



A publication by:

NORTHWEST WILDLIFE PRESERVATION SOCIETY

Western Diamondback Rattlesnake

Crotalus atrox



By Anna Goode

Among the many varieties of rattlesnakes found in North America, the western diamondback rattlesnake stands out due to its unique triangular shaped head, a feature unique to its species. It is also unique in its coloring and diamond shaped markings. It lives on dry, shrub covered rocky terrain and preys on small mammals.

CHARACTERISTICS:

The western diamondback rattlesnake is one of the largest rattlesnakes found in North America, growing to a length of 60-160 cm (25-65in). They weigh up to 9kg (20lbs). The western diamondback rattlesnake lives to 30 years on average, 10-20 years longer than other rattlesnake species.

The western diamondback rattlesnake is noted not only for its size, but also its unique appearance. It is characterized by a plump body, a short tail, eyes with vertical pupils, and a broad triangular head which is distinct compared to the rest of its body. Its colouring ranges from yellowish-gray to pale blue or pinkish with dark diamond-shaped markings down its back. These marks are lighter in the centre with dark edges that are surrounded by a light border making for a very interesting pattern surrounding the whole body of the snake. These marks are irregularly dispersed along the dorsal side of the snake.

The rattlesnake also has a rattle at the end of its tail. Its rattle is made up of the last scale left when the snake undergoes molting (the process of shedding its skin). With each molt, the snake gains a new layer to its rattle as the old one is shed. The rattle is made of rings or segments of keratin, the same material

NWPS Headquarters
720-1190 Melville Street
Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
RPO James Bay
Victoria, BC V8V 4X8

t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

found in human fingernails. The rattle is a very important aspect of the snake's overall anatomy because it enables it to ward off predators.

The western diamondback rattlesnake is often confused with many other snakes with blotch-like markings such as gopher snakes whose blotches have a checkered pattern, hognose snakes which have a distinctly upturned snout and large blotches on their belly and night snakes which have vertical pupils that are much smaller and more slender than those of the western diamondback rattlesnakes. Although all of these snakes may resemble the rattlesnake in some way, none have its distinct triangular head and rattle.

The western diamondback rattlesnake belongs to the viperidae family of reptiles (scientific name crotalinae) which are characterized by long teeth called fangs.

These fangs are used to subdue and kill prey. They are sometimes left with the prey and are replaced 2-4 times a year by a reserve set. There are two races of western diamondback rattlesnake found in Canada. One is the prairie rattler, found in Alberta and Saskatchewan and the other, the northern pacific rattler, found in arid valleys throughout British Columbia. The prairie rattler is the lighter in hue of the two species. Both are known as pit vipers because of the pit organ found between the snake's nostrils and eyes. The pit organ, also known as the jacobson's organ, detects temperature differences between the interior temperature of the snake's body and the outside surrounding temperature, which assists the snake to find its prey to a temperature difference of less than .5 of a degree. The pit organ is located on the top of the snake's mouth.

The western diamondback rattlesnake is a cold-blooded reptile because their internal temperature changes according to their outside surroundings. The western diamondback rattlesnake has to rely on the heat generated by the sun to heat its body which functions best at a temperature of 30 degrees Celsius, (86 degrees Fahrenheit) enabling the snake to move and digest its food easier. At colder temperatures, the major organs of the snake may stop working properly which could lead to death.

LIFECYCLE:

The mating cycle of the western diamondback rattlesnake occurs in the spring at the end of hibernation. The females are ready to breed between the ages of 6-8 and may double their body weight in preparation for breeding. The females undergo a gestation period of 167 days, leading to the birth of between 10-12 young in the fall. The birthing process can last anywhere from 3-5 hours. The young stay with their mother for only a few days after which they leave to fend for food on their own, resulting in a very high mortality rate among young snakes. The young at birth are fully venomous and can be up to 30cm long. The babies' venom is just as deadly as an adults.

