

Gonocephalus bornensis

Borneo forest dragon / Borneo anglehead lizard

Borneo - humid primary and secondary rainforest, often on trunks and lianas near streams

Core profile	Active temperatures	Breeding	Winter
Arboreal specialist rainforest agamid; dense cover and airflow are essential.	24-27 C air; 30-33 C local basking; very humid but ventilated.	Small soil-buried clutches; documented three eggs in March.	No brumation. Equatorial 12 h photoperiod and year-round humidity.

Annual keeper schedule

Month	Day	Night	Bask	UVI	Light	RH day/night	Spray / water	Food	Management
January	24-27 C	21-23 C	30-32 C	1-2	12 h	80-90 / 90-100%	Mist 2-3x/day; wet foliage	4	Humid maintenance / conditioning
February	24-27 C	21-23 C	30-32 C	1-2	12 h	80-90 / 90-100%	Mist 2-3x/day; rain pulses	4	Conditioning / courtship
March	24-27 C	21-23 C	30-33 C	1.5-2.5	12 h	80-90 / 90-100%	Mist 2-3x/day; moist nest	4-5	Breeding / documented laying
April	24-27 C	21-23 C	30-33 C	1.5-2.5	12 h	80-90 / 90-100%	Mist 2-3x/day; moist nest	4-5	Breeding / possible laying
May	24-27 C	21-23 C	30-33 C	1.5-2.5	12 h	78-90 / 90-100%	Mist 2x/day; moist nest	4	Incubation / recovery
June	24-27 C	21-23 C	30-32 C	1-2	12 h	75-88 / 88-100%	Mist 2x/day; humid retreat	4	Humid maintenance
July	24-27 C	21-23 C	30-32 C	1-2	12 h	75-88 / 88-100%	Mist 2x/day; humid retreat	3-4	Mildly lighter-rain phase
August	24-27 C	21-23 C	30-32 C	1-2	12 h	75-88 / 88-100%	Mist 2x/day; humid retreat	3-4	Mildly lighter-rain phase
September	24-27 C	21-23 C	30-33 C	1.5-2.5	12 h	78-90 / 90-100%	Mist 2-3x/day; rain pulse	4	Rain increasing / conditioning
October	24-27 C	21-23 C	30-33 C	1.5-2.5	12 h	80-90 / 90-100%	Mist 2-3x/day; rain pulse	4	High-humidity activity
November	24-27 C	21-23 C	30-32 C	1-2	12 h	80-92 / 92-100%	Mist 2-3x/day; wet foliage	4	Wet-season maintenance
December	24-27 C	21-23 C	30-32 C	1-2	12 h	80-92 / 92-100%	Mist 2-3x/day; wet foliage	4	Wet-season maintenance

* Food = adult feeding opportunities per week; adjust quantity to body condition and prey size. Temperature, RH and UVI values are conservative captive working targets where direct species-specific measurements are unavailable.

Core husbandry

The Borneo forest dragon should be managed as a cool-to-warm, extremely humid but well-ventilated arboreal rainforest specialist, not as a hot basking agamid.

Habitat and enclosure	An arboreal Bornean forest agamid of primary and secondary rainforest, commonly on vertical trunks and lianas near streams and reported mainly below about 700 m. For one adult use a tall, densely planted enclosure around 120 x 70 x 150 cm or larger; specialist literature has recommended approximately 150 x 150 x 70 cm for Gonocephalus. Provide thick and thin vertical/diagonal branches, bark, vines and extensive visual cover. Adult males should not be housed together.
Heat and thermal gradient	This is not a hot open-country agamid. Maintain most daytime air around 24-27 C, with a local 30-33 C basking surface and shaded retreats around 22-25 C. Nights around 21-23 C are appropriate for unknown lowland/mid-elevation stock. A documented oviposition site at 700 m had 22.3 C air and 21.3 C ground at 1000 h, reinforcing the need to avoid chronic overheating.
Humidity, rain and ventilation	Maintain roughly 75-90% RH by day with frequent night peaks toward saturation, but pair this with strong passive airflow. Mist foliage and trunks 2-3 times daily during wetter phases and about twice daily during lighter-rain phases. The enclosure should smell fresh, not stagnant; upper branches can partly dry between events while lower substrate and refuges remain humid.
Light and UVB	Use bright full-spectrum lighting filtered by dense plant cover. Because direct field UVI data are lacking, treat UVI about 1-2.5 at exposed basking perches as a conservative operational starting range, with abundant retreats below UVI 0.5. Measure rather than estimate lamp output.
Seasonality	Do not brumate. Borneo is equatorial, so photoperiod changes little and 12 h light is a practical year-round setting. Use only subtle changes in misting/rain intensity and food availability. Exact rainfall patterns vary across Sabah, Sarawak, Brunei and Kalimantan, so known locality should override this generic schedule.

