4'''
" " body 1'''	" " auricle 6'''
" " tail 1'' 2'''	" " tragus 3'''
" " humerus 1'' 4'''	" " 2d joint index finger 2'''
" " thumb 3'''	Expanse 8'''

One individual, ♀. No. 5373, Mus. of the Smithsonian Institution. Alcohol. Aspinwall, N. G. Dr. Hayer.

V. OBSCURUS, n. s. (No. 8223 type.)

Fur above dark plumbeous at basal two-thirds; woolly texture and obscure fawn-brown at apical one-third. Below basal two-thirds blackish, apical one-third yellowish-white; more russet under jaws; face very hairy; membranes furred; lateral lower incisor square quadrilobed, raised considerably above level of other teeth; upper premolars in line, first little longer; lower premolars same; interfemoral membrane triangular; joints of tail nine, terminal joint conspicuously exsert. Ear, external basal lobe irregularly quadrate; other parts as other species of N. A. *Vespertilio*. Nostrils with lower border everted, not elliptical.

Mutilated.

(8222.) Fur above basal two-thirds dark brownish-black, streaked with bright olive-brown hairs at base; apical one-third glistening olive-brown below; basal four-fifths brownish-black, streaked with yellowish hairs at 1866.]

base; apical third brownish-grey at neck, lighter at pubis; teeth as 8223,—also ear and membranes; joints of tail ten; in both feet and thumb large, but specimens young.

Measurements.

Length of head 7'''	Length of foot 4'''
" " body 1''	Height of auricle 5'''
" " tail 1''·3'''	" " tragus 3½'''
" " humerus 1''·4'''	Length of 2d joint index finger ½'''
" " thumb 3'''	Expanse 8''·2'''

Two young individuals, ♂. Nos. 8222, 8223, Mus. of Smithsonian Institution. Alcohol.

Lower California. John Xantus.

Also young individual mentioned in Mon. (loc. cit.) as a variety of *V. nitidus* (*V. Oregonensis*). It very closely resembles sp. 8222. Dry. No locality.

β. *Interfemoral membrane relatively large; each joint of tail a third longer than each of α; terminal joint not exerted, (a small tip of cartilage may be exerted;)* color of membranes and ear light brown, excepting *V. exilis*.

V. AGILIS, n. s.

Fur silky, above of a very dark plumbeous verging to black, with apical fourth of a decided dark brown; on back, running to a lighter shade on head, where the fur has a more woolly texture. Fur wanting from region of loin and interfemoral membrane. Beneath, the base of the fur the same as above, apical fourth being of a lighter brownish grey; basal third posterior surface of auricles being clothed with a few sparse unicolored greyish hairs. Auricle almost bluntish at tip, internal basal lobe sharply pointed; tragus acuminate, broad at basal third; external basal lobe prominent, free, broadly crescentic; joints of tail nine, enclosed in interfemoral membrane; nostrils mutilated, oblique, probably palmate.

Measurements.

Length of head 7'''	Length of foot 3'''
" " body 1''	" auricle 7'''
" " tail 1''·6'''	" tragus 3½'''
" " humerus 1''·4'''	" 2d joint index finger 1'''
" " thumb 2¼'''	Expanse 9'''

One individual ♀. No. ? Mus. of Smithsonian Institution. Alcohol. Dr. Sartorius. Mirador, Mexico.

V. VOLANS, n. s.

Fur: above dark plumbeous at basal third; apical third obscure, light brown, scarcely any extension on membranes; basal third interfemoral membrane same. Below, basal two-thirds plumbeous, shade lighter than above; apical third a light-brownish fawn. Moderate extension of hairs upon membranes to near elbow, and upon basal third interfemoral membrane. Auricle slightly "scooped out;" external basal lobe salient, quadrate; tragal lobe very salient; nostrils elliptical; index finger strong, membrane uniting it with middle finger, ample; joints of tail nine; tip barely exerted; excalcaneal lobe conspicuous; upper incisors as usual; lower external scarcely if at all quadrilobed; first and second upper premolars placed a little within line of arch. Skull: upper border anterior nares semicircular; facial bones abbreviated, causing the brain case to appear greatly inflated.

Measurements.

