

# Recommended Annual Husbandry Schedule

Ctenosaura similis - Black spiny-tailed iguana

## Identity and habitat

A large diurnal spiny-tailed iguana ranging from southern Mexico through Central America to Panama. It is characteristic of seasonally dry lowlands, open woodland, forest edge, thorn scrub, farms and rocky human-modified sites, using burrows, roots, rocks and tree hollows as refuges.

## Thermal biology

Field and captive studies show a high preferred body temperature around 36-37 C, with captive medians often 35.5-38.9 C. Animals bask strongly in the morning, then retreat from excessive midday heat. Captivity should provide intense local basking plus a substantial cool shaded retreat.

## Reproduction and diet

Dry-season breeder. Classic field work found ovulation around mid-February, laying about five weeks later, mean clutch about 43 eggs with a 12-88 range, and hatchlings around May-July. Juveniles are more insectivorous; adults are predominantly plant-eating but opportunistically omnivorous.

| MONTH     | DAY AMBIENT | NIGHT   | BASKING | UVI* | PHOTO     | RH DAY / NIGHT* | SPRAY / RAIN                | FOOD* | STATUS / BREEDING              |
|-----------|-------------|---------|---------|------|-----------|-----------------|-----------------------------|-------|--------------------------------|
| January   | 25-29 C     | 18-21 C | 41-44 C | 3-4  | 11 h 20 m | 40-55 / 55-70%  | Light local spray 1-2x/wk   | 4     | Courtship / mating             |
| February  | 26-30 C     | 19-22 C | 42-45 C | 4    | 11 h 40 m | 40-55 / 55-70%  | Light local spray 1-2x/wk   | 4-5   | Peak ovulation / mating        |
| March     | 28-31 C     | 20-23 C | 43-45 C | 4-5  | 12 h 00 m | 35-50 / 50-65%  | Minimal; water always       | 4-5   | Gravid / nesting prep          |
| April     | 29-32 C     | 21-24 C | 43-45 C | 4-5  | 12 h 25 m | 35-50 / 50-65%  | Minimal + moist lay chamber | 4-5   | Main laying window             |
| May       | 29-32 C     | 21-24 C | 43-45 C | 4-5  | 12 h 45 m | 50-65 / 65-80%  | 2-3 rain/mist events/wk     | 4-5   | Early wet season / incubation  |
| June      | 28-31 C     | 21-24 C | 42-44 C | 4    | 13 h 00 m | 60-75 / 75-90%  | 3-5 rain/mist events/wk     | 4-5   | Hatching begins                |
| July      | 28-31 C     | 21-24 C | 42-44 C | 4    | 12 h 55 m | 60-75 / 75-90%  | 3-5 rain/mist events/wk     | 4-5   | Peak hatch / juvenile feeding  |
| August    | 28-31 C     | 21-24 C | 42-44 C | 4    | 12 h 35 m | 60-75 / 75-90%  | 3-5 rain/mist events/wk     | 4-5   | Wet-season activity            |
| September | 27-30 C     | 20-23 C | 41-43 C | 3-4  | 12 h 10 m | 60-75 / 75-90%  | 3-5 rain/mist events/wk     | 4-5   | Wet-season maintenance         |
| October   | 26-29 C     | 20-22 C | 41-43 C | 3-4  | 11 h 45 m | 55-70 / 70-85%  | 2-3 rain/mist events/wk     | 3-4   | Rains taper                    |
| November  | 25-28 C     | 18-21 C | 40-42 C | 3    | 11 h 25 m | 45-60 / 60-75%  | Light local spray 1-2x/wk   | 3-4   | Dry-season conditioning        |
| December  | 24-28 C     | 18-20 C | 40-42 C | 3    | 11 h 15 m | 40-55 / 55-70%  | Light local spray 1-2x/wk   | 3-4   | Breeding begins / male display |

Reference cycle: this schedule follows the well-studied Pacific dry-forest pattern (Costa Rica/Belize/Nicaragua). Across the very large native range, reproductive timing can shift by several weeks with local rainfall and temperature.

\* RH, UVI and spray values are captive working targets. Guanacaste-type habitat receives most rain from roughly May-November/December, with a pronounced dry season in late November-April.

Thermal warning: do not use a hot enclosure with no retreat. C. similis actively moves into shade or burrows when heat rises; a cool end around 25-28 C is important even when basking surfaces exceed 40 C.

# Practical Husbandry and Daily Management

Large dry-forest iguana husbandry: intense basking, true thermal escape, robust structures, seasonal rain, deep nesting substrate and age-appropriate diet.

## Enclosure and structure

Adults are powerful, fast and highly territorial. For one adult, about 180 x 90 x 120 cm or larger is a practical minimum starting point, and breeding animals benefit from much larger enclosures. Provide thick horizontal and diagonal branches, rock ledges, elevated basking stations and several secure burrow/hollow refuges.

