

Article XVI.—NOMENCLATORIAL NOTES ON AMERICAN MAMMALS.

By J. A. ALLEN.

I.—THE GENERIC NAMES *Alce* AND *Alces*.

Alce and *Alces* are variants of the same word, as used by various authors, for the group of Deer of which *Cervus alces* Linn. is the type, and also in a specific sense for Linnæus's *Cervus alces*. Both forms of the word have been used indifferently, or according to preference,—in some cases both forms by the same author,—for the same animal, from Pliny down to the systematists of the seventeenth and eighteenth centuries.

The form *Alce* was first introduced into technical nomenclature in a generic sense by Blumenbach in 1803 (Manuel d'Histoire Naturelle, II, p. 407) for the extinct Irish Elk, which he named *Alce gigantea*, this being its first technical name. *Alce* thus antedates *Megaceros* Owen (1844).

In 1827 Hamilton Smith (Griffith's An. King., V, p. 303) used the same form of the word in a subgeneric sense for the *Cervus alces* group; and *Alce* has since been used in the same way by various later writers, as Wagner, 1844, 1855, Baird, 1857, Allen, 1869, Gilpin, 1871, Merriam, 1884, Miller, 1897, etc.

The form *Alces* appears to have been first used for the same group by Jardine in 1835 (Nat. Libr., Mamm., III, 1835, p. 125) and again by Ogilby in 1836 (P. Z. S., 1836, p. 135), and by numerous subsequent writers. It has, however, been often incorrectly attributed to Hamilton Smith (1827) instead of to Jardine (1835) (*cf.* Blasius, Säug. Deutschl., 1857, p. 434; Trouessart, Cat. Mamm., 1897, p. 886; Elliot, Synop. N. Am. Mamm., 1901, p. 37). The two forms having been treated as the same word, *Alces* has been given preference apparently on the supposed ground of correctness, since it was the form used by Linnæus for the species.

In short, from time immemorial, as well as in modern

nomenclature, *Alce* and *Alces* have been treated as the same word, referring (except in the case of Blumenbach) always to the same thing. Mr. Lydekker, in view of these facts, has taken *Cervalces* Scott (1885) as the first available name for the Alcine group of deer. It is clear, however, as shown by Scott (Proc. Acad. Nat. Sci. Phila., 1885, pp. 181-202, figs. 1-7 and pl. ii), that *Cervalces* is generically distinct from *Alces*, and there being no other name available, I propose **Paralces** for the latter group, with *Cervus alces* Linn. as the type. The present known forms are:

1. *Paralces alces* (Linn.).
2. *Paralces americanus* (Clinton).¹
3. *Paralces gigas* (Miller).

This case has an interesting bearing upon the question as to whether or not words etymologically the same but differing by a single letter are both available in nomenclature. As the affirmative side of this question is supported, with or without some reservation, by a number of prominent zoölogists, it is interesting to see how the principle would work in a case like *Alce* and *Alces*. There are four well defined groups of deer characterized by having palmated antlers, but which differ so much in other structural features as to fairly entitle them to generic (certainly to subgeneric) rank. Two of these — *Alce* Blumenbach and *Cervalces* Scott — are extinct; the other two — *Alces* Ham. Smith and *Dama* Ham. Smith — relate respectively to the so-called Moose and Fallow Deer groups. All are closely related types of a single subfamily. As *Alce* and *Alces* have been used interchangeably by the majority of writers for more than half a century, can they now be used as designations for closely allied genera without involving uncertainty? As this is not an isolated case, but the type of a numerous class, it seems to me that the adoption of the principle that the difference of a single letter in the spelling of names etymologically the same renders several forms of the same word tenable in nomenclature would often prove inconvenient and confusing. In the present case we would have,

¹ Concerning the authority for the name *americanus* see Osgood, Proc. Biol. Soc. Wash., XV, 87, April 25, 1902.

for example, *Alce* as the proper generic designation of a fossil elk, and *Alces* for an allied group of living forms, for which latter both *Alce* and *Alces* have been in more or less general use for more than half a century, according to the predilections of different writers.