HABITAT:

The western diamondback rattlesnake lives in dry, rocky, shrub covered open terrain where they are able to conceal themselves in cracks in the rocks as well as in holes in the ground. Geographically, they

NWPS Headquarters
720-1190 Melville Street
Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
RPO James Bay
Victoria, BC V8V 4X8

t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

are found over a wide range of areas, including areas of Canada ranging from southern British Columbia to southern Saskatchewan as well as in overseas locals such as Argentina. In the United States, the western diamondback rattlesnake is found in every state excluding Alaska, Delaware, Hawaii and Maine.

DIET:

The western diamondback rattlesnake is a carnivore with a diet comprising of small mammals such as mice and chipmunks, birds, amphibians, fish, invertebrates, and other reptiles such as lizards. They eat every 2-3 weeks and swallow their food whole. The food is then broken down by the strong digestive juices contained in the snake's venom, a process that for larger prey may last 2-3 days. The snake may then go for weeks or months without eating again, especially if its last meal was large. In dry areas, the western diamondback rattlesnake may absorb water from its prey. The snake's annual water consumption equals approximately its body weight.

Rattlesnakes hunt at night utilizing their sense of smell as well as their pit organ in order to locate their prey. They are "sit and wait" predators, choosing to ambush its food instead of actively hunting for it, a process made easier by the fact that they are able to hide through their camouflage colouring. The western diamondback rattlesnake is able to move between 1.8-3m (6-10 ft) per second when striking its prey. The striking process pumps venom through the snake's fang into the prey. The snake proceeds to let the prey die before swallowing it whole. The fangs are used to pull the prey into the snake's body, a process that can take more than an hour.

BEHAVIOUR:

The western diamondback rattlesnake is an aggressive and easily excitable creature that usually does not attack offensively. Attacks are typically brought about when the snake feels threatened. When attacking, the snake will usually only use its venom as a last resort, instead coiling up its body, erecting its head and vibrating its tail. The vibration of the tail acts as a warning to predators of the snake. The snake may also leave the area, taking cover under bushes, logs or rocks. The western diamondback rattlesnake's predators include coyotes, badgers, hawks and eagles.

The western diamondback rattlesnake spends its winter in hibernating dens such as crevices in rocks found on south facing slopes or abandoned prairie dog burrows. Several snakes may hibernate together at one time, coming out only at night to hunt.

THREATS:

Fortunately, the western diamondback rattlesnake is not an endangered species but is however, constantly a "victim of extermination attempts by people who consider these reclusive snakes threatening" (Canadian Biodiversity). This extermination is made easier by the fact that the snake hibernates in large dens making them easy targets. Snakes are also targeted by farmers who believe that the snake is a threat to their livestock. The habitats of these snakes are continually destroyed by the

NWPS Headquarters
720-1190 Melville Street
Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
RPO James Bay
Victoria, BC V8V 4X8

t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

construction of roads and buildings. Regardless of these extermination attempts, the western diamondback rattlesnake has successfully maintained its population densities. The aruba rattlesnake, the arizona ridge nosed rattlesnake and the new mexico ridge nosed rattlesnake have not been as fortunate and currently are on the endangered species list.

In order to keep this snake off the growing list of endangered species, we need to continually educate the general population on the benefits of this snake to our environment, for example highlighting their role in reducing rodent populations for farmers.

BIBLIOGRAPHY:

Freedman, Russell. Rattlesnakes. New York: Holiday House, 1984.

Richardson, Adele. Rattlesnakes. Minnesota: Capstone Press, 2003.

“Western Diamondback Rattlesnake: Crotalus Atrox.”

http://www.thebigzoo.com/Animals/Western_Diamondback_Rattlesnake.asp

“Western Rattlesnake.” <http://www.kamloopswildlife.org/rattlesnake.html>

“Western Rattlesnake: Crotalus viridis.”

http://www.canadianbiodiversity.mcgill.ca/english/species/herps/herppages/Cro_vir.htm

“Crotalus oregonus. Western Rattlesnake. Crotale de L’Ouest”.

<http://www.carnet.ca/english/reptiles/tour/glossary/wratt/wratt2.htm>

NWPS Headquarters
720-1190 Melville Street
Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
RPO James Bay
Victoria, BC V8V 4X8

t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com