Key to the adult terrestrial mammals of the Southeastern United States

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KEY TO ORDERS

1. Head, body and tail covered by bony plates; teeth uniformly peg-like; lower jaw (mandible) joined:

ORDER ZENARTHRA
Family Dasypodidae
Dasypus novemcinctus (Nine-banded Armadillo)

Head, body and tail without bony plates; teeth heterodont (2 or more types of teeth) and not peg-like; lower jaw joined

2. Incisors 5/4; total number of teeth 50; posterior portion of mandible angled inward; hallux (great toe on hind foot) opposable and lacking a nail:

ORDER DIDELPHIMORPHA
Family Didelphidae
Didelphis virginiana (Virginia Opossum)

Incisors 3/3 or fewer, absent in some species; posterior portion of mandible not angled inward; hallux absent or not opposable and with a nail

3. Forelimbs modified to form wings; fingers greatly elongated, more than 10 times longer than toes; anterior end of skull has a U-shaped notch, which separates the incisors into distinct halves:

ORDER CHIROPTERA (Bats)

Forelimbs not modified to form wings; fingers, if present, more or less equal in length to toes; anterior end of skull lacking a U-shaped notch

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4. Canines present and about equal in size to the incisors; fur (pelage) uniformly short and soft, lacking guard hairs or spines;

**ORDER INSECTIVORA** .......................... 26

Canines absent or, if present, obviously longer than incisors; fur with guard hairs or spines ........ 5

5. Incisors 1/1 or 2/1 ................................................................. 6

   Incisors 3/3 or 0/3 ................................................................. 7

6. Incisors 2/1, second pair of incisors small, peg-like, and located immediately behind the first pair; anterior part of facial bones web- or net-like; soles of feet mostly fur-covered:

**ODRER LAGOMORPHA** ................................. 39

   Incisors 1/1; anterior part of facial bones solid; soles of feet sparsely covered with fur or naked:

**ORDER RODENTIA** ................................. 44

7. Feet terminating in toes with nails or claws; canine teeth present and round or oval in cross-section:

**ORDER CARNIVORA** ................................. 78

   Feet terminating in hooves; canine teeth absent or, if present, triangular in cross section ......... 8

8. Single large hoof present on each foot; upper incisors present; nasals wide posteriorily:

**ORDER PERISSODACTYLA**
   Family Equidae
   *Equus caballus* (Horse)

   Two large hooves present on each foot; upper incisors present or not, if present greatly enlarged in tusk; nasals do not widen posteriorily:

**ORDER ARTIODACTYLA** ................................. 96
KEY TO FAMILIES AND SPECIES

ORDER CHIROPTERA:

9. Tail extending beyond the posterior margin of the tail membrane (uroptagium) for more
than a third of its length; tragus (projection inside ear) absent; first and fifth digits of
feet with stiff bristles; incisors 1/2:

   **Family Molossidae** ------------------------------------- 10

Tail completely enclosed, or nearly so, in uroptagium; tragus present; feet lacking distinct
bristles; incisors 1/3 or 2/3:

   **Family Vespertilionidae** ----------------------------- 11

10. Forearm less than 55 mm in length; base of ears not joined at the midline of the head:

    *Tadarida brasiliensis* (Brazilian Free-tailed Bat)

    Forearm more than 55 mm in length; base of ears joined at the midline of the head:

    *Eumops glaucinus* (Wagner’s Mastiff Bat)

11. Ear length greater than 25 mm; obvious raised glands present on sides of nose; dorsal
profile (from side view) of skull rounded; total number of teeth equals 36 ------------------------- 12

    Ear length less than 25 mm; nose glands absent; total number of teeth other than 36 or,
    if 36, then dorsal profile of skull is flat (from side view) -------------------------------------- 13

12. First upper incisor with a single cusp; abdominal hairs uniformly brownish, lacking
distinct color change from root to tip:

    *Plecotus townsendii* (Townsend’s Big-eared Bat)

    First upper incisor with two cusps; abdominal hairs blackish at the base and grayish or
    whitish at the tip:

    *Plecotus rafinesquii* (Rafinesque’s Big-eared Bat)

