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Rhinoceros Beetles (Dynastes sp.)*U.S. Native Species Only

*A note on the legal status of nonnative beetle species in the United States and Canada: The United States Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS) is the primary federal agency and institution overseeing the importation, possession, and/or interstate commerce/transport of these and several other insects and invertebrates available as pets in the pet industry internationally. Some of these species include the Giant African Land Snails (Achatina sp.), native and exotic Phasmids (Stick Insects or Walkingsticks, Phasmatodea), exotic or nonnative species of beetles (such as Dynastes sp. and others), and African Giant Millipedes, [Archispirostreptus gigas](#) (subject to importation restrictions only). Generally, the importation, possession, and/or interstate commerce in these invertebrates is prohibited or subject to USDA APHIS permitting and licensing, and secure containment systems, facility inspections, and/or environmental health assessments to prevent escape or accidental introduction into the environment. Reasons for these restrictions vary depending on the species in question, but can include their propensity to become invasive or ecological pest species, their reproductive capabilities (many are hermaphroditic or parthenogenetic), their ability and variety of host plant species the species will feed on, their potential effects on human health, or their ability to carry or spread foreign or potentially harmful microbes, pathogens, or parasites with either unknown or deleterious effects on foreign environments/ecosystems. Further information on the legalities of purchasing, selling, and acquiring these invertebrates can be viewed here prior to obtaining any of them if a United States resident:
<http://www.entohub.com/giant-illegal-invertebrates>
<https://www.aphis.usda.gov/aphis/resources/permits>*

Nature's Miniature Triceratops'

Also known by a variety of other common names usually implying their size and strength, or distinctive physical features including the Hercules beetles, unicorn beetles, horn beetles, and atlas beetles, the rhinoceros beetles are a large and diverse group of large beetles belonging to the scarab beetle subfamily Scarabaeidae. Over 300 recognized species are known, occurring from temperate to sub-tropical or tropical areas most of worldwide depending on the species, with representative members being found in North and South America, Asia, Europe, Africa, and portions of New Guinea and Australia. They are among the largest beetles, and among insects, are also among the strongest, with several species being known to be able to lift or move up to 850 times their own body weight! They derive the common name of "rhinoceros" beetles from the fact that males possess large, upward curving "horns" on their heads, and another large, characteristic forwards curving horn on their thoraxes or pronotums. Female beetles typically

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lack horns, or possess much less pronounced horns, depending on the species. These large and impressive horns are designed and used by males in fighting one another during mating of females, as well as for digging and burrowing in their moist, humid substrate. The size, shape, and condition of these horns can also vary depending on the age, species, nutrition, and physical health of each insect as well. As with most beetles, rhinoceros beetles also possess a thick, armored exoskeleton that can vary considerably in color and pattern depending on the species, and which several sets of wings allow them to slowly and clumsily fly for short distances.

These large, well armored beetles are largely nocturnal to crepuscular, often becoming secretive during the day by seeking refuge within or under rocks, logs, or other vegetation and debris. When threatened or disturbed, some species can also emit a loud hissing or buzzing sound created by their hind wings and legs in order to deter potential predators. Rhinoceros beetles are famous and well known beetles that are widely sought after as pets in many areas of the world, although only a few native, or indigenous species make it into the U.S. pet trade annually on a limited basis due to their longevity, reproductive habits and requirements, among other reasons. These include the Western Hercules Beetle (*Dynastes grantii*) of the southwestern United States and Mexico, and the Unicorn or Eastern Hercules Beetle (*Dynastes tityus*) in the eastern United States. Both species have an elytra, or carapace covering color ranging from greenish, yellowish or yellowish-green, grayish, tan, or yellowish tan with darker brown, reddish, reddish-brown, or blackish spots and/or mottling. The horns in the western species tend to be larger and more pronounced than in the eastern species, however, among other minor diagnostic differences. For the novice or beginning to intermediate, or moderate insect, invertebrate, or even exotic pet owner or keeper willing to spend some extra time and effort in locating and keeping these miniature triceratops' properly and legally, rhinoceros beetles can make for simple, unique, and highly enjoyable pet invertebrates that can provide up to several years of enjoyment.

Taxonomy

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

Order: Coleoptera

Family: Scarabaeidae

Subfamily: Dynastinae

Genus: Dynastes

**Taxonomy subject to change and revision.*

Lifespan and Longevity

Life spans and longevity of rhinoceros beetles can also vary considerably. Some species are relatively short or seasonally lived, and may only live, reproduce, and complete their life cycles within 6 months to one year, while other species may attain longevity of at least two to three years or slightly more. Rhinoceros beetles undergo several life stages, varying in duration. The L1 larval stage is the earliest larval stage, followed by the L2 stage after molting, and finally, the L3 larval stage, which is the last, largest, and longest living larval stage for rhinoceros beetles. Pupal stage follows the larval stage, which lasts at least one to two months before these beetles reach adults.

