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AGAMAS

## Boulenger's Pricklenape

# *Acanthosaura crucigera*

*Acanthosaura crucigera* is a brown to greyish-green forest agama with a dark, cross-shaped mark on the nape, a spine behind each eye and a high crest of spikes on the neck. It lives in mountain forests from Myanmar and Thailand to northern Malaysia and Cambodia, reaches around 25 cm and uses both trunks and the forest floor. It needs a tall, humid and cool enclosure where the air never gets warmer than 28 °C.

Family: Agamidae

KEY FACTS

### THE ANIMAL

| | |
|---|---|
| Adult size | **25-26 cm**<br>total length incl. tail |
| Lifespan | **5-10 years** |
| Active | **By day** |
| Lifestyle | **Arboreal and terrestrial** |
| Habitat | **Rainforest and montane forest** |
| Difficulty | **Intermediate** |

### CARE

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| Min. enclosure | **100 × 50 × 120 cm**<br>L × W × H for 1 adult |
| Temperature, day | **22-26 °C** |
| Basking spot | **28-30 °C** |
| Temperature, night | **18-22 °C** |
| Humidity | **70-90%** |
| Water | **Water section** |
| UVB | **Recommended**<br>Ferguson zone 2 |
| Diet | **Insects and worms/snails** |
| Kept | **Singly or in pairs** |

### BREEDING

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|---|---|
| Reproduction | **Egg-laying** |
| Clutch size | **6-12 eggs** |
| Incubation | **110-130 days**<br>at 25-27 °C |

### PROTECTION AND PAPERWORK

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|---|---|
| CITES | **Not listed** |
| EU annex | **Not listed** |
| IUCN | **Least Concern (LC)** |

## About the species

*Acanthosaura crucigera* is a heavily built forest agama with a laterally compressed body and a long tail. The ground colour is marbled brown, yellow and green, mostly brownish in most adults, while the green tones are seen especially in juveniles. In the middle of the nape sits a large, dark mark resembling a cross or a lozenge, and it has given the species its scientific name. Above each eye sits a distinct spine, and from the back of the head down the nape runs a high crest, separated from the dorsal crest by a clear gap. The scales on the throat, belly and legs are keeled. The throat pouch turns dark when the animal is excited, and the male often has a dark mask around the eyes. The female's colour is more uniformly dark brown and may develop silvery-white spots on the sides when she is excited.

Males reach around 26 cm including the tail, of which the tail makes up around 16 cm. The female is only slightly smaller than the male. Sex is best seen from the thickness of the tail base: the male has a distinctly thicker tail base. The species was described by Boulenger in 1885. The name comes from Latin *crux*, cross, and *gero*, to bear.

The genus is difficult to identify to species, and several closely related species are sold under the same trade name, including *Acanthosaura capra*, *Acanthosaura lepidogaster* and *Acanthosaura armata*. Check which species the animal is before adjusting care to a guide. All the species are difficult to keep if they get too warm or too dry.

The species is active by day, but often sits still and withdrawn. It is not an animal for daily handling. Wild-caught animals are often stressed and infested with parasites, and captive-bred animals are far preferable.

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

## Distribution and habitat

*Acanthosaura crucigera* occurs in Myanmar, Thailand, on the Malay Peninsula and in Cambodia. The type locality is Tavoy (Dawei) in Tenasserim in southern Myanmar. The species has previously been listed from Vietnam, but DNA studies and the lack of reliable records suggest that it does not occur there.

It is assessed as least concern (LC) and has a large range.

> **Native range:** Cambodia, Malaysia, Myanmar (Burma) and Thailand.

### HABITAT

*Acanthosaura crucigera* lives in humid mountain rainforest, typically at 1,300-1,800 m altitude. The forest floor is densely covered with moss and ferns, and the trees are covered in epiphytes. The animals most often sit on the trunks and on the forest floor at low height and are usually found near watercourses. Many sit for long periods in shallow, running water.

The climate is cool and very humid. In the warm part of the year, from March to October, it is 24-26 °C by day and 18-22 °C at night, and mist drifts through the forests in the morning. It is also the time with the most rain. In the cool part of the year, from November to February, the daytime temperature is 16-20 °C, and nights can in places fall to 10 °C. Further south, on the Malay Peninsula, the differences between the seasons are smaller.

