

## First description of the male of *Nesiergus insulanus* (Araneae: Theraphosidae: Ischnocolinae) from the Seychelles archipelago

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### ABSTRACT

The male of *Nesiergus insulanus* Simon, 1903 is described for the first time, and both sexes are illustrated. The presence of the species on the two Seychelles islands of Frégate and L'Îlot Frégate is confirmed, and observation evidence suggests that its range extends to Cousine Island.

KEY WORDS: Afrotropical, Seychelles, Frégate, L'Îlot Frégate, Theraphosidae, Ischnocolinae, *Nesiergus*, baboon spiders, tarantulas.

### INTRODUCTION

*Nesiergus insulanus* Simon, 1903 is the type species of the genus of theraphosid spiders of the subfamily Ischnocolinae, representatives of which occur in the Neotropical, (West) Palaearctic, Afrotropical and Oriental regions (Guadanucci & Gallon 2008). Members of the genus are relatively small, reaching a maximum size of approximately 27 mm in body length, and appear to be endemic to the Seychelles archipelago. Three species are recognized, viz. *N. insulanus*, *N. halophilus* Benoit, 1978, and *N. gardineri* Hirst, 1911. *N. insulanus* was described by Simon (1903) on the basis of a single female specimen from an unrecorded island, with the type specimen housed at the Muséum National d'Histoire Naturelle, Paris, France. Little is known about the ecology and status of the three species, and published reports consist of nothing more than taxonomic descriptions and very brief observations on their natural history (Simon 1903; Hirst 1911; Benoit 1978; Guadanucci & Gallon 2008; Saaristo 2010). Females of *N. insulanus* have been found on Frégate Island as well as on L'Îlot Frégate by the first author, and the male is described here for the first time. Two males were discovered and captured during January 2011 on Frégate Island by the first author and the description is based on the larger of the two specimens. This species is widely distributed on Frégate Island and occurs in a number of different habitat types. Its distribution on L'Îlot Frégate is restricted to a limited area of available habitat, and anecdotal and photographic evidence from naturalists on Cousine Island suggests the species might be more widely distributed in the archipelago (Gane pers. comm.).

### MATERIAL AND METHODS

The specimens have been deposited in the National Collection of Arachnida at the Agricultural Research Council – Plant Protection Research Institute (ARC–PPRI), South Africa. For the description, with measurements in mm and a precision of 0.01 mm, a Leica EZ 4D stereo microscope was used. Total body length includes the chelicerae

and body but excludes the spinnerets. The spination description follows the format of Petrunkevitch (1925), with modifications by Bertani (2001). In theraphosids, leg spination varies greatly in respect of both number and position, including the spination on either side of the same individual (Bürcherl 1947), and further sampling would be required to determine possible patterning as described by Bertani (2001).

Abbreviations: anterior median eyes (AME), anterior lateral eyes (ALE), posterior median eyes (PME), posterior lateral eyes (PLE), posterior median spinnerets (PMS), and posterior lateral spinnerets (PLS). Leg measurements: femur, patella, tibia, metatarsus, tarsus, and total.

#### TAXONOMY

Family Theraphosidae Thorell, 1869

Genus *Nesiergus* Simon, 1903

*Nesiergus insulanus* Simon, 1903

Figs 1–6

*Nesiergus insulanus*: Simon 1903: 928; Benoit 1978: 412, fig. 3; Smith 1990: 134, figs 878–882; Guadanucci & Gallon 2008: 43, figs 26–28; Saaristo 2010: 31, fig. 3.10–15.

Diagnosis: Both sexes of the species are differentiated from other species in the genus by the apical segment of the PLS being triangular, as opposed to digitiform (Guadanucci & Gallon 2008), as well as by the segments of these spinnerets being of dissimilar length. The species has dark markings on the abdomen, whilst its congeners are uniform in colour (Guadanucci & Gallon 2008).

Description:

*Male*.

*Size*: Total length 17.63.

*Colour*: Live specimen (Fig. 1) has reddish brown carapace with golden brown hairs around margin. Abdomen golden brown with markings significantly darker than rest of abdominal colouration. Markings consist of four that are triangular in shape, running along central dorsal line of abdomen, connected by dark line. Markings point anteriorly, decreasing in size towards posterior end of abdomen. They do not reach outer edge of abdomen; largest one being approximately  $\frac{1}{3}$  of abdomen width. Faint lines extend from corner of triangular areas towards outer edge of abdomen and are less pronounced than in females (Fig. 2). Two bands, covered by hair, extend around abdomen at posterior end. Dorsal surface of femora of all legs darker brown than rest of legs and palps, which are golden brown.

*Carapace*: Length 8.03, width 6.63, sparsely pilose, oval, slightly longer than wide. Cephalic region raised. Eye tubercle slightly raised towards centre, wider than long, length 0.74, width 1.5. Anterior eye row procurved, posterior eye row recurved (Fig. 3), with row of bristles between anterior tubercle and chelicerae. Distance between eyes: AME–ALE 0.30, ALE–PLE 0.35, PLE–PME 0.16, AME–PME 0.33, PME–PME 0.77, AME–AME 0.41, PLE–PLE 1.13. Clypeus narrow. Fovea transverse, slightly recurved.

