

REPTILE LEGENDS - KEEPER PROTOCOL

Evidence-informed annual schedule - adjust to provenance, age, body condition and veterinary findings

Chelonoidis carbonarius

Red-footed Tortoise

Species-wide captive protocol. The natural range is enormous (Panama to northern Argentina and much of tropical South America), so rainfall timing varies by provenance. The calendar below uses a mild northern South American wet/dry cycle as a safe breeding framework, not a claim that every population follows the same months.

Core profile Warm, humid terrestrial tortoise of savannas, seasonal forest, forest edge and moist woodland. No cold brumation. CITES Appendix II. Current accepted spelling is Chelonoidis carbonarius.	Climate anchor Keep adults warm year-round with a gentle drier phase and a wetter breeding phase. Humid retreats remain available even in the drier months; juveniles require especially stable humidity.	Breeding anchor Captive mating can occur year-round. Northern references place nesting mainly June-September; females may produce multiple clutches of roughly 2-15 eggs.	Incubation caution A 2017 controlled study found 29 C gave much better hatching than 31 C, while 33 C was lethal. Constant high incubation temperatures should therefore be avoided.
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Annual keeper schedule

Month	Day air	Night	Bask	UVI*	Light	RH day/night*	Rain / mist	Food d/wk	Seasonal management
January	25-28 C	22-24 C	32-34 C	2-4	11.5 h	70-80 / 80-90%	Drier phase; mist 3-4x/wk, humid refuges daily	5	Mild dry-season maintenance; no brumation
February	25-28 C	22-24 C	32-34 C	2-4	11.7 h	70-80 / 80-90%	Drier; keep deep substrate moist below surface	5	Maintain hydration and steady body condition
March	26-29 C	23-24 C	32-35 C	2-4	12.0 h	72-82 / 82-90%	Dry-to-wet transition; increase evening mist	5-6	Activity and courtship may increase
April	26-29 C	23-25 C	33-35 C	2-4	12.3 h	74-84 / 84-92%	Rain pulses increase; never waterlog substrate	6	Condition breeders; prepare nesting soil
May	27-30 C	24-25 C	33-35 C	2-4	12.5 h	76-86 / 85-93%	Wet season; frequent evening rain/mist	6	Courtship common; nesting area ready
June	27-30 C	24-26 C	33-35 C	2-4	12.6 h	78-88 / 86-94%	Wet; humid litter/soil with ventilation	6	Northern-cycle nesting may begin
July	27-30 C	24-26 C	33-35 C	2-4	12.5 h	78-88 / 86-94%	Wet; maintain moist diggable nest substrate	6	Main nesting window in many northern records
August	27-30 C	24-26 C	33-35 C	2-4	12.3 h	78-88 / 86-94%	Wet; frequent rain/mist, good airflow	6	Nesting / incubation; monitor females closely
September	27-30 C	24-26 C	33-35 C	2-4	12.1 h	78-88 / 86-94%	Wet; humidity high but surfaces not swampy	6	Late nesting; incubation / hatch preparation
October	26-29 C	23-25 C	32-35 C	2-4	11.9 h	76-86 / 84-92%	Wet-to-drier transition	5-6	Hatching / female recovery; rainfall eases
November	26-29 C	23-25 C	32-34 C	2-4	11.6 h	73-83 / 82-90%	Reduce rain gradually; retain humid retreats	5	Transition to drier phase
December	25-28 C	22-24 C	32-34 C	2-4	11.4 h	70-80 / 80-90%	Drier; localized moisture and soaking water	5	Seasonal reset; never cold or dehydrate

* UVI and RH are practical captive targets rather than measured species thresholds. Provide dense shade and humid retreats so animals can self-select lower UV and higher humidity. Do not use a cold winter shutdown.

Housing, climate and nutrition

Taxonomy and range

The accepted name is *Chelonoidis carbonarius* (historically often written *C. carbonaria*). The species ranges widely through northern and central South America and into northern Argentina, with some Caribbean populations introduced. No subspecies are currently recognized in the Reptile Database.

Habitat

Wild red-footed tortoises occupy a broad habitat spectrum from savanna and thorny seasonal vegetation to humid forest and forest edge. They use leaf litter, low vegetation, depressions and sheltered microhabitats that buffer heat and dehydration.