Length of head 6'''	Length of foot 3¼'''
" " body 1''	Height of auricle 5'''
" " tail 1''·9'''	" tragus 3'''
" " humerus 1''·5'''	Length of 2d joint index finger 1'''
" " thumb 3'''	Expanse 9'''

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One individual ♀. No. 5398 Mus. Smithsonian Institution. Alcohol.
Cape St. Lucas, Lower Cal. John Xantus.

V. EXILIS, n. s.

Fur: above, long, rich plumbeous two-thirds; apical third pale russet yellow; head and face surmounted with same; conspicuous patch at basal half interfemoral membrane. Venter same proportionate base of black; apical third paler yellow, running to white toward pubis; small patch of same colored fur at base of interfemoral in front; sparse hair runs on membrane up to elbow; thick labial fringe of dark brown hair running downward to below level of lower jaw. Orbital wart also covered with prominent clump of hair of same color. Auricle black; external border slightly emarginate; internal basal acute; external basal prominent, equal sided; tragal lobe salient; nostrils scarcely elliptical; inferior border everted; lateral incisors unicuspid; placed to central, as in other species; inferior incisors increasing in thickness toward canines, lateral, most being obscurely quadrilobed (as in other species;) joints of tail nine, long, tip scarcely exsert.

Measurements.

Length of head	6'''	Length of foot	3'''
" body	1'''	Height of auricle	6'''
" tail	1''·6'''	" tragus	3½'''
" humerus	1''·4'''	Length of 2d joint index finger	1½'''
" thumb	2¼'''	Expanse	7½'''

One individual ♂. No. 5402 Mus. Smithsonian Institution. Alcohol.
Cape St. Lucas. John Xantus.

V. TENUIDORSALIS, n. s.

Fur very imperfect. Above, blackish basal two-thirds; dark brown apical third; below blacker basal two-thirds; reddish brown apical third; (belly and membranes denuded.) Auricle and tragus as *V. exilis*. Nostrils very elliptical; thumb and foot barely large; joint of tail nine; tip not exsert.

Measurements.

Length of head	6½'''	Length of foot	2¼'''
" body	11'''	" auricle	5'''
" tail	1''·3'''	" tragus	3'''
" humerus	1''·3'''	" 2d joint index finger	1'''
" thumb	2'''	Expanse	7''·10'''

One individual ♀. No. 5533 Mus. Smithsonian Institution. Alcohol.
Cape St. Lucas, Lower Cal. John Xantus.

V. YUMANENSIS.

Auricle and tragus as 5402; external basal lobe quadrangular; pale brown nostrils. Sides of face swollen; joints of tail eight; tip not exsert. Fur: Above, long, silky, basal two-thirds and black; apical third pale russet yellow, extending on to membrane from body one-third the distance to elbow. A small patch of pale yellow hairs at basal half of interfemoral membrane. Below, black at basal half, dirty white apical half; extending on membrane nearly to elbow; patch on interfemoral of smaller size than that above. Labial fringe thick, extending to below lower jaw. Warts also surmounted with a prominent clump of hairs of a darker color.

Measurements.

Length of head	7'''	Length of foot	2'''
" body	9'''	Height of auricle	6'''
" tail	1''·4'''	" tragus	4'''
" humerus	1''·3'''	Length of 2d joint index finger	½'''
" thumb	2¼'''	Expanse	9''·4'''

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One individual, young ♀. No. 5537 Mus. Smithsonian Institution. Alcohol. Fort Yuma. Maj. Gen. G. H. Thomas, U. S. A.*

This last group includes those given in my monograph as varieties of *V. nitidus*, where I proposed that the name *V. oregonensis*, which was attached to one of the specimens, should be retained, in the event of their proving to be distinct. Now that it appears probable that there is a group of closely allied species of Vespertilionidæ inhabiting the southwestern portions of the United States and Mexico, of which *V. nitidus* is a member, I have concluded to place the so-called *V. oregonensis* under one of this group, *V. obscurus*, and give, provisionally, new names to the others. "*V. oregonensis*" bears no locality. As regards the distinctions between the above specimens and *V. nitidus*, it will be seen that the prevailing deep-plumbeous basal half of the fur *above*, with its rich chesnut, olive brown, or, in some specimens from New Mexico, a sandy-chesnut tip, and the lighter shades of the same colors to the fur *beneath*, sufficiently serve. The superior border of anterior nares is semicircular; the 2d premolar of upper jaw wedged in between 1st and 3d to a degree preventing it from being visible in profile from buccal side.