Daily operational targets

Air temperature	24-27 C day; 21-23 C night	Avoid prolonged air temperatures around 30 C; heat stress is a major husbandry concern.
Basking	30-33 C surface	Small local perch only; keep large portions of enclosure cooler and shaded.
Humidity	75-90% day; 90-100% night peaks	High humidity must be paired with fresh airflow and some surface drying.
Hydration	Frequent leaf/trunk misting	Provide droplets multiple times daily; a small clean water dish is supplementary, not the main drinking source.
UVB	UVI about 1-2.5 exposed perch	Operational starting target; dense cover below UVI 0.5 must always be available.
Substrate	Deep forest soil / leaf litter	Moisture-buffering lower layers plus a secluded diggable nesting area for females.

Feeding, reproduction and evidence notes

Published husbandry information is sparse, so breeding and incubation should be documented carefully and adjusted conservatively rather than forcing rapid development.

Diet	Primarily insectivorous. Rotate appropriately sized gut-loaded roaches, crickets, locusts, silkworms, black soldier fly larvae, earthworms and occasional snails. Adults usually do well with about 3-5 feeding opportunities weekly depending on body condition; juveniles require smaller prey more frequently. Dust and gut-load according to UVB exposure and veterinary guidance.
Breeding and incubation	Natural-history accounts report up to four eggs per clutch, sometimes at intervals of roughly three months. A directly observed wild female in South Kalimantan laid a three-egg clutch in March in a soil burrow about 5 cm deep. Provide a secluded, slightly moist, diggable nest zone at all times for mature females. Accessible species-specific incubation data are limited; a conservative starting range is about 24-26 C in evenly moist, airy medium, avoiding sustained high heat until breeder-specific data justify it.
Keeper warning	Gonocephalus are specialist rainforest lizards that can deteriorate under excessive heat, dehydration, poor ventilation or chronic visibility/stress. Prioritize dense cover, drinking droplets, fresh airflow, cool humid retreats and minimal unnecessary handling. Monitor body mass, hydration, toes/tail and skin condition closely after acquisition, especially in wild-origin animals.

Incubation working range

Parameter	Working target	Keeper note
Temperature	24-26 C starting range	Species-specific captive incubation data are sparse. Use conservative temperatures and avoid sustained heat above ~28 C until your own breeding data support it.
Medium	Evenly moist, airy forest-style medium	Maintain high humidity without waterlogging. Mark egg orientation and avoid unnecessary turning after placement.
Nest / clutch	~5 cm deep nest; 3 eggs directly documented	Published accounts report up to 4 eggs. Keep a secluded moist diggable zone available continuously to mature females.

Evidence anchors

- Reptile Database (accessed 2 Oct 2026): accepted name Gonocephalus bornensis; Borneo/Natuna distribution; oviparous.
 - Malkmus et al. (2002), summarized by EOL: primary/secondary rainforest, arboreal on trunks/lianas near streams; up to four eggs buried in soil, about 22 mm long.
 - Fukuyama, Nishikawa & Takata, Herpetological Review 50(3), 2019: wild March oviposition at 700 m; 22.3 C air, 21.3 C ground; nest 51.5 mm deep; clutch of three eggs.
 - Manthey & Schuster husbandry summary: Gonocephalus require large planted rainforest/cloud-forest terraria with high humidity and moderate rather than excessive heat.
- Review date:** 2 October 2026. This protocol is a conservative husbandry working document; known locality and successful breeder data should override generic seasonal assumptions.

UVI beneath the optional T5 tube

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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	1-2
February	1-2
March	1.5-2.5
April	1.5-2.5
May	1.5-2.5
June	1-2
July	1-2
August	1-2
September	1.5-2.5
October	1.5-2.5
November	1-2
December	1-2

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](#).