

New data on the spider genus *Nemesia* in Algeria (Araneae: Nemesiidae)

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ABSTRACT

Based on the spider collection of the Muséum national d'Histoire naturelle, Paris, the data on the poorly known Algerian representatives of *Nemesia* Audouin, 1826 are renewed. Twelve species of *Nemesia* were recognized among the studied material. The following six new species are described: *N. algerina* n. sp. (♂♀), *N. almoravida* n. sp. (♂♀), *N. annaba* n. sp. (♂♀), *N. decaei* n. sp. (♂♀), *N. dido* n. sp. (♀) and *N. tanit* n. sp. (♀). *Nemesia dorthesi* Thorell, 1875 is recorded within Algeria for the first time. *Nemesia ?macrocephala* Ausserer, 1871 and *N. ?meridionalis* (Costa, 1835) are assumedly occurred in the country. One further unidentified species is figured and listed as *Nemesia* sp. Unknown hitherto males of *N. africana* (C.L. Koch, 1838) and *N. didieri* Simon, 1892, are described for the first time and their females are redescribed. Lectotypes are designated for *Nemesia didieri* Simon, 1892 and *Nemesia ariasi* Simon, 1914. Additional data on the somatic and copulatory structures and distribution of all the studied species are provided.

KEYWORDS: Araneae, Mygalomorphae, Nemesiinae, trap-door spiders, lectotypes, new species, taxonomy, Africa, Mediterranean, Palearctic.

INTRODUCTION

The Mediterranean spider genus *Nemesia* Audouin, 1826 is a species-rich taxon comprising about 60 valid species and subspecies known to date (Decae 2012; WSC 2019). Currently, the South European congeners can be considered as relatively well investigated due to the more than two 200-year history of their study and the numerous recent taxonomic studies (Kritscher 1994; Decae 1995, 2005, 2012; Cardoso 2000; Decae & Di Franco 2005; Decae *et al.* 2007, 2015; Wunderlich 2011; Isaia & Decae 2012; Decae & Huber 2017; Zonstein 2017). A quite different situation exists regarding our knowledge of *Nemesia* spp. distributed in the adjoining Mediterranean zone of Africa and Asia, the latter includes about a dozen countries. In the best case, we are dealing here with fragmentary and outdated information. One of these poorly studied countries is Algeria.

The first Algerian member of the genus was described by C.L. Koch (1838) from a single female, under *Cteniza africana* C.L. Koch, 1838. Walckenaer (1841) transferred this species to *Mygale* Walckenaer, 1802 (recognized then as a junior homonym of the mammal genus *Mygale* Cuvier, 1800). Five years later, Lucas (1846) described *Mygale barbara* Lucas, 1846 and noted *M. caementaria* (Latreille, 1799), previously known from Southern Europe, as distributed also in Algeria. Ausserer

(1871) and Simon (1892) transferred these species to *Nemesia* Audouin, 1826. Additionally, Simon (1892) restricted the distribution of *N. caementaria* to Southern Europe and described *N. didieri* Simon, 1892 from Algeria. Another two species previously assigned to *Leptopelma* Ausserer, 1871 and noted for Algeria by Reimoser (1919) and Roewer (1942), were later placed in *Nemesia* as *N. elongata* (Simon, 1873) and *N. cavicola* (Simon, 1889) (Uchman *et al.* 2018). Recently, *N. barbara* was transferred to *Iberesia* Decae & Cardoso, 2006, while *N. elongata* and *N. cavicola* were moved to the theraphosid genus *Ischnocolus* Ausserer, 1871 (Zonstein 2016, 2018). Thus, *Nemesia* is currently considered a genus represented in Algeria only by two poorly known species, *N. africana* and *N. didieri* (WSC 2019).

The present study is based on an examination of the Algerian specimens of *Nemesia* in the Simon collection of the Muséum national d'Histoire naturelle (Paris, France). Among the studied material, 12 species of *Nemesia* collected in Algeria have been found, and six of these are identified as hitherto undescribed taxa. In addition, the previously unknown males of *N. africana* (C.L. Koch, 1838) and *N. didieri* Simon, 1892 have been identified and described here for the first time. One of the studied species is shown to belong to *N. dorthesi* Thorell, 1875, previously unknown for Algeria. Three additional species represented only by females in the studied material could not be unequivocally identified; two of them are putatively assigned to *N. ?macrocephala* Ausserer, 1871 and *N. ?meridionalis* (Costa, 1835), while the third is considered here as a potentially undescribed taxon. The illustrated descriptions/redescriptions and comments concerning all Algerian *Nemesia* species found in the Simon spider collection, as well as the corresponding collecting data, are provided below.

MATERIALS AND METHODS

Most part of the studied material, including the type series of *N. didieri*, was borrowed from the Simon's collection of Muséum national d'Histoire naturelle, Paris, France (MNHN). Most part of the considered material was collected personally by Eugène Simon during his collecting trips to Algeria in 1882–1885, although this was not always reflected on his labels. When listing the material, the sample numbers are provided as follows: the first number corresponds to the sample number by Simon, while the second is a unified museum number (*e.g.*, MNHN 9963/AR4475). The type series and/or conspecific specimens of 26 European *Nemesia* species also kept in this collection were examined, documented (photographed) and then used as the comparative material.

Photographs were taken using a Zeiss Discovery V20 stereomicroscope with a Canon PowerShot G9 camera, and prepared using the Helicon Focus 6.3.2 Pro (<http://www.heliconsoft.com>). Illustration of dissected vulva placed into a small Petri dish filled with a solution of 85 % lactic acid was made after maceration of the dissected copulative organs in 10 % potassium hydroxide aqueous solution and staining for a few minutes in an alcohol solution of Chlorazol Black.

Measurements were taken through the above-mentioned stereomicroscope to an accuracy of 0.01 mm and are given in millimetres. The diameter of the AME is usually given as the diameter of a sharply edged AME circle (the “pupil”). When the AME cornea was well-separated and elevated, and its diameter could be measured, the corresponding data follow between brackets. Any eye interdistances counting this parameter are also given between brackets. The length of the sternum was measured along the straight line between the posterior tip of the sternum and the hindmost part of the labium. Lengths of leg and palp segments were measured on the dorsal side, and lengths of spinneret segments on the ventral side, from the midpoint of the anterior margin to the midpoint of the posterior margin.

The terminology follows Raven (1985) and Decae & Cardoso (2006): *maculae* – darkened areas that may occur in some species on lateral and/or ventral surface of the spinnerets; *megaspine* (or *super-spine*) – an enlarged, often dilated and flattened spine on the male tibia I or female tibia III; *metatarsal preening comb* – several densely spaced ventral setae forming a crest-shaped structure in the distal part of the metatarsi (within the genus, it may concern metatarsi III–IV or only IV).

The following abbreviations are used: ALE – anterior lateral eyes, AME – anterior median eyes, d – dorsal, M – megaspine, p – prolateral, pd – prodorsal, PLE – posterior lateral eyes, PLS – posterior lateral spinnerets, PME – median lateral eyes, PMS – posterior median spinnerets, PTC – paired tarsal claws, pv – proventral, r – retrolateral, rd – retrodorsal, rv – retroventral, v – ventral.

TAXONOMY

Family Nemesiidae Simon, 1889

Genus *Nemesia* Audouin, 1826

Nemesia africana (C.L. Koch, 1838)

(Figs 1–16)

Cteniza africana C.L. Koch, 1838: 10, fig. 344 (♀); 1841: 211; Wagner 1841: tbl. X (♀).

Mygale africana: Walckenaer 1841: 431.

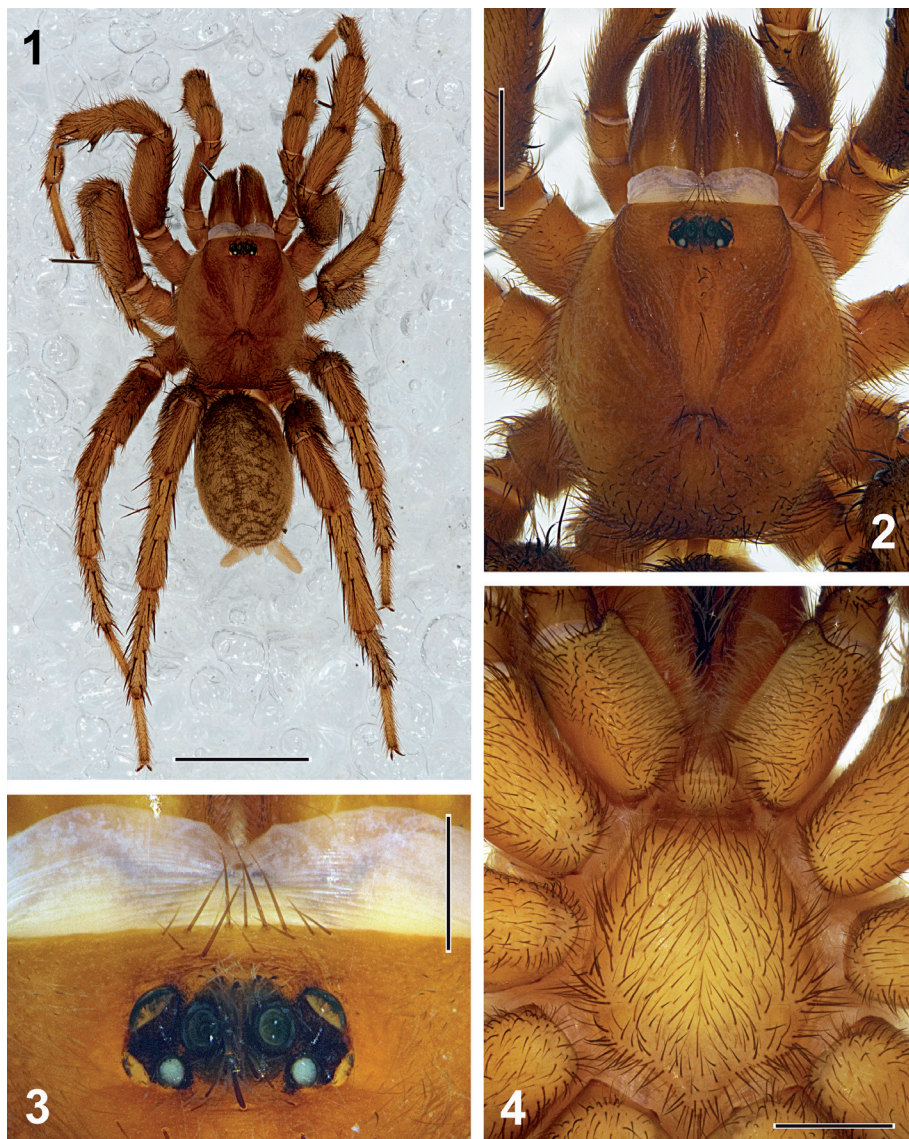
Mygalodonta africana: Simon 1864: 75.

Nemesia africana: Simon 1892: 112; Strand 1907: 12 (♀); Reimoser 1919: 6; Frade & Bacelar 1931b: 237; Bacelar 1932: 21; Denis 1937: 1029 (♀); Roewer 1942: 179; Bonnet 1958: 3036.

Diagnosis: *Nemesia africana* somewhat resembles *N. caementaria*, *N. algerina* n. sp., and *N. tanit* n. sp. in its habitus and general colouration (particularly in the presence of the scalloped chevrons), but differs from them as well as from other *Nemesia* spp. by an unusually fine dorsal abdominal pattern (Figs 1, 11 cf. Figs 17, 26, 135). Unlike its congeners featuring the metatarsal preening combs, *N. africana* has these combs on both pairs of posterior metatarsi – III and IV (not exclusively on metatarsus IV). While the bilaterally toothed embolus characteristic for males of *N. africana* shows some similarity to the dentate emboli in males of *N. meridionalis* (Costa, 1835) and several undescribed *Nemesia* spp., it nonetheless differs in its shape from those structures (Fig. 8 cf. Decae 2012: fig. 1Bf; Isaia & Decae 2012: figs 3, 4). The configuration of the spermathecae in *N. africana* only slightly resembles

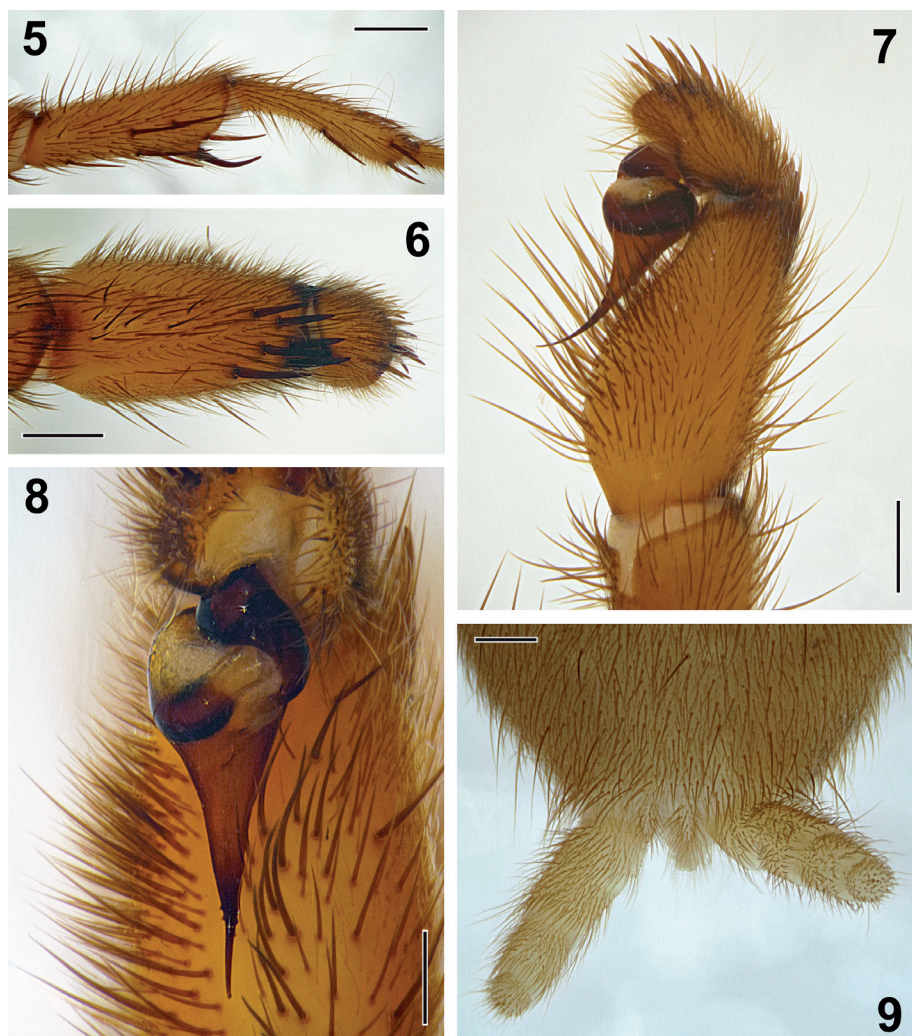
that in *N. tanit* n. sp. (Figs 14, 15 cf. Fig. 139) and differs to a greater extent from those in other *Nemesia* spp.

Redescription: Male (MNHN 12671/AR4428; Fig. 1): Body length 13.30.



Figs 1–4: *Nemesia africana* (C.L. Koch, 1838), male AR4428: (1) habitus, dorsal; (2, 4) cephalothorax, dorsal and ventral aspects, respectively; (3) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 1, 2.0 mm for Fig. 2, 0.5 mm for Fig. 3 and 1.0 mm for Fig. 4.

Colour in alcohol: cephalothorax, palps and legs dorsally medium brownish orange, ventrally light yellowish brown, with darker reddish brown chelicerae and asterisk median figure on carapace; eye tubercle intensely dark brown; abdomen dorsally medium yellowish brown with grayish tint, ventral part of abdomen and PMS pale yellowish brown; dark brown dorsal abdominal pattern: narrow and slightly twisted median stripe fused with several paired dentate (festoon-edged) chevrons.