13. Undersurface of wing at forearm covered with hair from body to free digit (thumb);
    the single upper incisor in contact with the canine ----------------------------------------------- 14

    Undersurface of wing at forearm not covered with hair from body to free digit; two upper
    incisors present or, if only one, incisor separated from canine by a space ------------------------ 17

14. Dorsal surface of interfemoral (dorsal surface of tail between femur) membrane entirely
covered with hair; white patch of hair present at the upper base of the free digit
(thumb) -------------------------------------------------------------------------------------------- 15

    Interfemoral membrane with dense hair on proximal (near body) 1/3 of dorsal
    surface (near body); lacking white patch of hair at the thumb:

    *Lasiurus intermedius* (Northern Yellow Bat)
15. Forearm more than 45 mm in length; tips of ears with black rims; body color dark frosted with white; skull length usually more than 15.5 mm:
   \textit{Lasiurus cinereus} (Hoary Bat)

Forearm less than 45 mm in length; tips of ears lacking black rims; body color reddish or mahogany frosted with white; skull length usually less than 15.5 mm

16. Overall body color reddish to reddish-tan; skull with a pronounced ridge anterior (in front of) to eye socket (lacrimal ridge):
   \textit{Lasiurus borealis} (Red Bat)

Overall body color a deep mahogany with white frost; lacrimal ridge indistinct or absent:
   \textit{Lasiurus seminolus} (Seminole Bat)

17. Long hair covering half or more of dorsal surface of interfemoral membrane; body hair color black with whitish tips:
   \textit{Lasionycteris noctivagans} (Silver-haired Bat)

Hair absent or covering less than half of dorsal surface of interfemoral membrane; body hair color not black with whitish tips

18. Forearm length more than 45 mm; total number of teeth 32:
   \textit{Eptesicus fuscus} (Big Brown Bat)

Forearm length less than 45 mm; total number of teeth 30, 34, or 38

19. Tip of tail extends slightly beyond the margin of the interfemoral membrane; single upper incisor is canine-like; total teeth 30:
   \textit{Nycticeius humeralis} (Evening Bat)

Tips of tail completely enclosed by interfemoral membrane; two upper incisors present, not canine-like; total teeth 35 or 38

20. Tragus (fleshy structure inside ear) broad, rounded at tip and less than half as long as ear; wing membrane lacks pigment around forearm; total teeth 34:
   \textit{Pipistrellus subflavus} (Eastern Pipistrelle)

Tragus narrow, pointed at tip and more than half as long as ear; wing membrane completely pigmented; total teeth 38

21. Forearm 40 mm or more in length; skull with a prominent sagittal (ridge down center of skull) crest:
   \textit{Myotis grisescens} (Gray Bat or Gray Myotis)

Forearm 38 mm or less in length; sagittal crest absent or weakly developed
22. Ears 16 mm or longer, extending well beyond tip of nose when laid forward; hairs on
dorsum 10 mm long or longer;

   *Myotis septentrionalis* (Northern Myotis)

   Ears 15 mm long or less, not extending beyond nose when laid forward; hairs on
dorsum less than 10mm long

23. Calcar (elongated digit on hind foot) keeled

   Calcar lacking a keel

24. Black mask across face; greatest length of skull less than 14.5 mm:

   *Myotis leibii* (Eastern Small-footed Myotis)

   Face lacking a dark mask; greatest length of skull more than 14.5 mm:

   *Myotis sodalis* (Indiana Myotis)

25. Wing membranes attached to foot at the ankle; skull lacking any evidence of a saggital
   (ridge along midline of skull) crest:

   *Myotis austroriparius* (Southeastern Myotis)

   Wing membranes attached to foot at base of toes; a weakly developed but noticeable
   saggital crest present:

   *Myotis lucifugus* (Little Brown Myotis)

**ORDER INSECTIVORA**

26. Front feet paddle-shaped and at least twice as wide as the rear feet; all teeth completely
   white; zygomatic (bone around eye socket) arch and auditory bullae (enlarged area,
   often ball shaped – on rear of skull) present:

   Family Talpidae

27. Snout with a ring of fleshy appendages; first upper incisors project anteriorily; width
   of palm less than length:

   *Condylura cristata* (Star-nosed Mole)