II.—SOME OTHER NAMES OF AMERICAN DEER.

Mr. Osgood (Proc. Biol. Soc. Wash., XV, p. 87, April, 1902) has recently called attention to the fact that the authority for the specific name of *Paralces americanus* should be DeWitt Clinton, 1822, instead of Jardine, 1835. In this connection he says he does not admit that the alleged name "[*Cervus dama*] *americana* Erxleben" is recognizable, and that therefore *Cervus americanus* Clinton is available for the Moose, a conclusion that seems beyond question. The specific name *virginianus* (*Dama virginiana*, as I prefer to call it) is thus the proper name of the Common or Virginia Deer.

I cannot, however, quite agree with Mr. Osgood (*l. c.*) that *Cervus mexicanus* Lichtenstein is available, as he contends, for a Mexican deer, since it is preoccupied by a *Cervus mexicanus* of Zimmermann, Gmelin, and other early authors, which is wholly unidentifiable, except in so far as it was based on some malformed antlers from an unknown locality figured and described by Pennant (see *antea*, p. 16). These Mr. Osgood thinks must have been the antlers "of some form of American white-tailed deer."

The case of *Dama* vs. *Odocoileus* (see *antea*, pp. 18–20) has already received some attention from authors, its use being opposed by some, held in abeyance by others (Bangs, Proc. Boston Soc. Nat. Hist., XXXIX, p. 21, April, 1902), and deemed admissible by one (Thomas, Novit. Zool., IX, 136, April, 1902). The fact that its adoption in this sense will prove 'inconvenient,' because used more or less currently for the Fallow Deer of Europe (*cf.* Sclater, Ann. and Mag. Nat. Hist. (7) IX, April, 1902, p. 289), is hardly to be considered. It has, however, been urged against it (Miller, Proc. Biol. Soc. Wash., XV, p. 39, March, 1902) that it stands on the same basis as various other names used by Zimmermann. [*Fune*, 1902.]

Mr. Miller cites as an example, "3. *Hyæna*," under *Canis*, but omits to note that the generic name *Hyæna* of authors, as also the species *Hyæna striata*, dates from this same work of Zimmermann's (cf. Trouessart, Cat. Mamm., pp. 317 and 319; W. L. Sclater, Mamm. S. Afr., I, 1900, 83, etc.).¹ *Vulpes* is a case parallel to that of *Hyæna*,² but *Vulpes* Zimmermann = *Vulpes* Brisson. *Jerboa* would be tenable except that, in uncertainty as to date between Zimmermann and Erxleben, it seems best to retain its exact equivalent *Jaculus* of Erxleben. In other cases the examples cited by Mr. Miller are not to be considered as parallel to the case of *Dama*.

III. — THE GENERIC AND SPECIFIC NAMES OF THE PECCARIES.

In 1897, Dr. T. S. Palmer called attention (Proc. Biol. Soc. Washington, XI, p. 174) to the priority of the name *Tayassu* of Fischer (1814) for the Peccaries, this name antedating *Dicotyles* G. Cuvier (1817) by three years. As Dr. Palmer says, Fischer recognized two species in due form under the names *Tayassu pecari* and *T. patira*, of which Fischer gave brief diagnoses. His diagnosis of *T. pecari* shows that the species was the White-lipped Peccary, *Sus albirostris* Illiger, 1815, although he cited "*Sus tajassu* Lin. Gmel. Syst. nat. 111, n. 6,"³ which is not, however, *Sus tajassu* Linn. 1758. His second species, *T. patira*, is the Collared Peccary, *Sus patira* Sonnini (Nouv. Dict. d'Hist. Nat., XVII, 1803, p. 156 = *Sus tajassu* Linn. 1758); thus both species of Peccary at that time known were included in his genus *Tayassu* and identifiably diagnosed.

