

## Article XXII. — THE GENERIC NAMES OF THE ME- PHITINÆ.

By J. A. ALLEN.

In Mr. Arthur H. Howell's recent 'Revision of the Skunks of the Genus *Chincha*'<sup>1</sup> radical changes are made in the nomenclature of the North American Skunks, which involve a complete overturning of the generic names of the North American Mephitinæ. *Chincha* Lesson is adopted for the group hitherto known as *Mephitis*, and *Mephitis* is transferred to the Little Striped Skunks known of late as the genus *Spilogale*, the latter name becoming a synonym of *Mephitis*. As *Thiosmus* Lichtenstein, 1838, is adopted for the Bare-nosed Skunks of Mexico and the southern border of the United States,—*Conepatus* Gray, 1837, being restricted to the South American species,—the hitherto current generic names of all the Skunks found north of Panama are changed. Mr. Howell's paper is in other respects such an admirable piece of work that it is all the more to be regretted that the changes in the generic names affecting *Mephitis* and *Spilogale* rest on a faulty basis.<sup>2</sup>

Mr. Howell's reasons for accepting *Chincha* in place of *Mephitis* are as follows:

"Lesson proposed this as the name of a subgenus of *Mephitis*, with *Chincha americana* as the type species; *hudsonica* Richardson is given as a variety, but no other species are placed in the group. The references show that his type species is based on *Viverra mephitis* Erxleben, which in turn is based on *V. mephitis* Schreber—a plainly recognizable species. If we assume (as we can with all propriety) that Cuvier, in placing '*Viverra mephitis* L.' as one

<sup>1</sup> 'North American Fauna,' No. 20, pp. 1-62, pll. i-viii. Aug. 31, 1901.

<sup>2</sup> At this point, in justice to Mr. Howell, it seems proper to confess my own shortcoming in the matter. When in Washington last April I not only learned of the conclusion Mr. Howell had reached regarding the generic names of the Skunks, but I was consulted as to whether some way could not be devised whereby such a lamentable *bouleversément* might be avoided. I had then neither the time nor opportunity for a proper investigation of the points at issue, but on returning to New York, I carefully reviewed, by Mr. Howell's request, the pros and cons of the case as then understood. The chief question was whether or not Gray's sections *a* and *b* of *Mephitis* (Charlesworth's Mag. Nat. Hist., I, 1837, p. 581) could be construed as restricting *Mephitis* to the North American large Skunks, on account of his later giving the name *Spilogale* to his section *b* (P. Z. S., 1865, p. 150). I then wrote to Mr. Howell that I saw no escape from the proposed changes involving the terms *Mephitis*, *Chincha*, and *Spilogale*. Unfortunately, however, the real points at issue were wholly overlooked. In posting my MS. card catalogue of American Mammals soon after the publication of Mr. Howell's paper, I was astonished on looking up the various questions of nomenclature involved to find that *Chincha* of Lesson was a synonym of the restricted genus *Mephitis*. It seems strange, and is lamentable, that this point should have been previously overlooked by both Mr. Howell and myself.

of the types of his genus *Mephitis* referred to *V. mephitis* of Gmelin's edition, we then have for the type of *Chincha* a species which is one of the two originally composing the Cuvierian genus *Mephitis*, and one that is likewise identifiable, for *V. mephitis* Gmelin is based on *V. mephitis* Schreber.

"It is perfectly clear, therefore, that Lesson intended to apply the name *Chincha* to the large two-striped North American skunks, and it is used for these in a generic sense in the present paper."

The whole question thus depends on the supposed availability of Lesson's generic name *Chincha* for the North American large skunks, while this in turn, according to Mr. Howell, rests solely on the applicability of *Viverra mephitis* of Schreber to some of the several species occurring in North America. In reality, however, *Viverra mephitis* of Gmelin and Schreber has no important bearing on the case of *Chincha* since *Mephitis*, in a restricted sense, had already been twice assigned to the large two-striped skunks of North America before *Chincha* was proposed.

#### THE GENUS *Mephitis* CUVIER.

The genus *Mephitis*, as is well known, was established by Cuvier for the 'Mouffettes,' in the first 'tableau' of his 'Leçons d'Anatomie Comparée,' published in the year 1800, and is equivalent to his division *c* of *Mustela* of his 'Tableau élémentaire de l'Histoire naturelle des Animaux' (p. 116) of two years' earlier date. He there designated the group simply as 'Les Mouffettes,' and placed in it only two species, as follows :

- "11. Le cone pate. (*Must. putida.*) *Viverra putorius* L."  
 "12. Le chinche. (*Must. mephitis.*) *Viverra mephitis* L."

