

Crotaphytus collaris

Species Husbandry Protocol

Origin: South-central/southwestern USA (Ozark-Ouachita glades and Great Plains through Kansas, Oklahoma, Texas, Colorado and the desert Southwest) into northern Mexico (Chihuahua, Coahuila), 150–2,400 m elevation; isolated relict populations in Iowa, Colorado and Georgia. Northern Hemisphere native at a temperate latitude broadly similar to the Netherlands, so **no calendar shift** is applied — but unlike the tropical *Phrynosoma asio* sheet, this species needs a genuinely cold winter brumation, the first true cold-climate dormancy in this set.

Habitat: Arid/semi-arid rocky outcrops, glades and sparsely vegetated scrub/grassland, using exposed rock for basking and territorial display.

Diet: genuinely carnivorous — insects plus opportunistic predation on smaller lizards — unlike the herbivorous/omnivorous species earlier in this set. Highly territorial and can be cannibalistic; house singly or as one male with multiple females only, never multiple males together.

Month	Day	Night	Basking	Lamp	Photo	UVI	Day RH	Night RH	Feed	Season
Jan	8	6	—	0	8:16	—	30%	35%	—	Brumation
Feb	8	6	—	0	8:16	—	30%	35%	—	Brumation
Mar	24	14	38	7	10:14	3	35%	40%	★	Emergence
Apr	28	17	42	8	11:13	4	35%	40%	★★	Courtship
May	30	19	45	9	12:12	5	40%	45%	★★★	Mating, gravid colour
Jun	31	21	47	10	13:11	5–6	40%	45%	★★★★	Egg-laying
Jul	32	22	48	10	13:11	6	40%	45%	★★★★	Incubation period
Aug	31	21	47	10	13:11	5–6	40%	45%	★★★★	Hatchlings
Sep	29	19	44	9	12:12	5	35%	40%	★★	Late summer
Oct	25	15	40	7	10:14	3–4	35%	40%	★★	Autumn
Nov	15	9	30	4	9:15	1–2	30%	35%	★	Pre-brumation taper
Dec	8	6	—	0	8:16	—	30%	35%	—	Brumation

Basking Area

Target basking surface 40–48°C (104–118°F) Apr–Sep, measured at the hotspot, against a cool-zone gradient of 25–32°C day / 20–26°C night in season. Dec–Feb brumation is genuinely cold (5–12°C ambient) rather than just lamp-off at room temperature — most keepers move the animal to a separate unheated, dimly-lit cool chamber for this period. Only brumate healthy, well-conditioned, non-gravid adults.

UV

Strong desert-rated UVB — Arcadia Desert T5 HO 12% or ZooMed ReptiSun 10.0 — targeting UVI 4–6 in season, the highest tier in this set, reflecting an open, full-sun heliotherm. None during brumation.

Feeding

Primarily insectivorous (grasshoppers, crickets, roaches, beetles, mealworms/superworms) with occasional pinky mice; wild animals also opportunistically prey on smaller lizards. Offer daily in the morning, as much as taken without excess fat gain. Brumation prep: reduce feeding one month before cooling, stop entirely two weeks before, then allow 7–10 days for the gut to clear fully before dropping temperatures.

Water

Shallow bowl of fresh water available at all times, though wild animals get much of their hydration from food and morning dew. Provide carefully during brumation to avoid drowning risk in the torpid animal.

Behaviour

Highly active, diurnal, strongly territorial — especially males, which can be cannibalistic toward rivals. Known for bipedal sprint running at top speed when fleeing, a signature trait of family Crotaphytidae. Best treated as a display animal rather than a handling pet; allow two weeks' acclimation before any handling, and expect wild-caught or juvenile animals to tolerate it far less than captive-bred adults.

Breeding

Oviparous. A genuine Dec–Feb cold brumation (minimum 6 weeks, ideally longer) is required to trigger proper hormonal breeding condition. Courtship/mating follows spring emergence (Mar–Apr). Gravid females develop vivid red/orange bars along the flanks, a progesterone-driven signal marking the start of egg production; eggs follow 21–28 days later (~Jun on this calendar). Clutch size 1–8 eggs, typically one clutch annually. Incubation runs roughly 40–65 days depending on temperature — cooler incubation lengthens the period and has been shown in published research to shift hatchling sex ratio, so treat incubation temperature as a real management variable, not just a timing one.

Daily Keeper Checklist

• Basked • Fed • Faeces normal • Eyes clear • Tail condition good • Thermostats checked • UV operating • Water changed • No aggression between cage-mates

Enclosure

Minimum 91 × 46 × 46 cm (36 × 18 × 18 in) for a single adult; significantly larger strongly recommended given how active this species is. Substrate: sand or a 60/40 topsoil/sand mix, ~10 cm deep for burrowing and egg-laying. Provide flat basking rocks near the heat/UV source and open floor space for running; house singly or as one male with multiple females only.

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	Off
February	Off
March	UVI 3
April	UVI 4
May	UVI 5
June	UVI 5-6
July	UVI 6
August	UVI 5-6
September	UVI 5
October	UVI 3-4
November	UVI 1-2
December	Off

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](#).