Sharktooth Hill Bonebed Vertebrate Local Fauna

By
John P. Stegall

Paleontological Research Center
Buena Vista Museum of Natural History & Science
Bakersfield, CA

Revised: September 15, 2017
Acknowledgments

Special thanks for assistance on this faunal list and other research information goes to Lawrence G. Barnes, Thomas Demere, Jess Duran, the late Robert “Bob” J. Ernst, Timothy Elam, the late Benjamin E. Nafus Sr. and Jean Nafus, James F. Parham, Donald Prothero, Lisa & Sean Tohill, Robin Turner, Koral Hancharick and the staff & volunteers of the Buena Vista Museum of Natural History & Science.

Background

Geological Unit: Temblor Formation, Round Mountain Silt, Upper Layer [Sharktooth Hill Bonebed & Local Vertebrate Fauna]

Geological Age: Cenozoic Era, Tertiary Period, Middle Miocene Epoch [approx. 15 Million years ago]

North American Land Mammal Age: Barstovian

Geographical Location: Lower Kern River region [northeast of Bakersfield], Kern County, CA

Site Localities: Sharktooth Hill [National Natural Landmark]; Ernst Ranch; Tohill Quarries; Ant Hill; Sprankle Hill; other unnamed localities within upper layer of Round Mountain Silt

Accessibility: Extremely Limited [Private and Public property]; fossil collecting at Ernst Ranch quarries is granted only with permission from owners and by arrangement with the Buena Vista Museum

Valley Fever: Widespread in San Joaquin Valley, CA and southwest USA. Sporadic at Sharktooth Hill Bonebed quarries; exposed fossil quarries at the Ernst Ranch are tested for valley fever before collectors are permitted to enter.

Contact:

Buena Vista Museum of Natural History & Science [BVMNHS]

Mail: 2018 Chester Avenue, Bakersfield, CA 93301

Phone: (661) 324-6350

Website: www.sharktoothhill.org

Note: Some of the vertebrate fauna reported below can be found in BVMNHS collection
**Key:**

* Taxons that were first reported in the upper Round Mountain Silt (Sharktooth Hill and Sharktooth Hill Bonebed collected from 1853-present)

** Taxons not yet reported in the literature

(?) Taxons that requires further study

Phylum Chordata [Vertebrates]

Class Chondrichthyes [Sharks, Rays & Skates]

Order Hexanchiformes

Family Hexanchidae (Cow shark/Six-Gill shark)

* Hexanchus andersoni Jordan, 1907

Order Heterodontiformes

Family Heterodontidae (Bullhead “Horn” shark)

Heterodontus sp.

Order Squaliformes

Family Squalidae (Dogfish shark)

* Squalus occidentalis Agassiz 1856

Family Echinorhinidae (Bramble shark)

* Echinorhinus blakei Agassiz 1856

Order Squatiniformes

Family Squatinidae (Angel shark)

* Squatina lerichei Jordan & Beal 1913

Order Lamniformes

Family Megachasmidae (Megamouth shark)

** Genus/species undetermined
Family Cetorhinidae (Basking shark)
  *Cetorhinus huddlestoni* Welton 2014

Family Alopidae (Thresher shark)
  (?) *Alopias latidens* Leriche 1909

Family Lamnidae (Mako shark)
  *Isurus planus* Agassiz 1856 (Hooked-tooth Mako shark)
  *Isurus hastalis* Agassiz 1843 (Big-tooth Mako shark)

Family Otodontidae (Mega-tooths and Great White sharks)
  *Carcharocles megalodon* Agassiz 1837 (Mega-tooth shark)
  **Parotodus benedeni** LeHon 1871 (False-tooth Mako shark)

Order Carcharhiniformes

Family Carcharhinidae (Tiger sharks and Requiem sharks)
  *Galeocerdo aduncus* (Tiger shark) Agassiz 1856
  *Carcharhinus antiquus* (Gray shark) Agassiz 1856

Family Hemigaleidae (Weasel “Snaggletooth” sharks)
  *Hemipristis serra* Agassiz, 1843 (Snaggletooth shark)

Family Triakidae (Hound sharks)
  *Triakis beali* Jordan 1919
  (?) *Galeorhinus* sp. (Tope shark)
  **Mustelus** sp. (Smooth-hound shark)

Family Scyliorhinidae (Catshark)
  (?) *Scyliorhinus* sp. (Catshark)
  (?) *Cephaloscyllium* sp. (Swellshark)

Family Sphyrnidae (Hammerhead shark)
  *Sphyrnas zygaena* Linnaeus 1758
Order Rajiformes (Skates)

Family Rajidae (Skates)

*Raja* sp. (see Mitchell 1965)

Family Rhinobatidae (Guitar fish)

**Rhinobotos** sp.

Order Myliobatiformes (Rays)

Family Myliobatidae (Eagle Bat ray)

*Myliobatus* sp.