A revised description of *V. yumanensis* is also given, to correct some errors in the original notice. The representation of the tail and interfemoral mem-

*Compare the above descriptions with *V. HYPOTHRIX*, D'Orb.—Smoky brown, deeper above than below, where the fur is mixed with grey. *Hab.*—Moros, Bolivia.

V. ISIDORI, D'Orb.—Glazed greyish fawn at tip of fur above, brownish black at base. The brown is more marked on shoulders and back of neck. The head is also browner than that of the back and loins, but less than that of the shoulders; the cheeks and parts beneath neck passing to brownish cinnamon. Belly is dirty grey, with base brownish black. *Hab.*—Corrientes, S. A.

V. BRASILIENSIS, Spix.—Size of *V. subulatus*. Black. Tail exsert. *Hab.*—Brazil.

V. MEXICANUS, De Sauss.—*Gilt brown*, with brown at base; beneath grey or pale, with blackish base; eleven joints to tail. *Hab.*—Mexico.

The following is drawn up from personal examination of four dried specimens collected by Mr. Sumichrast at Orizaba, Mexico.

Fur: Above, long, silky, plumbeous or deep blue slate at basal two-thirds, with obscure chestnut or dark brown at apical third; a very small patch of fur on interfemoral membrane; none on wing membranes.

Beneath, fur short, thickly set; basal three-fourths dark plumbeous; apical fourth uniform grey or dirty yellowish brown.

The skull is slightly crested at venter; proportions larger than other American species of Vespertilio.

V. CHILOENSIS, Waterhouse.—*Reddish black*. More or less greyish on belly, (Castelnau:) rich brown, (Waterhouse.) Upper incisors nearly subequal; outer side of tragus obscurely crenated.

Hab.—Chiloe Islands, and extending upwards in Brazil (?).

V. KINNAMON, Gervais.—*Reddish cinnamon*, deeper above than below; tragus curvilinear at lower part of outer border.

Hab.—Capellanova, S. A.

V. ARSINOE, Temm.—Fur short; above black; beneath, blackish brown; points of hair "fallow;" whitish at region of coccyx, so as to form here a whitish margin. No emargination on outer border of ear.

Hab.—Surinam.

V. ALBESCENS, Geof.—Upper parts black, portion tipped with greyish in part. Inferior parts black, tipped with whitish towards the pubis and coccyx. Hair above entirely blackish, not greyish or fawn tip.

Hab.—South America.

V. LACTEUS, Temm.—Blackish brown at base above; reddish brown at base beneath; tip whitish both above and beneath.

Hab.—North America (?).

V. PARVULUS, Temm.—Prevailing tint black, with isabel tint on thighs.

Hab.—Brazil.

V. POLYTHRIX, Isid.—Deep brown, chestnut above; lighter, and marked with greyish below.

Hab.—Brazil.

V. LAEVIS, Isid.—Marked as *polythrix*, but has remarkable proportionate development of wing membranes.

Hab.—Brazil.

V. MONTANUS, Philippi and Landbeck.—Ears ample, oblong; tragus straight; tail truncated; above mouse color, beneath greyish white; face above black. Stands between *velatus* and *chiloensis*.

Hab. Cordilleras at Santiago, 7600 feet above the sea.

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brane in the Memoir, *loc. cit.*, is taken from a young specimen; and the account is otherwise too meagre. It is unfortunate that the original specimens of this bat, recorded in the Memoir, are unavailable for comparison. They were mislaid during the fire at the Smithsonian Institution in January, 1865, and have not since been found.

II.

RHOGEËSSA, n. g.

Skull.—Depressed, not crested; occiput triangular, slightly swollen, supra-occipital process subtrenchant. Nasal bones slightly decurved, in median line forming a conspicuous linear fossa running to the nares; superior border of anterior nares rounded, not reaching line of infra-orbital foramen above; on palatal surface terminating on a line with the premolar. Orbital processes but slightly swollen, lower than base of nasal bones. Sides of face between these points concave, groove-like. Inner wall orbital space acutely convex, incurved markedly at base. Infra-orbital ridge defining foramen behind; foramen on a line with first true molar; cochleæ not visible; intermaxillaries rudimentary; lower jaw ramal angle rather broad, turned outward from angle.