Figs 5–9: *Nemesia africana* (C.L. Koch, 1838), male AR4428: (5) tibia and metatarsus I, prolateral; (6, 7) distal segments of pedipalp, dorsal and retrolateral aspects, respectively; (8) palpal organ, ventral; (9) spinnerets, ventral. Scale bars 1.0 mm for Fig. 5, 0.5 mm for Figs 6, 7, 9 and 0.25 mm for Fig. 8.

Cephalothorax dorsally and ventrally as in Figs 2 and 4, respectively. Carapace 5.04 long, 4.02 wide. Eye tubercle as in Fig. 3. Eye diameters and interdistances: AME 0.16(0.22), ALE 0.24, PLE 0.20, PME 0.15, AME–AME 0.14(0.08), ALE–AME 0.12(0.09), ALE–PLE 0.08, PLE–PME 0.04, PME–PME 0.41. Chelicerae: each furrow with 6 promarginal teeth and about 15 tiny mesobasal denticles; rastellum with 3 heavy cone teeth and about 15 smaller spines in front of cheliceral fang. Labium 0.45 long, 0.93 wide. Sternum 2.69 long, 2.06 wide. Maxillae without cuspules.

Palp and leg structures. Tibia and metatarsus I as in Fig. 5. Spines (tarsi I–IV aspinose). Palp: femur d1–1–1–2, pd1; patella p1; tibia with 6–7 apical and subapical dorsal spines arranged in two rows; cymbium with ca. 15 short dorsal spines. Leg I: femur d1–1–1–1–3, pd1, rd1; patella p1; tibia p0–1–1, r0–1–1, pv0–1–M; rv1–1–1; metatarsus p0–1–1, r0–1–1, v0–1–2. Leg II: femur d1–1–1–1–2, pd1, rd1–1(0)–1; patella p1–1, tibia p1, r1–1, v2–2–3; metatarsus p1, r1–1, v2–2–3. Leg III: femur d1–1–1–1–2(3), pd1–1–1, rd1–1–1; patella d1–1, p1–1, r1; tibia d2–1–1, p1–1–1, r1–1, v2–2–3(2); metatarsus p1–1–2–1, r1–1–1, v2–2–3. Leg IV: femur d1–1–1–1–3(2), pd1–1–1, rd1–1–1–1; patella p1–1, r1; tibia d2–1–1–0, p1–1–2(1), r1–1, v2–2–3; metatarsus d1–1–1–1–1, p1–1–1, r1–1–1, v2–2–3. Metatarsal preening combs present on retroventral apical edge of metatarsus III (ensmalled) and IV (normally developed). Scopula entire and distal on metatarsi I and II, entire and mixed with longer setae on tarsi I and II; elsewhere absent. Trichobothria: 2 rows of 9–10 in each row on tibiae, 8–9 on metatarsi, 10–13 on tarsi, 7–8 on cymbium. Paired claws on tarsi I–III, and IV with 9–10, and 7–9 teeth in each row, respectively. Unpaired tarsal claw sharply curved.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.50	4.15	3.80	3.28	4.18
Patella	1.26	2.34	2.15	1.80	2.34
Tibia	1.64	2.77	2.57	2.15	3.82
Metatarsus	–	2.81	2.89	3.09	4.29
Tarsus	0.91	2.43	2.20	2.23	2.53
Total	6.31	14.50	13.61	12.55	17.16

Copulatory organs. Palpal tibia as in Figs 6, 7. Embolus moderately long, tapering, curved and bilaterally dentate, with 2–3 pro- and retrolateral micro-teeth (Figs 7, 8).

Spinnerets as in Fig. 9. PMS: length 0.27; diameter 0.10. PLS: maximum diameter 0.46; length of basal, medial and apical segments 0.88, 0.55, 0.15, respectively; total length 1.58; apical segment domed.

Female (MNHN 1176/AR4304; Fig. 10): Body length 20.90.

Colour in alcohol: in general as in male, but stellate pattern of carapace and chelicerae noticeably darker (dark reddish brown vs. medium reddish brown in male).

Cephalothorax dorsally and ventrally as in Figs 11 and 13, respectively. Carapace 6.82 long, 5.82 wide. Eye tubercle as in Fig. 12. Eye diameters and interdistances: AME 0.19(0.27), ALE 0.37, PLE 0.27, PME 0.17, AME–AME 0.26(0.18), ALE–AME 0.18(0.14), ALE–PLE 0.13, PLE–PME 0.07, PME–PME 0.65. Chelicerae:



Figs 10–13: *Nemesia africana* (C.L. Koch, 1838), female AR4304: (10) habitus, dorsal; (11, 13) cephalothorax, dorsal and ventral aspects, respectively; (12) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 10, 2.0 mm for Fig. 11, 0.5 mm for Fig. 12 and 1.0 mm for Fig. 13.

each furrow with 6 promarginal teeth and 4 small plus about 15 tiny mesobasal denticles; rastellum with 5–6 long heavy teeth plus 20–25 smaller subequal spines in front of cheliceral fang and on mound. Labium 0.77 long, 1.48 wide. Sternum 3.80 long, 2.99 wide. Each maxilla with 6 cuspules confined to inner maxillary heel.

Palp and leg structures. Spines: all femora with 6 (d1–1–1–1–2) very thin bristle-like spines; femora III–IV with clusters of dense and short dorsoapical setae; palpal tarsus and tarsi I–II each with 5–8 reduced ventroapical spines; palpal patella, patellae I, IV and tarsi III–IV aspinose. Palp: femur pd1; tibia v2–2–4(3); tarsus v2. Leg I: femur pd1, tibia v1–1–3(2); metatarsus v2–2–2. Leg II: femur pd1; patella p1; tibia v1–1–3(2); metatarsus v2–2–2. Leg III: femur rd1–1; patella p1–1; tibia p1–1, r1–1, v1–1–3; metatarsus p1–1–1, r1–1–1, v2–2–3. Leg IV: femur rd1(0); tibia r1–1, v2–2–3; metatarsus p1–1–1, r1–1–1, v2–2–3(2). Metatarsal preening combs as in male, present on metatarsi III and IV. Scopula entire and distal on metatarsi I and II; very narrowly divided on palpal tarsus and tarsus I; more widely divided on tarsus II; elsewhere absent. Trichobothria: 2 rows of 8–11 in each row on tibiae, 13–16 on metatarsi, 15–17 on tarsi, 13 on palpal tarsus. Palpal claw with 4 teeth on promargin. Paired claws on tarsi I and II with 2–3 teeth in inner and 3–4 teeth in outer rows, paired claws on tarsi III and IV with 0–2 and 3–4 teeth in these rows, respectively. Unpaired tarsal claw sharply curved.

Leg and palp measurements:

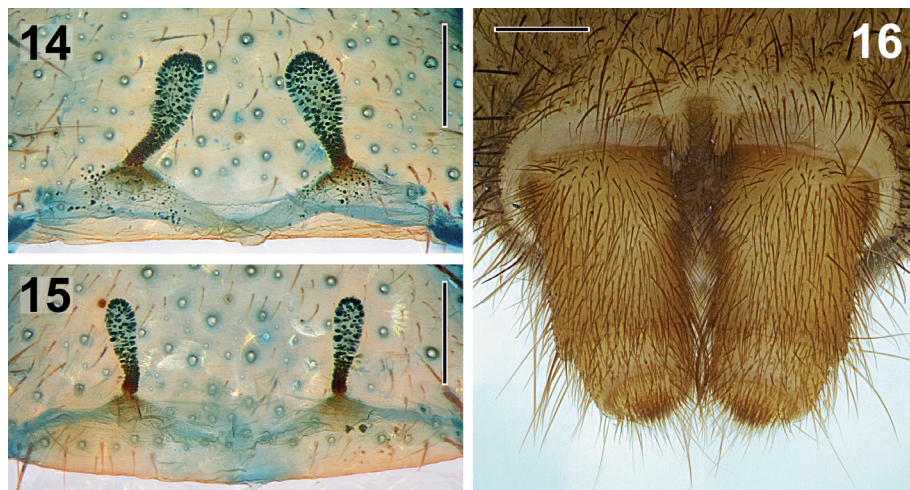
	Palp	I	II	III	IV
Femur	3.64	4.46	3.91	3.67	5.10
Patella	2.03	2.81	2.68	2.32	3.46
Tibia	2.01	2.75	2.48	2.25	4.67
Metatarsus	–	2.04	2.00	2.58	4.24
Tarsus	1.99	1.45	1.44	1.71	2.17
Total	8.67	13.51	12.51	12.53	19.64

Copulatory organs. Spermathecae moderately long and club-shaped (Figs 14 and 15).

Spinnerets as in Fig. 16. PMS: length 0.21; diameter 0.10. PLS: maximum diameter 0.81; length of basal, medial and apical segments 0.94, 0.32, 0.19, respectively; total length 1.45; apical segment domed.

Variation: Carapace length in males 4.4–5.3 mm, in females 5.2–8.6 mm. Number of maxillary cuspules varies from 2 to 6. Darker dorsal pattern of the abdomen is less distinct in paler specimens.

Material examined: *Algeria:* *Algiers Province:* 1♂, vicinity of Algiers city, unknown date and collector (MNHN 6733/AR4458); 4♂ 1♀, same collecting data but xi–xii.1886 (MNHN 9963/AR4475); 3♀, same collecting data but 1891, E. Simon (MNHN 14967/AR4450); *Blida Province:* 3♂ 16♀, surroundings of Blida city 45 km SW Algiers, unknown collector and date (MNHN 1176/AR4304); 1♂ 2♀, Chiffa, iv.1891, unknown collector (MNHN 12671/AR4428); *Boumerdès Province:* 3♂ 1♀ 1♀ subad., Qued Isser Valley 50 km E Algiers, xi–xii.1886, no other data (MNHN 9966/AR4423); *Oran Province:* 1♀, surroundings of Oran (35°42'N 0°38'W), no other data (MNHN 6163/AR4486); *Constantine Province?:* 1♀, Souk el Harras? (labelled as "Souk Harras", may also correspond to Souk Ahras), coll. Ler, no other data (MNHN 385/AR4477).



Figs 14–16: *Nemesia africana* (C.L. Koch, 1838), females AR4304 (14, 16) and AR4450 (15): (14, 15) spermathecae, dorsal (inside) aspect; (16) spinnerets, ventral. Scale bars 0.5 mm.

Distribution: Currently, the species is known only from Algeria, where it occurs in coastal and subcoastal zones in the northern part of the country.

Notes: The second record of this species in the country provided by Lucas (1846) was found during the current study to be based on misidentification and actually related to the occurrence of *N. dorthesi* (for more details see the corresponding paragraph in the Discussion). Hence, this record has now been transferred to the synonym list of the latter species. The putative records of *N. africana* indicating its distribution outside Algeria are also considered and disputed in the discussion below.

Nemesia algerina n. sp.

(Figs 17–31)

LSID: urn:lsid:zoobank.org:act:CD0BF24E-64B5-4C70-9A94-FF8811CB2413.

Etymology: The species name is a Latinized adjective derived from Algeria/ Alger/ Algiers and refers to both the country of the type locality and the locality itself.

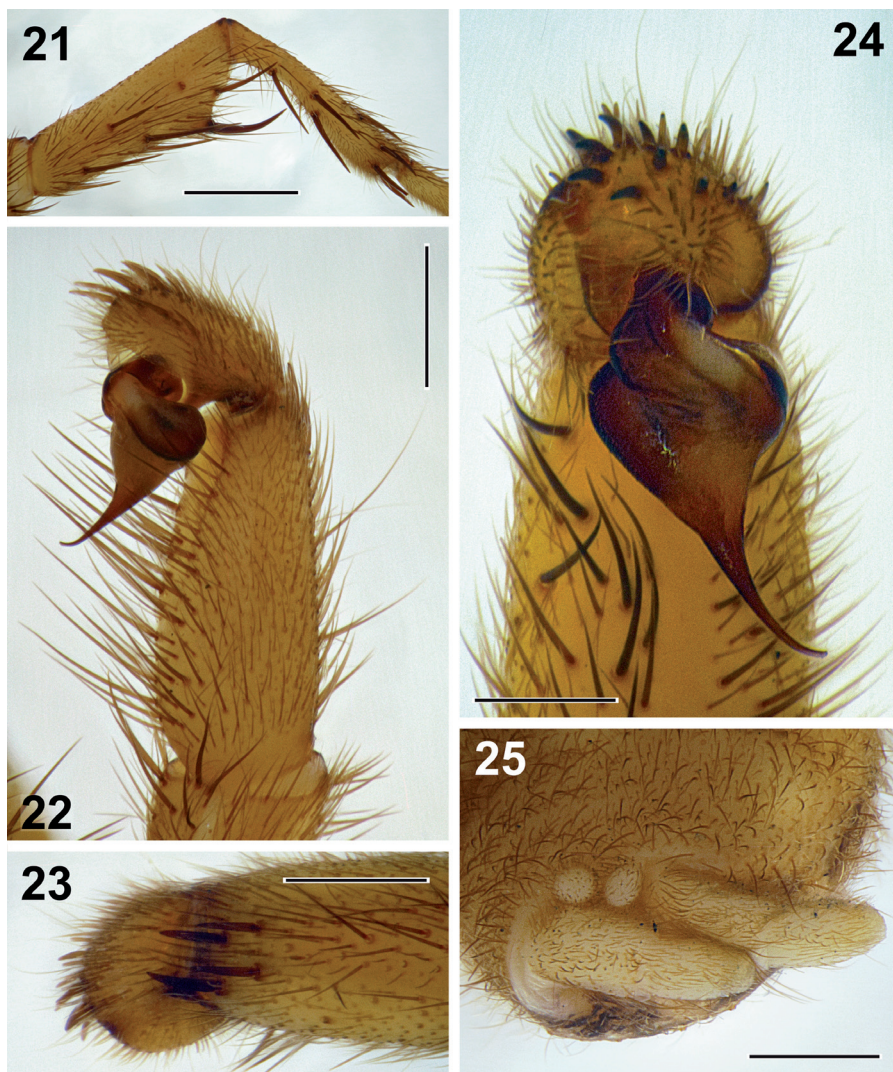
Diagnosis: In *N. algerina* n. sp. the dorsal abdominal pattern to some extent resembles that in *N. africana* (however, in the former both the chevrons and the distance between them are considerably wider; Figs 17, 26 cf. Figs 1, 11). The shape of the palpal organ (displaying a relatively short curved embolus) in *N. algerina* n. sp. resembles that in the South European *N. angustata* Simon, 1873, but differs from the latter in some details: in the new species the embolus is noticeably thicker and tapers more towards the apex and the palpal tibia is armed dorsally with two apical and two subapical spines (Figs 22–24), while in *N. angustata* the less tapered embolus is considerably thinner and the dorsal armament of the palpal tibia is

represented by three apical and one subapical spines (Frade & Bacelar 1937b: figs 9, 10; while visiting the MNHN in 2012, I examined the holotype of the latter species, and my observations confirm these data). The shape of the short and diverging spermathecae in *N. algerina* n. sp. is somewhat similar to that observed in



Figs 17–20: *Nemesia algerina* n. sp., holotype male AR4453: (17) habitus, dorsal; (18, 20) cephalothorax, dorsal and ventral aspects, respectively; (19) eye tubercle, dorsal. Scale bars 2.0 mm for Fig. 17, 1.0 mm for Figs 18, 20 and 0.25 mm for Fig. 19.

N. asterix Decae & Huber, 2017, *N. bristowei* Decae, 2005, *N. ibiza* Decae, 2005, and *N. randa* Decae, 2005 (Fig. 30 cf. Decae 2005: figs 32, 39, 67; Decae & Huber 2017: fig. 4F). However, unlike the latter group of species, representatives of *N. algerina* n. sp. possess medium-sized (not reduced) PMS and lack the preening combs on metatarsus IV.

