Naultinus grayii

Northland Green Gecko / Kawariki - Northland, New Zealand

A cool-temperate, strongly arboreal New Zealand green gecko. This is a viviparous species: females give birth to live young and there is no egg-incubation stage. The husbandry priority is seasonal light and temperature change, bright but cool basking, dense foliage, strong ventilation, and strict avoidance of prolonged tropical heat.

Range & habitat
Endemic to Northland from the Hokianga/Bay of Islands region north toward Houhora. Forest, scrub, swamp margins and regenerating manuka/kanuka habitat.

Activity
Cathemeral but strongly heliothermic and commonly seen basking by day. Arboreal with a prehensile tail; dense foliage and elevated retreats are essential.

Reproduction
Viviparous. Usually 1-2 live young annually. Wild New Zealand timing is mainly Jul-Sep mating and late Feb-Apr births. For this Northern Hemisphere keeper calendar, shift the same seasonal sequence by ~6 months: mating mainly Jan-Mar and births mainly late Aug-Oct after ~7.5 months gestation.

Critical thermal note
Do not keep like a tropical day gecko. Northland winters are cool; a real seasonal winter rest is beneficial. Overheating and stagnant humidity are major captive risks.

Annual keeper schedule

Month	Day air	Night	Bask/warm	UVI*	Light	RH day/night*	Misting / moisture	Food d/wk	Seasonal management
January	13-17 C	7-10 C	19-22 C	0.5-1.5	9.8 h	74-86 / 85-96%	Mist 3-4x/wk; strong ventilation	1-2	Cool winter rest; frost-free; breeding activity may begin
February	14-18 C	8-11 C	20-23 C	1-2	10.0 h	72-84 / 84-95%	Mist 3-4x/wk	2	Late-winter warm-up; courtship/mating often starts
March	15-19 C	9-12 C	22-25 C	1-2.5	10.8 h	70-82 / 82-94%	Mist 4x/wk	2-3	Main mating period; monitor male aggression
April	16-20 C	10-13 C	23-26 C	1-2.5	11.8 h	68-80 / 80-92%	Mist 4-5x/wk	3	Spring growth; females enter established gestation
May	18-22 C	12-15 C	25-28 C	1.5-3	13.0 h	65-78 / 78-90%	Mist 4-5x/wk	3-4	Active feeding; maintain bright basking and shade
June	19-23 C	14-17 C	26-29 C	1.5-3	14.0 h	65-78 / 78-90%	Mist 4-5x/wk	3-4	Summer peak begins; avoid overheating above mid-20s ambient
July	20-24 C	15-18 C	26-29 C	1.5-3	14.4 h	65-78 / 78-90%	Light mist 4-5x/wk; foliage dries between	3-4	Warm active season; gravid females building reserves
August	20-24 C	15-18 C	26-29 C	1.5-3	14.2 h	65-78 / 78-90%	Mist 4-5x/wk; fresh droplets	3-4	Late gestation; first births may occur late month
September	19-23 C	14-17 C	25-28 C	1.5-3	13.4 h	68-80 / 80-92%	Mist 4-5x/wk	3-4	Peak birthing window; separate neonates if needed
October	17-21 C	11-14 C	23-26 C	1-2.5	12.3 h	70-82 / 82-94%	Mist 4x/wk	2-3	Late births possible; begin gradual seasonal cooling
November	15-19 C	9-12 C	21-24 C	1-2	11.2 h	72-84 / 84-95%	Mist 3-4x/wk; wetter ambient season	2	Winter rest begins; reduce feeding with activity
December	13-17 C	7-10 C	19-22 C	0.5-1.5	10.3 h	74-86 / 85-96%	Mist 3-4x/wk; strong ventilation	1-2	Cool winter rest; frost-free; do not force-feed

* Northern Hemisphere captive calendar for the Netherlands. Seasonal temperatures and photoperiod retain the Northland biological sequence but are shifted by about six months so the cool phase falls in Dec-Feb and summer activity in Jun-Aug. Wild New Zealand dates remain the biological reference. UVI is a conservative working target because no species-specific UVI optimum has been published.

Housing, climate and nutrition

Enclosure size and structure

The New Zealand Herpetological Society recommends a minimum around 50 x 50 x 100 cm (L x W x H) for green geckos. Taller and larger is better. Build a dense three-dimensional canopy with living shrubs, fine and medium branches, hollow bamboo/cork refuges near the upper half, shaded retreats and several basking positions. Secure fine mesh and strong ventilation are essential.

Social housing

Naturally solitary. A breeding pair or one male with up to two females can work where space and visual barriers are excellent, but males can be highly aggressive. Never keep different Naultinus species together because hybridisation is readily possible. Separate any animal showing persistent chasing, bite wounds, weight loss or refuge exclusion.

Temperature strategy

Use cool ambient air with a small bright basking zone rather than heating the entire enclosure. Summer ambient around 20-24 C with a 26-29 C local basking site is adequate. Winter should fall substantially, with routine nights around 7-10 C in a controlled collection and days in the mid-teens. A captive report has used lows near 4-5 C, but there is no need to force such extremes; avoid frost and always provide shelter.

Overheating warning

This species is much more tolerant of cold than heat. Keep summer ambient temperatures below the upper 20s C and make sure every basking perch has immediate access to deep shade. Heat stress can develop quickly in glass or poorly ventilated enclosures exposed to sun.

