herpy

SNAKES

Burmese Python

Python bivittatus

Python bivittatus is one of the world's largest snakes, a heavy, calm python from the forests, swamps and grasslands of South-East Asia, with brown, dark-edged blotches on a pale ground colour. Adults measure 300-500 cm, and females are far heavier than males. The species requires a very large enclosure with a pool, 32-34 °C at the basking spot and a great deal of experience, and it can live for more than 20 years.

Family: Pythonidae Former name: *Python molurus bivittatus*

KEY FACTS

THE ANIMAL

Adult size	**300-500 cm** total length incl. tail
Lifespan	**20-25 years**
Active	**At dusk and at night**
Lifestyle	**Arboreal and terrestrial**
Habitat	**Savanna, rainforest and wetland**
Difficulty	**Expert**

CARE

Min. enclosure	**300 × 150 × 150 cm** L × W × H for 1 adult
Temperature, day	**27-31 °C**
Basking spot	**32-34 °C**
Temperature, night	**26-28 °C**
Humidity	**60-70%**
Water	**Water section**
UVB	**Recommended** Ferguson zone 2
Diet	**Vertebrates**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**24-36 months**
Clutch size	**12-36 eggs**
Incubation	**60-90 days** at 31-32 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Vulnerable (VU)**

About the species

Python bivittatus is a giant, heavily built snake with smooth scales, a rectangular head, vertical pupils and heat-sensitive pits along the lips. The ground colour is beige to golden with large brown, dark-edged blotches on the back and sides. On top of the head is a triangular mark, and a dark band runs through each eye. The species name *bivittatus* comes from Latin and means something like "with two bands".

Adults are normally 300-500 cm, and in captivity most are 330-370 cm. The female is only slightly longer than the male, but far heavier and more robustly built: a female of 350 cm can weigh about 30 kg, and one of 500 cm up to 75 kg, while males of about 300 cm weigh 7-18 kg. Animals over 500 cm are rare, and the largest reliably measured is 579 cm long. Dwarf forms from Java, Bali and Sulawesi reach about 200-250 cm. Before 2009 the species was regarded as a subspecies of *Python molurus*, and it is still often sold under the old name in the trade.

The species is calm and tolerates handling, but its size makes it a potentially dangerous animal. It can live for more than 20 years. This is a commitment that requires space, time and money, and an animal that has outgrown its home is hard to rehome. Many colour and pattern variants (morphs) exist in captivity. This guide is about the species itself, not about genetics.

Distribution and habitat

Python bivittatus lives in South and South-East Asia: south-eastern Nepal, north-eastern India, southern Bhutan, Bangladesh, Myanmar, Thailand, Laos, Cambodia, Vietnam and southern China including Hainan. The species is also found on Java, Bali and Sulawesi. The type locality is Java. Records from Sumatra and Borneo are regarded as misidentifications.

The population on Sulawesi has been described as a separate subspecies, *Python bivittatus progschai*.

> **Native range:** Nepal, India, Bhutan, Bangladesh, Myanmar (Burma), Thailand, Laos, Cambodia, Vietnam, China and Indonesia.

HABITAT

P. bivittatus lives in tropical forest, but also in grassland, warm temperate forest and mangrove swamps, and it is almost always found near fresh water. It is mostly nocturnal and hides in the undergrowth, in holes and in hollow trees. Young animals climb and move about as much in trees as on the ground, but when the animal becomes heavy, it becomes almost entirely terrestrial. It is an excellent swimmer and can stay under water for up to half an hour.

The climate is tropical with a humid summer and a drier winter. In the northern part of its range the species can hibernate for several months in hollow trees, river banks or under stones. It is solitary and is found with others of its species almost only in the breeding season. Its prey is mammals and birds, but also amphibians and reptiles, and it lies in ambush and strikes quickly before coiling around and suffocating the prey.