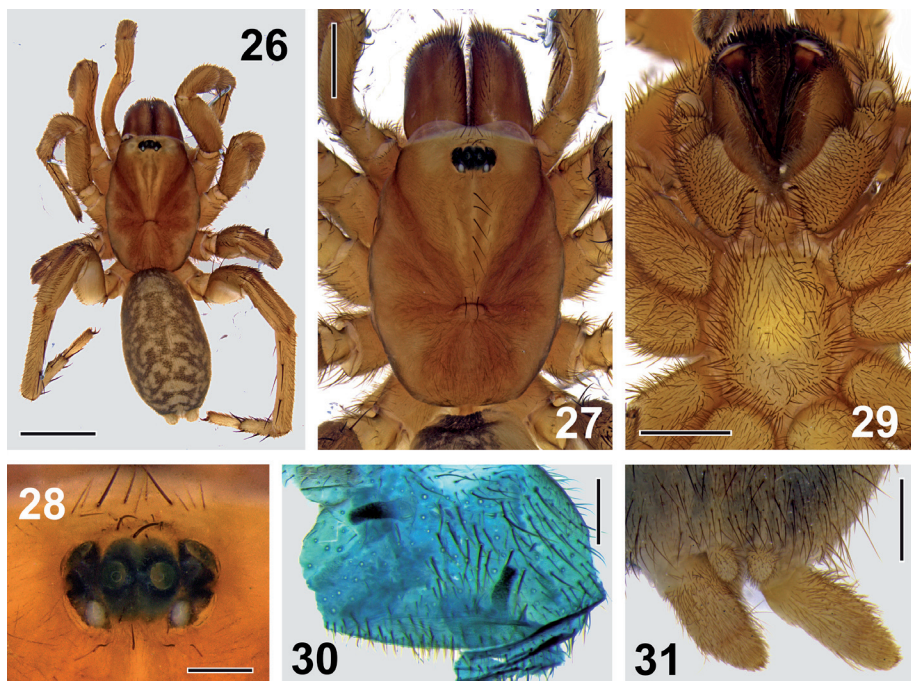


Figs 21–25: *Nemesia algerina* n. sp., holotype male AR4453: (21) tibia and metatarsus I, prolateral; (22, 23) distal segments of pedipalp, retrolateral and dorsal aspects, respectively; (24) palpal organ, ventral; (25) spinnerets, ventral. Scale bars 1.0 mm for Fig. 21, 0.5 mm for Figs 22, 23, 25 and 0.25 mm for Fig. 24.

Description: Male (holotype MNHN 4771/AR4453; Fig. 17): Body length 7.70.

Colour in alcohol: carapace medially and laterally medium ochre brown; clypeus, thoracic fovea, radial grooves, chelicerae and femora I–IV with slightly darker brownish tint; eye tubercle brownish black; palps and most part of legs I–IV light ochre brown; ventral side of cephalothorax, most part of abdomen and spinnerets brownish yellow; darker dorsal abdominal pattern consisting of interrupted median stripe and several paired lateral chevrons medium brown.

Cephalothorax dorsally and ventrally as in Figs 18 and 20, respectively. Carapace 3.54 long, 2.59 wide. Eye tubercle as in Fig. 19. Eye diameters and interdistances: AME 0.12(0.16), ALE 0.18, PLE 0.14, PME 0.10, AME–AME 0.09(0.05), ALE–AME 0.07(0.05), ALE–PLE 0.05, PLE–PME 0.02, PME–PME 0.28. Chelicerae: each furrow with 5–6 promarginal teeth and with about 15 extremely small and poorly discernible mesobasal denticles; rastellum with 4–5 heavy cone teeth in front of cheliceral fang, and with ca. 12 smaller teeth in front of cone teeth row. Labium 0.26 long, 0.53 wide. Sternum 1.98 long, 1.40 wide. Each maxilla with 3 cuspsules confined to inner maxillary heel.



Figs 26–31: *Nemesia algerina* n. sp., paratype female AR4472: (26) habitus, dorsal; (27, 29) cephalothorax, dorsal and ventral aspects, respectively; (28) eye tubercle, dorsal; (30) spermathecae, dorsal (inside) aspect; (31) spinnerets, ventral. Scale bars 2.0 mm for Fig. 26, 1.0 mm for Figs 27, 29, 0.25 mm for Fig. 28 and 0.5 mm for Figs 30, 31.

Palp and leg structures. Tibia and metatarsus I as in Fig. 21. Spines (tarsi I–IV aspinose). Palp: femur d1–1–2, dp1; patella p1; tibia with 4 (2 apical and 2 subapical) dorsal spines; cymbium with 12(15) short dorsal spines. Leg I: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1; tibia p1–1–0, pv1–1–M; rv1–1–1; metatarsus d2, p1–0–1, r0–1–1, v1–1–2. Leg II: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1; tibia p1–1–0, v2–2–2; metatarsus d2, p1–0–1, r0–1–1, v2–1–2. Leg III: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1–1, r1; tibia d1–1–0, p1–1–1, r1–1–1, v2–2–2; metatarsus d1–1–0–0, pd0–1–1–1, p1–1–1, r1–1–1, v3(2)–2–3. Leg IV: femur d1–1–1–1–2, pd1–1–0, rd1–1–1; patella r1; tibia p1–1–1, r1–1–1, v2–2–2; metatarsus pd1–1–1–1, p1–1–1, r1–1–1, v2–2–3(2). Metatarsal preening combs absent. Scopula entire and distal on metatarsi I and II; entire on tarsi I and II; very sparse and mixed with setae on tarsus III; absent on tarsus IV. Trichobothria: 2 rows of 7–8 in each row on tibiae, 10–13 on metatarsi, 10–12 on tarsi, 7–8 on cymbium. Paired claws on tarsi I–IV with 8–11 teeth in each row. Unpaired tarsal claw small and sharply curved.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	1.69	2.90	2.59	2.31	3.20
Patella	0.77	1.64	1.51	1.26	1.85
Tibia	1.14	2.05	1.86	1.62	3.43
Metatarsus	–	1.97	1.70	2.21	3.14
Tarsus	0.64	1.45	1.28	1.44	1.67
Total	4.24	10.01	8.94	8.84	13.29

Copulatory organs. Palpal tibia moderately swollen with few dorsal spines: 2+2 in subapical and apical rows, respectively (Figs 22, 23). Embolus relatively short, tapered and slightly curved subapically (Figs 22, 24).

Spinnerets as in Fig. 25. PMS: length 0.20; diameter 0.14. PLS: maximum diameter 0.31; length of basal, medial and apical segments 0.48, 0.36, 0.08, respectively; total length 0.92; apical segment domed.

Female (paratype MNHN 9964/AR4472; Fig. 26): Body length 9.35.

Colour in alcohol: as in male, with darker and more contrast dorsal pattern on carapace and abdomen.

Entire female body in dorsal aspect and cephalothorax dorsally and ventrally as in Figs 26, 27 and 29. Carapace 3.82 long, 3.11 wide. Eye tubercle as in Fig. 28. Eye diameters and interdistances: AME 0.13(0.17), ALE 0.19, PLE 0.15, PME 0.10, AME–AME 0.10(0.06), ALE–AME 0.08(0.06), ALE–PLE 0.07, PLE–PME 0.03, PME–PME 0.33. Chelicerae: each furrow with 6 promarginal teeth and 15–20 extremely small mesobasal denticles; rastellum: 4 large and about 15 smaller spines in front of cheliceral fang base. Labium 0.44 long, 0.81 wide. Sternum 2.12 long, 1.73 wide. Each maxilla with 3 or 4 cusps confined to inner maxillary heel.

Palp and leg structures. Spines: palpal tarsus and tarsi I and II each with 7–10 short and small ventroapical spines; palpal patella, patella IV and tarsi III–IV as-

pinose. Palp: femur d1-1-1-2, pd1; tibia p1-1, v1-1-3; tarsus v2. Leg I: femur d1-1-1-1-2, pd1, patella p1; tibia p1, v1-1-2; metatarsus v2-1-3. Leg II: femur d1-1-1-1-2, pd1; patella p1; tibia p1, v1-1-2; metatarsus p1, v2-1-2. Leg III: femur d1-1-1-1, pd1-1-1, rd1-1-1; patella p1-1, r1; tibia p1-1, r1-1, v2-2-2; metatarsus d1(0)-1-1, p1-1-1, r1-1-1, v2-2-3. Leg IV: femur d1-1-1-1, rd1; tibia r1-1-1, v2-2-2; metatarsus p1-1, pd1-1, r1-1, v2-2-3. Metatarsal preening combs absent. Scopula entire on and distal on metatarsi I and II; narrowly divided on palpal tarsus and tarsus I; widely divided on tarsus II; elsewhere absent. Trichobothria: 2 rows of 7–8 in each row on tibiae, 9–12 on metatarsi, 10–13 on tarsi, 8 on palpal tarsus. Palpal claw with 3 teeth on promargin. Paired claws on tarsi I–II, III and IV with 4–5, 3–5, and 3–4 teeth in each row, respectively. Unpaired tarsal claw small and sharply curved.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.05	2.71	2.37	2.23	2.96
Patella	1.18	1.67	1.31	1.23	1.76
Tibia	1.28	1.76	1.55	1.19	2.98
Metatarsus	–	1.36	1.34	1.55	2.41
Tarsus	1.23	0.95	0.91	1.04	1.27
Total	5.74	8.45	7.48	7.24	11.38

Copulatory organs. Spermathecae stump-like, with short and robust stalks and weakly delimited heads, their right and left branches are slightly inclined sideways in different directions from each other (Fig. 30).

Spinnerets as in Fig. 31. PMS: length 0.25; diameter 0.17. PLS: maximum diameter 0.41; length of basal, medial and apical segments 0.52, 0.37, 0.09, respectively; total length 0.98; apical segment domed.

Variation: Carapace length in males 3.4–3.5 mm, in females 3.8–4.2 mm. Darker dorsal pattern of the abdomen is almost uniform in all specimens.

Holotype: ♂ **Algeria:** *Algiers Province:* surroundings of Algiers (36°45'N 03°33'E), no other data (MNHN 4771/AR4453).

Paratypes: **Algeria:** 1♂, collected together with holotype (MNHN 4771/AR4453); 3♀ 2♀ subad., Algiers, no other data (MNHN 6733/AR4458); 2♀, same collection data as in holotype but xi–xii.1886 (MNHN 9964/AR4472).

Distribution: Known only from surroundings of Algiers.

Nemesia almoravida n. sp.

(Figs 32–48)

LSID: urn:lsid:zoobank.org:act:A0971620-09D2-408B-AEB7-175CD24671AB.

Etymology: The species name is a Latinized adjective referring to the period of the medieval Maghreb (a part of North Africa, including Algeria) under the authority of the Almoravid dynasty (XII–XIII centuries CE).

Diagnosis: Due to the presence of the retroventral preening combs on metatarsi IV, the new species appears to be similar to *N. dido* n. sp., *N. tanit* n. sp. and to

several South European species related to *N. bristowei* (see the diagnosis of the previously listed species). However, representatives of *N. almoravida* n. sp. differ from all these species in possessing normally developed (i.e., not reduced) PMS. A peculiar shape of the bent and curved embolus distinguishes *N. almoravida* n. sp.



Figs 32–35: *Nemesia almoravida* n. sp., holotype male MNHN 6896: (32) habitus, dorsal; (33, 35) cephalothorax, dorsal and ventral aspects, respectively; (34) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 32, 1.0 mm for Figs 33, 35 and 0.25 mm for Fig. 34.

from the congeners that possess comparable long emboli: *N. decaei* n. sp. and two undescribed Tunisian species (Figs 37–39 cf. Figs 72, 73, 148–150). In addition, the only known male of *N. almoravida* n. sp. has only one dorsodistal spine on the palpal tibia (Fig. 40), while males of other *Nemesia* species usually possess 3–4 or even more similarly located spines. Females of *N. almoravida* n. sp. resemble



Figs 36–41: *Nemesia almoravida* n. sp., holotype male MNHN 6896: (36) tibia and metatarsus I, prolateral; (37) distal segments of pedipalp, retrolateral; (38, 39) palpal organ, retrolateral and ventral aspects, respectively; (40) cymbium and subapical part of palpal tibia, showing spine comb, dorsal; (41) spinnerets, ventral. Scale bars 1.0 mm for Fig. 36, 0.5 mm for Figs 37, 40, 41 and 0.25 mm for Figs 38, 39.

those of *N. didieri* in possessing the similarly shaped/arranged eye group, spinnerets and spermathecae. They differ, however, in details of ornamentation on the dorsal abdomen (Figs 42 and 90), proportions of the sternum (wider in *N. didieri*; Fig. 45 cf. Fig. 94) and in the structure of the spermathecae (with shorter stalks in *N. almoravida* n. sp. vs. longer ones in *N. didieri*; Fig. 46, 47 cf. Fig. 94).

Description: Male (holotype MNHN 6896; Fig. 32): Body length 10.55.

Colour in alcohol: carapace dull brownish orange (darker stellate pattern of carapace almost faded); chelicerae light brownish red; eye tubercle brownish black; palpal and leg segments medium to pale yellowish orange; sternum, labium, maxillae, and leg coxae light brownish yellow; ventral surface of abdomen and spinnerets very pale brownish yellow; dorsal abdomen with faded brown pattern consisting of large vague spot in anterior part and several pairs of weak and diffuse chevrons posteriorly.

Cephalothorax dorsally and ventrally as in Figs 33 and 35, respectively. Carapace 4.43 long, 3.62 wide. Eye tubercle as in Fig. 34. Eye diameters and interdistances: AME 0.14(0.21), ALE 0.22, PLE 0.19, PME 0.12, AME–AME 0.13(0.06), ALE–AME 0.10(0.06), ALE–PLE 0.06, PLE–PME 0.04, PME–PME 0.35. Chelicerae: each furrow with 6 promarginal teeth and about 15 mesobasal denticles; rastellum with 6 heavy and about 10 smaller cone teeth in front of cheliceral fang. Labium 0.41 long, 0.92 wide. Sternum 2.23 long, 1.92 wide. Each maxilla with 2–3 thin rod-like cuspules confined to inner maxillary heel.

Palp and leg structures. Tibia and metatarsus I as in Fig. 36. Spines (tarsi I–IV aspinose). Palp: femur d1–1–2; patella p1; tibia with only one short dorsoapical spine; cymbium with about 12 short dorsal spines. Leg I: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1; tibia p1–1, r1–1, pv1–1–M; rv1–1–1; metatarsus p1–1–1, r1–1–1, v1–1–2. Leg II: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1, r1; tibia p1–1, r0–1, v2–2–3; metatarsus d1–1, p1–1–1, r1–1–1, v2–2(1)–1(0)–3. Leg III: femur d 1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1(0)–1–1, r1(0); tibia d2–1–0, p1–1, r1–1, v2–2–3; metatarsus d1–1, p1–1–1, r1–1–1, v2–2–3; Leg IV: femur d 1–1–1–1–2, pd1–1–1, rd1–1–1; patella r1; tibia p1–1–1, r2–1–1, v3(2)–2–3; metatarsus d1–1, p1–1–1, r1–1–1, v2–2–3. Metatarsal preening comb present on apical retroventral edge of metatarsus IV. Scopula entire and distal on metatarsi I and II, entire on tarsus I, narrowly divided on tarsus II, elsewhere absent. Trichobothria: 2 rows of 9–10 in each row on tibiae, 10–11 on metatarsi, 10–14 on tarsi, 9 on cymbium. Paired claws on tarsi I–IV with 8–9 teeth on each margin.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.44	3.61	3.39	3.08	3.83
Patella	1.12	1.98	1.60	1.57	1.98
Tibia	1.68	2.23	2.12	2.04	3.99
Metatarsus	—	2.49	2.45	2.83	3.95
Tarsus	0.85	1.84	1.49	1.76	2.01
Total	6.09	12.15	11.05	11.28	15.76

Copulatory organs. Palpal tibia moderately short, with single dorsoapical spine (Figs 37, 40). Palpal organ with thin, curved and gradually tapering embolus (Figs 38, 39).



