Recommended Annual Husbandry Schedule

Basiliscus galeritus - Western basilisk / Red-headed basilisk

Identity and habitat

Basiliscus galeritus is the accepted species name. It occurs from eastern Panama through western Colombia to northwestern Ecuador, especially beside rivers, streams, lagoons and marshes in lowland and lower-montane rainforest; some populations also occupy seasonally dry valleys.

Seasonal biology

A diurnal terrestrial, semi-aquatic and arboreal basilisk. No cold brumation is appropriate. For unknown-origin captive stock, use year-round warmth with a wetter December-May phase and a modestly drier June-November phase, while retaining permanent water and humid refuges.

Breeding and incubation

Field syntheses report 3-15 eggs and about four months to hatching in nature. Specialist captive records report most laying from June-October, commonly 5-10 eggs, and 69-88 days at 28 C. Treat reproductive timing as locality- and management-dependent.

MONTH	DAY AMBIENT	NIGHT	BASKING	UVI*	PHOTOPERIOD	RH DAY / NIGHT*	SPRAY / WATER	FOOD*	SEASONAL MANAGEMENT
January	26-29 C	22-24 C	35-38 C	2-3	12 h 05 m	75-90 / 90-100%	Mist 2x/day; pool always	4	Wet season / conditioning
February	26-29 C	22-24 C	35-38 C	2-3	12 h 10 m	75-90 / 90-100%	Mist 2x/day; pool always	4	Wet season / conditioning
March	27-30 C	23-24 C	36-39 C	2-3	12 h 10 m	75-90 / 90-100%	Mist 2-3x/day; pool always	4-5	Courtship / breeding
April	27-30 C	23-24 C	36-39 C	2-3	12 h 10 m	75-90 / 90-100%	Mist 2-3x/day; moist nest	4-5	Mating / follicles
May	27-30 C	23-25 C	37-40 C	3	12 h 10 m	75-90 / 90-100%	Mist 2x/day; moist nest	4-5	Mating / pre-laying
June	27-30 C	23-25 C	37-40 C	3	12 h 10 m	70-85 / 85-95%	Mist daily; moist nest	4-5	Main laying begins
July	27-30 C	23-25 C	37-40 C	3	12 h 05 m	70-85 / 85-95%	Mist daily; moist nest	4-5	Laying / incubation
August	27-30 C	23-25 C	37-40 C	3	12 h 05 m	70-85 / 85-95%	Mist daily; moist nest	4-5	Laying / incubation
September	27-30 C	23-25 C	37-40 C	3	12 h 05 m	70-85 / 85-95%	Mist daily; moist nest	4	Laying / hatching
October	27-30 C	23-24 C	36-39 C	2-3	12 h 05 m	70-85 / 85-95%	Mist daily; pool always	4	Late laying / hatching
November	26-29 C	22-24 C	35-38 C	2-3	12 h	70-85 / 85-95%	Mist daily; pool always	3-4	Recovery / rain rising
December	26-29 C	22-24 C	35-38 C	2-3	12 h	75-90 / 90-100%	Mist 1-2x/day; pool always	3-4	Wet-season recovery

Calendar: Northern Hemisphere translation for captive management. *UVI, RH and feeding frequency are operational starting points, not measured field constants. No cold brumation. Maintain permanent clean swimming water; allow exposed branches and basking surfaces to dry between misting events. Juveniles remain warm and feed more frequently.

Practical Husbandry and Daily Management

A humid riparian basilisk: vertical escape structure, clean water, air movement and shaded thermal retreats are as important as heat.

Enclosure and security

Large, fast and easily startled. For one adult use about 180 x 90 x 180 cm or larger; a breeding pair benefits from roughly 220-240 x 120 x 200 cm or more. Provide strong vertical and diagonal branches, broad perches, dense plants/visual barriers and multiple escape routes. Prevent direct impact with clear glass.