When threatened, the animal first tries to slip away unseen by sitting perfectly still. If it is spotted, it rears up, spreads its throat pouch and opens its mouth, and if it flees, it hides among roots or under stones.

## Care

### THE ENCLOSURE

The care of *Acanthosaura crucigera* is described in only a few sources. It is based on the climate of the mountain forests and corresponds to the care of the closely related *Acanthosaura capra* and *Acanthosaura lepidogaster*, which need the same kind of enclosure.

An adult needs a tall enclosure of at least 100 × 50 × 120 cm (length × width × height). The species uses both the trunks and the floor, so floor area is as important as height. A male with two females needs at least 100 × 60 × 120 cm, and preferably more. A mesh lid and large ventilation areas provide the air exchange that is needed when humidity is high.

Furnish with vertical and horizontal branches and roots as thick as an arm, and with cork or bark panels on the back wall. Dense plants such as climbers, ferns and epiphytes give shelter and hold the droplets, and pieces of bark and roots on the floor give hiding places. A shallow water area or a large, shallow water bowl with running or dripping water is used for drinking and bathing. The water must be no more than 15 cm deep, because the animals are poor swimmers and can drown, especially at night. Keep the water clean.

The substrate is a moisture-holding mix of soil and sand over a drainage layer, so that no water stands at the bottom. It should be at least 15-20 cm deep, so that the female can dig and lay eggs. Remove faeces daily.

Do not keep two males together in a small enclosure. Several males require a very large and richly furnished enclosure, and the animals must be able to keep out of each other's way.

Read more: Humidity, misting and ventilation Read more: Terrarium construction and bioactive substrate

### TEMPERATURE

*Acanthosaura crucigera* tolerates heat poorly. The air in the enclosure should be 22-26 °C by day and must not get warmer than 28 °C. If it gets warmer for any length of time, there is a risk of heatstroke, stress and dehydration. Place the enclosure out of direct sun, and do not let the lamps heat the whole enclosure.

The species does not need a proper basking spot, but there should be several temperature zones. A weak heat lamp giving 28-30 °C on a branch at one end is enough. Measure with digital thermometers both at the lamp and down in the enclosure. At night the temperature should fall to 18-22 °C.

A cool period of 6-8 weeks in winter corresponds to the seasons in the mountains, and it can be used to kick-start breeding: the daytime temperature is lowered to 16-20 °C, and the days are made shorter. In warm periods a warm living room can make the enclosure too hot. Then move it to a cooler room, use a fan, or switch the heat off.

Read more: Heat and temperature

### HUMIDITY AND WATER

Humidity should be 70-90 % around the clock, with the highest values at night and in the morning. Mist the enclosure thoroughly with soft water a couple of times a day, so that droplets hang on plants and walls. A timer-controlled rain or mist system keeps the level stable, and the animals enjoy being showered and clean themselves thoroughly afterwards. Measure with a digital hygrometer in the middle of the enclosure.

The animals drink from droplets and from running water. Without daily misting they risk dehydration and shedding problems. At the same time the enclosure must be able to dry out a little between mistings, otherwise mould forms and the air becomes heavy. Good ventilation is therefore just as important as humidity.

Read more: Common diseases and signs of illness

### LIGHTING AND UVB

The species is active by day, but lives in the shade of the forest and needs relatively weak UVB. Use a T5 HO tube of 6 % (Ferguson zone 2) in a reflective fitting over the mesh, covering around half the length of the enclosure. The branches under the tube should sit 20-30 cm from it, and the distance is checked with a UV meter. The animal must always be able to withdraw into the foliage and away from the light.

Supplement with an LED or T5 daylight lamp so that the plants thrive, and have the light on for around 12 hours a day. Replace UVB tubes according to the manufacturer's instructions.

Read more: Lighting and UVB

### FEEDING

The species takes almost anything it can overpower: crickets, cockroaches, locusts, silkworms, black soldier fly larvae, earthworms and small slugs. Mealworms, waxworm larvae and morio worms are fatty and are given only occasionally, because the genus easily becomes too fat. Do not use compost worms, and only collect small animals from nature free of pesticides. Prey must be no larger than the distance between the animal's eyes.