Figs 42–45: *Nemesia almoravida* n. sp., paratype female AR4428: (42) habitus, dorsal; (43, 45) cephalothorax, dorsal and ventral aspects, respectively; (44) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 42, 2.0 mm for Fig. 43, 0.5 mm for Fig. 44 and 1.0 mm for Fig. 45.

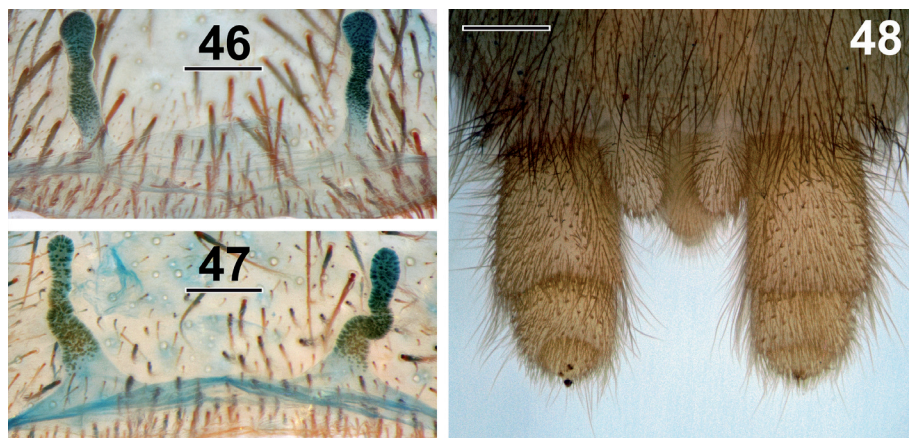
Spinnerets as in Fig. 41. PMS: length 0.35; diameter 0.19. PLS: maximum diameter 0.47; length of basal, medial and apical segments 0.79, 0.22, 0.11, respectively; total length 1.12; apical segment domed.

Female (paratype MNHN 12671/AR4428; Fig. 42): Body length 16.10.

Colour in alcohol: carapace, chelicerae, palps and legs medium brownish orange, with darker brown clypeus, H-shaped area on carapace and all femora; eye tubercle brownish black; sternum brownish yellow; labium, maxillae, leg coxae and PLS light brownish orange; most part of abdomen and PMS light brownish grey; darker dorsal abdominal pattern consisting of narrow median stripe fused with several paired lateral chevrons medium brown.

Cephalothorax dorsally and ventrally as in Figs 43 and 45, respectively. Carapace 6.24 long, 4.79 wide. Eye tubercle as in Fig. 44. Eye diameters and interdistances: AME 0.15(0.27), ALE 0.28, PLE 0.22, PME 0.14, AME–AME 0.22(0.10), ALE–AME 0.16(0.10), ALE–PLE 0.07, PLE–PME 0.03, PME–PME 0.52. Chelicerae: each furrow with 6 promarginal teeth and ca. 20 mesobasal denticles; rastellum: 4 large and about 15 smaller spines in front of cheliceral fang base. Labium 0.66 long, 1.14 wide. Sternum 3.43 long, 2.43 wide. Each maxilla with 2 or 3 cuspsules confined to inner maxillary heel.

Palp and leg structures. Spines: femora I–IV dorsally with 6–7 very thin bristle-like spines; palpal tarsus and tarsi I and II each with 15–20 short and small ventroapical spines; patella IV and tarsi III–IV aspinose. Palp: femur d1–1–2, pd1; patella p1; tibia v2(1)–2–4; tarsus v2. Leg I: femur pd1, patella p2(0); tibia v1–1–1–2; metatarsus v2–1–3. Leg II: femur pd1; patella p1–1; tibia v1–1–3(2); metatarsus v2–1–3. Leg III: femur pd1–1–1, rd1–1–1; patella p1–1–1, r1; tibia p1–1, r1–1, v2–2–2; metatarsus d1, p1–1–1–1, r1–1–1, v2–2–3. Leg IV: femur rd1; tibia r1–1, v2–2(1)–2; meta-



Figs 46–48: *Nemesia almoravida* n. sp., paratype females AR4428 (46, 48) and AR4446 (47): (46, 47) spermathecae, dorsal (inside) aspect; (48) spinnerets, ventral. Scale bars 0.25 mm for Figs 46, 47 and 0.5 mm for Fig. 48.

tarsus p1–1, v2–2–3. Metatarsal preening combs present on metatarsus IV (absent in some paratype females). Scopula entire on and distal on metatarsi I and II; narrowly divided on palpal tarsus and tarsus I; widely divided on tarsus II; elsewhere absent. Trichobothria: 2 rows of 10–11 in each row on tibiae, 14–15 on metatarsi, 13–16 on tarsi, 11 on palpal tarsus. Paired claws on tarsi I and II with 3–4/7–8 teeth in inner/outer rows, paired claws on tarsi III and IV with 3–4/6 and 2/4 teeth in these rows, respectively. Palpal claw with 3 teeth on promargin.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.91	4.04	3.75	3.18	4.26
Patella	1.62	2.52	2.37	1.87	3.19
Tibia	1.79	2.48	2.21	1.91	4.46
Metatarsus	–	2.20	2.13	2.59	3.70
Tarsus	1.95	1.59	1.51	1.34	1.67
Total	8.27	12.83	11.97	10.89	17.28

Copulatory organs. Spermathecae relatively long, gently twisted and tapered, with only slightly dilated heads (Figs 46, 47).

Spinnerets as in Fig. 48. PMS: length 0.56; diameter 0.35. PLS: maximum diameter 0.75; length of basal, medial and apical segments 0.96, 0.34, 0.17, respectively; total length 1.47; apical segment domed.

Variation: Carapace length in females varies from 5.8 to 6.2 mm.

Holotype: ♂ **Algeria:** *Algiers Province:* surroundings of Algiers (36°45'N 03°33'E), no other data (MNHN 6896).

Paratypes: **Algeria:** *Blida Province:* 1♀, Chiffa (labelled as "La Choffa"; 36°28'N 2°45'E), iv.1882, E. Simon (MNHN 2190/AR4446); 3♀, same locality (labelled as "La Chiffa"), iv.1882, E. Simon (MNHN 12671/AR4428).

Distribution: Known only from the surrounding of Algiers.

Nemesia annaba n. sp.

(Figs 49–65)

LSID: urn:lsid:zoobank.org:act:7B93ED24-8C26-4226-AA10-CD7F73FE357B.

Etymology: The species name refers to the type locality, Annaba, and is a noun in apposition.

Diagnosis: In having a similar type of dorsal abdominal pattern, *N. annaba* n. sp. resembles two South European species, *N. congener* O. Pickard-Cambridge, 1874 and *N. dubia* O. Pickard-Cambridge, 1874. The shape of the palpal organ (provided with a moderately long, tapering and gradually curved embolus) in *N. annaba* n. sp. also resembles the corresponding structures in the two latter species, but differs from them in details: in the new species the embolus is noticeably thicker and tapers more towards the apex than in *N. congener*, and the narrow distal part of the embolus in *N. annaba* n. sp. appears to be considerably longer than in *N. dubia*

(Figs 54, 56, 57 cf. Simon 1914: fig. 32; Blasco Feliu 1986b: fig. 2b). The shape of the spermathecae in *N. annaba* n. sp. is similar to that in *N. tanit* n. sp. (Figs 63, 64, 139). However, representatives of *N. annaba* n. sp. have normally developed PMS with numerous spigots, while in *N. tanit* n. sp. PMS are noticeably reduced (Fig. 65 cf. Fig. 140).



Figs 49–52: *Nemesia annaba* n. sp., holotype male AR4485: (49) habitus, dorsal; (50, 52) cephalothorax, dorsal and ventral aspects, respectively; (51) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 49, 1.0 mm for Figs 50, 52 and 0.25 mm for Fig. 51.

Description: Male (holotype MNHN 292/AR4485; Fig. 49): Body length 13.40.

Colour in alcohol: carapace, chelicerae, palps and legs medium ochre brown, with darker brown clypeus, H-shaped area on carapace and all femora; eye tubercle brownish black; sternum, labium, maxillae, and leg coxae intensely brownish yellow; ventral surface of abdomen and PLS light brownish yellow; dorsal abdomen light ochre brown with medium brown pattern consisting of extensive dimming anteriorly, interrupted and diffuse axial band medially and several pairs of widely spaced lateral chevrons posteriorly.

Cephalothorax dorsally and ventrally as in Figs 50 and 52, respectively. Carapace 4.76 long, 3.79 wide. Eye tubercle as in Fig. 51. Eye diameters and interdistances:



Figs 53–58: *Nemesia annaba* n. sp., holotype male AR4485: (53) tibia and metatarsus I, prolateral; (54, 55) distal segments of pedipalp, retrolateral and dorsal aspects, respectively; (56, 57) palpal organ, ventral and retroventral aspects, respectively; (58) spinnerets, ventral. Scale bars 1.0 mm for Figs 53, 54 and 0.5 mm for Figs 55–58.

AME 0.14(0.20), ALE 0.22, PLE 0.21, PME 0.11, AME–AME 0.15(0.09), ALE–AME 0.10(0.07), ALE–PLE 0.07, PLE–PME 0.03, PME–PME 0.35. Chelicerae: each furrow with 7 promarginal teeth and about 15 very small mesobasal denticles; rastellum with 6 heavy and a few smaller cone teeth in front of cheliceral fang. Labium 0.40 long, 0.91 wide. Sternum 2.57 long, 1.96 wide. Each maxilla with 3 long thin cuspules confined to inner maxillary heel.

Palp and leg structures. Tibia and metatarsus I as in Fig. 53. Spines (palpal patella and tarsi I–IV aspinose). Palp: femur d1–1–2; tibia dorsally with 3 apical and one subapical spines; cymbium with about 15 short dorsal spines. Leg I: femur d1–1–1–2, pd0–1–1, rd1–1–1; patella p1–1; tibia p1–1, pv1–1–M; rv1–1–1; metatarsus p1–1, r1, v1–1–2. Leg II: femur d1–1–1–2, pd0–1–1, rd1–1–1; patella p1–1; tibia p1–1–1, v2–2–3(2); metatarsus p1–1, r1, v2–1–2. Leg III: femur d 1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1, r1; tibia d2(1)–1, p1(0)–1–1, r1(0)–1–1, v2–2–2; metatarsus d5(7), p1–1–1, r1–1, v2–2–3; Leg IV: femur d 1–1–1–2, pd1–1, rd1(0)–1–1; patella r1; tibia d1, p1, r1–1–1, v2–2–2; metatarsus d10(15), p1–1–1, v3–2–3. Metatarsal preening combs absent. Scopula entire on tarsi I and II; entire and distal on metatarsi I and II; divided and mixed with setae on tarsus III, absent on tarsus IV. Trichobothria: 2 rows of 9–10 in each row on tibiae, 13–15 on metatarsi, 12–14 on tarsi, 11–12 on cymbium. Paired claws of tarsi I–IV with 8–10 teeth in each row.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.56	3.99	3.47	3.22	4.34
Patella	1.24	2.46	1.92	1.47	2.31
Tibia	1.66	2.69	2.39	2.27	4.72
Metatarsus	—	2.67	2.46	2.84	4.08
Tarsus	0.82	2.05	1.98	1.84	2.23
Total	6.28	13.86	12.22	11.64	17.68

Copulatory organs. Palpal tibia moderately short, dorsally with few apical and subapical spines (Figs 54, 55). Palpal organ with moderately long, slightly curved and gradually tapering embolus (Figs 54, 56, 57).

Spinnerets as in Fig. 58. PMS: length 0.38; diameter 0.23. PLS: maximum diameter 0.49; length of basal, medial and apical segments 0.73, 0.39, 0.19, respectively; total length 1.31; apical segment domed.

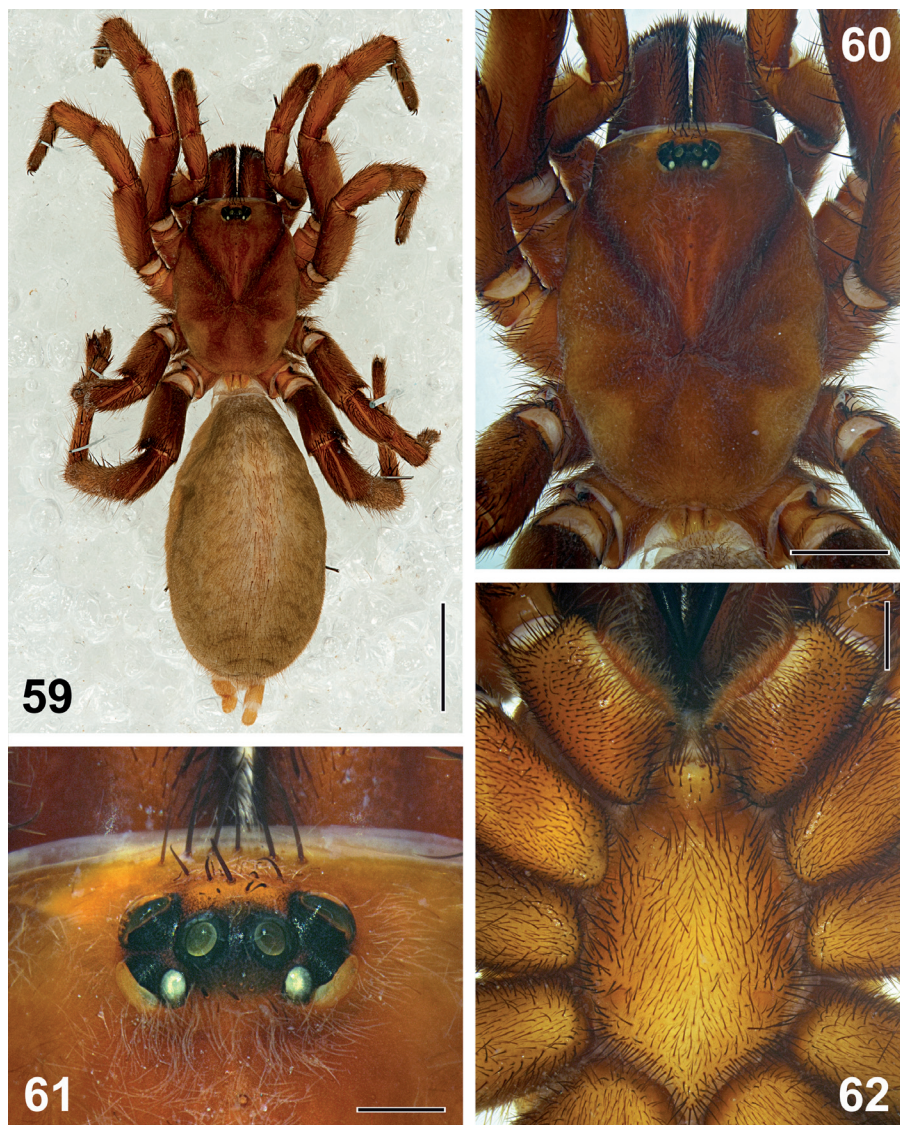
Female (paratype MNHN 292/AR4485; Fig. 59): Body length 23.90.

Colour in alcohol: as in male, but clypeus and margins of carapace paler, whereas chelicerae and dorsal pattern on carapace darker and more contrast than in male.

Cephalothorax dorsally and ventrally as in Figs 60 and 62, respectively. Carapace 7.96 long, 5.67 wide. Eye tubercle as in Fig. 61. Eye diameters and interdistances: AME 0.20(0.28), ALE 0.38, PLE 0.36, PME 0.20, AME–AME 0.20(0.12), ALE–AME 0.20(0.16), ALE–PLE 0.10, PLE–PME 0.04, PME–PME 0.56. Chelicerae: each furrow with 6 promarginal teeth and 19–20 mesobasal denticles; rastellum with 5–6 heavy and about 25 smaller cone teeth in front of cheliceral fang. Labium 0.77

long, 1.32 wide. Sternum 3.86 long, 2.91 wide. Each maxilla with 2–3 cuspules confined to inner maxillary heel.

