Hydrosaurus celebensis

Sulawesi black sailfin lizard / Sulawesi sailfin dragon

Sulawesi, Indonesia - tropical river margins, dense riparian vegetation and branches over water

Core profile	Active temperatures	Breeding anchor	Winter
Very large semi-aquatic, semi-arboreal sailfin dragon; room-scale housing is preferred.	25-29 C air; 33-36 C local basking; humid with strong ventilation.	Wild gravid female documented in late March; captive incubation data remain limited.	No brumation. Use rainfall and food abundance, not cold, as seasonal cues.

Annual keeper schedule

Month	Day	Night	Bask	UVI	Light	RH day/night	Spray / water	Food	Management
January	25-28 C	22-24 C	33-35 C	3-4	12 h	75-90 / 90-100%	Heavy rain/mist 2-3x/day	4-5	Wet-season conditioning
February	25-28 C	22-24 C	33-35 C	3-4	12 h	75-90 / 90-100%	Heavy rain/mist 2-3x/day	4-5	Courtship / conditioning
March	25-29 C	22-24 C	34-36 C	3-5	12 h	75-90 / 90-100%	Heavy rain; deep moist nest	4-5	Gravid / laying window
April	25-29 C	22-24 C	34-36 C	3-5	12 h	75-90 / 90-100%	Rain 2x/day; moist nest	4-5	Laying / recovery
May	25-29 C	22-24 C	34-36 C	3-5	12 h	70-85 / 85-95%	Daily rain/mist	4	Transition / recovery
June	25-28 C	21-23 C	33-35 C	3-4	12 h	65-80 / 80-90%	Mist 1-2x/day; pool permanent	3-4	Drier phase
July	25-28 C	21-23 C	33-35 C	3-4	12 h	65-80 / 80-90%	Mist 1-2x/day; pool permanent	3-4	Drier phase
August	25-28 C	21-23 C	33-35 C	3-4	12 h	65-80 / 80-90%	Mist 1-2x/day; pool permanent	3-4	Drier phase
September	25-28 C	21-23 C	33-35 C	3-4	12 h	65-82 / 82-92%	Daily mist; rain increasing	3-4	Condition rebuilding
October	25-29 C	22-24 C	34-36 C	3-5	12 h	70-85 / 85-95%	Rain 1-2x/day	4	Rain increasing
November	25-29 C	22-24 C	34-36 C	3-5	12 h	75-90 / 90-100%	Heavy rain/mist 2-3x/day	4-5	Wet-season conditioning
December	25-28 C	22-24 C	33-35 C	3-4	12 h	75-90 / 90-100%	Heavy rain/mist 2-3x/day	4-5	Wet-season conditioning

* Food = structured adult animal/protein feeding opportunities per week; safe plant browse should be available daily. UVI, RH and feeding frequency are operational captive starting points. There is no cold winter phase.

Practical husbandry and daily management

Habitat and enclosure

A very large diurnal, semi-aquatic and semi-arboreal agamid endemic to Sulawesi. Field observations place it on branches and dense riverbank vegetation directly over fast or slow-flowing water. For one adult, about **240 x 120 x 200 cm** is a practical minimum starting point; larger is strongly preferred. A compatible breeding pair should have a room-scale enclosure, ideally around 300 x 180 x 240 cm or larger. Provide heavy trunks, broad elevated shelves, dense visual barriers and easy routes into and out of the water.

Water and filtration

A permanent swimming area is essential. Aim for roughly one-third to one-half of the floor as clean water, deep enough for full submersion and swimming; about 40-60 cm usable depth is a practical adult target. Use strong biological/mechanical filtration, remove faeces promptly and provide frequent partial water changes. Poor water hygiene is a major bacterial risk.

Heat, basking and UVB

Maintain most daytime air around 25-29 C with a broad local basking surface around 33-36 C and shaded retreats around 24-26 C. Nights around 21-24 C are appropriate. This is a warm rainforest-river lizard, not an animal that should be kept uniformly hot. Use strong full-spectrum lighting and a measured UVI about 3-5 at the main basking platform, with extensive shade below UVI 1.