In 1817 Fischer had reached the conclusion that 'bar-

¹ *Hyæna* Zimmermann, Spec. Zool. Geogr. 1777, 365, 470.
Hyæna striata Zimmermann, Spec. Zool. Geogr. 1777, 366 = *Canis hyæna* Linn. Syst. Nat. 1758, 40.

Hyæna maculata Zimmermann, Spec. Zool. Geogr. 1777, 470 = *Canis crocuta* Erxleben, Syst. Reg. An. 1777, 578.

² *Vulpes* Zimmermann, Spec. Zool. Geogr. 1777, 175, 470. At page 470 three 'species,' or different kinds, are enumerated under *Vulpes*.

³ This reference is erroneous, occurring in neither the 10th nor 12th editions of Linnæus, nor in Gmelin. In other cases "Lin. Gmel." is found to refer to Gmelin and not to Linnæus. Gmelin's *Sus tajassu* is composite, and the characters he gives and most of his citations apply about equally to both species. Hence the reference "*Sus tajassu* Lin. Gmel." does not fix a type. Azara (1801) was the first naturalist, as said by Sonnini, to distinguish and describe the two animals. Sonnini also had personal experience with both in the interior of Guiana, and in 1803 confirmed Azara's discrimination of the two forms. Sonnini also comments at length on the errors of previous authors. See the words "*PATIRA* (*Sus patira*)," and "*PECARI* (*Sus tajassu* Linn.)," in Nouv. Dict. d'Hist. Nat., XVII, 1803, pp. 156, 157, and 180-185.

barous' names should not be retained in zoölogical nomenclature and accordingly changed several of his own names, as well as those of other authors, to conform to what he considered a correct principle of nomenclature. Among the names thus changed is his *Tayassu*, for which he substituted *Notophorus* (Mém. Soc. Imp. des Nat. Moscou, V, 1817, p. 418), considering as the equivalents of this name "*Les Pecaris, Dicotyles*, Cuv. Règne an. p. 237." Thus *Notophorus* is not only a pure synonym of *Dicotyles*, but was intended simply as a substitute for *Tajassu*, of which it is a pure synonym. The only species mentioned in this connection is "*Sus tajassu* Lin. Gmel.," but this can hardly be considered as limiting *Notophorus* to this species, it being given merely as an illustration of the group, as in the majority of the hundred or more other genera recognized in this memoir. Besides, "*Sus tajassu* Lin. Gmel." is unidentifiable, as shown above (see last footnote, p. 162); if *Sus tajassu* Gmel. was intended, the case is not helped, as Gmelin's *Sus tajassu* is composite and stands for all the Peccaries then known.

Hence it was not permissible for Gray in 1868 (P. Z. S., 1868, p. 43) to adopt for his two genera of Peccaries the names *Dicotyles* and *Notophorus*, although Dr. Gill (Proc. Biol. Soc. Washington, XV, p. 38, March 5, 1902) claims that he "was justified by general usage in restricting the name [*Dicotyles*] as he did, although he would have done better to have given a new name to the genus he called *Dicotyles* and [to have] retained the latter name for the one designated *Notophorus*." This, however, is contrary to the principle "once a synonym [homonym] always a synonym." Dr. Merriam was thus quite justified in considering both *Dicotyles* and *Notophorus* as synonyms of *Tayassu*, and in proposing a new name, *Olidosus* (Proc. Biol. Soc. Washington, XIV, 1901, p. 119), for the group of White-lipped Peccaries.

It is further evident that the earliest specific name of the White-lipped Peccary is *pecari* G. Fischer, 1814.