UVB and light

Green geckos are avid baskers. Provide bright visible light and low-moderate UVB across part of the canopy, with a gradient to full shade. The NZHS strongly favours access to natural sun through UV-transmitting mesh where legally and climatically possible. Never rely on sunlight through ordinary glass or acrylic for UVB.

Humidity and water

Northland is humid but windy and well ventilated. Aim for moderate daytime humidity with a higher night rise rather than constant saturation. Mist foliage enough to provide drinking droplets, then allow exposed leaves to dry. Keep one reliably humid refuge available for shedding.

Diet

Primarily insectivorous, taking moths, flies, beetles and spiders, but also nectar, small fruit and honeydew seasonally. In captivity use a varied rotation of appropriately sized flies, moths, crickets, roaches, small locusts and other soft-bodied insects. Offer small amounts of complete gecko nectar/fruit diet separately 1-2 times weekly in the active season.

Supplementation

Gut-load captive insects. Use plain calcium regularly and a balanced reptile multivitamin sparingly according to product strength, UVB exposure and diet. Avoid chronic over-supplementation. Breeding females require excellent calcium status before and throughout gestation.

Seasonal feeding

Feed most heavily from spring through summer as activity rises. During the cool winter rest, appetite may fall markedly; reduce feeding frequency and prey quantity rather than trying to maintain summer intake. Fresh water droplets and hydration remain available year-round.

Handling and stress

Minimise handling. The prehensile tail is important for climbing and should never be used as a restraint point. A threatened animal may gape, bark or croak. Observe body condition, toe sheds, eyes and tail use from outside the enclosure whenever possible.

Biosecurity

Quarantine all incoming reptiles, use dedicated tools and avoid cross-contamination with exotic geckos. NZHS records a range of bacterial/fungal organisms and captive mite transfer in native geckos. Any persistent eye swelling, dysecdysis, respiratory noise, skin lesion or weight loss warrants reptile-veterinary investigation.

Breeding, live young and legal records

Viviparity - no egg incubation

Naultinus grayii gives birth to fully formed live young. Do not prepare egg incubation boxes or manipulate a gravid female looking for eggs. The management target is a healthy Northern Hemisphere seasonal gestation: winter cooling in Dec-Feb, mating mainly Jan-Mar, strong spring/summer nutrition and controlled warmth through gestation.

Breeding timing

In the wild New Zealand calendar, the species-specific NZHS account reports mating mainly July-September and births chiefly late February-April after about 7.5 months. For a Netherlands/Northern Hemisphere collection, shift that seasonal sequence by about six months: target mating mainly January-March and expect births chiefly late August-October. More general Naultinus timing can vary, so use animal behaviour and long-term records rather than dates alone.

Winter cooling and breeding

A pronounced cool season is biologically normal and experienced breeders report that winter cooling is important for reproductive success. Use a gradual autumn decline rather than an abrupt temperature drop, maintain a modest basking option on appropriate days, and reverse the process gradually in late winter. Do not combine cold temperatures with dehydration or poor body condition.

Courtship and mating

Males may follow and guard females and mating can look rough, with neck/head biting. Because adult males can be aggressive, ensure escape routes and visual barriers and separate animals if biting is persistent or causes injury.

Pregnancy monitoring

A healthy gravid female should remain able to climb and thermoregulate normally. Record mass and body condition at sensible intervals without excessive handling. Increase access to calcium-rich, well gut-loaded prey during active feeding. Do not overheat a gravid female in an attempt to accelerate gestation.

Birth and litter size

Usually one or two young are born annually. Neonates are independent at birth, although wild/captive observations may find young near the mother initially. Inspect the enclosure carefully during the late-summer/autumn birth window so newborns are not overlooked.

Neonate housing

A secure, densely planted nursery is easiest to monitor. Provide fine branches, tiny elevated refuges, low-moderate UVB, the same seasonal photoperiod, and a thermal gradient without hot basking. Tiny flies and other very small insects are suitable first foods; NZHS specifically mentions Drosophila and small house flies.

Growth and maturity

The NZHS species account places sexual maturity around 1.5-2 years, but breeding should be based on robust adult size and body condition rather than age alone. Do not rush young females into reproduction.

Conservation status

New Zealand classifies N. grayii as At Risk - Declining. Threats include habitat loss, introduced mammalian predators and wildfire. Captive lines have conservation value only when species identity and provenance remain clean.

CITES / EU

The entire genus Naultinus has been in CITES Appendix II since 12 June 2013; in the EU it is Annex B. Maintain legal-acquisition documents, breeder statements, parent IDs, dates of birth and transfer records. New Zealand native reptiles are also strictly protected under national law; wild collection/export is not a normal legal source for the international hobby.

Record keeping

For every animal record unique ID, sex, lineage/provenance, acquisition documents, monthly weights when useful, winter minimums, mating observations, gestation signs, birth date, litter size, neonatal mass/SVL, feeding and medical events. This low-output species benefits greatly from precise long-term records.

UVI beneath the optional T5 tube

Naultinus grayii

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	0.5-1.5
February	1-2
March	1-2.5
April	1-2.5
May	1.5-3
June	1.5-3
July	1.5-3
August	1.5-3
September	1.5-3
October	1-2.5
November	1-2
December	0.5-1.5

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.