28. Snout lacking fleshy appendages; first upper incisors not projected anteriorily; width
   of palm equal or exceeding length
28. Tail naked or scantily haired; auditory bullae complete; total teeth 40 or fewer; width of palm about equal to length:

   **Scalopus aquaticus** (Eastern Mole)

   Tail heavily haired; auditory bullae incomplete; total teeth 44; width of palm greater than length:

   **Parascalops breweri** (Hairy-tailed Mole)

29. Tail length less than half that of body; two lower incisors on each side of jaw

   Tail length equal to or greater than half of body length; a single lower incisor on each side of jaw

30. Total length less than 100 mm in adult; four or fewer unicuspid (with single crown) teeth in upper jaw

   Total length more than 100 mm in adult; five unicuspid teeth in upper jaw (one may be tiny)

31. Tail more than twice as long as hind foot; ears conspicuous; dorsal pelage gray; three unicuspid teeth in upper jaw:

   **Notiosorex crawfordii** (Desert Shrew)

   Tail less than twice as long as hind foot; ears nearly hidden by fur; dorsal pelage olive brown; four unicuspid teeth in upper jaw:

   **Cryptotis parva** (Least Shrew)

32. Total length usually more than 110 mm; karyotype with a diploid number of 48-50 and a fundamental number of 48; in Georgia – above fall line;

   **Blarina brevicauda** (Northern Short-tailed Shrew)

   Total length usually less than 110 mm; karyotype not as above; in Georgia – below the fall line

33. Karyotype with a diploid number of 38-46 and a fundamental number of 44 or 45:

   **Blarina carolinensis** (Southern Short-tailed Shrew)

   Karyotype (chromosome number) with a diploid number of 52 and a fundamental number of 60-62:

   **Blarina hylophaga** (Eliot’s Short-tailed Shrew)

34. Third and fifth unicuspsids reduced to tiny pegs and not visible when the skull is viewed from the side; first and second unicuspsids with an accessory inner cups:

   **Sorex hoyi** (Pygmy Shrew)

   All five unicuspsids visible when skull is viewed from the side; first and second unicuspsids lacking an inner cusp

35
35. Hind foot 18 mm of longer with a distinct fringe of stiff hairs:

*Sorex palustris* (Water Shrew)

Hind foot smaller than 18 mm and lacking a fringe of stiff hairs

36. Third unicuspid larger than fourth; unicuspid with a distinctly pigmented internal ridge

Third unicuspid about equal to or slightly smaller than fourth; unicuspid lacking pigmented inner ridge

37. Total length 111 mm or greater; greatest width of skull about 9 mm; total length of skull about 19 mm:

*Sorex fumeus* (Smokey Shrew)

Total length less than 111 mm; condylobasal (total length) length less than 17 mm:

*Sorex cinereus* (Masked Shrew)

38. Dorsal color brownish or reddish; condylobasal length less than 17 mm:

*Sorex longirostris* (Southeastern Shrew)

Dorsal color grayish; condylobasal length greater than 17 mm:

*Sorex dispar* (Long-tailed Shrew)

ORDER LAGOMORPHA

39. Hind foot more than 110 mm in length;

Hind foot less than 110 mm in length; interparietal not fused and distinct

40. Ear more than 80 mm long; basilar length of skull greater than 67 mm:

*Lepus californicus* (Black-tailed Jackrabbit)

Ear less than 80 mm long; basilar length of skull less than 67 mm:

*Lepus americanus* (Snowshoe hare)

41. Anterior extension of supraorbital process (=protruding bone above eye socket) present; nape patch behind ears brightly rust-colored:

*Sylvilagus floridanus* (Eastern Cottontail)

Anterior extension of supraorbital process absent or present only as a tiny knob; nape patch behind ears pale and indistinct

42. Posterior extension of supraorbital process free from fusion with skull; black patch present between ears:

*Sylvilagus transitionalis* (New England Cottontail)

Posterior extension of supraorbital process fused to skull for most of extent, but some specimens with small foramina; lacking a black patch between the ears
43. Underside of tail white; ears longer than 60 mm; hind feet 100 mm or more in length:

*Sylvilagus aquaticus* (Swamp Rabbit)

Underside of tail brownish or grayish; ears shorter than 60 mm; hind feet less than 100 mm long:

*Sylvilagus palustris* (Marsh Rabbit)

**ORDER RODENTIA**

44. Opening in skull anterior to eye socket (infraorbital opening) larger than foramen magnum (opening in back of skull for spinal column); total length greater than 700 mm but tail not paddle-shaped ............................................ 46

Infraorbital opening smaller than foramen magnum; total length usually less than 700 mm but, if greater than 700 mm, then tail is paddle-shaped ............................................. 45

45. Infraorbital foramen vertically elongate and either oval or V-shaped when viewed from front of skull ................................................................. 47

Infraorbital foramen small and round ................................................................. 70

46. Dorsal pelage with many spines and hollow quills; paraoccipital processes not elongated past the plane of the upper molars; toes without webs:

**Family Erethizontidae**

*Erethizon dorsatum* (Porcupine)

Dorsal pelage with some long stiff hairs, but lacking hollow quills; paraoccipital processes elongated past the plane of the upper molars; toes webbed:

**Family Myocastoridae**

*Myocastor coypus* (Nutria)

47. Infraorbital foramen oval when viewed from the front of the skull; tail very long, usually 1.25x body length or greater:

**Family Zapodidae** ............................................. 48

Infraorbital foramen wider at top than at bottom creating a V-shape when viewed from front of skull; tail usually less than 1.25x body length and sometimes shorter than body:

**Family Muridae** ............................................. 49

48. Cheek teeth 4/3 with a tiny extra upper molar; tip of tail not white:

*Zapus hudsonius* (Meadow Jumping Mouse)

Cheek teeth 3/3 and all about the same size; tip of tail usually white:

*Napaeozapus insignis* (Woodland Jumping Mouse)
49. Cusps of upper molars in three longitudinal rows ................................................................. 50

Cusps of upper molars in two longitudinal rows or molars lack cusps ----------------------------- 52

50. Total length less than 250 mm; length of skull less than 20 mm; skull lacking temporal ridges:

   Mus musculus (House Mouse)

   Total length greater than 250 mm; length of skull greater than 25 mm; skull with distinct temporal ridges ----------------------------------------------- 51

51. Tail as long as or longer than head and body; temporal ridges on each side of skull bowed outward:

   Rattus rattus (Black Rat)

   Tail shorter than head and body; temporal ridges on each side of skull more or less parallel and not bowed outward:

   Rattus norvegicus (Norway Rat)

52. Cheek teeth with two rows of alternately-placed triangular prisms and lacking cusps; tail usually less than one-third of total length but, if longer, then total length greater than 285 mm ------------------- 53

   Cheek teeth with two rows of cusps (cusps may be worn smooth in old animals; if so, transverse lophs (side-to-side ridges) present or teeth outlined with an even border of enamel); tail length usually greater than one-third of total length -------------------------------------60

53. Total length greater than 285 mm; tail scantily haired and appears scaly; postorbital (behind eye socket) processes project into orbit like square-cornered, thin-edged shelves; toes on hind feet partially webbed ----------------------------------------------- 54

   Total length less than 285 mm; tail with conspicuous hairs and not scaly-looking; postorbital processes not shelf-like projections into orbit; hind feet without webbed toes ----------- 55

54. Tail vertically flattened; forefeet with four clawed toes and a thumb with a nail; basal length of skull greater than 50 mm; first lower molar with six triangular projections between anterior and posterior loops:

   Ondatra zibethicus (Muskrat)

   Tail round; forefeet with five clawed toes; basal length of skull less than 50 mm; first lower molar with five triangular projections between the end loops:

   Neofiber alleni (Round-tailed Muskrat)
55. Posterior border of palate a straight, thin-edged shelf extending directly between the two posterior molars; dorsum usually with a darker and sometimes reddish-appearing central zone that contrasts with lighter grayish sides:

* Clethrionomys gapperi  
(Southern Red-backed Vole)

Posterior border of palate not straight and supported by a median spine; dorsum lacking an obviously darker central zone  

56

56. Upper incisors with groove down face; ears extend well beyond level of fur on head; tail length about equal to hind foot length and dorsal pelage coarse:

* Synaptomys cooperi  
(Southern Bog Lemming)