In establishing the genus *Tayassu* Fischer referred to it two species, as follows: (1) *Tayassu pecari*: "T. corpore nigro, maxilla inferiori alba;" and (2) *Tayassu patira*: "T. corpore

nigro, fascia humerali alba" (= *Sus patira* Sonnini, 1803 = *Sus tajacu* Linn., 1758). *Tayassu pecari* G. Fischer, 1814, antedates *Sus albirostris* Illiger, 1815, by one year, and *Dicotyles labiatus* Cuvier, 1817, by three years, for the same animal, namely, the Tagnicati of Azara (Quad. Parag., I, 1801, p. 25), of which the type locality is Paraguay.

The Peccaries, as now recognized (excluding extinct forms), with their principal synonymy, stand as follows:

GENUS *Tayassu* FISCHER.

Tayassu G. FISCHER, Zoognosia, III, 1814, 284.

Dicotyles CUVIER, Règne An. I, 1817, 237 = *Tayassu* Fischer.

Notophorus G. FISCHER, Mém. Soc. Imp. des Nat. de Moscou, V, 1817, 418. Given to replace his previous barbarous name *Tayassu*.

SUBGENUS *Tayassu* (EX FISCHER).

Tayassu MERRIAM, Proc. Biol. Soc. Wash. XIV, 122, July 19, 1901. "Restricted to the *tajacu-angularis* group."

Notophorus GRAY, P. Z. S. 1868, 43. Type and only species, *Sus tajacu* Linn. Preoccupied by *Notophorus* Fischer, 1817 = *Tayassu* Fischer, 1814.

1. *Tayassu tajacu* (Linn.).

Sus tajacu LINN. Syst. Nat. 1758, 50. Based on Piso, Maregrave, Hernandez, etc.; diagnosis distinctive for the Collared Peccary group, but references composite. First properly described and distinguished from the White-lipped Peccaries by Azara, as below; hence it would be well to recognize Paraguay as the type locality, on the basis of Azara's 'restriction.'

Le Taytétou, *Sus tajassu* Linn. AZARA, Quad. Paraguay, I, 1801, 31. = *Sus tajacu* Linn. restricted. Not *Sus tajassu* Erxleben, Gmelin, and other early compilers, which comprised all then known Peccaries.

Sus patira SONNINI, Nouv. Dict. d'Hist. Nat. XVII, 1803, 180 = *Taytétou*, Azara, *l. c.* p. 31.

Tayassu patira G. FISCHER, Zoognosia, III, 1814, 287 = *Sus patira* Sonnini, 1803.

Dicotyles torquatus CUVIER, Règne An. I, 1817, 237. Based on Azara as above cited, and hence also relates primarily to the Paraguayan animal.

2. *Tayassu angulatus* (Cope).

Dicotyles angulatus COPE, Am. Nat. Feb. 1889, 147, May 25, 1899. Texas.

3. **Tayassu angulatus sonoriensis** (*Mearns*).

Dicotyles angulatus sonoriensis MEARN'S, Proc. U. S. Nat. Mus. XX, No. 1129, 469 (advance sheet, Feb. 11, 1897). Sonora, Mexico.

4. **Tayassu angulatus humeralis** *Merriam*.

Tayassu angulatus humeralis MERRIAM, Proc. Biol. Soc. Wash. XIV, 122, July 19, 1901. Armeria, Colima, Mexico.

5. **Tayassu angulatus yucatanensis** *Merriam*.

Tayassu angulatus yucatanensis MERRIAM, Proc. Biol. Soc. Wash. XIV, 123, July 19, 1901. Tunkas, Yucatan.

6. **Tayassu nanus** *Merriam*.

Tayassu nanus MERRIAM, Proc. Biol. Soc. Wash. XIV, 102, July 19, 1901. Cozumel Island, Yucatan.

7. **Tayassu crusnigrum** *Bangs*.

Tayassu crusnigrum BANGS, Proc. Boston Soc. Nat. Hist. XXXIX, No. 2, 20, April, 1902. Boquete, Chiriqui, Panama.

8. **Tayassu torvus** *Bangs*.

Tayassu torvus BANGS, Proc. Biol. Soc. Wash. XII, 164, Aug. 10, 1898. Santa Marta, Colombia.