The first is evidently, by the diagnosis and the synonymy, the *Viverra putorius* of Linnæus and Gmelin, based primarily on Catesby and Kalm, here renamed *Mustela putida*. It has long been my opinion that *Viverra putorius* Linn. is referable, if to anything, to the large skunks of eastern North America and not to the little striped skunks, as some have claimed. As stated by Bangs (Proc. Bost. Soc. Nat. Hist., XXVIII, 1898, p. 223), it is composite, being apparently "a combination of *Mephitis mephitica* and *Spilogale ringens*." Catesby's figure, however, has little resemblance to either, and may fairly be considered as drawn off-

hand from a confused recollection of these two animals, and hence factitious. His figure has been copied time and again by later compilers, who have accompanied it by descriptions obviously based on the figure rather than on anything in nature. Even Kalm, who knew personally the skunks of Pennsylvania and the country thence northward, seems to have taken his account of its external features mainly from Catesby's figure. His general account of the animal was obviously based only slightly on personal observation, and mainly on information derived from the people among whom he lived or travelled; it of course relates to the common large skunk of Pennsylvania, New Jersey, and perhaps New York, as he was apparently never within several hundred miles of the region of *Spilogale*. The *Viverra putorius* of Schreber, Erxleben, and Gmelin, and the 'Striated Weasel' of Pennant all have practically the same basis, namely, Catesby and Kalm.

Cuvier's 'Conepate,' there is every reason to believe, is 'le cone pate' of Buffon (Hist. Nat., XIII, 293), who first employed the name in a technical sense. Buffon says: "Le cone pate a sur un fond de poil noir cinq bandes blanches qui s'étendent longitudinalement de la tête à la queue." In a footnote he gives a long extract from Kalm, and cites no other author. Cuvier's diagnosis is practically identical with Buffon's, and Gmelin's is not materially different, all being based primarily on Catesby and Kalm. Kalm identified his animal with that described and figured by Catesby, and says: "Dr. Linnæus calls it *Viverra putorius*." Thus Cuvier's Conepate—which he here names *Mustela putida*, and identifies with Linnæus's *Viverra putorius*—is, there is every reason to suppose, the animal so called by Buffon, namely, the common skunk of eastern Pennsylvania described by Kalm, and not a species of *Spilogale*.

Cuvier's second species of Mouffette is 'le chinche,' his short diagnosis being obviously based on 'le chinche' of Buffon. Although he refers to it as found throughout America, his only reference is to Fueillée, who describes a skunk from southern South America, and hence a species of *Conepatus*. Buffon's figure and brief diagnosis (Hist. Nat., XIII, p. 294 and pl. xxxix), and Daubenton's description (*l. c.*, p. 300), however, appear to have been based on a North American specimen of true *Mephitis*, as

will be noticed more fully later in discussing *Viverra mephitis* Schreber. We thus find that neither of Cuvier's two species of Mouffette is involved with *Spilogale*.

This is quite contrary to the conclusion reached by Mr. Howell (*l. c.*, p. 14), who says the removal in 1842 by Lesson of Cuvier's first species to become the type of *Chincha* leaves his second species (the Conepate), "one of the little spotted skunks, as the type of *Mephitis*"; and that "the name *Spilogale*, proposed in 1865 by Gray for the little spotted skunks, will therefore have to be abandoned, becoming a synonym of *Mephitis*." His conclusion in regard to *Spilogale* is, as shown above, obviously erroneous, the fact being that Cuvier's original genus *Mephitis* in no way or manner included any member of Gray's later genus *Spilogale*.

The first effective revision of *Mephitis* was made by Gray in 1837 (Charlesworth's Mag. of Nat. Hist. and Journ. of Zoöl., etc., I, 1837, p. 581), when he removed the bare-nosed skunks of South America to form his genera *Conepatus* and *Marputius*, and restricted *Mephitis* to the large skunks of North America. At the same time he also divided *Mephitis* into two groups, designated as *a* and *b*, placing in the former only two species (described as new) of the large two-striped skunks, and in the latter a single species of the little spotted skunks, described as new under the name *Mephitis bicolor*.

