

Keeping of lined leaf-tailed gecko (*Uroplatus lineatus* Duméril & Bibron, 1836) at BION Terrarium Center

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Uroplatus lineatus Duméril & Bibron, 1836 is one of biggest representatives of the *Uroplatus* genus. It's common name – lined leaf-tailed gecko – was given taking into account the longitudinal stripes on the geckos body and its general physical appearance (https://en.wikipedia.org/wiki/Lined_flat-tail_gecko). These geckos are endemics of Madagascar, inhabiting its humid eastern part and the Nosy Bohara island. Their range is limited to the area between the regions of Toamasina and Maroantsetra, but they are also found in Marojejy (Fig. 1). The air humidity in their habitats in this area east coast is high all year long (<https://uroplatus.info/uroplatus-lineatus>; Ratsoavina et al., 2013). They are mainly found on trees in tropical rain forests and on bamboo plants, camouflaging along the branches.



Figure 1. *Uroplatus lineatus* natural distribution map (<https://uroplatus.info/uroplatus-lineatus>).

Adult specimens reach total length of 27-28 cm (10.62 – 11.02 in). They have slender body lacking the dermal fringe most frequently seen in most of the *Uroplatus* species, especially from so-called “fimbriatus” group. Most individuals possess spiny

scales above the eyes, giving them the appearance of having eyelashes. Skin is smooth with bizarre coloration (from beige or yellowish during the day and wood grain striped at night) that helps them blend into bamboo thickets that they are often found in. They spend daytime sleeping and resting being generally stick to the walls and branches in their enclosure, while active at dusk and night (Greenbaum et al., 2007; Gehring, 2020). At night the stripes and other elements of their coloration become more contrast and vibrant, while coloration of the iris turns reddish. These geckos tend to be very aggressive when scared. Their set of defensive mechanisms include tails' autotomy (the tail usually regrow in several weeks), demonstration of the opened mouth and tongue, tail waving (Fig. 2) jumping, creating screaming sounds.



Figure 2. Defensive pose of *U. lineatus*.

Males can be easily distinguished from females thanks to presence of well-seen hemipenial bulges at the tail base. Additionally coloration pattern of males has a lot of spots and dots on their back, while females have many black and brown stripes going along the whole body from the tail to nose tip (Fig. 3) (Svatek, van Duin, 2001). Especially these signs of sex can be seen at night. The same approach can be fairly effectively used when sexing hatchlings of these geckos (<https://www.lickyoureyeballs.com/care/2021/1/19/uroplatus-lineatus-lined-leaf-tailed-gecko>).

Due to mass deforestation and destroying of their natural habitat they have IUCN Status indicated as “Least Concern” (<https://www.iucnredlist.org/species/172769/177284299>). Threats to this species are also posed by illegal pet trade. The species is listed in CITES Ap. II. Therefore development

of breeding methods and creation of ex situ populations is extremely important (Dubyna et al., 2019).



Figure 3. Hatchlings of *U. lineatus*: left – female, right - male.

Keeping and breeding requirements

Keeping. *U. lineatus* will thrive in most natural vivariums, but being the larger species of *Uroplatus*, adults need enough room to hunt and move about. We keep our *U. lineatus* separately, in pairs or trios in 60*60*90 cm (23.62*23.62*35.43 in) mesh cages (breezes) or glass terrariums. These cages are upright and allow to fully express their arboreal habits. We form the decoration of the terrarium of several thick branches, pieces of bark or bamboo with hollows for eggs' laying, moist chamber of 15 l box filled with coconut substrate, artificial plants or mix of long-leaved living foliage. *U. lineatus* usually drink from the leaves of sprayed plants, however we provide water dish on a regular base. According to our friend, Michael Clark, *Dracaena fragrant* 'Massangeana', commonly referred to as 'Cornflower', is great for *U. lineatus* enclosures as they will use the long leaves for drinking and sleeping and females will use the small bowl that the center of the plant to lay their eggs. During the day, they will sleep on exposed leaves and sometimes on the stem of the plant. It is a very woody species, so it is necessary to have upright branches/trunks about 6-9 cm (2-3 inches) in diameter. We use paper instead of substrate.

Lighting. Zoo Med 5.0 UVB lamp is used during breeding season for 10-14 hours per day; during resting period (Jan - Feb) for 4 hours per day. Sometimes we use a simple 40W incandescent lamp for heating.

Temperature. *U. lineatus* comes from an area where temperatures reach around +30 °C (85.0 F) during the day and drop slightly at night. We provide our geckos with +25 - +26 °C (77.0-78.0 F) at day and +22 - +24 °C (72.0-75.0 F) at night.

Humidity. We maintain humidity levels of 75-90% at all times, as *U. lineatus* comes from an area where humidity is maintained at around 85% throughout the year. However, if the terrarium is too wet, this can lead to problems. Frequent humidification to maintain

high relative humidity can create an optimal environment for bacterial and mold growth in enclosures, potentially leading to future health risks. We do light spraying the terrarium well 30-45 minutes after turning off the light. We focus on moistening the leaves and branches, not the animals. This allows the terrarium to dry out during the day. We also put a shallow bowl of clean water inside the terrarium and refresh the water regularly.

In their natural habitat, these geckos have a very long rainy season, so periodically during the spring and summer months you can increase the spraying intensity to simulate the rainy season for your geckos. If you are trying to trigger your *U. lineatus* to breed, this is very important.



Figure 4. *U. lineatus* young individual, 7 months old.

Diet. Diet for adults contains Turkestan cockroaches (*Shelfordella tartara*), and crickets (Jamaican field crickets (*Gryllus assimilis*) and Mediterranean field cricket (*Gryllus bimaculatus*). Locusts and soft-shelled snails are used as additional food and treats, which are given 1-2 times per month. We offer 2–3 insects per head 1–2 times per week. If the animal shows sign of obesity, the frequency of feeding is reduced to 1 time per 2 weeks. It is strictly recommended not to use wild caught insects. Sometimes if an animal is still hungry we can offer one or two additional feeding items. We offer soft-shelled snails for females during ovogenesis. All insects should be gut loaded and dusted with vitamin-mineral supplementation every other feeding. Sepia or cuttlefish “bone” powder works well as a source of calcium. Insects are dusted with it prior to the feeding session. We gut load the insects with fruit, greens and vegetables and sometimes bee pollen as an additional source of vitamins and bioactive elements.



Figure 5. *U. lineatus* young individual, 1 year old.

References

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