Upper incisors without groove; ears small and more or less hidden in fur; tail length greater than hind foot or, if about equal, then dorsal pelage soft and fine

57

57. Tail length about equal to hind foot length; dorsal pelage soft and fine; last upper molar with two closed triangles:

* Microtus pinetorum  
(Woodland Vole)

Tail length greater than hind foot length; last upper molar with more than two closed triangles or, if with only two closed triangles, then pelage coarse

58

58. Third upper molar with five closed triangles; face from eyes to nose yellowish or reddish orange:

* Microtus chrotorrhinus  
(Rock Vole)

Third upper molar with two or three closed triangles; facial area not yellowish or reddish orange

59

59. Third upper molar with three closed triangles; tail length usually much greater than twice the hind foot length; ventral fur silvery-gray:

* Microtus pennsylvanicus  
(Meadow Vole)

Third upper molar with two closed triangles; tail length about equal to twice the hind foot length; ventral fur yellowish or cream-colored:

* Microtus ochrogaster  
(Prairie Vole)

60. Upper incisors with a longitudinal groove; tail scantily haired and appearing naked with scaly rings

Upper incisors smooth; tail moderately haired and not appearing naked and scaly
61. Tail length much greater than head and body length; dentine pattern of last lower molar S-shaped:

Reithrodontomys fulvescens
(Fulvous Harvest Mouse)

Tail length less than head and body length; dentine pattern of last lower molar C-shaped:
Reithrodontomys humulis
(Eastern Harvest Mouse)

62. Total length greater than 310 mm in adults; total length divided by hind foot length exceeds 9.3; transverse lophs on all upper molars form an E-shaped pattern:

Neotoma floridana (Eastern Woodrat)

Total length less than 310 mm; total length divided by hind foot length less than 9.3; outline pattern of transverse lophs on upper molars various, but not E-shaped ------------------------ 63

63. Skull with prominent supraorbital (above eye socket) ridges that extend posteriorty as temporal ridges; pelage dark and coarse ------------------------------ 64

Skull without supraorbital ridges; pelage dense and soft ----------------------------------------- 65

64. Upper molars flat-surfaced and with side-to-side ridges forming an S-shaped pattern; feet black; ears extend well above the pelage of the head and shoulders:

Sigmodon hispidus (Hispid Cotton Rat)

Upper molars with pointed cusps and outline of teeth not S-shaped; feet white; ears nearly buried in coarse fur of head and neck:

Oryzomys palustris (Marsh Rice Rat)

65. Ears same color as pelage of head and dorsum; dorsal color golden with reddish tint; posterior palatine foramen (closer to posterior border of palate than to anterior palatine foramen):

Ochrotomys nuttalli (Golden Mouse)

Ears dusky and usually darker than pelage of head and dorsum; dorsal color brownish or grayish; posterior palatine foramina about midway between posterior border of palate and anterior palatine foramina ----------------------------------------------- 66

66. Five plantar pads on hind foot; hind foot usually 24 mm or larger:

Podomys floridanus (Florida Mouse)

Six plantar pads on hind foot; hind foot usually less than 24 mm ----------------------------------- 67
67. Total length less than 154 mm; hind foot less than 19 mm; dorsum fawn colored with a grayish or brownish tint and slightly darker toward midline:

*Peromyscus polionotus* (Oldfield Mouse)

Total length greater than 154 mm; hind foot usually larger than 19 mm; dorsum brown or gray and darker toward midline but not fawn-colored

68. Tail length approximates or exceeds half of total length; tail length usually less than 65 mm; tail distinctly bicolor; skull length less than 22 mm:

*Peromyscus maniculatus*  
(Deer Mouse)

Tail length much less than half of total length; tail length more than 65 mm; tail indistinctly bicolor; skull length greater than 22 mm

69. Hind foot less than 22 mm; body length less than 95 mm; skull length less than 25 mm; tarsal joint of heel is white:

*Peromyscus leucopus*  
(White-footed Mouse)

Hind foot more than 23 mm; body length greater than 95 mm; skull length greater than 25 mm; tarsal joint of heel is dark like leg:

*Peromyscus gossypinus*  
(Cotton Mouse)