Palp and leg structures. Spines (palpal tarsus and tarsi I–II with 10–12 small ventroapical spines; patella IV and tarsi III–IV aspinose). Palp: femur d1–1–1–2,



Figs 59–60: *Nemesia annaba* n. sp., paratype female AR4485: (59) habitus, dorsal; (60, 62) cephalothorax, dorsal and ventral aspects, respectively; (61) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 59, 2.0 mm for Fig. 60, 0.5 mm for Fig. 61 and 1.0 mm for Fig. 62.

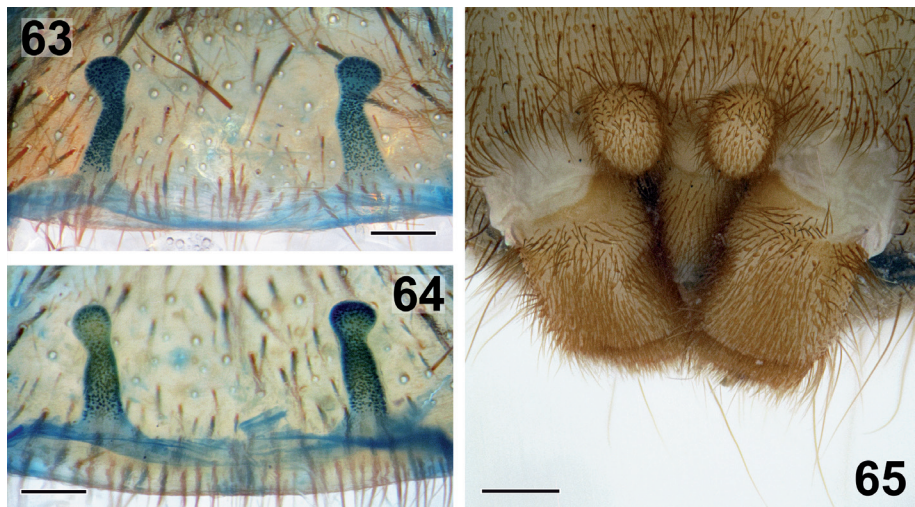
pd1; patella p1-1; tibia p1-1, v2-2-3; tarsus v2. Leg I: femur d1-1-1-1-2, pd1; patella p1-1; tibia p1-1, v1-1-3(2); metatarsus v2-1(0)-3(2). Leg II: femur d1-1-1-1-2, pd1; patella 1-1; tibia p1-1, v1-1-3; metatarsus p1, v2-1-3. Leg III: femur d1-1-1-1-2, pd1-1, rd1-1; patella p1-1-1; tibia p1-1, r1-1, v2(1)-2-3; metatarsus d1, p1-1-1-1, r1-1-1, v2-2-3. Leg IV: femur d 1-1-1-1+few bristles, pd1; tibia r1-1-1, v2-2-3; metatarsus p1, rd1-1, v2-2-3. Metatarsal preening combs absent. Scopula entire and distal on metatarsi I and II; narrowly divided on palpal tarsus and tarsus I, widely divided on tarsus II; elsewhere absent. Trichobothria: 2 rows of 10-11 in each row on tibiae, 14-16 on metatarsi, 13-15 on tarsi, 11 on palpal tarsus. Palpal claw with 4 promarginal teeth. Inner/outer margins of PTC I-II and PTC III-IV with 4/5 and 4/4 teeth, respectively.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	3.52	4.83	4.52	3.75	5.31
Patella	2.15	3.21	2.82	2.36	3.52
Tibia	2.06	2.95	2.45	2.08	5.45
Metatarsus	—	2.61	2.46	2.85	4.30
Tarsus	2.26	1.66	1.68	1.82	2.11
Total	9.99	15.26	13.93	12.86	20.69

Copulatory organs. Spermathecae bowl-shaped with slightly curved stumpy stalks ending with dilated heads (see Figs 63, 64).

Spinnerets as in Fig. 65. PMS relatively large and thick: length 0.61; diameter 0.39. PLS: maximum diameter 0.78; length of basal, medial and apical segments 1.14, 0.52, 0.15, respectively; total length 1.81; apical segment domed.



Figs 63–65: *Nemesia annaba* n. sp., paratype females AR4485: (63, 64) spermathecae, dorsal (inside) aspect; (65) spinnerets, ventral. Scale bars 0.5 mm.

Variation: Carapace length in females varies from 6.3–8.5 mm. Number of maxillary cuspules in females varies from 1 to 6. Darker dorsal pattern of the abdomen in some females appears poorly discernible.

Holotype: ♂ **Algeria:** *Annaba Province:* surroundings of Annaba (labelled as “Bône»; 36°54'N 7°46'E), no other data, probably 1882–1885, E. Simon (MNHN 292/AR4485).

Paratypes: **Algeria:** *Annaba Province:* 5♀, same collection data as holotype (MNHN 292/AR4485); 8♀, Annaba (labelled as “Bône»), no other data (MNHN 12017/AR4430).

Distribution: Known only from the type locality.

Nemesia decaei n. sp.

(Figs 66–81)

LSID: urn:lsid:zoobank.org:act:90664DCF-74B3-4C24-89D3-D79B6EF7367F.

Etymology: The species is named in honour of the prominent Dutch arachnologist Arthur Decae, who published a number of studies devoted to the taxonomy and ecology of *Nemesia* and described several new species in this genus.

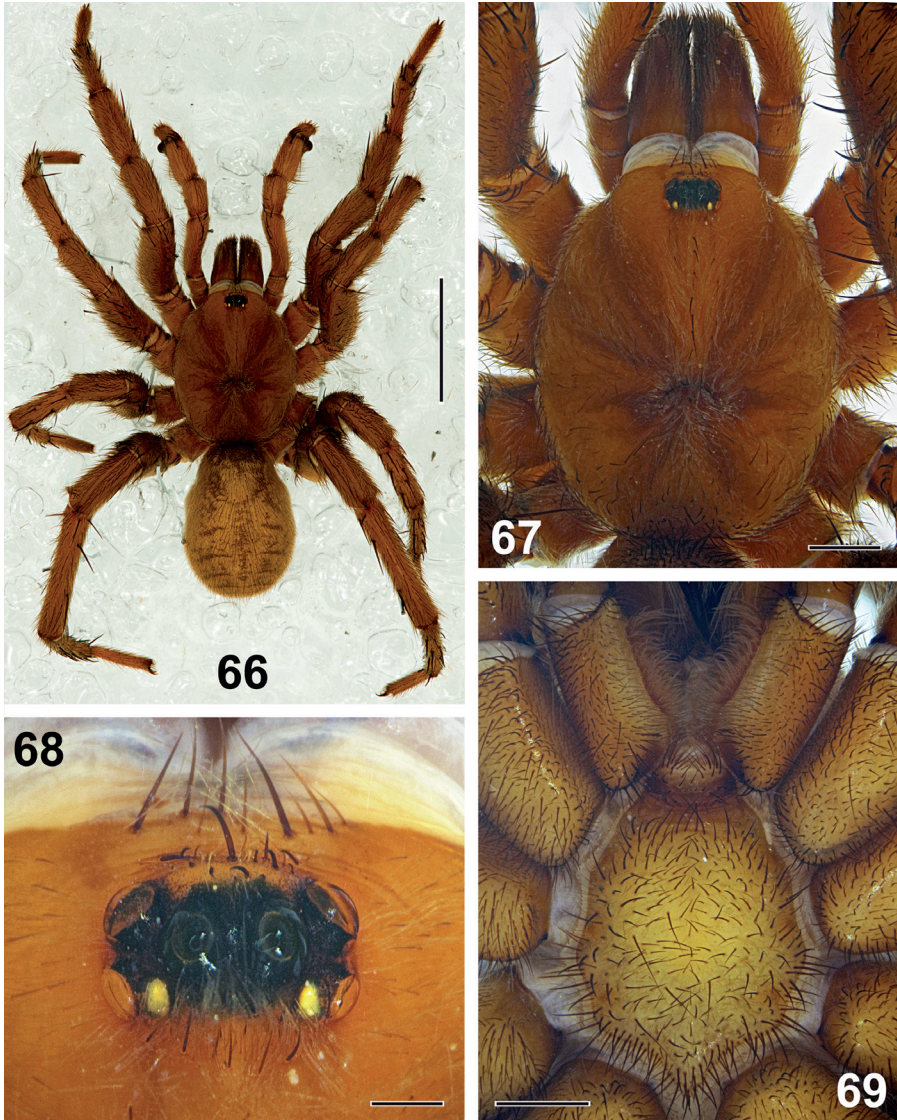
Diagnosis: Male of this new species differs from most male congeners in having a very long and hardly curved embolus (more than 3 times as long as the tegulum). Only the males of two so far undescribed Tunisian *Nemesia* spp. and *N. almoravida* n. sp. possess comparably long and similarly extended and tapered emboli; however, unlike *N. decaei* n. sp., these emboli are either noticeably shorter, or more strongly curved and bent or narrower at their base (Figs 72, 73 cf. Figs 37–39, 148–150). Females of *N. decaei* n. sp., with their long and multiple twisted stalks of the spermathecae, can be easily distinguished from females of most other species of *Nemesia*. Similarly shaped spermathecae are found in several undescribed *Nemesia* species from Tunis; however, even in this case they clearly differ in shape from the structure characteristic for *N. decaei* n. sp. (Figs 79, 80 cf. Figs 154, 155, 157).

Description: Male (holotype MNHN 6163/AR4486; Fig. 66): Body length 13.40.

Colour in alcohol: carapace (with slightly darker stellate pattern), leg and palp segments medium to dark ochre brown; stellate pattern of carapace and chelicerae slightly darker reddish brown; clypeus paler, brownish yellow; eye tubercle brownish black; sternum, labium, maxillae, and leg coxae ventrally light yellowish orange; ventral surface of abdomen and spinnerets light yellowish brown; abdomen dorsally light ochre brown with darker brown pattern consisting of diffuse interrupted median strip and several pairs of narrow lateral chevrons.

Cephalothorax dorsally and ventrally as in Figs 67 and 69. Carapace 5.58 long, 4.28 wide. Eye tubercle as in Fig. 68. Eye diameters and interdistances: AME 0.17(0.23), ALE 0.24, PLE 0.18, PME 0.12, AME–AME 0.16(0.10), ALE–AME 0.10(0.07), ALE–PLE 0.12, PLE–PME 0.04, PME–PME 0.44. Chelicerae: each furrow with 6 promarginal teeth and ca. 15 mesobasal denticles; rastellum with 4–5 large spines in front of cheliceral fang. Labium 0.52 long, 0.99 wide. Sternum 2.81 long, 2.32 wide. Each maxilla with 3 small cuspules confined to inner maxillary heel.

Palp and leg structures. Tibia and metatarsus I as in Fig. 70. Spines (tarsi I–IV aspinose). Palp: femur d1–1–2, dp1; patella p1; tibia with 4 heavy curved dorsoapical spines; cymbium with about 15 short dorsal spines. Leg I: femur d1–1–1–1–2, pd1–0–1–1, rd1–1–1–1; patella p1–1; tibia p1–1, r1–1, pv0–1–M; rv1–1–1; metatarsus



Figs 66–69: *Nemesia decaei* n. sp., holotype male AR4486: (66) habitus, dorsal; (67, 69) cephalothorax, dorsal and ventral aspects, respectively; (68) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 66, 1.0 mm for Figs 67, 69 and 0.25 mm for Fig. 68.

p1-1, r1-1-1, v1-1-2. Leg II: femur d1-1-1-1-2, pd1-0-1-1, rd1-1-1-1; patella p1-1; tibia p1-1, r1-1, v1-2-2; metatarsus p1-1, r1-1-1, v1-1-2. Leg III: femur d1-1-1-1-2, pd1-1-1, rd1-1-1; patella p1-1, r1; tibia d1-1-1, p1-1-1, r1-1, v2-2-3;



Figs 70–74: *Nemesia decaei* n. sp., holotype male AR4486: (70) tibia and metatarsus I, prolateral; (71, 72) distal segments of pedipalp, dorsal and retrolateral aspects, respectively; (73) palpal organ, ventral; (74) spinnerets, ventral. Scale bars 1.0 mm for Fig. 70 and 0.5 mm for Figs 71–74.

metatarsus d1-1-1-1, p1-1-1, r1-1-1-1, v2-2-3; Leg IV: femur d 1-1-1-1-2, pd1-1-1-1, rd1-1-1-1; patella p1, r1; tibia p1-1-1, r2-1-1, v3-2-3; metatarsus d1-1-1, p1-1-1, r1-1-1, v2-2-3. Metatarsal preening combs absent. Scopula entire on metatarsus I, and tarsi I and II; entire and distal on metatarsus II; divided with setae on tarsus III, absent on tarsus IV. Trichobothria: 2 rows of 9–10 in each row on tibiae, 13–15 on metatarsi, 14–15 on tarsi, 10–11 on cymbium. Paired claws of tarsi I–IV with 8–10 teeth in each row.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.48	4.19	4.04	3.84	5.08
Patella	1.26	2.61	2.23	2.13	2.65
Tibia	1.68	2.72	2.61	2.61	4.97
Metatarsus	—	2.90	2.95	3.35	4.52
Tarsus	0.95	1.98	1.91	2.08	2.51
Total	6.37	14.40	13.74	14.01	19.73

Copulatory organs. Palpal tibia moderately short, with few heavy dorsoapical spines (Figs 71, 72). Palpal organ with long, slightly curved and gradually tapering embolus (Figs 72, 73).

Spinnerets as in Fig. 74. PMS: length 0.36; diameter 0.20. PLS: maximum diameter 0.54; length of basal, medial and apical segments 0.71, 0.26, 0.14, respectively; total length 1.11; apical segment domed.

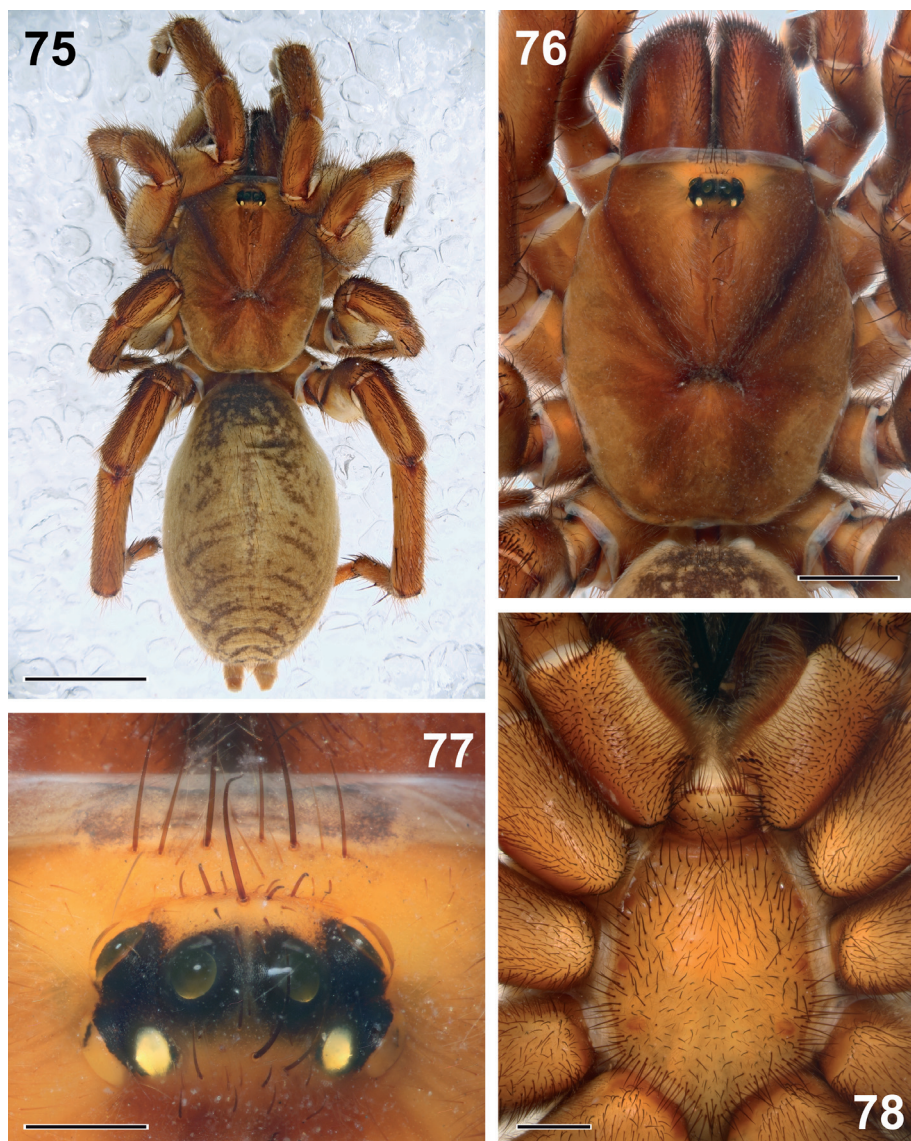
Female (paratype MNHN 6163/AR4486; Fig. 75): Body length 19.30.