SUBGENUS **Olidosus** MERRIAM.

Olidosus MERRIAM, Proc. Biol. Soc. Wash. XIV, 120, July 19, 1902. For "the *albirostris* group."

Dicotyles GRAY, P. Z. S. 1868, 45. Type, *D. labiatus* Cuvier. Pre-occupied by *Dicotyles* Cuvier, 1817 = *Tayassu* Fischer, 1814.

9. **Tayassu pecari** *Fischer*.

Le Tagnicati, AZARA, Quad. Parag., I, 1801, 25. Paraguay.

Tayassu pecari G. FISCHER, Zoognosia, III, 1814, 285 = *Tagnicati*, Azara, as above cited.

Sus albirostris ILLIGER, Abhand. K. Akad. Wiss. Berlin, 1811 (1815), 108 = *Tagnicati* of Azara.

Dicotyles labiatus CUVIER, Règne An. I, 1817, 238 = *Tagnicati* of Azara.

10. *Tayassu pecari ringens* (Merriam).

Tayassu albirostris ringens MERRIAM, Proc. Biol. Soc. Wash. XIV, 121, July 19, 1901. Apazote, Campeche.

Indeterminate.

Dicotyles minor SCHINZ, Cuvier's Thierreich, IV, 1825, 511. Based on a young specimen from an unknown locality. "Vaterland? Sudamerika. (Frankfurter Museum.)"

IV.—THE PROPER SPECIFIC NAME OF THE WESTERN FOX SQUIRREL.

The Western Fox Squirrel was described by Custis in 1806, under the name *Sciurus ludovicianus*, and this has been supposed to be the earliest name for the species. The next name in point of date has been currently supposed to be "*Sciurus rufiventris* Geoff.," published by Desmarest in 1817 (Nouv. Dict. d'Hist. Nat., X, 1817, p. 103). As the name here stands, it is apparently a manuscript or museum name of Geoffroy's, here first published by Desmarest, and has usually been thus considered. It was, however, first published by E. Geoffroy himself in 1803 (Cat. Mus. d'Hist. Nat., 1803, p. 176), and is based on a specimen of the Western Fox Squirrel sent to him by Michaux. Desmarest apparently redescribed the same specimen. As there has never been any doubt as to the pertinency of Geoffroy's name to this animal, and as it has three years' priority over *ludovicianus* of Custis, it will have to be adopted as the specific designation of the *Sciurus ludovicianus* group.

There is, furthermore, little doubt that Bachman's name *Sciurus texianus* (P. Z. S., 1838, p. 86) should replace *Sciurus limitis* Baird (1855). While Bachman's description appears to have been based on various specimens seen in different European museums (he mentions first a specimen in the Paris Museum said to have been "received from Mexico," and another in the British Museum "obtained at Texas by Mr. Douglas," and still another as received through a friend from "the south-western part of Louisiana"), it applies satisfactorily to the Texas Fox Squirrel, and he gives its range as "extending perhaps from the south-western portions of Louisiana, through Texas into Mexico." He further says it

"would appear to replace the *capistratus* [= *S. niger* Linn.] in the south-western parts of America." While no definite type locality (a thing unknown in those days) is given, the range of Bachman's *texianus*, as stated by him, practically coincides with that of Baird's *limitis*.

With these changes the Western Fox Squirrels will stand as follows:

1. ***Sciurus rufiventer* E. Geoffroy.**

Sciurus rufiventer E. GEOFFROY, Cat. Mus. d'Hist. Nat. 1803, 176.

Sciurus ludovicianus CUSTIS, Barton's Med. and Phys. Journ, II, 1806, 43.

2. ***Sciurus rufiventer texianus* (Bachman).**

Sciurus texianus BACHMAN, P. Z. S. 1838, 86; Charlsworth's Mag. Nat. Hist. III, 1839, 154; Am. Journ. Sci. and Arts, XXXVII, 1839, 295.