70. Tail densely furred; skull with prominent postorbital processes:

*Family Sciuridae*  
------------------------------------

Tail naked or scantily haired; skull lacking postorbital processes

71. Anterior surfaces of incisors white; supraorbital processes at right angles to skull; tail short, less than 25% of total length:

*Marmota monax* (Woodchuck)

Anterior surfaces of incisors yellow; supraorbital processes at acute angles to skull; tail length greater than 25% of total length

72. Lateral furred membrane (patagium) connecting front and hind limbs on sides of body; interorbital region narrow and indented on each side with a V-shaped notch

Patagium absent; interorbital region relatively broad and not indented on each side with a V-shaped notch
73. Dorsal pelage gray or grayish; total length usually less than 260 mm; skull usually less than 36 mm:

*Glaucomys volans*  (Southern Flying Squirrel)

Dorsal pelage brown or brownish; total length usually greater than 260 mm; skull usually greater than 36 mm:

*Glaucomys sabrinus*  (Northern Flying Squirrel)

74. Dorsum with two longitudinal light stripes; infraorbital opening a foramen in the zygomatic plate rather than a canal that passes between the zygomatic plate and the side of the rostrum:

*Tamias striatus*  (Eastern Chipmunk)

Dorsum without light stripes; infraorbital opening a canal that passes between the zygomatic plate and the side of the rostrum  

75. Total length less than 400 mm; anterior border of orbit directly above first large molar-like tooth (last premolar):

*Tamiasciurus hudsonicus*  (Red Squirrel)

Total length greater than 400 mm; anterior border of orbit directly above second molar-like tooth (first molar)  

76. With four upper molar-like teeth on each side of jaw; hairs of tail tipped with yellow:

*Sciurus niger*  (Fox Squirrel)

With five upper molar-like teeth on each side of jaw; hairs of tail tipped with white:

*Sciurus carolinensis*  (Gray Squirrel)

77. Tail paddle-shaped, naked and scaly; digits on hind foot connected by a web; infraorbital canal inconspicuous, opening on side of rostrum anterior to zygomatic plate; without external cheek pouches; incisors smooth:

*Family Castoridae*

*Castor Canadensis*  
(Beaver)

Tail not paddle-shaped and scantily to densely furred; hind feet without webs; infraorbital canal small and round or slit-like; externally opening, fur-lined cheek pouches present on either side of mouth; face of incisors with two longitudinal grooves (bisulcate):

*Family Geomyidae*

*Geomys pinetis*  
(Southeastern Pocket Gopher)
ORDER CARNIVORA

78. Six upper and seven lower molar-like (premolars and molars) teeth ------------------------------------ 79

Molar-like teeth other than 6/7 --------------------------------------------------------- 84

79. Rostrum short and broad; upper tooth rows parallel; total length of skull greater than 310 mm; tail vestigial; hind foot with five toes:
   
   Family Ursidae
   Ursus americanus (Black Bear)

   Rostrum long and narrow; upper tooth rows not parallel; total length of skull less than 300 mm; tail long and bushy; hind foot with four toes:
   
   Family Canidae -------------------------------------- 80

80. Postorbital processes thickened and convex dorsally; tail lacking both a black mid-dorsal stripe of stiff hairs and a white tip -------------------------------------------------------------- 81

   Postorbital processes thin and concave dorsally; tail with either a black mid-dorsal stripe formed by stiff hairs or a white tip ----------------------------------------------------------- 83

81. Greatest length of skull usually more than 250 mm; nose pad (rhinarium) with a diameter of 31 mm or more:

   Canis lupus (Gray Wolf)

   Greatest length of skull usually less than 250 mm; rhinarium with a diameter less than 31 mm ---------------------------------------------------------- 82

82. Anteroposterior (front-to-back) diameter of canine more than 11 mm; diameter of rhinarium more than 25 mm; heel pad more than 32 mm in diameter:

   Canis niger (Red Wolf)

   Anteroposterior diameter of canine less than 11 mm; diameter of rhinarium less than 25 mm; heel pad less than 32 mm in diameter:

   Canis latrans (Coyote)

83. Prominent temporal ridges meet at back of skull in a U-shaped pattern; tail with a black mid-dorsal stripe:

   Urocyon cinereoargenteus (Gray Fox)