In 1865 (P. Z. S., 1865, pp. 150) he named his section *b Spilogale*, with *Mephitis interrupta* Rafinesque as the type and only species, to which he refers his own *M. bicolor*, the only species placed in his section *b* in 1837; *Conepatus* is retained exclusively for the South American large skunks, and *Marputius* is properly assigned as a synonym of *Conepatus*. The dismemberment of the old genus *Mephitis* thus made by Gray was not only based on a proper recognition of the facts in the case, but has stood without question until Mr. Howell brought forward the case of *Chincha* Lesson.

Lichtenstein, in 1838, in his elaborate and excellent memoir 'Über die Gattung *Mephitis*' [Abhandl. der Königl. Akad. der Wissensch. zu Berlin, Phys. Klasse, 1836 (1838), pp. 249-313, pll. i, ii], divided the genus *Mephitis* into two subgenera, namely, *Thiosmus* (*l. c.*, p. 270), for the bare-nosed skunks of Mexico and

South America, and "*Mephitis* Cuv. s. str." (*l. c.*, p. 276), for the North American skunks collectively, including the forms later separated by Gray as *Spilogale*. Lichtenstein's *Thiosmus* is thus the equivalent of Gray's *Conepatus* and *Marputius* combined, both of which terms he rejects on account of their being such barbarous distortions ("solch barbarische Verzerrungen"). His restricted subgenus *Mephitis*, more explicitly than Gray's restricted genus *Mephitis*, covers all the then known North American skunks not referable to the previously established genus *Conepatus*. The later removal by Gray in 1865 of the little striped skunks to form the genus *Spilogale* was therefore a perfectly proper and tenable proceeding, while Lesson's attempt to establish a genus *Chincha* in place of the previously properly restricted *Mephitis* was wholly unjustifiable and ineffective. Although Lesson had Lichtenstein's able exposition of the skunks for a guide, he could hardly have made a worse jumble of the group, as regards either the 'subgenera,' species, or nomenclature.

Lesson's restricted 'sous-genre' *Mephitis*, consisting of three species, includes one each of the present genera *Conepatus*, *Mephitis*, and *Spilogale*, in the order named, his first being a pure synonym of his first species of *Thiosmus*; his second, if it can be identified at all, is Buffon's *Conepate*, and hence, as already explained, is the form of *Mephitis* occurring in Pennsylvania and New Jersey; while the third is Rafinesque's *Mephitis interrupta*, and hence a *Spilogale*.

#### THE GENUS *Spilogale* GRAY.

As Lesson's action in proposing *Chincha*, and his consequent transference of *Mephitis* to a group which by chance included a species of *Spilogale*, is void, the erection of the genus *Spilogale* by Gray in 1865 was, as already said, a perfectly legitimate proceeding.

In this connection it is interesting to trace the history of the first recognizable species of *Spilogale*. This proves to be the *Viverra zorilla* Schreber (*Saug.*, III, 1776, p. 445, pl. cxxiii), based primarily on 'le zorille' of Buffon (*Hist. Nat.*, XIII, pp. 289, 295, pl. xli), the description being from Daubenton (Buffon, *l. c.*, p. 302), and the plate an accredited copy of Buffon's. Buffon tells us he gave it the name *zorille*, "qu'elle porte au Pérou

et dans quelques autres endroits des Indes espagnoles." The description and figure indicate beyond question a species of *Spilogale*, but the locality is, of course, not Peru, but probably Mexico. G. Cuvier wrongly claimed<sup>1</sup> that Buffon's plate represents "un animal du Cap de Bonne-Espérance, que Buffon a mal-à-propos considéré comme propre à l'Amérique"; and this is doubtless why he in his 'Tableau élémentaire de l'Histoire naturelle des Animaux' (p. 116), published three years before the date of this note, placed the "*Viverra zorrilla* Lin." (= Gmelin) in his group 'b, *Martes*,' instead of with the Mouffettes, thus formally excluding the only then known species of *Spilogale* from his group c, 'les Mouffettes,' which two years later became his genus *Mephitis*.

The next species of *Spilogale* to be made known, and the first definite and distinct mention of any form of *Spilogale* under *Mephitis*, is the *Mephitis interrupta* Rafinesque, described in 1820.

#### THE *Viverra mephitis* SCHREBER.

As Mr. Howell has adopted the specific name *mephitis* for the Canada Skunk, in the belief that Schreber's *Viverra mephitis* relates to this form, it seems desirable to consider its character.

