NATURAL HISTORY Publication Series



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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 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 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) -----9 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 ----- 4

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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.	2. 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: <i>Eumops glaucinus</i> (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)	
	Tiecolus lownsenun (Townsenu 8 Dig-ealed 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: **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
16.	Overall body color reddish to reddish-tan; skull with a pronounced ridge anterior (in front of) to eye socket (lacrimal ridge): **Lasiurus borealis** (Red Bat)	
	Overall body color a deep mahogany with white frost; lacrimal ridge indistinct or	
	absent: **Lasiuru seminolus** (Seminole Bat)	
17.	Long hair covering half or more of dorsal surface of interfemoral membrane; body hair	
	color black with whitish tips: **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
18.	Forearm length more than 45 min; total number of teeth 32: *Eptesicus fuscus** (Big Brown Bat)	
	Forearm length less than 45 mm; total number of teeth 30.34, or 38	19
19.	Tip of tail extends slightly beyond the margin of the interfemoral membrane; single upper incisor is canine-like; total teeth 30:	
	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
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: *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
21.	. Forearm 40 mm or more in length; skull with a prominent saggital (ridge down center of skull) crest:	
	Myotis grisescens (Gray Bat or Gray Myotis)	
	Forearm 38 mm or less in length; saggital crest absent or weakly developed	22

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
23.	. Calcar (elongated digit on hind foot) keeled	24
	Calcar lacking a keel	- 25
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
	Front feet slender and equal in width or smaller than rear feet; anterior teeth dark red or black at the tips; zygomatic arch incomplete and auditory bullae absent: Family Soricidae	29
27.	Snout with a ring of fleshy appendages; first upper incisors project anteriorily; width of palm less than length:	<i></i>
	Condylura cristata (Star-nosed Mole)	
	Snout lacking fleshy appendages; first upper incisors not projected anteriorily; width of palm equal or exceeding length	28
	or paint equal or exceeding tength	20

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 30
	Tail length equal to or greater than half of body length; a single lower incisor on each side of jaw 34
30.	Total length less than 100 mm in adult; four or fewer unicuspid (with single crown) teeth in upper jaw 31
	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 food; 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
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 unicuspids reduced to tiny pegs and not visible when the skull is viewed from the side; first and second unicuspids with an accessory inner cups:
	Sorex hoyi (Pygmy Shrew)
	All five unicuspids visible when skull is viewed from the side; first and second unicuspids lacking an inner cusp

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
36.	Third unicuspid larger than fourth; unicuspids with a distinctly pigmented internal ridge 37
	Third unicuspid about equal to or slightly smaller than fourth; unicuspids lacking pigmented inner ridge 38
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)
OF	RDER LAGOMORPHA
39.	Hind foot more than 110 mm in length; 40
	Hind foot less than 110 mm in length; interparietal not fused and distinct 41
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 supraoribital 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

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

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:	
	Family Muridae	- 49
	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:	
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
	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)	
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)	
	Infraorbital foramen small and round	70
45.	. Infraorbital foramen vertically elongate and either oval or V-shaped when viewed from front of skull	47
	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
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

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)**	
	Onaura zweinicus (wiuskiai)	
	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 reddishappearing 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------ 61 Upper incisors smooth; tail moderately haired and not appearing naked and scaly ----- 62

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 posteriorily 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):

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

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

palate and anterior palatine foramina ----- 66

Six plantar pads on hind foot; hind foot usually less than 24 mm ------ 67

Ochrotomys nuttalli (Golden Mouse)

Podomys floridanus (Florida Mouse)

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 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 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 ----- 71 Tail naked or scantily haired; skull lacking postorbital processes ------77 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 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 ----- 73 Patagium absent; interorbital region relatively broad and not indented on each side with a V-shaped notch ------ 74 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

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

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.	3. 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.	2. 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.	3. 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 t	ip:
	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)	

	ring-like pattern		85
85.	Molar-like teeth either 3/3 or 4/3; total teeth 30 skull rounded when viewed from side:	or less; rostrum shortened and top of	
		Family Felidae	86
	Molar-like teeth 4/5, 5/5, or 5/6; total teeth 32 of skull not convex when viewed from side:	r more; rostrum not shortened and top	
		Family Mustelidae	87
86.	Tail more than 30% of head and body length; 4	upper molar-like teeth; total teeth 30: <i>Felis concolor</i> (Mountain Lion)	
	Tail less than 30% of head and body length; 3 u	pper molar-like teeth; total teeth 28: Lynx rufus (Bobcat)	
87.	Pelage with a conspicuous black-and-white patt beyond posterior edge of last molars		88
	Pelage with other than a black-and-white pattern edge of last of last molars		89
88.	Dorsum with white spots or four or more line of than 500 mm; top of skull flat in profile:	-	
		Spilogale putorius (Eastern Spotted Skunk)	
	Dorsum with two continuous white stripes that a greater than 500 mm; top of skull convex in pro	file:	
		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
90.	Molar-like teeth 5/6; hind foot 75 mm or longer	and with top of head brown	91
	Molar-like teeth 4/5; hind foot smaller than 75 r a white stripe		92
91.	With orange on throat and chest; skull length learned profile:	ss than 95 mm and rear of skull with	

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
3. Tail with a distinct black tip	94
Tail without a black tip	95
4. 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)

S C C C C C C C C C C C C C C C C C C C	ted so that nasals extend most of the length of d in cross-section through stem	98
98.Upper canines present; antlers, if pre present:	esent, usually longer than length of head; mane	
present	Cervus elaphus (Wapiti or Elk)	

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

Odocoileus virginianus (White-tailed Deer)

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