Distribution and Habitat

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Depending on the species, rhinoceros beetles are a widespread subfamily of beetles found throughout the world in temperate to sub-tropical or tropical or temperate woodlands, rainforests, savannahs, semi-arid deserts, steppes, and grasslands, and other environments of North and South America, Europe, Africa, Asia, and Australia and New Guinea. The two most commonly available U.S. species occur in the southwestern United States and Mexico, and the eastern United States respectively, and as mentioned above.

Conservation Status

Conservation status dependent upon the species. Some species are IUCN Least Concern (LC). Some are IUCN Near Threatened (NT), Conservation Dependent (CD), Vulnerable (VU), Endangered (EN), to Critically Endangered (CE). Some Not Evaluated for the IUCN Red List (NE) or otherwise Data Deficient (DD).

Experience Level Required

Novice/Beginner to Advanced (depending on species).

Size

Rhinoceros beetles can vary greatly in size depending on age, sex, and species. The largest species in the world may be as much as 5 to 6 inches or more in total body length, including their horns. The U.S. *Dynastes* species, however, are typically smaller as adults at around 2 to 3" or slightly more in size.

Housing and Enclosure

Adult and larval rhinoceros beetles are fairly simple to house and accommodate provided the enclosure is sturdy and secure, adequately ventilated, and retains suitable and maintains appropriate temperatures and humidity levels. Tall or long, clear, and secure plastic containers with a screen top, or adequately sized screen or glass terrariums or enclosures 10 gallons or more are recommended for housing these large beetles. Larva can also be maintained with several inches of organic soil in a clear plastic deli cup or similar container. Several of the acrylic displays and enclosures that are now manufactured for housing arachnids, insects, and other invertebrates can also be used. Rhinoceros beetles will climb, and height is just as important, if not more so than floor space when housing them. Depending on the sex and species, many species can be housed communally in accordingly larger enclosures, while some species are better maintained individually. The enclosure can also be provided with additional furnishings such as live or artificial plants, branches, leaves, twigs, vines, and other foliage. A substrate at least several inches in depth that can retain adequate moisture and humidity, and is chemical and pesticide free can also be used, including potting soil, tissue or paper towel, cypress mulch, sphagnum moss, vermiculite/peat moss, or similar substrates. Water and hydration wise, some species will benefit from a large, shallow water dish or pan, while most others derive their hydration from regular misting 2 to 3 times weekly.

Temperature, Lighting, and Humidity

Different species of rhinoceros beetles may have slightly different temperature and humidity requirements that should be more thoroughly researched. For the U.S. *Dynastes* species, generally can be maintained at temperatures from 70 to 80 degrees F, and 60 to 85% humidity, again depending on the species. If needed, a low wattage overhead, incandescent bulb, UTH (under tank heating element), radiant or ceramic heat emitter, or nighttime red light bulb can provide suitable temperature and humidity levels. Rhinoceros beetles are fairly simple to provide for as far as their temperature and lighting, but too high or too low of temperatures, or too dry or wet and humid of conditions should be avoided. For any supplemental heating that may be needed, use a low wattage incandescent or UVA/UVB bulb, radiant or ceramic heat emitter, or

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UTH (under tank heating element). More specific lighting, heating, and humidity product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well. Spot clean the enclosure for wastes, feces, or uneaten food at least once per week. Be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months.

Feeding, Diet, and Nutrition

Primarily Herbivorous to Frugivorous; Larval rhinoceros beetles, or grubs, will feed on various decaying wood, leaves, and other vegetation or plant material. As adults, they will feed on soft fruit and vegetable material, as well as saps and nectar material. Adult beetles can be given some fruits such as apple or banana, as well as watered down maple syrup, brown sugar, or other sugary liquid mixtures in shallow cups. Some commercially available gelatinous based diets may also be available. Larval stages should be provided with approximately a 70-30 wood to leaf diet, although some forms of dried dog food can provide added nutritional value. Each species has its own dietary preferences and requirements that should be researched further. It is always important that any food that is given is fresh and free and clean of any chemicals or pesticides prior to use. Additional calcium and vitamin D3 supplementation is typically not required, but can help with many species' overall exoskeleton growth and development. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

Handling

Despite their fearsome size and appearances, rhinoceros beetles are harmless to humans, and do not bite or sting. As with any invertebrates, however, they care should be taken when handling them, as they can still be fragile, and prone to injury or losing limbs if dropped or roughly handled. Some species may produce a loud, startling hissing or buzzing sound when threatened or disturbed using their hind legs and wings, although this is harmless as well.

****Also be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens****

Contact

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact the Madison Area Herpetological Society at info@madisonherps.org

Disclaimer: Note that the information provided in these, or any care sheets, are not intended to be all-exhaustive, and further research and care should always be sought and provided when it comes to any species one may prospectively be interested in. These care sheets are also not intended to serve as substitutes for professional veterinary medical care and husbandry should any animal require it. Always seek proper and professional veterinary care for any animal should the need arise, and be prepared ahead of time for any and all husbandry costs and expenses that may occur with any animal beyond the initial purchase. Any animal owned is ultimately a matter of personal/individual care and responsibility.

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