

Scientific note

## A second record of the genus *Glawiana* from Madagascar, with notes on its stridulation behaviour

(Phasmatodea)

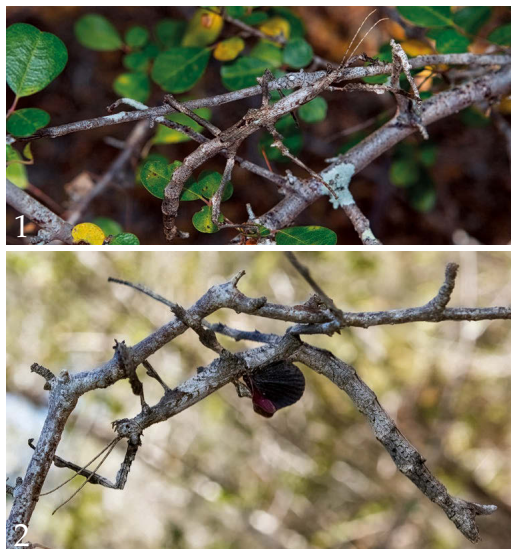
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Madagascar is renowned for being a world hotspot of biodiversity with high levels of endemism (Myers et al. 2000). Stick insects (Phasmatodea) are among the most famous insects due to their impressive plant mimicry and relatively large size (Bradler & Buckley 2018). However, despite a rise in new descriptions and taxonomic revisions in recent years, the Phasmatodea of Madagascar remain poorly understood with only 83 described species to date (Cliquennois 2007, Glaw et al. 2019, Brock et al. 2021). Scientists already assume the actual number of species in Madagascar may be considerably higher. The genus *Glawiana* was newly described by Hennemann & Conle (2004). It is the second genus of the tribe Achriopterini besides *Achrioptera*, both probably forming the sister group of the Anisacanthidae (Glaw et al. 2019). The genus is only known from the holotype of *Glawiana glawi*, an adult female discovered south of Toliara (Tuléar) in southwestern Madagascar on 31st March 2000 and deposited in the Zoologische Staatssammlung München (Hennemann & Conle 2004). Males and eggs are unknown.

During a visit to the region of Atsimo-Andrefana in southwestern Madagascar, the authors observed and photographed an adult female of the genus *Glawiana* on the morning of the 29th of March 2017 at 08:50 (Figs 1–2). Several characteristics of the individual such as the globose head with strongly spherical, bilobed vertex, meso- and metatibiae with distinct lobes and coloration of head, body, and legs corresponded to the description of *Glawiana glawi*, but the assignment to this species could not be made with certainty. The insect was walking very slowly in shrubs ca. 150 cm above the ground in the spiny forest of the Reniala Reserve, a protected area close to Ifaty-Mangily (GPS coordinates -23.122838126230032°, 43.62119374157895°, 14 m a. s. l.), at a distance of ca. 1.2 km from the coast. This site is situated 44 km northwest of the type locality of *Glawiana*, a dried-up creek close to the coast south of Toliara. When touched, the observed female in Reniala Reserve spread her wings showing conspicuous purple and black coloration and produced audible sounds by stridulation. Stridulation behaviour is known from several species of *Achrioptera*, but has not yet been described from *Glawiana*. This behaviour is presumably intended as a defense response to deter predators such as reptiles and birds. Defense behaviour varies widely between stick insect species. Stridulation, autotomy, warning coloration of body parts, secreting of noxious chemicals, and even grasping movements have been observed in different genera (Bradler & Buckley 2018, Glaw et al. 2019).

Although the authors visit the area regularly, this was the only finding of a *Glawiana* over several years, suggesting that population density is either low in this region or that frequent findings are hampered by the cryptic twig mimicry and a rather immobile lifestyle. Both known specimens were discovered at the end of March when the rainy season was almost over. The occurrence within a protected area gives hope for the species' survival and the possibility for further studies on this poorly understood genus.

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**Figs 1–2.** Adult female of *Glawiana* sp. found at Reniala Reserve, Ifaty, region Atsimo-Andrefana, south-western Madagascar. 1. Female specimen; 2. female in defense posture with spread wings and stridulating.

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