Sternum rounded, oval, longer than wide, length 3.49, width 2.77, sparsely pilose, posterior end with row of longer setae. Small, oval pair of labiosternal mounds adjacent to labium. Three pairs of small, rounded sternal sigilla short distance from margin. Maxilla with anterior lobe; 102 or 103 cuspules on each maxilla on inner surface adjacent



Figs 1–6. *Nesiergus insulanus*: (1) male with abdominal markings and femora darker than other leg segments and palpi clearly visible; (2) female with abdominal markings clearly visible; (3) dorsal view of eye pattern, displaying proconvex anterior row and recurved posterior row; (4) ventral view of chelicerae, indicating position of fangs and size and arrangement of cheliceral teeth on promargin; (5) male spinnerets, showing PLS with differing segment lengths and diagnostic triangular apical segments; (6) tibial apophysis.

to labium, serrulae present on anterior lobe. Labium slightly longer than wide, length 1.26, width 1.12, with *ca* 47 cuspules limited to the centre. Chelicerae with 12 teeth of differing sizes on promargin (Fig. 4).

**Abdomen:** Length 9.60, width 3.53, more densely pilose than carapace, longer setae at posterior end. Two pairs of spinnerets, PMS short; PLS longer, with segments of different lengths, basal segment shortest, apical segment triangular (Fig. 5). Line of long, thick setae at anterior edge of abdomen.

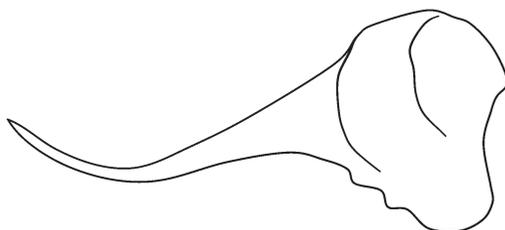


Fig. 7. Schematic retrolateral view of palpal bulb of *Nesiergus insulanus*.

*Legs*: Slender, sparsely pilose, thick band of setae on all legs at dorsal joint between coxa and femur. Measurements: I 5.50+2.61+5.59+4.20+2.79=20.69, II 5.20+2.14+5.43+4.18+3.76=20.71, III 5.37+1.90+4.49+4.78+3.48=20.02, IV 6.66+1.99+6.22+6.70+3.9=25.47. Spination: I femur (v) 0-1-1, tibia (v) 0-2-1 (p) 0-1-1 (r) 0-1-1, metatarsus (p) 0-1-0; II femur (v) 0-0-ap1 (r) 0-1-1, tibia (v) 1-0-ap2, metatarsus (v) 1-0-0; III femur (v) 0-1-0, tibia (v) 1-0-ap2 (p) 1-0-0 (r) 0-3-0, metatarsus (v) 0-0-ap2 (p) 0-0-ap; IV femur (p) 0-0-1(r) 0-0-1, tibia (v) 2-1-ap2, metatarsus (v) 1-1-2 (p) 1-1-2. Tarsal spines absent. Tibial apophysis on leg I fused at base, retrolateral branch with a row of short apical spines, prolateral branch short, rounded, with single spine adjacent to each branch (Fig. 6). Ventral tarsal scopulae I–II undivided, dense, III divided, distal  $\frac{3}{4}$  dense, proximal quarter sparse, IV divided, distal half dense, proximal half sparse. Claw tufts well developed.

Palp slender, sparsely pilose, spineless. Cymbium bilobed, longer than wide, bulb with long, fine embolus (Fig. 7). Femur 3.63, patella 1.86, tibia 2.70, tarsus 0.84, total 9.03.

Material examined: SEYCHELLES: *Frégate Island*: 1♂ 4°35'04.44"S 55°56'44.68"E, 8 m, wandering on sandy substrate, 11.i.2011, G. Canning (NCA 2013/757); 1♂ same data but 17.i.2011 (NCA 2012/2501).

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#### REFERENCES

- BENOIT, P.L.G. 1978. Contributions à l'étude de la faune terrestre des îles granitiques de l'archipel des Seychelles (Mission P.L.G. Benoit – J.J. Van Mol 1972). Araneae Orthognatha. *Revue de Zoologie Africaine* **92**: 405–420.
- BERTANI, R. 2001. Revision, cladistic analysis, and zoogeography of *Vitalius*, *Nhandu*, and *Proshapalopus*; with notes on other theraphosine genera (Araneae, Theraphosidae). *Arquivos de Zoologia, São Paulo* **36** (3): 265–356.
- BÜRCHERL, W. 1947. Estudo comparativo das espécies Brasileiras do gênero *Pamphobeteus* Pocock, 1901 (Mygalomorphae). *Memórias do Instituto Butantan* **20**: 233–282.
- GUADANUCCI, J.P.L. & GALLON, R.C. 2008. A revision of the spider genera *Chaetopelma* Ausserer 1871 and *Nesiergus* Simon 1903 (Araneae, Theraphosidae, Ischnocolinae). *Zootaxa* **1753**: 34–48.
- HIRST, S. 1911. The Araneae, Opiliones and Pseudoscorpiones. *Transactions of the Linnean Society of London, Ser. 2* **14** (3): 379–395.
- PETRUNKEVITCH, A. 1925. Arachnida from Panamá. *Transactions of the Connecticut Academy of Arts and Sciences* **27**: 51–248.
- SAARISTO, M.I. 2010. Araneae. In: Gerlach, J. & Marusik, Y., eds, *Arachnida and Myriapoda of the Seychelles islands*. Manchester, UK: Siri Scientific Press, pp. 8–306.
- SIMON, E. 1903. *Histoire Naturelle des Araignées*. Vol. 2, Part 4. Paris: Roret, pp. 669–1080.
- SMITH, A. 1990. *Baboon spiders: Tarantulas of Africa and the Middle East*. London: Fitzgerald.