## Heat, gradient and UVB

Provide a basking surface around 41-45 C, but keep the general warm zone much lower and preserve a cool end around 25-28 C. Preferred body temperature is about 36-37 C, not the enclosure air temperature. Use a measured basking UVI around 3-5 with deep shade and retreat areas below UVI 1.

## RH, rain and ventilation

During the dry season use moderate-low RH, strong airflow and only localized light spraying. From May through October/November, simulate the wet season with short rain/mist events several times weekly and higher overnight RH. Surfaces should dry between events; do not create stagnant tropical humidity.

## Nesting

Females may travel to communal nesting sites and excavate substantial burrows. Before March, provide a deep secluded nest area with at least 40-50 cm of diggable sand/soil where possible, moisture increasing with depth. Multiple females should have more than one suitable site to reduce competition.

## Diet

Adults are mainly herbivorous, taking leaves, flowers and fruits, but they are opportunistic and also consume insects, eggs and small vertebrates. Base adult feeding on varied leafy greens, edible weeds, flowers and browse; keep fruit moderate and animal prey occasional rather than routine.

## Juveniles

Young animals are proportionally more insectivorous than adults. Offer frequent appropriately sized gut-loaded insects alongside tender greens and flowers, then progressively shift toward plant-dominant feeding with growth. Never house very small juveniles with large adults because cannibalism is documented.

## Social management

Adult males are territorial and should be housed separately. Females may share space in very large structured enclosures, but compatibility must be observed rather than assumed. Provide multiple basking and refuge sites and separate for persistent pursuit, biting, cornering, suppressed feeding or weight loss.

## Daily keeper checks

Check alertness, posture, eyes/nose, toes/tail, grip, feces, hydration, appetite and body condition. Verify that basking sites are hot enough without overheating the cool end. During breeding, record male display, female abdominal profile, digging, body mass and any social aggression.

# Breeding, Eggs and Evidence Notes

A highly fecund dry-season breeder: ovulate around February, lay in March-April, and hatch as the wet season becomes established.

## Reproductive timing

Classic field studies found ovulation around mid-February and egg laying roughly five weeks later. Other Costa Rican accounts place mating from December-February and hatching from April-July. Local climate can shift the cycle by several weeks, so use behavior and female condition rather than the calendar alone.

## Clutch size

Clutch size increases strongly with female size. Fitch and Henderson reported 12-88 eggs, with a mean of about 43. Very large mature females may therefore produce extremely large clutches. One clutch per year is the standard pattern.

## Incubation and hatch

Gestation to laying is commonly described as about 8-10 weeks from early mating, and natural incubation is around 90 days. Hatchlings typically emerge during the wet season, often May-July in Central America, when vegetation and invertebrate food are abundant.

## Nest management

Provide the nest site well before obvious digging begins. Use deep, well-drained substrate with a moisture gradient: dry at the surface and lightly moist deeper down. Once laying begins, minimize disturbance. Record egg count, size, mass and female pre/post-lay body mass.

## Evidence confidence

### Thermal preference - High

Field/captive studies converge near 36-37 C preferred body temperature.

### Dry/wet season cycle - High

Pacific Central American habitat has a pronounced dry season and summer wet season.

### Ovulation / laying timing - High

Classic field studies: ovulation mid-February, laying about five weeks later.

### Clutch size - High

Large field sample: 12-88 eggs, mean about 43.

### Incubation / hatch - Moderate-high

Around 90 days; hatch commonly May-July in native range.

### Diet shift - High

Juveniles more insectivorous, adults increasingly herbivorous/omnivorous.

### RH / spray targets - Moderate

Working captive translation of seasonal rainfall and field activity humidity rather than direct refuge RH.

## Key references

1. Fitch & Henderson (1978), University of Kansas Science Bulletin: ecology, ovulation, clutch size, laying timing and growth. 2. Fitch (1973) and Costa Rican field work: preferred body temperature about 36-37 C. 3. Burger & Gochfeld / captive thermoregulation work: strong morning basking and midday heat avoidance. 4. Guanacaste conservation-area natural history: December-February mating and April-July hatching. 5. Isla Contoy field study: active animals recorded around low-50% ambient RH and clear ontogenetic diet shift.

# UVI beneath the optional T5 tube

Ctenosaura similis

## 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   | 3-4                  |
| February  | 4                    |
| March     | 4-5                  |
| April     | 4-5                  |
| May       | 4-5                  |
| June      | 4                    |
| July      | 4                    |
| August    | 4                    |
| September | 3-4                  |
| October   | 3-4                  |
| November  | 3                    |
| December  | 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](#).