   Prominent temporal ridges meet at back of skull in a V-shaped pattern; tail with a distinct white tip:

   Vulpes vulpes (Red Fox)

84. Molar-like teeth 6/6; body with a black facial mask and a large, bushy tail strongly marked with black and white rings:

   Family Procyonidae
   Procyon lotor (Raccoon)
Molar-like teeth other than 6/6; body without a black facial mask and tail lacking ring-like pattern

85. Molar-like teeth either 3/3 or 4/3; total teeth 30 or less; rostrum shortened and top of skull rounded when viewed from side:

**Family Felidae**

Molar-like teeth 4/5, 5/5, or 5/6; total teeth 32 or more; rostrum not shortened and top of skull not convex when viewed from side:

**Family Mustelidae**

86. Tail more than 30% of head and body length; 4 upper molar-like teeth; total teeth 30:

*Felis concolor* (Mountain Lion)

Tail less than 30% of head and body length; 3 upper molar-like teeth; total teeth 28:

*Lynx rufus* (Bobcat)

87. Pelage with a conspicuous black-and-white pattern; palate not extending much beyond posterior edge of last molars

Pelage with other than a black-and-white pattern; palate extending well beyond posterior edge of last of last molars

88. Dorsum with white spots or four or more line of broken white stripes; total length less than 500 mm; top of skull flat in profile:

*Spilogale putorius* (Eastern Spotted Skunk)

Dorsum with two continuous white stripes that may join near the head; total length greater than 500 mm; top of skull convex in profile:

*Memphitis mephitis* (Striped Skunk)

89. Feet broad and webbed; molar-like teeth 5/5:

*Lutra Canadensis* (River Otter)

Feet not broad and not webbed; molar-like teeth other than 5/5

90. Molar-like teeth 5/6; hind foot 75 mm or longer and with top of head brown

Molar-like teeth 4/5; hind foot smaller than 75 mm but, if larger, then top of head with a white stripe

91. With orange on throat and chest; skull length less than 95 mm and rear of skull with round profile:

*Martes Americana* (Marten)
Without orange on throat or chest; skull length more than 95 mm and rear of skull with angular profile:

*Martes pennanti* (Fisher)

92. Braincase triangular and skull more than 90 mm long; last upper molar triangular; with a white strip on top of head:

*Taxidea taxus* (Badger)

Braincase elongate but skull less than 90 mm long; last upper molar dumbbell-shaped; without a white stripe on top of head

93. Tail with a distinct black tip

Tail without a black tip

94. Size small, body length usually less than 200 mm; tail length usually less than 45% of head and body length:

*Mustela erminea* (Ermine)

Size large, body length usually greater than 200 mm; tail length usually more than 45% of head and body length:

*Mustela frenata* (Long-tailed Weasel)

95. Size small, total length less than 300 mm; skull less than 40 mm long; tail about 25 mm long:

*Mustela nivalis* (Least Weasel)

Size large, total length more than 300 mm; skull more than 40 mm long; tail much more than 25 mm long:

*Mustela vison* (Mink)

**ORDER ARTIODACTYLA**

96. Canines present and directed outward or upward; molar-like teeth bunodont (with pointed cusps); snout flattened terminally; body sparsely haired:

*Family Suidae*

*Sus scrofa* {Wild Pig}

Canines absent or, if present, small and not directed outward or upward; molar-like teeth selenodont (with swirl-like pattern of enamel on occlusal surfaces); snout not flattened terminally; pelage dense:

*Family Cervidae* -----------------------------------97

97. Premaxillae (upper jaw) elongated and nasals short so that distance from front of nasals to tip of rostrum roughly equals distance from back of nasals to occipital bond; antlers, if present, flattened in cross-section through stem:

*Alces alces* (Moose)
Premaxillae short and nasals elongated so that nasals extend most of the length of the rostrum; antlers, if present, round in cross-section through stem

98. Upper canines present; antlers, if present, usually longer than length of head; mane present:

\textit{Cervus elaphus} (Wapiti or Elk)

Upper canines absent; antlers, if present, never exceeding the length of the head; mane absent:

\textit{Odocoileus virginianus} (White-tailed Deer)