Enclosure

Prioritize floor area, deep natural substrate, visual cover, dense planted/shaded zones and several humid retreats. Adults need enough space to walk and forage; provide a shallow water pan large enough for soaking and easy entry/exit.

Heat and UVB

Aim for warm ambient air around 25-30 C with a broad basking zone near 32-35 C and cooler shaded retreats. Practical UVI 2-4 at the main basking area suits this forest-edge tortoise; always provide immediate deep shade.

Humidity and shell growth

Adults generally do well around 70-85% RH with higher humidity overnight and inside retreats. Juveniles benefit from 80-90% microclimates. Keep the lower substrate moist but the walking surface aerated rather than swampy; chronic dryness promotes abnormal shell growth.

Water

Fresh shallow water must be continuously available. Soaking access is especially important during warm weather, after nesting, and for juveniles. Do not substitute high air humidity for drinking water.

Diet

This is a naturally omnivorous and strongly frugivorous tortoise. Use varied leafy weeds/browse, flowers, mushrooms and diverse whole fruits as the plant base. Invertebrates, snails and carrion occur naturally but animal foods should remain occasional in captivity, not a staple.

Calcium and growth

Provide a consistently calcium-rich plant diet and appropriate UVB, with calcium supplementation according to diet and veterinary guidance. Avoid rapid forced growth: excess calories combined with dry conditions greatly increases poor shell formation.

Social management

Males may ram, bite and attempt to overturn rivals, especially during courtship. Females need escape routes and visual barriers. Separate animals if one individual is repeatedly excluded from food, water, shelter or basking sites.

Breeding, nesting and incubation

Sexual maturity

Maturity is better judged by size and body condition than age alone. Published summaries place maturity around 20-25 cm shell length and roughly five years under favorable captive growth, but slower wild growth can delay reproduction.

Courtship and mating

Males use head movements, ramming and characteristic clucking vocalizations during courtship. Managed animals may mate throughout the year, while rainfall and rising humidity often increase reproductive activity.

Seasonality

For northern South American populations, nesting is often reported during the wetter part of the year, approximately June-September. Because the species spans both hemispheres and many climates, provenance and your own colony records should override a rigid month-based calendar.

Nest provision

Provide at least 25-30 cm of deep, slightly moist, compactable soil/sand mix in a warm secluded nesting zone. Published descriptions report flask-shaped nests around 20 cm deep; offering extra depth lets females choose their preferred chamber.

Clutch size

Typical published clutch size is about 2-15 eggs, and females can lay more than one clutch in a season. Persistent digging without laying, straining, weakness or prolonged anorexia requires prompt reptile-veterinary assessment for dystocia.

Incubation evidence

A controlled study of 145 eggs compared 29, 31 and 33 C. At 29 C, 52% hatched with a mean incubation of 131 days; at 31 C only 10.6% hatched with a mean of 124 days; at 33 C all embryos died early. The study also suggested 29 C is strongly female-producing.

Practical incubation

Use a conservative starting range around 28-29 C unless your established lineage records support another setting. Avoid constant 31-33 C. Keep eggs on a stable humid medium with gas exchange and no free water contacting the shell; do not rotate eggs after development begins.

Sex determination

Temperature-dependent sex determination is supported. The 2017 study produced females at 29 C and above among sexed hatchlings, while the male-producing temperature range remains unresolved. Do not manipulate temperatures aggressively simply to chase sex ratios.

Hatchlings

Rear hatchlings warm and very humid with excellent ventilation, UVI around 1.5-3 at accessible basking areas, shallow water, hides and a varied plant-rich diet. Juvenile dehydration is a major risk for smooth shell growth.

Record keeping

Log female weights, courtship/mating, nesting behavior, laying date, clutch size, egg mass, incubation temperature, substrate moisture, pipping and hatchling measurements. Given the broad geographic variation, colony-specific records are especially valuable.

UVI beneath the optional T5 tube

Chelonoidis carbonarius

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	2-4
February	2-4
March	2-4
April	2-4
May	2-4
June	2-4
July	2-4
August	2-4
September	2-4
October	2-4
November	2-4
December	2-4

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](#).