Swimming water

Provide a permanent water area large enough for full submersion, turning and short swimming, with easy exits and overhanging branches. Strong filtration and frequent water changes are essential because animals often defecate in water. Water around 24-27 C is suitable; avoid warm stagnant pools.

Heat and UVB

Field animals have been recorded active at ambient temperatures around 20-29 C, and thermal ecology varies with altitude. In captivity, use 26-30 C active-season air with a strictly local 35-40 C basking surface and substantial shaded areas. Measured UVI about 2-3 at the main perch, with dense shade below UVI 1, is a cautious starting target.

Humidity and rainfall

Aim around 70-90% daytime RH through wetter periods, rising toward saturation overnight, but pair humidity with vigorous ventilation. In the drier phase, daytime RH can fall toward 65-80% while humid retreats and the pool remain available. Exposed branches should dry between mistings.

No winter brumation

Do not cold-brumate this tropical species. Seasonal management should alter rain, humidity and feeding intensity rather than impose a cold shutdown. A small winter night drop is acceptable, but prolonged temperatures below about 20 C are unnecessary for routine captive management.

Diet

Omnivorous, but strongly animal-oriented. Field records include insects, crabs, frogs, small lizards, fish, seeds, fruit and leaves. Base the captive diet on gut-loaded roaches, crickets, locusts, silkworms, earthworms and occasional snails; offer edible flowers and modest soft fruit as secondary foods.

Feeding and supplementation

Healthy adults generally do well on 3-5 feeding days per week depending on body condition and reproductive state; juveniles need smaller prey much more frequently. Dust most insect meals lightly with plain calcium, use a balanced multivitamin periodically, and monitor breeding females closely for loss of mass.

Social management

Adult males are highly intolerant and must not be housed together. A male-female pair still requires abundant visual barriers and immediate separation capacity. Persistent chasing, bite marks, refusal to bask/feed, or repeated forced mating are reasons to separate.

Nesting

Provide a private, slightly moist digging zone at least 20-30 cm deep before the expected laying period. Natural nests are excavated in soft soil or sand near waterways. The substrate should hold a tunnel without being saturated or airless.

Daily checks

Check water quality, snout and jaw, toes, tail, eyes, shedding and appetite daily. Measure both basking-surface temperature and shaded air temperature. Keep a written record of body mass, clutch dates, egg mass and incubation conditions; repeated clutches can rapidly deplete females.

Breeding, Incubation and Evidence Notes

Use the schedule as a controlled framework; locality, individual condition and enclosure microclimate remain more important than calendar dates.

Breeding season

Specialist captive records report the majority of laying from June through October. Because wild populations span both perennially wet Choco rainforest and more seasonal western Ecuadorian habitats, breeding timing should be treated as locality-dependent rather than universal.

Clutch size

The Ecuador natural-history synthesis reports 3-15 soft-shelled eggs. Long-term specialist captive accounts more often report 5-10 eggs, with occasional clutches approaching 18. Larger females generally produce larger clutches.

Incubation

Natural-history accounts describe roughly four months to hatching in the wild. Specialist captive records report 69-88 days at 28 C. A conservative starting point is 27.5-28.5 C in evenly moist, well-aerated medium, accepting slower development rather than increasing temperature aggressively.

Hatchlings

Hatchlings are reported around 12-14 cm total length in captive literature. Rear them separately from adults in visually secure, well-planted enclosures with fine branches, safe shallow water access, reliable UVB/calcium and frequent small invertebrate meals.

Taxonomy and range - High

The Reptile Database recognizes Basiliscus galeritus Dumeril, 1851 without subspecies. Its native distribution extends from eastern Panama through western Colombia to northwestern Ecuador, including the Choco and Cauca/Magdalena valleys.

Habitat and behaviour - High

Reptiles of Ecuador summarizes the species as diurnal, terrestrial, semi-aquatic and arboreal, occurring primarily beside rivers, streams, lagoons, swamps and marshes. It sleeps on branches and leaves above water and can dive for prolonged periods when threatened.

