

Aquatic turtle

Trachemys scripta

🇫🇷 Tortue aquatique · 🇩🇪 Wasserschildkröte



REGULATIONS

Exotic species; Trachemys: invasive

Trachemys scripta is listed as invasive alien in Switzerland (invasive species ordinance; release prohibited; holding/trade may face cantonal restrictions). *Chrysemys picta* not CITES-listed; Swiss OPAn: minimum enclosure/aquatic and UVB standards. Keep records of origin/trade.



LIFESPAN

20–40 years



ADULT WEIGHT

500–2000 g



ADULT SIZE

12–30 cm



LIFESTYLE

Diurnal



SEXUAL MATURITY

3–6 years



INCUBATION

55–75 days



LITTER / CLUTCH SIZE

5–20 eggs



Habitat & environment



Type — Aquaterrarium with a deep water section and a dry basking area



Substrate — Water: bare bottom or rinsed fine sand; basking area: non-slip surface (cork/textured plastic). Avoid small ingestible gravel.



Exercise — Daily swimming in adequate water volume; moderate current with calm zones.



Equipment

- Stable, fully dry basking platform
- UVB lamp + heat source (basking)
- Powerful external filtration
- Secured submersible heater
- Aquatic hideouts
- Water tests (pH, NO₂, NO₃, NH₄, PO₄), water/air thermometers



Technical parameters



Hot spot

30–34 °C

Basking spot on the platform



Ambient

22–26 °C

Water 24–26 °C for juveniles; 22–26 °C for adults; air temperature close to water temperature



PH

6.8–7.8 (stable)



GH

Moyen (6–12 °dGH)



NO₂

0 mg/L



NO₃

< 40 mg/L (idéal < 20 mg/L)



NH₄

0 mg/L



PO₄

< 0.5–1 mg/L



Lighting



Photoperiod — Cycle 10–12 h/day



UVB need — Essential



Lamp type — Metal-halide lamp over the dry basking platform



Recommended brands — X-Reptile · Reptile Expert · Solar Raptor · Arcadia



Replacement — Yearly (metal-halide) — standard UV tubes every 6 months

 UVB does not pass through glass or plexiglass. Place the lamp inside the terrarium, under a protective grille.

 Metal halide lamps are the gold standard for UV: powerful UVB spectrum, far stronger than fluorescent tubes or compact bulbs, optimising vitamin D synthesis and calcium absorption. They lower the risk of metabolic bone disease; intense visible light and even heat drive activity.

Outdoor habitat — pond

Direct sun, more stable water and behaviours closer to the wild. Security, frost-free overwintering and water quality remain essential.

Pond and siting

- Sun 6–8 h/day with natural shade over 30–50% of the surface.
- 2–4 m² per adult; depth 80–120 cm with terraces (20–30 / 40–60 / 80–120 cm), slopes ≤ 30°.
- Clay base or EPDM liner 1 mm + geotextile underneath and on top.

Banks, basking and nesting

- Dry basking areas in full sun (dark slabs, logs, non-slip rafts); basking 30–35 °C.
- ≥ 1 m of free bank per individual; clear corridors to basking and nesting.
- Nesting site: 20–30 cm of drainable sand or soil above water level (mesh if breeding is unwanted).

Vegetation

- Submerged: elodea/egeria, Ceratophyllum, pondweeds.
- Floating: duckweed (Lemna), pistia (monitor spread).
- Banks & shade: yellow iris, cattails (Typha), rushes, sedges.
- Edible: water lettuce, Hydrocotyle, Sagittaria, hardy water lilies. No invasive species; pesticide-free.

Filtration and water quality

- Large volume = stability; external bio-mechanical filter 1.5–2× volume/h + lagoon area / filter plants.
- Summer aeration: air stone or waterfall.
- Maintenance: sediment siphoning, sponge rinsing in pond water, NO₂/NO₃/pH tests.

Safety

- Smooth perimeter fence 40–50 cm buried 15–20 cm, inward overhang on top; escape ramps all around.
- Predator defence: mesh or scarer cables against birds + rigid 10×10 mm mesh against mammals.
- Cohabitation: no large predatory fish.

Seasons, overwintering and monitoring

- Temperate: depth > 80–100 cm frost-free + bubbler/de-icer; stop feeding below 12–15 °C.
- Summer: shade and water turnover to avoid prolonged > 30 °C.
- Monitoring: water 22–28 °C, pH 6.8–8.0; watch appetite, basking and shell; isolate any abnormal animal.

Behaviour

Semi-aquatic; alternates swimming and prolonged basking.