*Viverra mephitis* of Schreber (Säug., III, 1776, p. 444, pl. cxxi) was based primarily and almost exclusively on the animal described and figured by Buffon and Daubenton as 'le chinche' (Buffon, Hist. Nat., XIII, pp. 294, 300, pll. xxxix). That the basis of *Viverra mephitis* Schreber is Buffon's 'le chinche' is shown:

(1) By Schreber's description, which is a slightly abridged paraphrase of Daubenton's description of that animal (Buffon, l. c., p. 300), and it is duly accredited to Daubenton by Schreber.

(2) Schreber's plate is an avowed copy of Buffon's (see list of plates, p. 588 of Vol. III of Schreber's Säug.).

(3) The vernacular name employed is "der Chinche," showing further the particular animal he had in view.

Schreber cites three previous authors, namely, Linnæus, Buffon, and Pennant. He cites Linnæus as follows:

"*Viverra mephitis*. LINN. *syst. nat. ed. 10. p. 44. n. 2*. Die Beschreibung gehört hieher, nicht aber die Namen."

<sup>1</sup> Azara's *Essais sur l'hist. Nat. des Quadr. de la Prov. du Paraguay*, I, 1801, pp. 238, 239 (note on Azara's account of his Yagouaré).

*Viverra mephitis* should hence read *memphitis*, not *mephitis*. The name *Viverra mephitis* is thus not Schreber's, but merely his emendation of the Linnæan name *memphitis*, as shown by his use of the name on the plate and in the list of plates on p. 588, where he says: "*Viverra mephitis* Linn."<sup>1</sup> As is well known, the Linnæan *Viverra memphitis* is based on the "Ysquepatl" of Hernandez, which, as already explained by Mr. Bangs (Proc. Boston Soc. Nat. Hist., XXVI, 1895, p. 351), is a compound of the Mexican Coati and some Mexican Skunk, as likely to have been a *Conepatus* or a *Spilogale* as a *Mephitis*. In any case, the name has long been ruled out as unavailable in nomenclature.

(2) Buffon is cited as follows:

"Chinche. BUFF. 13 p. 294. tab. 39."

(3) The reference to Pennant is given thus:

"Skunk weesel. PENN. *syn. p.* 233. *n.* 167. mit Ausschluss der Anführung des Kalm."

He thus excludes an important part of Pennant, since Kalm unquestionably wrote of the common large skunk of eastern North America. It is also to be noted in this connection that he follows Linnæus in again citing Kalm under his *Viverra putorius*, which is also a Linnæan name. Pennant's 'Skunk Weesel' is well known to be composite, relating collectively to the then known skunks of both North and South America. Of its range, Pennant says: "Inhabits *Peru*, and *North America*, as far as *Canada*."

From the foregoing it will be seen that what there is in Schreber's *Viverra mephitis* relating to North America are certain references given by Pennant (not otherwise cited by Schreber), and his reference to Buffon's chinche. Respecting the geographical distribution of this animal Buffon explicitly states that it appertains to the hottest climates of South America, and is not found in New Spain, Louisiana, Illinois, and Carolina, as shown by the following transcript from Buffon's article: "De ces quatre espèces de mouffettes, que nous venons d'indiquer sous les noms de *coafe*, *conepate*, *chinche* & *zorille*, les deux dernières appartiennent aux climats les plus chauds de l'Amérique méridionale, . . . Les

<sup>1</sup> Doubtless Schreber, as have most authors since his day, considered *memphitis* as a typographical error for *mephitis*. As to whether Linnæus purposely wrote *memphitis*, see Howell, *l. c.*, p. 18.

deux premiers sont du climat tempéré de la nouvelle Espagne, de la Louisiane, des Illinois, de la Caroline, &c."

It must, however, be conceded that Buffon's brief description and plate, and the fuller description by Daubenton, indicate an animal with a head wholly black except a white longitudinal stripe on the front, which shows that the specimen in hand could not, so far as we now know, have come from South America. Both 'le chinche' and 'le zorille' were described and figured from poorly stuffed skins in the cabinet of "M. Aubry, Curé de Saint Louis," in Paris (*cf.* Buffon, *l. c.*, p. 289), without definite indication of the country whence they came, although Buffon evidently supposed they both came from either Peru or some part of the Spanish possessions in America ("nouvelle Espagne"). The most logical conclusion is that both came from Mexico and that 'le chinche,' and consequently Schreber's *Viverra mephitis*, is referable to *Mephitis macroura* Licht. rather than to any species from the United States or Canada.