Sciurus limitis BAIRD, Proc. Acad. Nat. Sci. Phila. 1855, 331.

3. ***Sciurus rufiventer neglectus* (Gray).**

Macroxus neglectus GRAY, Ann. and Mag. Nat. Hist. (3) XX, Dec. 1867, 425.

Sciurus ludovicianus neglectus NELSON, Proc. Biol. Soc. Wash. XIII, 1900, 170.

Sciurus niger var. *cinereus* ALLEN, Mon. N. Am. Mamm. 1877, 718.

Sciurus ludovicianus vicinus BANGS, Proc. Biol. Soc. Wash. X, 1896, 150.

V.—POSTSCRIPT.

FURTHER NOTE ON *Notophorus*.—Since the foregoing was passed for the press I have received pages 153–156 of Vol. XV of the 'Proceedings' of the Biological Society of Washington, dated June 20, 1902, which contain, among other notes, a short paper by Mr. Oldfield Thomas, entitled 'The Generic Names of the Peccaries, Northern Fur Seal, and Sea Leopard.' I am pleased to see that Mr. Thomas and I agree in considering *Dicotyles* to be "strictly synonymous" with *Tayassu*. I am surprised, however, at his treatment of *Notophorus*, by which, he says, "Fischer no doubt intended merely to replace his earlier but barbarous *Tayassu* by a classical term, but he happened to mention only one species belonging to it, viz.: '*Sus tajassu* Lin. Gmel.' This therefore," he continues, "would not only be its type, but would by elimination restrict *Tayassu* and *Dicotyles* to the other species mentioned in the respective original descriptions of those genera. Dr. Merriam's

Olidosus would thus not be required." He further adds: "But while Linnæus's *Sus tajacu* was the collared Peccary, Fischer's *Sus tajassu* was, as clearly shown by the synonymy in his *Zoognosia*, the white-lipped species, and that, therefore, must count as the type of *Notophorus*, and by elimination bring *Tayassu* on to the true *T. tajacu*." In this way he retains *Tayassu* for the Collared Peccaries and *Notophorus* for the White-lipped Peccaries.

As already shown (*antea*, pp. 162-165), this is quite different from my interpretation of the case, and it seems to me is a violation of the principle underlying his treatment of the case of *Dicotyles*. As shown above, Fischer, in the 'Zoognosia,' gave practically new names to the two species of Peccary then known, one being entirely new and the other ex Sonnini. If Fischer had mentioned either one of these names under *Notophorus* in replacing *Tayassu*, Mr. Thomas's contention would be perfectly sound. But instead of doing this he simply gave "*Sus tajassu* Lin. Gmel.," which means nothing in a type sense, because, as shown above, it is unidentifiable. As Mr. Thomas admits, it is not the *Sus tajacu* of Linnæus; if it is the *Sus tajassu* of Gmelin, it is a composite, embracing all the Peccaries then known. Furthermore, Fischer's reference, "Syst. nat. 111, n. 6," does not fit either. As *Notophorus* was obviously given to replace *Tayassu*, as shown by the references under it to both *Tayassu* and *Dicotyles*, it should be treated just as Mr. Thomas treats *Dicotyles*. It would be, I think, contrary to sound principles of nomenclature to identify the bare "*Sus tajassu* Lin. Gmel." under *Notophorus* with Fischer's *Tayassu pecari* of the 'Zoognosia,' simply because Fischer in the latter connection happens to cite a "*Sus tayassu* Lin. Gmel., Syst. nat. 111, n. 6," which does not occur at either place indicated, and is apparently both composite and indeterminate.

In this connection reference may be made to Mr. Thomas's remarks on the names *Callorhinus* and *Callirhinus*, and *Stenorhynchus*, *Stenorhynchus* and *Stenorynchus*, which are considered as "'permissible variants' of one compound," each valid for use in nomenclature, but only so far as to call attention to the preceding remarks (pp. 159-162) under *Alce* and *Alces*.