

DARKLING BEETLE or STINK BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Tenebrionidae	<i>Eleodes</i>	<i>spp</i>



Range:	Found worldwide. 100 species in this genus in California.
Habitat:	Forests, grasslands, and deserts. Found under rocks and logs during the day.
Niche:	Herbivorous, terrestrial, nocturnal
Diet:	Wild: Scavenge on a wide variety of decaying and fresh plant and animal matter Zoo: Apple, monkey chow, lettuce

Special Adaptations: The forewing (elytra) is fused so this beetle is flightless. They have chewing mouthparts and adults have a hard exoskeleton, smooth and black and are a little over an inch long. Antennae are thread-like, but some species' are slightly enlarged at the terminal end and appear club-like. Darkling beetles undergo a complete metamorphosis. The eggs are laid in soil. The **mealworm** is the larval state of the darkling beetle and may molt 9-20 times. The adults will live 3-15 years. Compound eyes are kidney-shaped or notched rather than round. These beetles do not need to drink and can produce water metabolically; also their wings are fused to reduce water loss.

Other: When disturbed, they will stand on their heads and elevate their rear end and emit a foul-smelling odor. This emission makes them unpalatable to would-be predators. Hence an alternate common name of "stink beetle". They are sexually dimorphic. The cactus longhorn beetle mimics the darkling beetle because of the smell. Complete metamorphosis.



DERMESTID BEETLE or SKIN BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Dermestidae	<i>Dermestes</i>	<i>maculatus</i>



Range:	Worldwide distribution except Antarctica
Habitat:	on dead animals
Niche:	Scavengers, omnivorous, terrestrial
Diet:	Wild: dry animal or plant material such as skin or pollen, animal hair, feathers, dead insects and natural fibers Zoo:

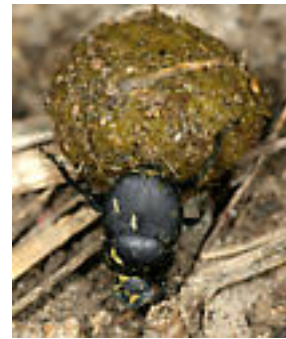
Special Adaptations: Undergo complete metamorphosis. The bodies of the larvae are covered in setae.

Other: Key characteristics for adults are round oval shaped bodies covered in scales or setae (bristle- or hair-like structures). These beetles are significant in forensic entomology. They are used in taxidermy and natural history museums to clean animal skeletons. They live for five to seven weeks. They play an important role in nutrient recycling by feeding on dead and decaying animals.

DUNG BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Scarabaeidae	<i>Canthon</i>	<i>imitator</i>

Range:	Worldwide, naturally present on every continent except Antarctica
Habitat:	Wherever there is dung, grasslands, desert, forest
Niche:	Nocturnal scavengers, arboreal/terrestrial
Diet:	Wild: Plant and animal matter, dung Zoo: Other stuff and dung



Special Adaptations: They have 3-7 segmented, fan-like antennae, and powerful legs armed with teeth on the outer edge, an adaptation for digging. They have a sensitive sense of smell. Larvae are grub-like with well-developed antennae and legs. Some species lay their eggs into the dung ball while others simply cover the egg with the dung, allowing the young to eat their way out. They undergo complete metamorphosis.

Other: Adult dung beetles collect fresh dung and carry it to underground burrows where it provides food for developing larvae. They roll the dung into neat balls for ease of transport. Dung beetles can roll up to 50 times their weight. They are so beneficial that some species have been imported to California & Australia to control cow manure buildup. These beetles belong to a family of better known and a far less repulsive name: scarabs. Besides clearing the ground, the beetle's activity fertilizes the soil; they improve the nutrient recycling and soil structure. The females construct the large ball and the male rolls it away to bury it. Underground, the female smears the dung ball with soil and her own excrement. Once the dung has aged, she divides it into smaller balls, lays an egg in each and stays to care for her brood.



GIANT RHINOCEROS BEETLE or WESTERN HERCULES BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Scarabaeidae	<i>Dynastes</i>	<i>granti</i>

Range:	SW U.S, primarily Arizona
Habitat:	Mountains, dry open scrub-forest
Niche:	Nocturnal scavenger, herbivorous, arboreal
Diet:	Wild: larvae – leaf litter and rotten wood, adults - sap of ash trees Zoo:



Special Adaptations: Males have two horns with the upper horn being longer than the lower. The horns are used in contests of strength over females and food. Females are hornless. For escaping from danger, they can use their horns to burying itself underground. It has a pair of thick wings that lay atop another set of membranous wings underneath, therefore the rhino beetle can fly; however, due to its large size and horny wings, they are not very good at it. The best protection they have from predators is their size and stature. If rhino beetles are disturbed, some can release very loud hissing squeaks. The hissing squeak is created by rubbing their abdomen against the ends of their wing covers.

Other: The Grants' Rhinoceros Beetle only live for one or two years and are part of the scarab beetles family. They are among the largest and strongest animals in the world, being able to lift up to 850 times their weight. By day, their normally hide under logs or plants vegetation away from few predators. They undergo complete metamorphosis. They play an important role in recycling vegetation.