Colour in alcohol: as in male, but clypeus and margins of carapace paler, while chelicerae and dorsal pattern on carapace and on abdomen darker and more contrast than in male.

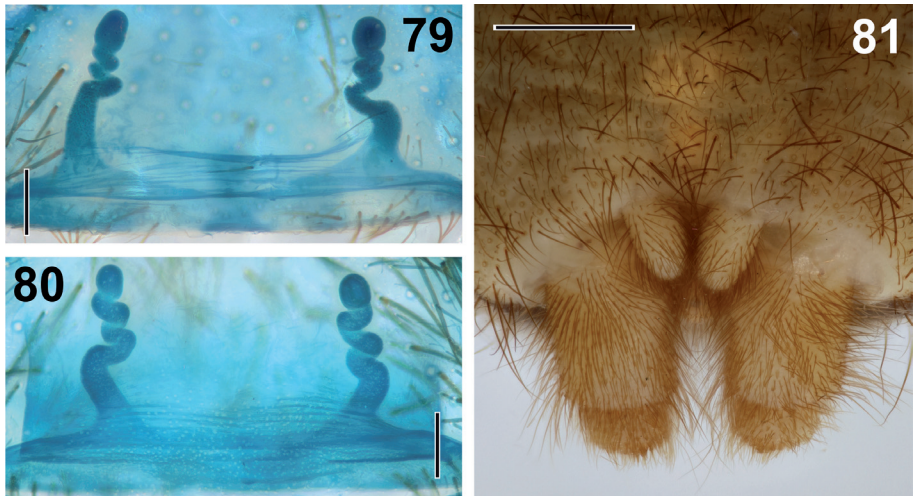
Cephalothorax dorsally and ventrally as in Figs 76 and 78, respectively. Carapace 7.32 long, 5.66 wide. Eye tubercle as in Fig. 77. Eye diameters and interdistances: AME 0.19(0.27), ALE 0.39, PLE 0.34, PME 0.19, AME–AME 0.26(0.20), ALE–AME 0.16(0.13), ALE–PLE 0.13, PLE–PME 0.04, PME–PME 0.61. Chelicerae: each furrow with 6 promarginal teeth and 15–16 mesobasal denticles; rastellum with 6 heavy and 12–15 smaller cone teeth in front of cheliceral fang and on mound. Labium 0.72 long, 1.35 wide. Sternum 4.06 long, 2.94 wide. Each maxilla with 5 cusps confined to inner maxillary heel.

Palp and leg structures. Spines (palpal tarsus and tarsi I–II with 6–11 small ventro-apical spines; patellae I–II and IV, and tarsi III–IV aspinose). Palp: femur d1-1-1-2; patella p1; tibia v2-2-3. Leg I: femur d1-1-1-1; tibia v1-1-2; metatarsus v2-1(0)-3. Leg II: femur d1-1-1-2; tibia v2-2-3; metatarsus v3-2-3(4). Leg III: femur d1-1-1-2, pd1-1-1, rd1-1-1; patella p1-1; tibia p1-1, r1-1, v2-2-2; metatarsus p1-1-1, pd1-1, r1-1-1, v2-2-3. Leg IV: femur d 1-1-1-1-2, pd1-1; patella p1-1; tibia r1-1, v2-2-2; metatarsus p1(0)-1-1, r1-1-1, v2(1)-2-3. Metatarsal preening combs absent. Scopula entire, ventral and prolateral on metatarsi I and II; ventral, prolateral and widely divided on palpal tarsus and tarsi I and II; elsewhere absent.

Trichobothria: 2 rows of 8–9 in each row on tibiae, 10–11 on metatarsi, 11–12 on tarsi, 9 on palpal tarsus. Palpal claw with 3 teeth on promargin. Inner/outer margins of PTC I–II and PTC III–IV with 5–7/5–7 and 1–3/5–6 teeth, respectively.



Figs 75–78. *Nemesia decaei* n. sp., paratype female AR4486: (75) habitus, dorsal; (76, 78) cephalothorax, dorsal and ventral aspects, respectively; (77) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 75, 2.0 mm for Fig. 76, 0.5 mm for Fig. 77 and 1.0 mm for Fig. 78.



Figs 79–81: *Nemesia decaei* n. sp., paratype females AR4486: (79, 80) spermathecae, dorsal (inside) aspect; (81) spinnerets, ventral. Scale bars 0.25 mm in Figs 79, 80 and 1.0 mm in Fig. 81.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	3.31	4.66	4.19	3.98	5.35
Patella	1.82	2.93	2.56	2.23	3.39
Tibia	1.99	3.00	2.63	2.25	5.17
Metatarsus	–	2.56	2.43	2.84	4.47
Tarsus	2.42	1.67	1.67	1.83	1.91
Total	9.54	14.82	13.48	13.13	20.29

Copulatory organs. Spermathecae long, with slightly tapered bases, spiraled stalks (twisted twice) and slightly dilated heads (Figs 79, 80).

Spinnerets as in Fig. 81. PMS: length 0.56; diameter 0.33. PLS: maximum diameter 0.75; length of basal, medial and apical segments 1.29, 0.47, 0.19, respectively; total length 1.95; apical segment domed.

Variation: Carapace length in females varies from 6.7 to 8.2 mm. Darker dorsal pattern of the abdomen is almost uniform in all specimens.

Holotype: ♂ **Algeria:** *Oran Province:* surroundings of Oran (35°42'N 0°38'W), no other data (MNHN 6163/AR4486).

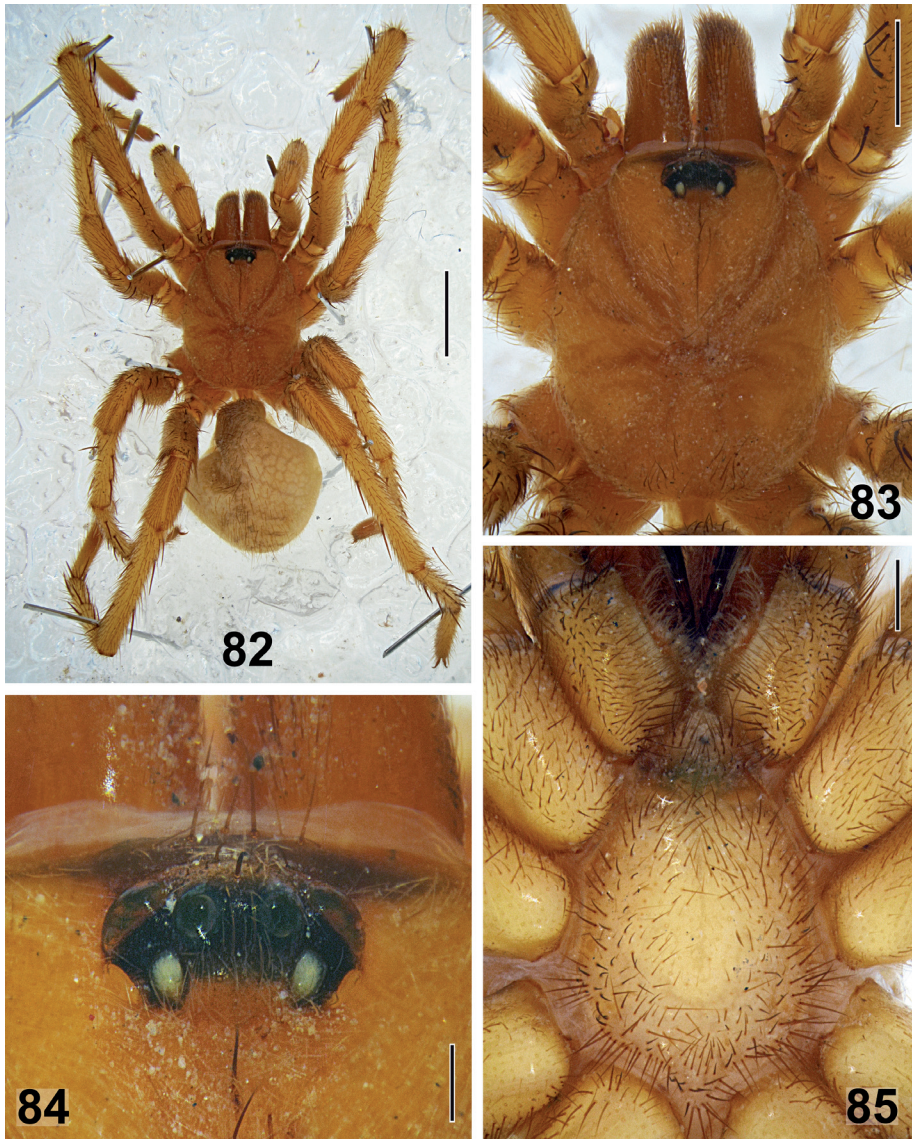
Paratypes: **Algeria:** *Oran Province:* 6♀, collected together with holotype (MNHN 6163/AR4486).

Distribution: Known only from the type locality.

Nemesia didieri Simon, 1892

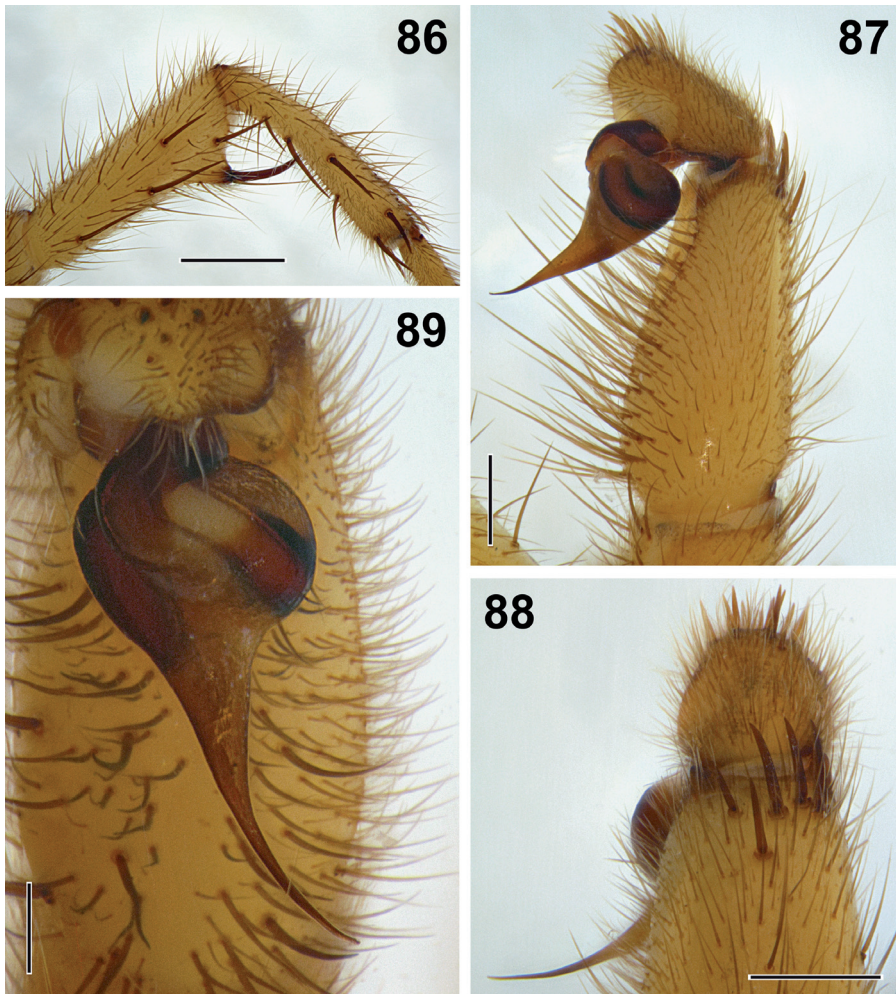
(Figs 82–95)

Nemesia didieri Simon, 1892: 114 (♀); Reimoser 1919: 7; Roewer 1942: 181; Bonnet 1955: 1040.



Figs 82–85: *Nemesia didieri* (Simon, 1892), male AR4474: (82) habitus, dorsal; (83, 85) cephalothorax, dorsal and ventral aspects, respectively; (84) eye tubercle, dorsal. Scale bars 2.0 mm for Fig. 82, 1.0 mm for Fig. 83, 0.25 mm for Fig. 84 and 0.5 mm for Fig. 85.

Diagnosis: Females of *N. didieri* resemble those of *N. almoravida* n. sp. in possessing the similarly shaped/arranged eye group, spinnerets and spermathecae. However, they differ in details of ornamentation on the dorsal abdomen (Figs 59 and 90), proportions of the sternum (wider in *N. didieri*; Fig. 62 cf. Fig. 93) and in the structure of the spermathecae (shorter stalks in *N. almoravida* n. sp. vs. longer ones in *N. didieri*; Figs 63, 64 cf. Fig. 94). The only known conspecific male differs from males of other *Nemesia* species by the structure of the palpal organ which displays a moderately long funnel-shaped embolus curved sideways (Figs 87–89).



Figs 86–89: *Nemesia didieri* Simon, 1892, male AR4474: (86) tibia and metatarsus I, prolateral; (87, 88) distal segments of pedipalp, retrolateral and dorsal aspects, respectively; (89) palpal organ, ventral. Scale bars 1.0 mm for Fig. 86, 0.5 mm for Figs 87, 88 and 0,25 mm for Fig. 89.

Redescription: Male (MNHN 797/AR4474; Fig. 82): Body length 9.10.

Colour in alcohol: carapace, femora and patellae I–IV dull yellowish orange; entire palp and other leg segments brownish yellow; clypeus medium brown; eye tubercle brownish black; chelicerae and palpal organs medium brownish orange; sternum, labium, maxillae, most part of abdomen and PLS light brownish yellow. Abdomen with brown dorsal pattern consisting of fairly discernible narrow median strip and several paired lateral chevrons located posteriorly.

Cephalothorax dorsally and ventrally as in Figs 83 and 85, respectively. Carapace 3.69 long, 2.88 wide. Eye tubercle as in Fig. 84. Eye diameters and interdistances: AME 0.13(0.18), ALE 0.28, PLE 0.16, PME 0.14, AME–AME 0.16(0.11), ALE–AME 0.08(0.06), ALE–PLE 0.03, PLE–PME 0.04, PME–PME 0.33. Chelicerae: each furrow with 6 promarginal teeth and about 15 mesobasal denticles; rastellum with 3 to 4 heavy cone teeth in front of cheliceral fang, and with a few smaller teeth in front of cone teeth row. Labium 0.38 long, 0.74 wide. Sternum 2.23 long, 1.67 wide. Maxillae without cuspules.