Dental formula—

$$\begin{array}{ccccccc} \text{m.} & & \text{c.} & & \text{i.} & & \text{i.} & & \text{c.} & & \text{m.} \\ \frac{4}{5} & - & \frac{1}{1} & - & \frac{1}{3} & - & \frac{1}{3} & - & \frac{1}{1} & - & \frac{4}{5} = 30 \end{array}$$

Molars as in *Nycticejus*; lower premolars closely approximated; canines above with a groove on palatal face deeper inferiorly, terminated by a cingulum; lower cingulum marked; incisors above close to canines, slender, convergent, unequally bifid at tip; inner cusp the longer. Below, terminal tooth on either side unicuspid; remainder tricuspid; external cusp inconspicuous. Ear tapering, erect, disjointed, nearly as long as head; internal basal lobe rounded; external basal almost null; border inverted. Tragus erect, subulate, half height of ear, straight on inner, divergent on outer border; basal lobe comparatively small. Snout obliquely truncate or slightly tumid; nostrils circular, well defined, terminal, separated by a slightly scalloped space. Mental plate obscurely triangular; distal joint of thumb free; wing membrane to base of toes; ex-calcaneal lobe present; joints of tail eight, included in a nearly naked triangular inter-femoral membrane.*

R. PARVULA, n. s. (No. 7841 type.)

Ear sub-acute at tip; lips whiskered; eyes very small, each furnished with a wart above; similar growth seen beneath chin. Fur above silky, not thick, of a light greyish-brown at basal third, fawn-chestnut-brown at apical two-thirds; that of head same color, running on to the ears one-half their height. Beneath, basal third inclined to greyish; apical two-thirds greyish-fawn. Membranes almost black, naked, excepting basal fourth of interfemoral membrane behind, which is furnished with a small, short patch of glistening fur.

*Compare

NYCTICEJUS (*N. crepuscularis*).

Skull slightly depressed at vertex; occiput obtusely triangular, entire, not swollen; nasal bones flat, with a small shallow median fossa, not running to nares, which are irregularly rounded at upper border, extending to level of infraorbital foramen; on palatal surface broad, running to level of premolar. Orbital processes acutely edged, inner wall orbit nearly flat. Infra-orbital ridge and foramen as in *Rhogeessa*, but no oblique groove on sides of face. Cochleæ not visible. Lower incisors all equally trifid; upper incisors unicuspid.

NYCTINOMUS (*N. nasutus*).

Skull much depressed at vertex. Occiput not completely defined, rounded, and swollen at supra-occipital region. Nasal bones flat, scarcely decurved, a small fossa seen at their base, and convex at nares. Contour of anterior nares above obscurely tri-foil like, extending to level of infra-orbital foramen, small on palatal surface running to level canine tooth. Orbital process swollen, posteriorly produced in front. Infra-orbital foramen at posterior third of orbito-nasal space. Inner wall orbital space flat. Cochleæ not visible. Upper incisors unicuspid; lower centrals bifid; laterals unicuspid.

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Measurements—7841.

Height of auricle 6"	Length of longest finger 1' 11"
" tragus 3"	" thumb 2"
Length of head 7"	" tibia 5"
" body 10"	" foot 2½"
" tail 1' 2"	Expanse 6' 7"
" forearm 1' 1"	

Two individuals, ♂ and ♀. Nos. 7841, 7842, Museum of Smithsonian Institution. Alcohol.

Tres Marias, Mexico. Col. Grayson.

R. TUMIDA, n. s.

Fur above bi-colored; basal two-thirds pale yellow, apical third dark fawn, less distinctly bi-colored towards loins, where it becomes woolly. Beneath as above, fawnish toward the sides. Specimen deficient in fur at loins and wing membranes. It is probable that the membranes at base of tail and sides of body were clothed with fur. Snout tumid, not truncate; nostrils circular; sides of face enlarged by large oblong swellings; wart above eye, none under chin; lower lip tumid, free from gum; lips not whiskered. Skull with nasal groove less expressed, inner wall orbit less convex than *N. parvulus*; side of face over infra-orbital foramen slightly swollen. Dentition as in preceding species; superior incisors not bifid—points probably worn off.

Measurements.

Height of auricle 6"	Length of longest finger 2' 3"
" tragus 3½"	" thumb 2¼"
" head 7"	" tibia 5"
" body 12"	" foot 2½"
Length of tail 1"	Expanse 10' 3"
" fore arm 1' 2"	

One individual, ♂. No. 8195, Mus. of Smithsonian Institution. Alcohol. Mirador, Mexico. Dr. Sartorius.