 **Social life** — Largely solitary; cohabitation to be assessed carefully (bites possible).

 **Activity cycle** — Diurnal with daytime basking.

Enrichment

- Platforms and logs for basking
- Vary hideouts and current
- Prey-search activities (feeding enrichment)

Nutrition

Opportunistic omnivore. The animal-protein/plant ratio shifts with age: juveniles and subadults eat 50–70% animal protein and 30–50% plant matter; adults gradually move to 50–80% plants and 20–50% animal protein. Portion size per meal: what fits in one to two head-volumes — no more. Overfeeding leads to obesity, fatty liver and shell pyramiding.

Daily base

Aquatic turtle pellets

Partial staple, 30–60% of the ration;
formulated Ca/P ≈ 2:1, balanced D3/A, 30–40% protein (juvenile), 25–35% (adult)

Vegetables & greens

Aquatic plants grown in the tank (water lettuce Pistia, duckweed Lemna, elodea/egeria, pondweed, Hydrocotyle, Sagittaria, Ceratophyllum) plus fibre- and calcium-rich leafy greens floated or clipped to the side. Complement with land plants: mulberry/bramble leaves, nasturtium, mallow. Rinse thoroughly and grow without pesticides. Avoid unauthorised invasive species (e.g. water hyacinth).

-  **Dandelion** Ca/P 5.2 Vit A
Leaves and flowers; high Ca/P, vitamin A++
-  **Plantain** Ca/P 3
Rich in fibre and minerals
-  **Clover** Ca/P 5
Clover; good Ca/P
-  **Curly Endive** Ca/P 2.5 Vit A
Chicory rosette; good fibre
-  **Curly endive**
Curly endive

-  **Escarole** Ca/P 2.3 Vit A
Rich in vitamin A and fibre
-  **Romaine Lettuce** Ca/P 2 Vit A
Rich in vitamin A
-  **Endive** Ca/P 1.8 Vit A
Rich in vitamin A
-  **Roselle** Ca/P 1.2
Hibiscus/roselle — leaves and flowers
-  **Swiss Chard** Ca/P 2.5 Vit A
Swiss chard — alternate (oxalates)

-  **Zucchini** Ca/P 0.7
Zucchini — hydrating
-  **Cucumber** Ca/P 0.5 Vit A
Cucumber — hydrating, low nutrient density
-  **Carrot** Ca/P 0.6
Grated, in small amounts
-  **Broccoli** Ca/P 1.8
Leaves rather than florets; in moderation
-  **Pumpkin** Ca/P 0.8
Squash — small portions

Pellets & supplements

Quality extruded pellets for aquatic turtles, specifically formulated Ca/P ≈ 2:1 with balanced D3 and A vitamins. Makes up 30–60% of the ration, alternated with fresh food. Soak for 5–10 min before feeding. Avoid cheap sticks high in starch and fat. Check expiry and store cool, away from light, to preserve vitamins A/D/E.

Aquatic turtle pellets

Complete diet; 30–40% protein (juvenile), 25–35% (adult)

★ Treats (occasional)

Varied animal proteins, ideally fed whole (with viscera, bones, shell or carapace) to provide calcium and micronutrients. Gut-loaded insects dusted with calcium. Poultry liver or heart 1–2× per month in small amounts (preformed vitamin A). Mashed hard-boiled egg; rarely. Rotate sources to avoid monotony.

-  **Freshwater fish**
Small whole freshwater fish (minnow...); fed whole with viscera and bones for calcium
-  **White Fish**
Fillet (tilapia, pollock, trout) — occasional; supplement with calcium (crushed oyster shell or Ca powder)
-  **Earthworm**
Earthworms (*Lumbricus*) — rinse in clean water

-  **Bloodworm / Blackworm**
Bloodworms
-  **Diptera Larvae**
Black soldier fly larvae (*Hermetia*) — naturally favourable Ca/P
-  **Cricket**
Gut-loaded crickets + calcium dusting
-  **Roach**
Captive-bred roaches; calcium dusting
-  **Locust**
Locusts

-  **Snail**
Captive-bred snails (the shell provides calcium)
-  **Freshwater Mussel**
Whole raw or lightly poached mussels (with shell); rotate
-  **Shrimp**
Whole raw or poached shrimp (shell = calcium)
-  **Egg**
Mashed hard-boiled egg — rare

Hydration

The tank water must be clean, well filtered and kept at the target temperature (24–26 °C juvenile, 22–26 °C adult). Turtles hydrate by drinking and by eating aquatic plants. If a separate feeding tub is used, refresh the water at each meal.