Palp and leg structures. Tibia and metatarsus I as in Fig. 86. Spines (palpal patella and tarsi I–IV aspinose). Palp: femur d1–1–2; tibia with 5 (4 apical and 1 subapical) dorsal spines; cymbium with 12(11) short dorsal spines. Leg I: femur d1–1–1–2, pd1; patella p1; tibia p1(0)–1, pv0–0–M; rv1–1–1; metatarsus pd1–1–1–2, pv1, r1–1, rv1–1–1–1. Leg II: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1(0)–1; tibia p1–1, r1–1, v1–2–2; metatarsus pd1–1–1(2)–2, r1–1, v2–1–2. Leg III: femur d 1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1, r1; tibia p1–1, r1–1, v2–1–3(2); metatarsus d1–1, p1–1–1–1, r1–1–1, v2(1)–2(1)–2. Leg IV: femur d 1–1–1–1–2, pd1–1–0, rd1–1–1–1; patella r1; tibia p1–1, r1–1, v2–1–3(2); metatarsus d1, pd1–1–1, rd1–1–1, v2(0)–2(1)–3(2). Metatarsal preening combs absent. Scopula entire and distal on metatarsi I and II; entire on tarsi I and II; very sparse and mixed with setae on tarsi III and IV. Trichobothria: 2 rows of 8–9 in each row on tibiae, 12–14 on metatarsi, 13–15 on tarsi, 8–9 on cymbium. Paired claws on tarsi I–IV with 7–9 teeth in each row. Unpaired tarsal claw small and sharply curved.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	1.89	3.23	3.07	2.81	3.55
Patella	0.89	1.71	1.65	1.43	1.86
Tibia	1.50	2.18	2.12	1.94	3.50
Metatarsus	–	2.37	2.31	2.60	3.31
Tarsus	0.78	1.77	1.63	1.62	1.55
Total	5.06	11.26	10.78	10.40	13.77

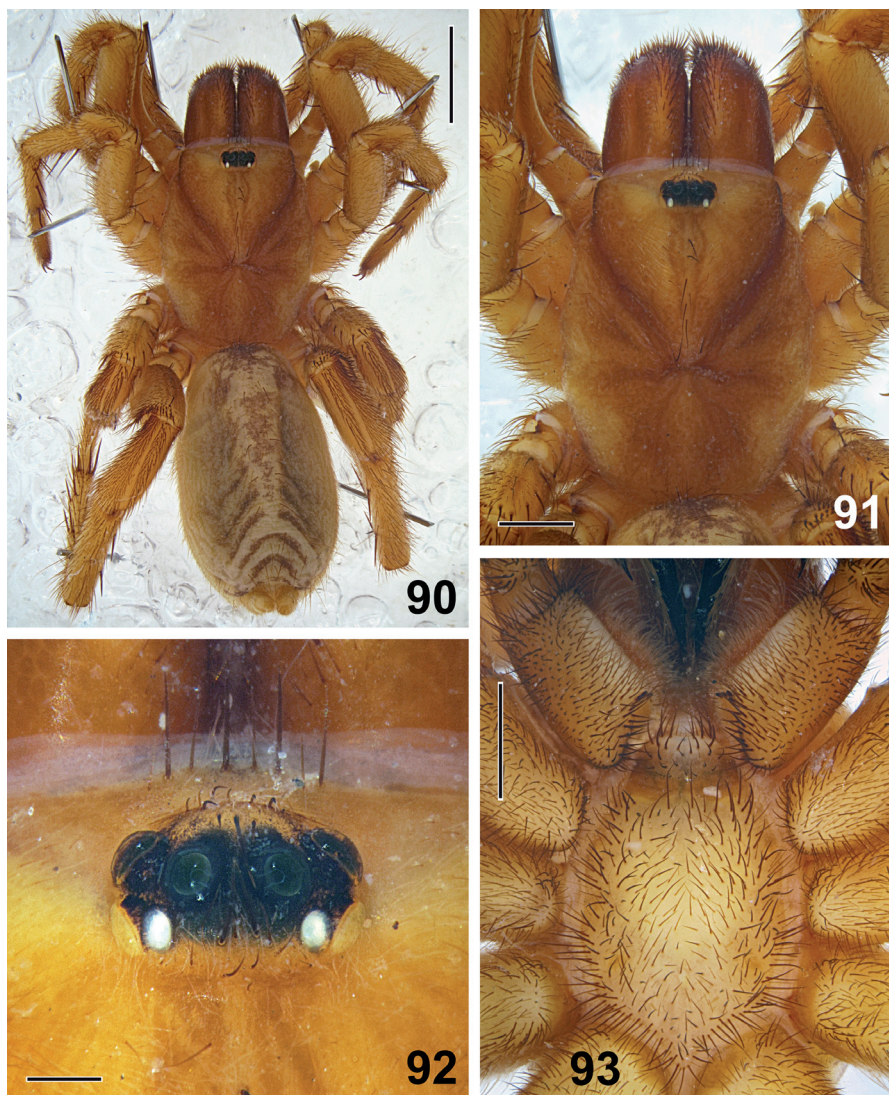
Copulatory organs. Palpal tibia moderately swollen with few dorsal spines (Figs 87, 88). Embolus relatively short, tapering and slightly curved subapically (Figs 87, 89).

Spinnerets. PMS: length 0.23; diameter 0.11. PLS: maximum diameter 0.34; length of basal, medial and apical segments 0.65, 0.22, 0.09, respectively; total length 0.96; apical segment domed.

Female (MNHN 797/AR4474; Fig. 90): Body length 13.05.

Colour in alcohol: as in male, with slightly darker and more contrast dorsal pattern on carapace and abdomen (clypeus otherwise somewhat lighter than in male).

Cephalothorax dorsally and ventrally as in Figs 91 and 93, respectively. Carapace 4.88 long, 3.59 wide. Eye tubercle as in Fig. 92. Eye diameters and interdistances:



Figs 90–93: *Nemesia didieri* Simon, 1892, female AR4474: (90) habitus, dorsal; (91, 93) cephalothorax, dorsal and ventral aspects, respectively; (92) eye tubercle, dorsal. Scale bars 2.0 mm for Fig. 90, 1.0 mm for Figs 91, 93 and 0.25 mm for Fig. 92.

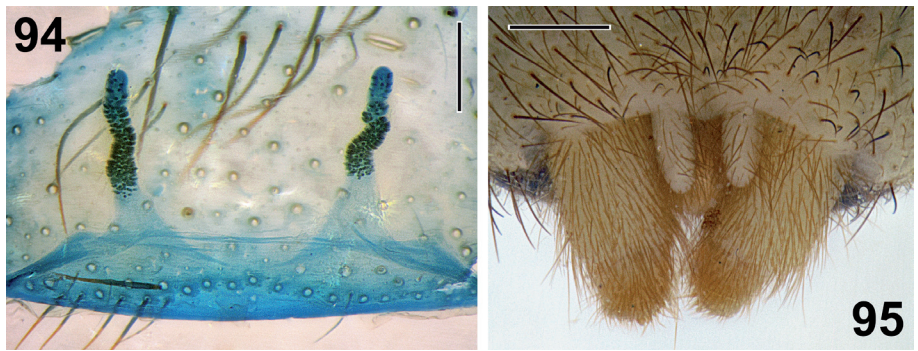
AME 0.15(0.21), ALE 0.23, PLE 0.18, PME 0.13, AME–AME 0.18(0.12), ALE–AME 0.12(0.09), ALE–PLE 0.07, PLE–PME 0.02, PME–PME 0.44. Chelicerae: each furrow with 6 promarginal teeth and about 20 mesobasal denticles. Rastellum: 4–5 strong and about 15 smaller spines in front of cheliceral fang base. Labium 0.45 long, 0.92 wide. Sternum 2.68 long, 1.94 wide. Each maxilla with 4 stout cuspsules confined to inner maxillary heel.

Palp and leg structures. Spines: palpal patella, patella IV and tarsi III–IV aspinose. Palp: femur d1–1–2, pd1; tibia p1, v2–2–5; tarsus v1–1–2–2–2. Leg I: femur d1–1–1–2, pd1, patella p1; tibia p1–1, v1–1–2; metatarsus v1–1–3; tarsus 1–1–2–2. Leg II: femur d1–1–1–1–2, pd1; patella p1; tibia p1–1, v1–1–2; metatarsus v1–1–3(4); tarsus: ca. v10 small in one row. Leg III: femur d1–1–1–1–2, pd1–1–1, rd1(0)–1–0; patella p1–1, r1–1; tibia p1–1, r1–1, v2–2–3; metatarsus p1–1–1, pd1–1–1, r1–1–1, v2–2(1)–3. Leg IV: femur d1–1–1–1–2, rd1(0)–1(0); tibia r1–1, v2–2–3; metatarsus p1–1–1, pd1–1, rd1–1–1–1, v2–2–1–3. Metatarsal preening combs absent. Scopula entire on and distal on metatarsi I and II; widely divided on palpal tarsus and tarsi I–II; elsewhere absent. Trichobothria: 2 rows of 9–11 in each row on tibiae, 11–14 on metatarsi, 12–14 on tarsi, 11 on palpal tarsus. Paired claws on tarsi I–III with 5–6 teeth in each row, on tarsus IV – with 2–3 teeth only in outer row (inner row absent). Palpal tarsal claw with 6 teeth on promargin.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.15	3.48	3.03	2.75	3.74
Patella	1.11	2.09	1.77	1.67	2.49
Tibia	1.48	2.21	1.78	1.57	3.94
Metatarsus	–	1.85	1.80	2.07	3.45
Tarsus	1.69	1.18	1.15	1.33	1.58
Total	6.43	10.81	9.53	9.39	15.20

Copulatory organs. Spermathecae relatively long, gently twisted and tapered, with only slightly dilated heads (Fig. 94).



Figs 94, 95: *Nemesia didieri* Simon, 1892, female AR4474: (94) spermathecae, dorsal (inside) aspect; (95) spinnerets, ventral. Scale bars 0.25 mm for Fig. 94 and 0.5 mm for Fig. 95.

Spinnerets as in Fig. 95. PMS: length 0.39; diameter 0.16. PLS: maximum diameter 0.49; length of basal, medial and apical segments 0.61, 0.22, 0.10, respectively; total length 0.93; apical segment domed.

Variation: Carapace length in females varies from 4.1–5.4 mm. Darker dorsal pattern of the abdomen in some paralectotypes appears to be bleached during storage.

Lectotype: ♀ (designated here) **Algeria:** *M'Sila Province:* Bou Saâda («B. Sauda», as labelled; 35°13'N 4°10'E) and surroundings, no other data (MNHN 9954/AR4439).

Paralectotypes: **Algeria:** 2♀ (designated here), same collecting data and depository number as in holotype; 4♀, same collecting data (MNHN 9954/AR4431).

Other material examined: **Algeria:** *M'Sila Province:* 1♂ 1♀ 2 juv., Bou Saâda 245 km S Algiers («B. Saada», as labelled), no other data (MNHN 797/AR4474).

Distribution: Known only from the type locality.

Nemesia dido n. sp.

(Figs 96–103)

LSID: urn:lsid:zoobank.org:act:9DA494B1-26D0-4007-89B3-7A4F9F4A84F7.

Etymology: The species is named after the Phoenician Princess Dido (also known as Didona; 839–785 BCE), who is believed to be a legendary founder and the first queen of the ancient state Carthage; the species name is a noun in apposition.

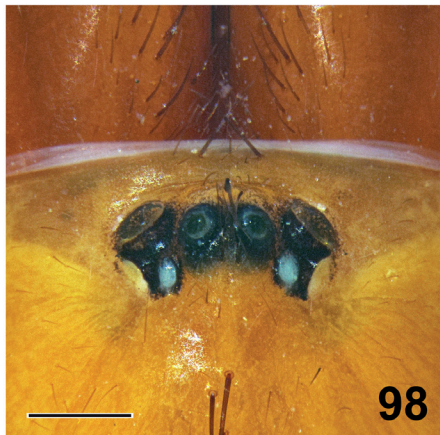
Diagnosis: In possessing the metatarsal preening combs on metatarsi IV, in combination with a specific (dumbbell- or hourglass-shaped) form of the spermathecae and very small PMS, females of *N. dido* n. sp. resemble those of three Balearic species, *N. bristowei* Decae, 2005, *N. ibiza* Decae, 2005 and *N. randa* Decae, 2005. *N. dido* n. sp. differs from these congeners in having a short but wide eye group, broader sternum and bases of the spermathecae and even smaller PMS lacking spigots (Figs 97–103 cf. Decae 2005: figs 29, 31, 32, 36, 38, 39, 64, 66, 67).

Description: Female (holotype MNHN 1689/AR4468; Fig. 96): Body length 14.40.

Colour in alcohol: carapace light brownish orange, with slightly darker brownish clypeus and radial grooves; eye tubercle brown with wide blackish brown rings around eyes; chelicerae medium yellowish red; labium, maxillae, palps and legs light to medium brownish yellow; sternum (with more intensely yellow sigilla) and spinnerets pale yellow; abdomen mostly light greyish brown, with reticulate dorsal pattern of small and partially fused darker and paler brown chevrons and spots.

Cephalothorax dorsally and ventrally as in Figs 97 and 99, respectively. Carapace 5.93 long, 4.89 wide. Eye tubercle as in Fig. 98. Eye diameters and interdistances: AME 0.15(0.22), ALE 0.33, PLE 0.24, PME 0.17, AME–AME 0.16(0.09), ALE–AME 0.15(0.11), ALE–PLE 0.05, PLE–PME 0.05, PME–PME 0.49. Chelicerae: each furrow with 5–6 promarginal teeth and 18–20 small mesobasal denticles; rastellum includes 3–4 very heavy cone teeth and 12–15 smaller spines in front of cheliceral fang. Labium 0.61 long, 1.29 wide. Sternum 3.39 long, 2.69 wide. Each maxilla with 2 cuspules confined to inner maxillary heel.