Care

THE ENCLOSURE

Size is the species' greatest challenge: most setups are too small. An animal must at a minimum be able to stretch out completely, and the width must be half the animal's length, while the height must leave room to climb and sit high. An animal of 300 cm must therefore have an enclosure of at least 300 × 150 × 150 cm, and an animal of 450-500 cm needs a whole room or a small building with a floor area of about 12 m². Hatchlings and young animals under 250 cm can live for a time in 240 × 120 × 120 cm, but grow quickly and must be moved on.

The enclosure must close securely, with lockable doors, and have small ventilation openings in the sides, because heat and humidity escape easily through vents in the top. The material must be smooth and easy to clean. Cover one or two sides if you like, so the animal feels secure.

The substrate must be at least 10 cm thick and retain moisture: a mix of 40 % topsoil, 40 % coconut fibre and 20 % play sand or pure coconut chips, with a layer of leaves on top. For a very large setup, newspaper or shavings are a practical choice, but they retain moisture poorly. The animal produces large amounts of urine and droppings, so the substrate must be changed often.

Furnish with large, sturdy branches and shelves so the animal can climb, with at least two large hides (for example boxes or dog kennels) and with thick, fixed plants or artificial foliage for cover. Everything hanging in the enclosure must be properly fixed, so it cannot fall on the animal.

Read more: Humidity, misting and ventilation

TEMPERATURE

The enclosure must have a gradient. The basking spot must be 32-34 °C, measured with an infrared thermometer, the cool side 27-31 °C and the night 26-28 °C. The temperature must not fall below 26 °C at night, so most setups need night heat from a source that gives no light, for example a radiant heat panel.

The warm zone is created with a cluster of four 50 W halogen bulbs over a basking spot, so the whole animal is warmed evenly from above. All heat lamps inside the enclosure must have guards, so the animal cannot burn itself. Heat mats and heat cables can be used, but only with a proportional thermostat with the probe directly under the heat source. Never use hot

rocks. Use digital thermometers with probes at the basking spot and at the cool end. If the heat is too low, the animal stops eating and may develop a respiratory infection.

Read more: Heat and temperature

HUMIDITY AND WATER

The humidity should be about 60 %, with higher values just after misting, measured with a digital hygrometer in the middle of the enclosure. Keep the enclosure damp, but not wet: it must be able to dry out between mistings, and clammy air causes respiratory infection. Humidity is maintained with a pressure sprayer or an automatic misting system with nozzles along the wall, at least 2-3 times a day, and with a thick, moisture-retaining substrate.

The animal must have a large, deep pool on the floor, which also serves as drinking water. It must at least be large enough for the animal to lie coiled in it with a little room to spare, and preferably large enough for it to swim. Use, for example, a large feeding tub or a built-in water box. Change the water every week and immediately if it is dirty, and scrub the pool with an animal-safe disinfectant.

Read more: Quarantine and hygiene

LIGHTING AND UVB

The species is most active at night and at dusk, but must have a fixed day and night rhythm with about 12 hours of light and 12 hours of dark. UVB is not necessary for survival but is recommended, because the animal is exposed to sunlight in the wild, and because the light supports vitamin D, immune function and appetite. The species belongs to Ferguson zone 2. Use a T5 HO tube of 5-6 % UVB that covers about half the length of the enclosure and sits over the warm side. The aim is a UV index of 2-3 at the basking spot. If the tube is mounted above mesh, the distance to the animal's back at the basking spot must be about 25 cm, and inside the enclosure 30-40 cm; check with a UV meter. Replace the tubes every 12 months.

Halogen and UVB lamps alone do not give enough light in a large enclosure. Supplement with T5 HO fluorescent tubes of 6,500 K or powerful LED bars that cover most of the length of the enclosure. The light must not be on at night.

Read more: Lighting and UVB

FEEDING

P. bivittatus is a carnivore and must have whole prey of mammals and birds. Rats are the standard, and as the animal grows rabbits, guinea pigs, quail, chickens and ducks are used, and for the very largest animals pig and lamb carcasses. Varied prey is an important enrichment. Feed thawed, frozen animals, which are thawed in a bag in warm water to about 38 °C. This is safer than live prey, which can injure the snake. Use long feeding tongs.

