



Bioactive Crested Gecko Setup Guide

1. Introduction

A bioactive enclosure is a self-sustaining ecosystem that mimics a crested gecko's natural habitat. It includes live plants, beneficial microorganisms, and a cleanup crew (CUC) that helps break down waste. When built correctly, it reduces maintenance, improves humidity stability, and enriches your gecko's environment.

It's recommended to set up your bioactive enclosure and allow it to establish for at least a few weeks before adding your gecko.

2. Enclosure Requirements

Recommended Size

- **Minimum:** 45 × 45 × 60 cm (18 × 18 × 24 in)
- **Ideal:** 60 × 45 × 60 cm (24 × 18 × 24 in) or larger
- Vertical space is essential because crested geckos are arboreal.

Ventilation

- Cross-ventilation is ideal.
- Avoid fully sealed tanks; bioactive systems need airflow.

3. Lighting & Heating

Lighting

- Crested geckos benefit from **low-level UVB** (2–5%).
- Use a **shade dweller UVB** or **6%** placed above mesh.
- 12 hours light / 12 hours dark.

Heating

- Ideal temperature range: **20–24°C**
- Avoid temperatures above **27°C**
- A small heat source (deep heat projector bulbs which do not emit light) may be needed in cooler homes.

4. Substrate Layers (Drainage to Surface)

A proper bioactive substrate is essential for plant health and waste breakdown.

Layer 1: Drainage Layer

- Use **LECA, hydroballs, or lava rock.**
- Depth: 2–3 inches.
- Add a mesh barrier to prevent soil mixing.

Layer 2: Bioactive Soil Mix

A good mix includes:

- Organic topsoil
- Coco fibre
- Orchid bark
- Leaf litter on top

Layer 3: Leaf Litter

- Essential for microfauna.
- Use pesticide-free leaves such as oak, magnolia, beech, maple or other reptile-safe leaves.

5. Cleanup Crew (CUC)

A thriving CUC keeps the enclosure clean.

Recommended Species

- **Isopods:** Dairy cow, dwarf white, powder blue/orange
- **Springtails:** Tropical white springtails
- **Earthworms:** Optional but beneficial

Introduce them before adding your gecko so they can establish.

6. Live Plants

Choose hardy, humidity-tolerant plants.

Safe Plant Options

- Pothos
- Philodendron
- Bromeliads
- Ferns
- Spider plants
- Peperomia
- Snake plant (Sansevieria)

Planting Tips

- Rinse roots to remove fertilizers.
- Plant deeply and pack soil firmly.
- Add cork bark, branches, and vines for climbing.
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7. Hardscape

Recommended Materials

- Cork bark flats and rounds
- Mopani or spider wood
- Vines and branches
- Backgrounds (cork, foam, or naturalistic panels)

Ensure all climbing structures are secure.

8. Humidity & Water

Humidity

- Maintain **60–80%**.
- Mist once or twice daily depending on your home's humidity.

Water

- Provide a shallow water dish.
- Bioactive systems help maintain humidity naturally.

9. Introducing Your Gecko

- Allow the enclosure to run for 2–4 weeks before adding your gecko.
- This gives plants time to root and the CUC time to establish.

10. Maintenance

Daily

- Light misting
- Spot-check for waste

Weekly

- Clean water dish
- Check plant health

Monthly

- Add fresh leaf litter
- Trim plants

Long-Term

- Replace UVB bulb every 6–12 months
- Monitor soil moisture and drainage

Bioactive setups require less cleaning over time, but they still need monitoring.

11. Troubleshooting

Mold

- Normal in new setups.
- Springtails will reduce it naturally.

Isopods Overbreeding

- Add more leaf litter.
- Introduce predators (optional, species-dependent).

Plants Dying

- Check lighting levels.
- Ensure soil isn't waterlogged.
- Replace with hardier species.