GREY DEATH FEIGNER or MOJAVE DESERT BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Tenebrionidae	<i>Cryptoglossa</i>	<i>verrucosa</i>



Range:	Sonoran Region of SW U.S. and adjacent portions of Mexico and Baja, CA
Habitat:	Arid regions
Niche:	Terrestrial, nocturnal scavenger
Diet:	Wild: decaying plant material and seeds, general scavengers Zoo:

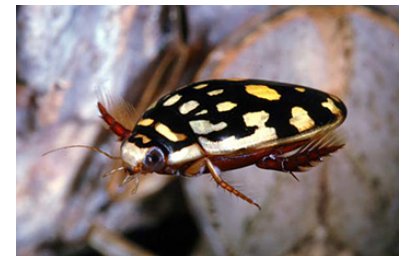
Special Adaptations: They are slow moving and when disturbed they feign death but have no other defense. This species exhibits distinct color phases that range from light blue to jet black when subjected to extremes of low and high humidity, respectively. The color phases are created by "wax filaments" that spread from the tips of miniature tubercles that cover the cuticle surface. The meshwork that accumulates at low humidity reduces transcuticular water loss and may lower the rate at which body temperature rises under a radiation load by increasing reflectance.

Other: They live up to 10 years. They spend a lot of time cleaning their legs and feet. They are a communal species with an extremely tough exoskeleton. They undergo complete metamorphosis. Compound eyes are kidney-shaped or notched not round. Known to live up to 10 years.



YELLOW SPOTTED WATER BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Dytiscidae	<i>Thermonectus</i>	<i>marmoratus</i>



Range:	California, Arizona, New Mexico and Texas
Habitat:	Ponds and low streams
Niche:	Aquatic, carnivorous
Diet:	Wild: mosquito larvae and other aquatic insects Zoo:

Special Adaptations: Larval stage has two separate retinas in its eyes. By switching back and forth, the beetle can see well at a distance or up close. This is the only known instance of bifocal technology in the animal world. Water beetle carry their own oxygen supply underwater by trapping an air bubble under their wing covers as they come up for air. This bubble helps them extend their time under water before they are forced to surface again for more air. They can eject a milky fluid from their prothoracic glands when disturbed. This fluid containing a mixture of steroid compounds, presumably as a deterrent to fish predators.

Other: A species of diving beetles. They are characterized by having a black carapace covered with bright yellow spots. Their streamline body aids in swimming through the water. Males have a suction disk on their forelegs. They are proficient swimmers using their powerful hind limbs to propel them through the water. Having functional wings they are able to travel to other areas when the pond they inhabit dries up.

CACTUS LONGHORN BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Cerambycidae	<i>Moneilema</i>	<i>gigas</i>

Range:	North American deserts of the western US & N Mexico
Habitat:	Hot arid desert
Niche:	Terrestrial, nocturnal
Diet:	Wild: chollas, prickly pear cacti & saguaro seedlings Zoo:



Special Adaptations: Front wings are fused forming a single hardened shell. They have long antennae. Larvae bore into cactus roots and stems. Adults feed on the surface of cacti. Active during the mid or late summer. Cactus serve as shelter and food. Female chews into the cactus and lays her eggs.

Other: Flightless. Cactus longhorn beetles resemble and mimic the behavior of noxious darkling beetles of genus *Eleodes*. It is difficult for predators to catch the cactus longhorn beetle due to the thorns of their cacti host.



FIG BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Scarabaeidae	<i>Cotinis</i>	<i>texana</i>

Range:	Southwestern US and Mexico
Habitat:	Fruit trees
Niche:	
Diet:	Wild: ripe fruit- fruits, pollen, nectar and flower petals Zoo:



Special Adaptations:

Other: iridescent green, giant, flying beetles. Larvae are soil dwelling and feed on organic matter on soil surface. Mature larvae form hollow cells in soil and pupate there. Adults scrape a hole in the fruit and feed on the flesh inside. While flying they are clumsy and make a loud buzzing sound. They are not pests as they only feed on fruit that has been damaged.

WATER SCAVENGER BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Hydrophiloidea		

Range:	World wide distribution
Habitat:	Marshy freshwater ponds
Niche:	Aquatic, omnivorous
Diet:	Wild: Zoo:



Special Adaptations: hind legs have long hairs that aid in swimming. These beetles are scavengers feeding on both plant and animal matter. They breathe air by breaking surface of water with their hair antennae. Their silky underside is a bubble of stored air.

Other: known for their long maxillary palpi, which are longer than their antennae. Larvae are predatory, while adults are herbivorous or predators in addition to scavenging. ~3,200 species



LITTER BEETLE

Class	Order	Family	Genus	Species
Insecta	Coleoptera	Tenebrionidae	<i>Alphitobius</i>	<i>diaperinus</i>

Range:	Nearly worldwide
Habitat:	Thrives in warm, humid environments such as caves and nests
Niche:	carnivore, terrestrial
Diet:	Wild: litter, bird droppings, bat guano, mold feathers, eggs and carrion Zoo:



Special Adaptations:

Other: They are in the family with the darkling beetles. This beetle is damaging to the poultry industry as they have difficulty digesting them. They thrive on poultry litter and spread 30+ avian diseases. They are used to prepare zoological specimens as they are used to clean tissue off carcasses.