Family Dasyatidae (Sting ray)

*Dasyatis* sp. (Diamond-back stingray) (see Mitchell 1965)

**Mobula loupianensis** Cappetta 1970 (Devil ray)

Family Gymnuridae (Butterfly ray)

**Gymnura** sp.

Family Moblidae (Manta ray)

**Mobla** sp.

Class Osteichthyes (Bony Fishes)

Order Perciformes

Family Scombridae (Mackerel, Tuna)

(?) Genus/species undetermined

Order Tetradontiformes

Family Diodontidae (Puffer fish)

*Diodon* sp.

Family Molidae (Ocean Sun fish)

*Mola* sp.

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1 Fragmentary vertebrae, teeth, jawbones and other remains make species identification difficult. The following orders, families and Genus/species of Bony Fishes are based on known materials at BVMNHS.
Class Reptilia (Reptiles)

Order Chelonia [Turtles & Tortoises]

(?) Family Testudinidae (Tortoises)

(?) Gopherus sp.

Family Cheloniidae (Hard-Shell Sea Turtles)

*Pacifichelys hutchisoni* Lynch and Parham 2003

cf. Syllomus sp.

Family Dermochelyidae (Leatherback Turtles)

*Psephophorus californiensis* Gilmore 1937 [species under investigation]\(^2\)

Class Aves (Birds)

Order Procellariiformes

Family Diomedeidae (Albatrosses)

*Diomedea californica* Miller 1962

*Diomedea milleri* Howard 1966

Family Procellariidae (Fulmars & Shearwaters)

*Fulmarus miocaenus* Howard 1984

*Puffinus inceptor* Wetmore 1930

*Puffinus priscus* Miller 1961

*Puffinus mitchelli* Miller 1961

Order Suliformes

Family Sulidae (Gannets)

*Morus vagabundus* Wetmore 1930

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\(^2\) Parham, personnel communication, 2017
Order Pelecaniformes
Family Pelagornithidae (Giant bony-toothed birds)

*Pelagornis (?) orri* Howard 1957 (see Howard 1984, Stidham 2004)³

Order Anseriformes
Family Anatidae (Geese, Swans & Ducks)
Tribe Cygnini

*Megalodytes morejohni* Howard 1992 (Swan-like anseriform)

Tribe Anserini

*Presbychen abavus* Wetmore 1930 (Goose-like anseriform)

Order Phoenicopteriformes
Family Phoenicopteridae (Flamingos)

*Megapaloelodius* sp. [see Howard 1984]

Order Ciconiiformes
Family Ciconiidae (Storks)

Genus/species undetermined [see Howard 1984]

Order Charadriiformes
Family Recurvirostridae (Avocets)

*Recurvirostra* sp. [see Miller 1961]

Order Accipitriformes
Family Cathartidae (Condors & New World vultures)

*Hadrogyps aigialerus* Emslie 1988

Family Pandionidae (Ospreys)

*Pandion homalopteron* Warter 1976

³ Formerly known as *Osteodontornis* in past literature which was changed upon the suggestion of Mayr and Rubilar-Rogers 2010
Class Mammalia (Mammals)

Order Carnivora

Family Felidae (Cats)


Family Canidae (Dogs)

Subfamily Borophaginae

*Paratomarctus temerarious* Leidy 1858 (see Prothero, et al 2008)

*Aeluropodon* sp. (see Prothero, et al 2008)

Family Amphicyonidae (Bear-Dogs)

Subfamily Amphicyoninae

*Pliocyon medius* Matthew 1918 (see Prothero et al 2008)

Family Mustelidae (Weasels and relatives)

Subfamily Oligobuninae

*Brachypsalis obliquidens* Sinclair 1915 (see Prothero, et al 2008)