Thermal biology - High

A 2021 Journal of Thermal Biology study found altitude-related differences in body and selected temperatures. The species is heliothermic and actively thermoregulates; crest temperature can exceed selected body temperature. This argues for a broad gradient rather than uniform enclosure heat.

Diet - Moderate/High

Published natural-history accounts record insects, crabs, lizards, frogs, fish, seeds, fruits and leaves. Captive diets should therefore be varied but should remain primarily invertebrate-based rather than relying on vertebrate prey.

Captive targets - Moderate

Specialist husbandry reports commonly use 28-30 C ambient, basking up to about 40 C, nights 20-25 C and 70-90% humidity. The present protocol deliberately provides a broader gradient and avoids keeping every part of the enclosure uniformly hot and saturated.

Keeper warning

Western basilisks are extremely fast and collision-prone. Do not house adult males together. Avoid stale saturated air, dirty water, uniform high temperatures and overbreeding females. If locality is known, tune rainfall and seasonality to that origin rather than applying a generic calendar.

Key references: Reptiles of Ecuador (Vieira 2022); The Reptile Database (accessed 2026); Rodriguez-Miranda et al. 2021, Journal of Thermal Biology 99:102980; Hernandez-Cordoba et al. 2012; Zuluaga Isaza et al. 2022; specialist long-term captive husbandry records used only for operational temperature/humidity and incubation cross-checking.

UVI beneath the optional T5 tube

Basiliscus galeritus

Your measuring point

Measure UVI at normal back height directly beneath the brightest accessible part of the optional T5 strip. Place the strip toward the middle/back with free access to and away from it; preserve a gradient into fully covered refuges near UVI 0. These numbers describe the exposure area, not the whole enclosure or a daily average.

Measure and adjust

1. Use a UV Index meter. A Solarmeter 6.5/6.5R or equivalent UVI meter is suitable. Broadband UVB readings in microwatts/cm2 cannot be substituted for UVI.

2. Measure the installed arrangement. Warm the tube for about 30 minutes. Keep the reflector, guards and mesh in their normal positions. With the animal elsewhere, hold the sensor at its normal back height, aimed toward the tube.

3. Adjust the fixture. Begin near the lower part of a newly selected working range and adjust gradually. Respect the lamp manufacturer's minimum distance. Recheck after each change and check every higher accessible branch, rock or platform.

4. Keep a full gradient. Provide usable exposure across the animal's body, lower-UVI areas and fully covered refuges near UVI 0. For daytime baskers, overlap the UV area with visible light and appropriate basking warmth while retaining cooler shade.

5. Record and recheck. Log UVI, measuring point, tube-to-back distance, tube age and lamp-on time. Recheck through the year and after changes to the tube, reflector, mesh or furnishings. Exposure duration and behaviour also determine dose.

A T5 range is a working exposure target, not a whole-cage setting, measured wild monthly average, guaranteed optimum or proven safety ceiling. The animal must be able to enter and leave freely.

Monthly target at normal back height

Month	UVI under T5 when on
January	2-3
February	2-3
March	2-3
April	2-3
May	3
June	3
July	3
August	3
September	3
October	2-3
November	2-3
December	2-3

Retain numbers; clarify measurement
The retained range remains a provisional captive working target. No new species-specific result was found that clearly requires a numerical change. Retaining it is not certification of an experimentally established optimum.

Evidence level: Provisional retention. The seasonal schedule is a captive operating plan; it is not measured wild monthly UV. Off means the existing planned UVB-off/rest phase is preserved. Any staged Off/1 entry still means gradual reintroduction.

UV references: Baines et al. (2016), UV-Tool; Muryn, Baines and Dishman (2026), Reptile Lighting Guide V10. Full rationale and monthly comparison: UVI_Audit_Report.html.