#### SUMMARY.

To summarize the foregoing rather intricate discussion, the leading points may be thus stated :

1. *Mephitis* Cuvier was restricted to the large two-striped skunks and the little striped skunks of North America by Gray in 1837, through the removal of the bare-nosed skunks of Mexico and South America to form the genus *Conepatus*.

2. *Mephitis* was again restricted by Lichtenstein in 1838 by explicitly limiting the Cuvierian *Mephitis* to the North American large and small skunks, and proposing *Thiosmus* for the bare-nosed skunks, *Thiosmus* thus becoming a synonym of *Conepatus*, discarded on account of the barbarous origin of the word.

3. Consequently when *Chincha* was proposed by Lesson in 1842, ostensibly for the large two-striped skunks of North America, it became a synonym of *Mephitis* as previously restricted by both Gray and Lichtenstein.

4. The transference of *Mephitis* by Lesson in 1842 to a heterogeneous group, the last species of which chanced to be *Spilogale*, was hence void.

5. No identifiable species of *Spilogale* was included in the

Cuvierian genus *Mephitis*; the only species of *Spilogale* known to Cuvier in 1788 was referred by him to his group 'Martes' and excluded from his group 'les Mouffettes'; hence *Mephitis* could not later be transferred to the *Spilogale* group.

6. *Viverra memphitis* Linn. is a compound of the Mexican Coatis and Mexican Skunks, and is not citable as a term entitled to consideration in nomenclature; and it has been generally so treated by authors.

7. *Viverra putorius* Linn. is based primarily on Catesby's figure and description of his *Putorius americanus striatus*, neither of which is entitled to serious consideration; they must have been based, to take the most charitable view of the case, on a confused recollection of the little spotted skunk and the common skunk, and not on any animal he ever met with in nature.

8. If Linnæus's reference to Kalm is to have weight, his *Viverra putorius* would have to be referred to the common skunk, a proceeding as unwarranted as it would be undesirable. Hence, it would be better to treat the name as uncitable, and as thoroughly unavailable in nomenclature as is Linnæus's *Viverra memphitis*.

9. *Mustela putida* Cuvier, 1798, based on the Pole-cat of Kalm, antedates *Mephitis putida* Boitard, 1842, for the same animal.

10. *Viverra mephitis* Schreber, 1776, relates primarily to some species of Howell's subgenus *Leucomitra*, probably *Mephitis macroura* Licht., and not to the skunk of eastern Canada. It cannot, however, be positively identified.

#### SPECIES AND SUBSPECIES OF THE GENUS *Mephitis*.

Accepting Mr. Howell's excellent revision of the skunks of this genus as fairly representing our present knowledge of the group, the species and subspecies will stand as follows, the specific and subspecific names being those employed by Mr. Howell, except in the case of *Mephitis mephitica* Shaw and *Mephitis putida* Boitard.

#### SUBGENUS *Mephitis*.

1. *Mephitis mephitica* (Shaw).<sup>1</sup>
2. *Mephitis hudsonica* (Rich.).
3. *Mephitis putida* (G. Cuv.).<sup>2</sup>

<sup>1</sup> As restricted by Bangs. Not *Viverra mephitis* Schreber, as supposed by Mr. Howell.

<sup>2</sup> *Mustela putida* G. Cuvier, 1798, which thus antedates *Mephitis putida* Boitard, 1842. It seems quite probable that Boitard took his name from Cuvier.

4. *Mephitis elongata* (*Bangs*).
5. *Mephitis mesomelas* (*Licht.*).
6. *Mephitis mesomelas avia* (*Bangs*).
7. *Mephitis mesomelas varians* (*Gray*).
8. *Mephitis estor* *Merriam*.
9. *Mephitis occidentalis* *Baird*.
10. *Mephitis occidentalis spissigrada* (*Bangs*).
11. *Mephitis occidentalis notata* (*Howell*).
12. *Mephitis occidentalis major* (*Howell*).
13. *Mephitis occidentalis holzneri* *Mearns*.
14. *Mephitis platyrhina* (*Howell*).

SUBGENUS *Leucomitra* HOWELL.

15. *Mephitis macroura* *Licht.*
16. *Mephitis macroura milleri* (*Mearns*).
17. *Mephitis macroura vittata* (*Licht.*).