Juveniles are fed daily with as many small insects as they can eat in 10 minutes. Adults are fed daily or every other day, as much as they eat in around 5 minutes. Lightly dust the insects with a calcium supplement with a little D3 and vitamins, and feed them greens and vegetables for at least a day before feeding.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

### BEHAVIOUR AND HANDLING

*Acanthosaura crucigera* relies on its camouflage and often sits perfectly still on a trunk or on the floor. If it is spotted, it darkens, rises up on its front legs, spreads its throat pouch and opens its mouth. These are signs of stress, and the animal must then be left in peace.

Give a new animal 1-2 weeks in peace. Tame it by being present, offering food from tweezers or the hand and letting it climb up of its own accord. Keep handling short and infrequent, because the animal is easily stressed. Wash hands with soap after all contact with animals, enclosure and food, because reptiles can carry salmonella.

Males are territorial and fight, so they are kept apart. In the wild the species lives in small groups, and a male can be kept with one or two females in a large, densely planted enclosure. Gravid females can become aggressive towards the others and must then be separated until the eggs are laid. The species also does perfectly well alone.

Read more: Quarantine and hygiene

## Breeding

### SEXUAL MATURITY AND SEXING

The male has a distinctly thicker tail base than the female and often a dark mask around the eyes. The female is uniformly dark brown and only slightly smaller. In young animals sex is hard to see.

The age at sexual maturity is not documented. Only put a female to breed when she is fully grown and in good condition.

### MATING

After the cool period in winter, when the days grow longer and the temperature rises again, the animals are ready to mate within a few days. The male approaches the female with head-bobs, and during mating he holds her firmly with a bite on the nape. Remove the male if the female gets wounds or becomes stressed.

### EGG-LAYING AND CLUTCHES

A few days before laying, the female stops eating and goes down to the floor to dig test holes. On the day she digs a hole of up to 10 cm, lays 6-12 eggs, arranges them with the head up and scrapes the hole shut. Laying can take several hours, and afterwards the spot cannot be told apart from its surroundings.

The substrate should be at least 15-20 cm deep and so moist that a dug hole holds. Without a suitable spot the female may retain the eggs, and this can cause life-threatening egg-laying difficulty. Give the female plenty of food, calcium and vitamins before and after laying.

### INCUBATION

Dig the eggs up carefully, and place them in the same orientation in a closed container with moist vermiculite or perlite. At 25-27 °C they hatch after 110-130 days. Do not turn the eggs, and keep the humidity in the container high. Check regularly for mould, and remove unfertilised eggs that collapse or turn slimy.

### REARING THE YOUNG

The young are moved to a rearing enclosure with the same furnishing and climate as the adults'. The water area must be no more than 5 cm deep, and aquatic moss is suitable as planting. The young can grow up together in a group, including several males, if the enclosure is large enough, but separate them if they begin to fight.

The young have a great need for food. Feed them daily with small crickets, small worms and small slugs, lightly dusted with calcium and vitamins. With good nutrition the young can reach around 15 cm in a year.

## Health and common mistakes

Wild-caught animals are often stressed and heavily infested with parasites, so a faecal test at a vet with reptile experience is the first thing a new animal should have. The typical problems are:

- Heatstroke and dehydration from too high a temperature. The air must not get warmer than 28 °C.
- Shedding problems and dry eyes from too low humidity.
- Bone fragility (metabolic bone disease) from too little calcium and UVB.
- Respiratory infections and mould if the enclosure is wet and poorly ventilated.
- Obesity from too many fatty larvae.
- Internal parasites and mites, especially in wild-caught animals.
- Drowning in water that is too deep, especially at night.
- Egg-laying difficulty in females without a suitable place to dig. It is life-threatening and requires a vet.

A healthy animal has clear eyes, a plump tail base and a sturdy body. It breathes with its mouth closed and eats regularly. Lifespan is not documented for the species; the figure in the box is borrowed from *Acanthosaura capra*. See a vet if the animal loses weight, stops eating, sits on the floor or breathes with its mouth open.

## 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.