The thickness of the prey must be 1-1.5 times the snake's body width. Larger prey requires a longer break. Feeding frequency: - Hatchlings, under 1 year: every 1-2 weeks. - Juveniles, 1-2 years: every 2-3 weeks. - Young adults, 3-4 years: every 3-4 weeks. - Adults, over 4 years: every 4-6 weeks.

Adults can go for up to 4 months without food, and this is healthy for body condition. Feeding too often causes obesity, organ damage and a shorter life. Hatchlings can eat an adult mouse from their first meal. Feed only when another person is present, and tap on the enclosure lid before every feeding and never when handling, so the animal learns to distinguish between food and cleaning. Drinking water must always be available in the pool.

A light dusting of the prey with a calcium and vitamin supplement every few meals prevents deficiencies.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

P. bivittatus is calm and seldom aggressive, but an adult animal is stronger than a human and can be life-threatening. An animal over 300 cm may be handled only when at least one other adult is present, and children must never handle the animal alone.

Give a new animal at least 3 months of quarantine, and begin handling only when it eats regularly. Wash your hands so they do not smell of prey, and tap the animal lightly on the head with a paper roll on a snake hook, so it knows it is not feeding time. Lift with one hand behind the head and one under the body, and never grab the tail. The snake winds around your arms as if they were branches. Do not let it coil around your neck. Do not handle the animal when the eyes are bluish before shedding, or in the first 2 days after a meal.

Keep the animals separately.

Breeding

SEXUAL MATURITY AND SEXING

The sex is most reliably determined with a probe, which only an experienced person or a vet should use. The female is far heavier than the male. Sexual maturity is reached after 2-3 years (the figure applies to *Python molurus* in the old, broad sense), provided the animal has the right weight, and weight matters more than age.

MATING

Mating takes place early in spring after a cooler period. Cooler nights are necessary for breeding, and the female must be in good condition. The male is placed with the female in her enclosure. The mating itself lasts from 5 to 30 minutes. Breeding should be considered only with great care: there is a large supply of young, and large animals are hard to rehome.

EGG-LAYING AND CLUTCHES

The female lays her eggs about 3-4 months after mating, in the wild in March-April. The clutch is normally 12-36 eggs, and very large females can lay over 100 eggs. The female coils around the eggs and stays with them until they hatch, without eating. By contracting her muscles in small tremors she raises the temperature around the eggs by several degrees. She needs a large, quiet hide and water.

INCUBATION

The eggs hatch after 2-3 months (60-90 days). Artificial incubation has not been precisely described for the species, so temperature and humidity are borrowed from *Python regius*: 31-32 °C and high humidity, with the eggs on damp vermiculite in a closed container with a few air holes. In the wild the eggs lie at 26-31 °C, and the female keeps them warm with her muscle tremors. The young often stay in the egg until the first shed is over. Do not help with hatching.

Read more: Incubating eggs

REARING THE YOUNG

Hatchlings are already large and can eat an adult mouse from their first meal. They must be kept singly in a secure box with a hide, water and a heat source. Young grow very quickly, so they must be moved to larger units at regular intervals.

Health and common mistakes

Most problems are caused by incorrect heat, humidity and feeding and by enclosures that are too small. The typical ones are:

- Obesity and organ damage from feeding too often or too much.
- Refusal to feed from temperatures that are too low or from disturbance.
- Respiratory infections from cold or clammy air, with wheezing breathing, mucus or an open mouth. Requires a vet.
- Poor shedding from air that is too dry.
- Burns from unguarded heat bulbs.
- Mites and internal parasites, especially in newly bought animals. Use captive-bred animals, and keep new animals in quarantine for at least 3 months.
- Regurgitation if the animal is handled too close to a meal. It is a serious strain.

Snakes hide illness, so weekly weighing and notes on feeding, shedding and behaviour are the best early warning. Contact a vet with reptile experience if the snake loses weight, has breathing problems or does not eat for several months.

Read more: Buying animals: captive-bred, wild-caught and transport

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.