Humidity, rain and ventilation

Use roughly 70-90% daytime RH in the wetter phase, with overnight peaks toward saturation. Even during the drier phase, keep humid retreats and permanent water while allowing upper surfaces to dry between misting events. Strong air exchange is essential; high humidity must never mean stagnant, sour-smelling air.

Seasonality

Do not brumate. Sulawesi is tropical and day length changes little, so about 12 h light year-round is appropriate. Use rainfall and food abundance as the main seasonal cues. A wild adult female carrying eggs was documented in Pattunuang toward the end of March, making late wet season / early transition a defensible breeding anchor for a generic schedule.

Adult diet

Field feeding observations show *H. celebensis* is a plant-forward omnivore: more plant than animal feeding was observed, across 18 plant species and 7 animal taxa. Offer safe leafy browse, flowers, tender shoots and fibrous vegetables daily, with moderate fruit such as figs/berries as a smaller component. Rotate gut-loaded roaches, crickets, locusts, earthworms, snails and occasional crustacean-type prey several times weekly. Avoid making rodents or high-fat vertebrate prey routine.

Breeding and incubation

Species-specific peer-reviewed incubation data remain limited. Specialist captive reports commonly describe roughly 8-16 eggs, sometimes repeated clutches, with incubation around 72-100 days near 28-29 C. Treat those figures as **working captive data**, not proven wild constants. Keep a deep secluded nesting zone available before and throughout the wet-season breeding period.

Keeper warning

This species can exceed 1 m total length and requires exceptional space, clean water, robust furnishings and low-stress visual cover. Adult males should not be housed together. Watch closely for rostral rubbing, toe/tail trauma, obesity from excessive animal food, dehydration, retained shed and bacterial skin or foot problems.

Breeding, incubation and evidence anchors

Parameter	Working target	Keeper note
Breeding cue	Rising rainfall / food abundance	Use increased rain and feeding rather than cold. A wild gravid female was seen at Pattunuang toward the end of March.
Nest zone	25-35 cm deep, moist but aerated	Provide a private diggable soil/sand/leaf-humus zone well before expected laying. Mature females should never be left without a suitable site.
Clutch	~8-16 eggs in captive reports	Peer-reviewed species-specific clutch datasets are sparse; treat this as experienced captive guidance, not a fixed biological constant.
Incubation	28-29 C starting range	Captive reports commonly cite roughly 72-100 days. Use evenly moist, airy medium and avoid temperature spikes; record every clutch to refine your line-specific protocol.

Diet evidence and practical feeding

The 2023 Bantimurung Bulusaraung study observed **more plant feeding than animal feeding**. Eighteen plant species and seven animal taxa were recorded. *Ficus hispida* and *Davallia trichomanoides* were among the most frequently consumed plants, while river crab was the animal prey most often taken. In captivity, reproduce the pattern rather than the exact wild species: varied safe greens/browse and fibrous plant foods daily, modest fruit, and a diverse rotation of invertebrates and occasional snail/crustacean-type prey. Juveniles can receive proportionally more animal protein while growing.

Evidence anchors

• Reptile Database (accessed 2 Oct 2026): Hydrosaurus celebensis is valid; endemic to Sulawesi; oviparous; large species exceeding 1 m total length.

• Denzer et al. 2020, Zootaxa 4747:275-301, DOI 10.11646/zootaxa.4747.2.3: resurrected H. celebensis from synonymy, restricted H. amboinensis away from Sulawesi, documented riverbank/arboreal habitat and a gravid female toward the end of March.

• Hamzah et al. 2023, Media Konservasi 28(2):153-161, DOI 10.29244/medkon.28.2.153-161: 78-day field feeding study; more plant than animal feeding; 18 plant species and 7 animal species recorded.

• Experienced European captive-care sources converge on approximately 25-28 C ambient air, a low-30s warm/basking zone, permanent substantial water and high humidity. Species-specific peer-reviewed captive incubation datasets remain limited; incubation figures in this protocol are therefore explicitly treated as working captive guidance.

Review date: 2 October 2026. This protocol intentionally separates strong field evidence from lower-confidence captive breeding figures. Known locality, individual condition and successful breeder records 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	3-4
February	3-4
March	3-5
April	3-5
May	3-5
June	3-4
July	3-4
August	3-4
September	3-4
October	3-5
November	3-5
December	3-4

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.