Vitamin A

Essential for mucous membranes, skin, shell quality and vision. Deficiency: eyelid oedema, thick skin scales, conjunctivitis, stomatitis, respiratory infections, poor shell quality. Sources: vitamin-A-rich greens (dandelion, watercress, romaine, turnip greens, kale), whole prey (liver/viscera), balanced complete pellets. Avoid over-supplementation (toxicity). Caution: dried shrimp are very low in vitamin A and carotenoid precursors and quickly drive hypovitaminosis A.

FREQUENCY

- Juveniles: every day (or small daily portions)
- Subadults: every other day
- Adults: 3–4 days/week, with "plants-only" days interspersed
- Portion: what fits in one to two head-volumes per meal
- Remove leftovers after 15–30 min to limit fouling

CALCIUM/PHOSPHORUS RATIO (CA/P)

Key indicator of a food's mineral balance, especially in reptiles: a calcium-favoured ratio supports bone and shell strength. Targets: ≥ 2 = balanced · 1–2 = in moderation · < 1 = avoid (encourages metabolic bone disease). For insects, a calcium powder at feeding time offsets an unfavourable ratio.

TO AVOID

-  **Fatty meat**
Red meat or muscle poultry alone — unbalanced Ca:P; fatty or processed foods

Dairy product

Raw fish

Thiaminase-rich fish (carp, herring, anchovies) chronically without B1 supplementation — vitamin B1 deficiency



Iceberg Lettuce

Low nutritional value



Bread

Or human cereal products



Processed food

Salty or sugary foods



Goldfish

Parasite and thiaminase risk



Dried shrimp

Very low in vitamin A and carotenoid precursors: quickly drive hypovitaminosis A



Health & prevention



Preventive medicine

Adequate UVB and basking; water hygiene with established nitrification; quarantine for new arrivals; faecal exams depending on origin.



Vaccination

No standard vaccination recommendation



Surgery & neutering

Ovariectomy/ovariohysterectomy for dystocia/reproductive disease; shell surgery; removal of ingested objects.



Common conditions

Nutritional osteodystrophy (MBD)

SYMPTOMS Shell softening/deformity, weakness, anorexia, growth delay

CAUSE Calcium deficiency, inadequate UVB, unsuitable Ca/P ratio, hypovitaminosis D3

PREVENTION Effective UVB, basking at 30–34 °C, balanced Ca-rich diet, Ca/P ratio >1

Bacterial respiratory disorders

SYMPTOMS Nasal discharge, wheezing, open-mouth breathing, asymmetric buoyancy

CAUSE Cold/dirty water, insufficient basking, hypovitaminosis A, opportunistic bacteria

PREVENTION Optimal water quality, appropriate temperatures and basking, adequate UVB, quarantine

Hypovitaminosis A

SYMPTOMS Eyelid oedema, thick skin scales, conjunctivitis, stomatitis, lethargy

CAUSE Diet poor in carotenoids/vitamin A

PREVENTION Balanced diet with dark-green vegetables and complete pellets; controlled supplementation if needed



WARNING SIGNS

- Anorexia, lethargy
- Abnormal buoyancy/lopsided swimming
- Nasal/ocular discharge
- Softening of the shell
- Skin or shell ulcerations

If any of these symptoms appear, prompt veterinary care is essential.

Contact an exotic-pet vet as soon as possible.

Shell rot (shell dermatitis/mycoses)

SYMPTOMS Soft patches, ulcerations, discolouration, odour, exudate

CAUSE Dirty water, trauma, opportunistic micro-organisms, insufficient basking

PREVENTION Rigorous filtration/maintenance, accessible dry platform, correct basking/UVB

Internal parasites

SYMPTOMS Weight loss, abnormal stools, intermittent anorexia

CAUSE Wild origin/contaminated food, no quarantine

PREVENTION Quarantine, periodic faecal exams, targeted treatments if positive

Dystocia (egg retention)

SYMPTOMS Anorexia, restlessness, unproductive laying attempts, hindlimb oedema

CAUSE No nesting site, hypocalcaemia, malformations, stress

PREVENTION Appropriate nesting box, sufficient calcium/UVB, stress reduction



Hibernation

Support this phase carefully and gradually.



Good to know — Three golden rules: (1) always fast 10–14 days before; (2) controlled temperature, no frost and no prolonged warm spells; (3) clean, well-oxygenated water if the turtle brumates in water.



Period — Temperate species (Trachemys, Chrysemys, Graptemys...) — not tropical ones. 8–12 weeks for adults, 6–8 weeks for a robust juvenile.



Temperature — 4–8 °C



Method — Deep, well-oxygenated outdoor pond (surface kept partially ice-free), or a cool dark box / clean aerated cold-water tub. No feeding; water kept clean and well oxygenated.

👉 [Full 8-step plan on nacvet.ch](https://nacvet.ch)



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