Family Desmatophilidae

Subfamily Allodesminae (Archaic Sea Lions)

*Allodesmus kernensis* Kellogg 1922

*Allodesmus kelloggi* Mitchell 1966

*Allodesmus gracilis* Barnes 1995

Family Odobenidae

Subfamily Imagotariinae (Archaic Walruses)

*Neotherium mirum* Kellogg 1931

*Pelagiartos thomasi* Barnes 1988

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4 Paratype no longer housed at BVMNHS
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Order Artiodactyla
Family Tayussuidae (Peccaries)
  (?) Genus/species undetermined
Family Camelidae (Camels)
  Subfamily Miolabinae (Llama-like Camels)
  Genus/species undetermined (see Prothero, et al. 2008)
(?) Subfamily Aepycamelinae (Giraffe-like Camels)
  Genus/species undetermined (see Prothero, et al. 2008)
Family Palaeomerycidae (Pronghorn-like mammals)
  Subfamily Dromomerycinae
  Tribe Cranioceratini
Order Cetacea
Suborder Odontoceti (Toothed Whales)
Superfamily Platanistoidea
Family Allodelphinidae (Dolphin-like Toothed Whale)
  *Zarhinocetus errabundus* Kellogg 1931
Superfamily Delphinoidea
Family Kentriodontidae (Primitive Dolphins)
  Subfamily Kampholophinae
    *Liolithax kernensis* Kellogg 1931
  Subfamily Kentriodontinae
    *Kentriodon obscurus* Kellogg 1931
Family Phocoenidae (Porpoises)
  *Loxolithax sinuosa* Kellogg 1931
Family Pontoporiidae

*New Genus/species [See Barnes, Tohill & Tohill 2015]

Undetermined Odontoceti (Dolphin-like Toothed Whales)

*Oedolithax mira Kellogg, 1931
*Nannolithax gracilis Kellogg, 1931
*Platylithax robusta Kellogg, 1931

Superfamily Physeteroidea

Family Physeteridae (Sperm Whales)

*Aulophyseter morricei* Kellogg 1927

Suborder Mysticeti (Baleen Whales)

Family Cetotheriidae (Primitive Baleen Whales)

*Parietobalaena securis* Kellogg 1931
*Tiphyocetus temblorensis* Kellogg 1931
*Peripolocetus vexillifer* Kellogg 1931

Order Perissodactyla

Family Tapiridae (Tapirs)

*Miotapirus* sp. (Prothero, et al 2008)

Family Rhinocerotidae (Rhinoceroses)

Subfamily Teleoceratiniae

Tribe Teleoceratini

*Teleoceras medicornutum* Osborn 1904 (see Prothero, et al 2008)

Subfamily Aceratheriinae

*Aphelops megalodus* Cope 1873 (see Prothero, et al 2008)

Family Equidae (Horses)

Subfamily Anchitheriidae

*Hypohippus* sp. (see Prothero, et al 2008)

*Parahippus* sp. (see Prothero, et al 2008)

Subfamily Equinae

Tribe Equini

*Merychippus brevidontus* Bode 1934 (see Prothero, et al 2008)

Order Proboscidea (Elephants and ancient relatives)

Family Mammutidae (Mastodons and relatives)

*Miomastodon* sp. (see Prothero, et al 2008)

Order Desmostyli (Hippo-like Mammals)

Family Desmostyliidae

*Desmostylus hesperus* Marsh 1888 (see Mitchell 1965)

Family Paleoparadoxiidae

Subfamily Paleoparadoxiinae

*Paleoparadoxia* sp.

Order Sirenia (Dugongs and Manatees)

Family Dugongidae (Dugongs)

Subfamily Halitheriinae

*Metaxytherium* sp.
Reference

**General Info.**


*Allodesmus kelloggi*


*Allodesmus gracilis*


*Aulophyseter morricei*

Birds (Marine & Shore species)


*Bouromeryx americanus*


*Cetorhinus huddlestoni*


*Diomedea californica*


*Hadrogyps aigialerus*

Kentriodontidae (Ancient Dolphins)


Mammals (Marine)


Mammals (Terrestrial)


Megalodytes morejohni

**Pacifichelys hutchisoni**


**Pandion homalopteron**


**Pelagiarctos thomasi**


**Pelagornis orri**


**Pontoporiid (Ancient Dolphins)**


**Psephophorus californiensis**