This genus appears to connect the Noctilionidæ with the present family: with the former through *Nyctinomus*, with the latter through *Nycticejus*. The circular nostrils, sub-truncate snout, the detail of inferior incisors, the angle of lower jaw—to Noctilionidæ; the tapering face, marked median groove, tapering tragus and pointed ear, number and general arrangement of teeth, extent of hard palate, length of tail and attachment of wing membranes,—to Vespertilionidæ.*

It reminds one of *Nycticejus* and *Lasiurus* in the slightly tumid face (this is more marked in *R. tumida*) and the dentition; while the shape and relative length of the auricle and tragus, and the decurvation of nasal bones, recall *Vespertilio*.

* The value of the presence of one or more phalanges to the index finger, in the classification of this group, is not yet determined; so the fact that this finger in *Rhogeessa* is made up of two phalanges has not been made a feature of the diagnosis. My attention has been recently directed to this subject by remarks made by Prof. Peters (Monatsbericht. der Königl. Acad. der Wissenschaft, Berlin, Oct., 1865), in his paper on the true position of *Antrozous*,—who, by the presence of two phalanges to the index finger of *Antrozous*, would remove it from the position I assigned it,—the Vespertilionidæ—to the Megadermatidæ; placing it in proximity with *Nyctophilus*. But so far as I have observed, the distal end of the first phalanx is always abrupt; the interval between it and the contour of second finger is membranous in *Nyctinomus*, but partially ossified, forming thus a second phalanx in *Lasiurus*, *Antrozous*, *Vespertilio*, *Scotophilus*, and *Nycticejus*. I am not acquainted with *Nyctophilus*, but in *Megaderma lyra* the second joint is relatively no larger than in *Lasiurus* or *Scotophilus*, while it is more marked than it is in *Antrozous*. From reading Mr. Tome's description of *Nyctophilus* (Proc. Zool. Soc., 1858, 25), I would, with Prof. Peters, approximate it to *Antrozous*, but would agree with Mr. Tome in considering *Nyctophilus* and its congeners as members of Vespertilionidæ. A second phalanx exists in my new genus, while no such phalanx is seen in *Nyctinomus*. So it would appear, in absence of the observation that the uni-phalangeal index finger is not common to Noctilionidæ, that *Rhogeessa*, is nearer *Nycticejus* than *Nyctinomus*.

III.

In determining the species of *Scotophilus* of North America, I had been influenced by the authority of Major John Le Conte (Mon. on N. A. Bats) to consider *S. carolinensis* as distinct from *S. fuscus*, although suggesting at the time that they might prove to be identical. I now venture to consider them such, and make the former a synonym to the latter. This has not been done hastily. It is not to be presumed that all the specimens of *S. fuscus* found in this country are identical in every particular. They arrange themselves in groups, of just sufficient definition to mislead the observer. But it is found, upon careful comparison, that so vaguely are the boundaries of these groups determined, that it is impossible to assign them precise limits. Among the characters selected for this purpose, successively embraced and relinquished (apart from the coloration of fur elsewhere noticed), are the infra-orbital foramen, whether it be well defined in front or open; the zygomatic arch, whether straight on inferior border and forming a right angle with the tuberosity of superior maxilla, or curved on inferior border, and forming an obtuse angle; the inner side of orbital space, whether flat or convex; the glenoid cavity, whether transversely elliptical or lozenge-shaped; the tragus, whether incurved at tip or straight; the outer border of ear, whether emarginated or nearly entire; the nostrils, whether palmate or reniform; and the proportionate size of the foot and thumb. But it does not follow after all that I am correct in this conclusion. A more acute observer than myself may yet divide *S. fuscus* into several species.*

The extent of the ex-limital distribution of this species is not yet determined. M. Gervais thinks it probable—and the extended study he has given this group renders his opinion valuable—that *S. dutertrei* is identical with “*carolinensis*,” and that both *S. innoxius* and *S. furinalis* may be found in North America. I have seen several specimens of *S. fuscus* from Mexico which present no differences from those met with in the United States.

