Grosphus madagascariensis (Gervais, 1843)

Text and pictures by Michiel Cozijn (C)

G.madagascariensis adut female M.A.C.Cozijn © 2008

What's in a name?

This scorpion has no generally accepted common name as far as I know.

Etymology: Simon described the genus *Grosphus* in 1880 and in the same year the species *G.madagascariensis*. This species is the type species of the genus and it was renamed by Gervais in 1843 as *Scorpio (Androctonus)* madagascariensis. Later in 1843, Gervais changed the generic name into *Grosphus* (I).The name madagascariensis refers to the type locality.

Distribution

The genus *Grosphus* is endemic to the African island of Madagascar. This is one of the more common species and it is distributed over the whole island in both coastal areas aswell as the interior parts, accept for the South western corner.

Natural habitat

Madagascar has a tropical climate that is heavily influenced by the Southeastern trade winds. The island receives most rainfall in summer (november- march). Daytime temperatures in summer are around 30 Celsius (86 F) and nights can be very warm during this period. Winter

(april-october) has lower tempetatures and less rainfall. November has a lot of rainfall and thunderstorms and these mark the beginning of the wet season. The eastern part receives rain the whole year around and it is not uncommon in summer that it rains the whole day. The central area is dominated by a plateau. Highest point is the summit of Mount Maromokotro (2876 meter/ 9435 feet).

The Southern parts of the island, especially the South west corner, consist of dry planes with spiny bushes and shrubs. The Northern parts harbor forests with ferns, palms and other trees (i.e. the famous Baobabs, *Adansonia spp.*). Because of these different habitats with their own climatical differences and the distribution pattern of *G.madagascariensis* on the island, one can say this species is a habitat generalist, although it tends ro prefer the more humid forests (its close relative, *G.hirtus*, prefers drier forests).

Venom

Although this scorpion belongs to the family *Buthidae* (Koch, 1837), it is not considered a medical important species. Since it is a medium sized buthid, one needs to be careful with this species and should not risk getting stung. There is no data available to me on the LD50 value of the venom of this species (or other species from the genus), I presume because it is considered not medically important, and therefore simply not interesting enough for venom research.

G.madagascariensis adut male M.A.C.Cozijn © 2008

Morphological information

The genus *Grosphus* Simon, 1880 currently contains 19 species.Within this genus, species complexes (groups of closely related species) exist, such as the *G.madagascariensis/ G.hirtus* group and the *G.limbatus/ G.bistriatus* group (Lourenço, 2003, 2004).

Three characters are important in identifying members of the genus: coloration patterns, the shape of the basal middle lamellae in females and the shape and size of metasomal segment I. *G.madagascariensis* is medium sized, reaching sizes around 6 cm (2.3 inch) in lenght. The coloration of the tergites, carapace and pedipalps is reddishbrown to reddish. The legs are lightbrown. There are tibial spurs present on legpairs III and IV and tarsal spurs are present on legpairs I-IV. Metasomal segments I-III are reddishbrown and IV-V are somewhat darker, vesicle is darkreddish, without a subaculear tooth and a short curved aculeus. The carinae on the dorsal side of the metasomal segments I-IV end in a spiniform granule. Juveniles are generally lighter in coloration than adults (see picture below). Moveable finger of the pedipalps bear 12 rows of granules. Males have 18-20 teeth in the pectines and females have 16-18, but this species always has less than 20 pectinal teeth (Lourenço, 1996). Males have more bulbous chela than females and are built less robust.

G. madagascariensis has the basal middle lamellae oval shaped and in *G.hirtus* it is almost square.

G.madagascariensis juvenile (instar 4) M.A.C.Cozijn © 2008

Above: *Spermatophore, beneath: G.madagascariensis & instar 1 M.A.C.Cozijn © 2008*

Keeping in captivity

The latter of the following information is based on my own experience and should be regarded as an example of how to keep this species in captivity. Because this species is not yet commonly kept, good information about the ideal captive conditions is not readily available.

In my opinion, the minimum size for keeping a pair of adults is around 30x20x20 cm *(12x 8x 8 inch)*. Juveniles can be kept in all kind of deli cups. I keep my juveniles separate to avoid the risk of cannibalism and I keep adults in pairs. I keep this species at a temperature of 24-28 Celsius *(75-82 F)* in the daytime and around 21 C *(70 F)* at night. The relative humidity should be around 70-75%, this can be done by keeping one half of the substrate totally dry (or maybe and occasional misting) and the other half moist (not wet to prevent mould or mites). I mist them well once a week or twice if necessary (depending on temperatures and ventilation). At night they rest for longer periods of time lying in the moist area of the substrate. When the scorpions are getting close to a molt, make sure the relative humidity is sufficient to prevent molting problems.

Humus (70%) mixed with sand (30%) is in my opinion ideal as a substrate. This species does not dig burrows and pieces of cork bark or stones will be accepted as a retreat. Provide a small bottle cap or film roll cap of water, for drinking. Provide adequate ventilation to prevent the air going stale and to create certain airflow. This species breeds without difficulty in captivity.

Adults should be fed one or two appropriate sized prey items once a week. I feed my scorpions crickets twice a week untill they are passed the third instar. Prey is killed by a (couple of) quick sting(s), depending on the size of the prey item and on the size of the scorpion. Juveniles can subdue surprisingly large crickets for their size, sometimes up to 150% of their own bodysize. This species is in my opinion not suitable for a beginning scorpionkeeper, because it is a species from the family *Buthidae*. This species has a less nervous or defensive disposition, than i.e. *G.grandidieri* or *G.limbatus*.

Since the close relationship between *G.madagascariensis* and *G.hirtus*, longevity, average brood size and gestation periods should be comparable. *G.hirtus* lives up to 65 months, the gestation period is around 8 months, and the average littersize is 31,5 young (Lourenço & Goodman 2005). *G.madagascariensis*, like other species of the genus, does not produce iteroparous litters.

Notes

Note I: The only correlation I could find with the name “Grosphus” is a person named Pompeius Grosphus that occurs in classical Greek poetry from Horace. I have no idea why Gervais used this name as the genus name.

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