Another specimen, however, from Mirador, Mexico, has peculiar coloration, and may receive the following description:

S. MIRADORENSIS, n. s.

Head and auricle much as in *S. fuscus*. Inner border auricle inclined, obliquely rounded; inner edge free; anterior border nearly covering eye; tip rounded, turned very slightly outward; outer border scarcely if at all scooped out; basal third moderately revolute. External basal lobe oblong and crescentic, not markedly turned inwards; as long as interval between it and angle of mouth. Tragus erect, nearly half as high as ear, straight on inner border, tip not incurved; outer border divergent, slightly convex; basal lobe obtusely rectangular, turned somewhat forward. Nostrils sub-reniform; posterior angle well defined; space between nostrils as usual, naked, concave. Mental space ill defined. The supra-orbital and gular warts as usual. Membranes light brown, attached to base of toes; phalangeal callosity of thumb marked; tubercle present on tibial side of foot; a larger one on fibular side for membranous calcaneum. Joints of tail nine; terminal and half penultimate free. Inter femoral

* The following is a list of the smaller species of *Scotophilus* of Europe in the collection of the Academy:

		Italy,	Bon. Coll.	Dr. T. B. Wilson.
1144.	<i>Scotoph. pipistrellus</i> ,			
509.	“ <i>pipistrellus</i> ,	“	“	“
1155.	“ <i>alcythæ</i> ,	“	“	“
1182.	“ <i>Bonapartii</i> ,	“	“	“
1138.	“ “	“	“	“
516.	“ <i>leucippe</i> ,	“	“	“
704.	“ <i>albolimbatus</i> ,	“	“	“

It is not improbable that specimen No. 516 is the type of *S. leucippe*. This specimen appears to be almost identical with 509, *S. pipistrellus*. The prevailing hue of all the above South European species, excluding *alcythæ*, is a rich chestnut-brown fur above, with the apical one-fifth of a gilt yellowish-brown. Beneath fawn-brown at basal two-thirds; whitish at apical third.

1866.]

membrane triangular; ex-calcaneal lobe commencing 2''' from ankle, abruptly crescentic. Fur nearly unicolor, everywhere long and silky; above of a lustrous yellowish fawn-brown, somewhat lighter at base. Below same prevailing hue, a shade or so paler. Head and base of ears covered as usual. Scarcely any extension upon the membranes, an extremely small patch alone being seen at the base of the dorsum of inter-femoral membrane.

Measurements.

Length of head 11'''	Length of foot 5'''
" body 1''·6'''	Height of auricle 7'''
" tail 2''·3'''	" tragus 4'''
" humerus 2''	Length of 2d joint index finger 2'''
" thumb 4'''	Expanse 13''·6'''

One individual, ♀, Mus. of Smithsonian Institution. Alcohol.
Mirador, Mexico. Dr. Sartorius.

IV.

A small collection of bats made by Dr. E. Coues, U.S.A., in 1864 and 1865, was found to be comprised as follows:

7802.	V. subulatus,	Fort Whipple.	Smithsonian Institution.	Dry.
7803.	"	"	"	"
7804.	"	"	"	"

The only peculiarity in these specimens is a more extensive distribution of the fur over the dorsal surface of the interfemoral membrane than is seen in the more eastern specimens.

The fourth specimen was an imperfect skin. The proportions of the face distorted, the wings broken, and the vertebra of the tail removed. Enough remained, however, to detect marked differences between it and the others, warranting, it is thought, a distinctive name.

V. MACROPUS, n. s. prov.

Above, fur long, silky, basal three-fourths black, apical fourth uniform light russet brown; a small clump at base of inter-femoral membrane. Beneath, same proportions as above, being at base black, at tip greyish-white, pure white at pubis; fur extends laterally on membrane midway to elbow. Wing membrane attached midway between base of outer toe and ankle joint. In other respects it closely resembles *V. subulatus*.

Measurements.

Height of ear 6'''	Length of foot 4½'''
" tragus ¾'''	" 2d joint index finger 1'''
Length of humerus 1''·4'''	Expanse 8''·3'''
" thumb 3'''	

Mature. Dr. Coues' Private Collection.

Near Fort Majaor, Colorado River, New Mexico. Dr. E. Coues, U.S.A.

Other bats so far met with in New Mexico are *Lasiurus cinereus*, *V. evotis*, *V. lucifugus*, *V. nitidus*, *Corynorhinus macrotis*, *Antrozous pallidus*.

[Aug.



Allen, Harrison. 1866. "Notes on the Vespertilionidæ of Tropical America." *Proceedings of the Academy of Natural Sciences of Philadelphia* 18, 279–288.

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