Palp and leg structures. Spines: femora III–IV with clusters of dense and short dorsoapical setae; tarsi I and II with 5–9 small ventroapical spines; patellae I, IV and tarsi III–IV aspinose. Palp: femur d1–1–1–2, pd1; tibia v2–2–2; tarsus ventrally with 2 proximal and 7(8) small subapical spines. Leg I: femur d1–1–1–1–2, pd1, tibia rv1–1–1; metatarsus v2–1–2. Leg II: femur d1–1–1–1–2, pd1; patella p1;

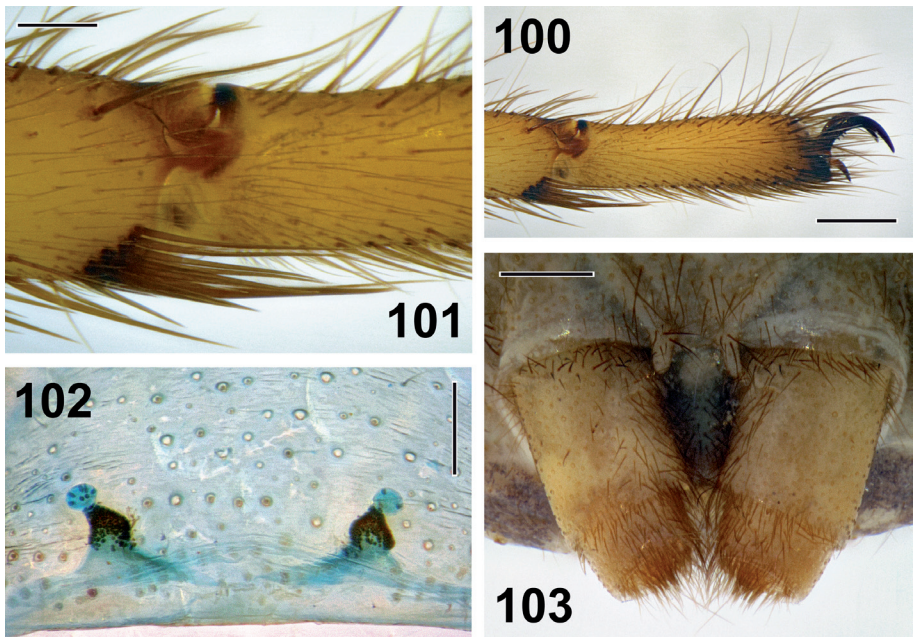


Figs 96–99: *Nemesia dido* n. sp., holotype female AR4468: (96) habitus, dorsal; (97, 99) cephalothorax, dorsal and ventral aspects, respectively; (98) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 96, 2.0 mm for Fig. 97, 0.5 mm for Fig. 98, and 1.0 mm for Fig. 99.

tibia rv1-1-1; metatarsus v3-1-2. Leg III: femur d1-1-1-1, pd1-1-1, rd1-1-1; patella p1; tibia r1, v2-2-2; metatarsus pd1-1, p1, r1-1, v0-1-3. Leg IV: femur d1-1-1-1; tibia v2-1-2-1-2; metatarsus pd1, v1-1-3. Metatarsal preening combs present on metatarsus IV (Figs 100, 101). Scopula entire on and distal on metatarsui I and II; narrowly divided on palpal tarsus and tarsus I; widely divided on tarsus II; elsewhere absent. Trichobothria: 2 rows of 9-10 in each row on tibiae, 14-15 on metatarsi, 14-17 on tarsi, 12 on palpal tarsus. Palpal tarsal claw with 2-3 teeth on promargin. Paired claws on tarsi I-III with 2-3 teeth in inner and 3-4 teeth in outer rows, paired claws on tarsus IV with 0-1 and 3-4 teeth in these rows, respectively. Unpaired tarsal claw sharply curved.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	3.12	3.82	3.41	3.17	4.11
Patella	1.76	2.31	2.14	2.13	2.76
Tibia	2.05	2.55	2.17	2.16	4.28
Metatarsus	—	2.22	2.03	2.51	3.73
Tarsus	2.09	1.49	1.49	1.60	1.72
Total	9.02	12.39	11.24	11.57	16.60



Figs 100–103: *Nemesia dido* n. sp., paratype female AR4468: (100) distal part of metatarsus IV, retrolateral aspect showing preening comb; (101) same, enlarged; (102) spermathecae, dorsal (inside) aspect; (103) spinnerets, ventral. Scale bars 0.5 mm for Figs 100, 103 and 0.25 mm for Figs 101, 102.

Copulatory organs. Spermathecae dumbbell-shaped with very broad bases and relatively small heads (Fig. 102).

Spinnerets as in Fig. 103. PMS: length 0.27; diameter 0.16. PLS: maximum diameter 0.79; length of basal, medial and apical segments 0.89, 0.36, 0.13, respectively; total length 1.38; apical segment domed.

Male: Unknown.

Variation: Carapace length in females varies from 5.6 to 5.9 mm.

Holotype: ♀ **Algeria:** *Chlef Province:* surroundings of Chlef (“Orléansville”, as labelled; 36°13'N 1°20'E), no other data (MNHN 1689/AR4468).

Paratype: **Algeria:** 1 ♀, same data as in holotype.

Distribution: Known only from the type locality.

Nemesia dorthesi Thorell, 1875

(Figs 104–120, 151–153)

Mygale africana: Lucas 1846: 92. Based on the misidentification.

Nemesia dorthesii Thorell, 1875a: 102 (♂).

Nemesia dorthesi: Thorell 1875b: 122; Reimoser 1919: 7; Frade & Bacelar 1931b: 237; Denis 1960: 186, 1961: 145; Roewer 1942: 181; Bonnet 1958: 3041; Platnick 1993: 94; Le Peru 2011: 94, fig. 67 (♂).

Nemesia ariasi Simon, 1914: 13 (♂); Reimoser 1919: 6; Frade & Bacelar 1931a: 129, figs 7–11 (♂); Roewer 1942: 179; Blasco Feliu 1986a: 347, fig. 2F (♀); Platnick 1989: 88. First synonymized with *N. dorthesi* by Denis 1960: 186.

The male lectotype and one male paralectotype of *Nemesia ariasi* (both are stored in the MNHN in the same vial AR4419) are designated here. Since *N. dorthesi* cannot be considered as adequately described (especially the female characters), the species is rediagnosed; its redescription, based on the corresponding MNHN material from Algeria, follows below.

Diagnosis: In possessing a combination of the broadly tipped embolus with the sack-shaped spermathecae, *Nemesia dorthesi* appears to be similar to the South European *N. santeugenia* Decae, 2005, *N. santeulalia* Decae, 2005, *N. uncinata* Bacelar, 1933 and *N. valenciae* Kraus, 1955. However, males of *N. dorthesi* differ from those of the other species belonging to this group, in having gently dentate embolic keels vs. toothed keels in *N. uncinata* or edentate keels in *N. santeulalia* and *N. valenciae* (Figs 111–113 cf. Decae 2012: fig. 1Ba–b, d–e; Zonstein 2017: figs 21, 22, 37, 38, 40, 41). The structure of spermathecae in *N. dorthesi* also noticeably differs from that in the other species of the same group (Fig. 119 cf. Decae 2005: figs 46, 60, 2012: fig. 2Ea–d; Decae *et al.* 2007: fig. 43; Zonstein 2017: fig. 14).

Redescription: Male (MNHN 6163/AR4486; Fig. 104): Body length 13.55.

Colour in alcohol: most part of carapace, entire chelicerae, leg and palp femora dark reddish brown (medial area and margins of carapace paler); other palpal and leg segments medium brownish orange; eye tubercle brownish black; sternum brownish yellow; labium, maxillae, and leg coxae light brownish orange; ventral surface of abdomen and spinnerets light yellowish brown; darker brown dorsal

abdominal pattern consisting of diffuse median strip and several pairs of poorly discernible lateral chevrons.

Cephalothorax dorsally and ventrally as in Figs 105 and 107, respectively. Carapace 5.51 long, 4.28 wide. Eye tubercle as in Fig. 106. Eye diameters and interdistances:



Figs 104–107: *Nemesia dorthesi* Thorell, 1875, male AR4486: (104) habitus, dorsal; (105, 107) cephalothorax, dorsal and ventral aspects, respectively; (106) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 104, 2.0 mm for Fig. 105, 0.5 mm for Fig. 106 and 1.0 mm for Fig. 107.

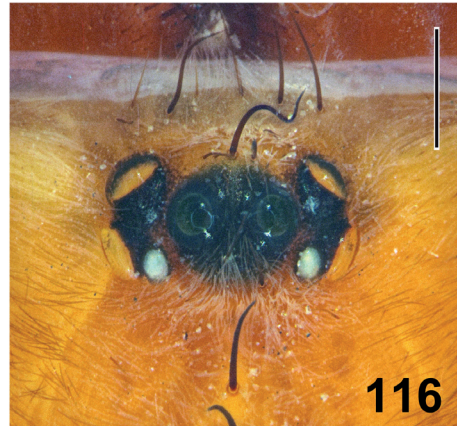
AME 0.18(0.24), ALE 0.22, PLE 0.18, PME 0.11, AME–AME 0.16(0.10), ALE–AME 0.13(0.10), ALE–PLE 0.12, PLE–PME 0.06, PME–PME 0.47. Chelicerae: each furrow with 6 promarginal teeth and about 15 mesobasal denticles; rastellum with 5 heavy and about 10 smaller cone teeth in front of cheliceral fang. Labium 0.46 long, 0.83 wide. Sternum 2.73 long, 2.12 wide. Each maxilla with 5–6 thick bristles (instead of true cuspules), confined to inner maxillary heel.

Palp and leg structures. Tibia and metatarsus I as in Fig. 108. Spines (tarsi I–IV aspinose). Palp: femur d1–1–2, dp1; patella p1; tibia with ca. 20 apical and sub-



Figs 108–113: *Nemesia dorthesi* Thorell, 1875, male AR4486: (108) tibia and metatarsus I, prolateral; (109, 110) distal segments of pedipalp, retrolateral and dorsal aspects, respectively; (111–113) palpal organ, retrolateral, retroventral and ventral aspects, respectively. Scale bars 1.0 mm for Fig. 108, 0.5 mm for Figs 109, 110 and 0.25 mm for Figs 111–113.

apical dorsal spines; cymbium with about 20 short dorsal spines. Leg I: femur d1-1-1-1-2, pd1-1-1, rd1-1-1; patella p1-1; tibia d0-1-1-0, p1-1-1, r1-1-1, pv1-1-M; rv1-1-1; metatarsus d1-1-1, p0-1-1, r1-1-1, v1-1-2. Leg II: femur d1-1-1-1-2, pd1-1-1, rd1-1-1; patella p1-1, r1; tibia d1-1-1, p1-1-1, r1-1-1,



Figs 114–117: *Nemesia dorthesi* Thorell, 1875, female AR4470: (114) habitus, dorsal; (115, 117) cephalothorax, dorsal and ventral aspects, respectively; (116) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 114, 1.0 mm for Figs 115, 117 and 0.5 mm for Fig. 116.

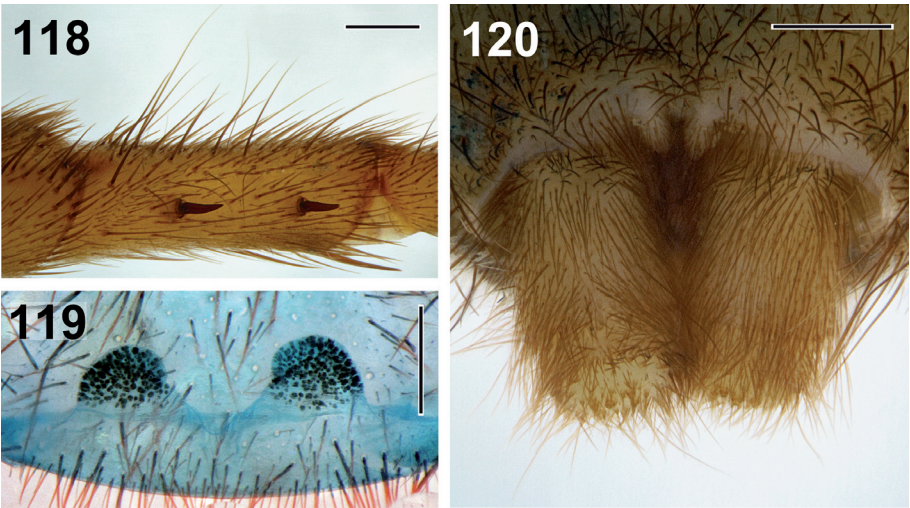
v2-2-2; metatarsus d1-1-1, p1-1-1, r1-1-1, v2-1-2. Leg III: femur d 1-1-1-1-2, pd1-1-1, rd1-1-1; patella p1-1-1(0), r1; tibia d1-1-1-1(0), p1-1-1-1, r1-1-1, v2-2-3; metatarsus d1-1-1-1, p1-1-1, r1-1-1, v2-2-3; Leg IV: femur d 1-1-1-1-2, pd1-1-1, rd1-1-1; patella p1-1, r1; tibia d1-1-1-1, pd1-1-1, p1-1-1, r1-1-1, v2-2-3; metatarsus d1-1-1-1-1, p1-1-1, r1-1-1, v2-2-3. Metatarsal preening combs absent. Scopula entire on metatarsus I, and tarsi I and II; entire and distal on metatarsus II; present but mixed with setae on tarsus III, reduced to unnumerous sparse hairs on tarsus IV. Trichobothria: 2 rows of 8-9 in each row on tibiae, 10-12 on metatarsi, 12-15 on tarsi, 8-9 on cymbium. Inner/outer margins of PTC I-II and PTC III-IV with 8-9/8-11 and 9-11/11-13 teeth, respectively.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.84	4.82	4.43	3.95	5.48
Patella	1.42	2.51	2.34	1.73	2.53
Tibia	2.10	3.30	3.21	2.96	5.30
Metatarsus	—	3.36	3.47	4.06	5.43
Tarsus	0.97	2.14	2.02	2.30	2.75
Total	7.33	16.13	15.47	15.00	21.49

Copulatory organs. Palpal tibia moderately short, with numerous dorsoapical spines (Figs 109, 110). Palpal organ with broadly tipped embolus (Figs 111-113).

Spinnerets. PMS: length 0.14; diameter 0.10. PLS: maximum diameter 0.56; length of basal, medial and apical segments 0.83, 0.28, 0.13, respectively; total length 1.24; apical segment domed.



Figs 118-120: *Nemesia dorthesi* Thorell, 1875, female AR4470: (118) tibia III, retrolateral aspect showing megaspines; (119) spermathecae, dorsal (inside) aspect; (120) spinnerets, ventral. Scale bars 0.5 mm.

Female (MNHN 6547/AR4470; Fig. 114); Body length 15.30.

Colour in alcohol: as in male.

Cephalothorax dorsally and ventrally as in Figs 115 and 117, respectively. Carapace 5.66 long, 4.38 wide. Eye tubercle as in Fig. 116. Eye diameters and interdistances: AME 0.17(0.24), ALE 0.25, PLE 0.24, PME 0.12, AME–AME 0.17(0.10), ALE–AME 0.17(0.13), ALE–PLE 0.11, PLE–PME 0.05, PME–PME 0.51. Chelicerae: each furrow with 6 promarginal teeth and 15–16 mesobasal denticles; rastellum with 6 heavy and 10–12 smaller cone teeth in front of cheliceral fang. Labium 0.69 long, 1.23 wide. Sternum 3.10 long, 2.37 wide. Each maxilla with 8 cuspules confined to inner maxillary heel.

Palp and leg structures. Spines (retrolateral spines on tibia III enlarged and flattened as on Fig. 118; tarsi I–II with row of 8–10 small ventroapical spines, tarsi III–IV aspinose). Palp: femur d1–1–1–1–2, pd1; patella p1–1; tibia p1–1, v2–2–3; tarsus v2. Leg I: femur d1(0)–1–1–1–1–2, pd0–0–1; patella p1–1; tibia p1–1–1, v1–1–3(2); metatarsus v2–0–3. Leg II: femur d1–1–1–1–2, pd0–0–1; patella p1; tibia p1–1–1, v1–1–3(2); metatarsus pd0–1–0, v2–1–3(2). Leg III: femur d1–1–1–1–2(3), rd1–1–1; patella p1–1; tibia p1–1, rM–M, v2–2–3; metatarsus p1–1–1–1, r1–1–1, v2–1–3. Leg IV: femur d1–1–1–1–1(0), rd0–0–1; patella d2; tibia r1–1–1–0, v2–2–3; metatarsus pd2–1–1, p0–1–1, r0–1–1, v2–2–3. Metatarsal preening combs absent. Scopula entire and distal on metatarsi I and II; narrowly divided on palpal tarsus and tarsi I–II; elsewhere absent. Trichobothria: 2 rows of 11–13 in each row on tibiae, 15–17 on metatarsi, 15–16 on tarsi, 11 on palpal tarsus. Palpal claw with 3–4 teeth on promargin. Inner/outer margins of PTC I–II and PTC III–IV with 5–7/5–7 and 1–3/5–6 teeth, respectively.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	3.14	4.33	3.69	3.15	4.43
Patella	1.74	2.59	2.30	1.82	2.67
Tibia	1.94	2.86	2.54	1.93	5.48
Metatarsus	–	2.49	2.28	2.74	3.99
Tarsus	2.05	1.69	1.68	1.99	1.93
Total	8.87	13.96	12.49	11.63	18.50

Copulatory organs. Spermathecae sack-shaped (Fig. 119).

Spinnerets as in Fig. 120. PMS: length 0.16; diameter 0.12. PLS: maximum diameter 0.63; length of basal, medial and apical segments 0.77, 0.22, 0.13, respectively; total length 1.12; apical segment domed.

Material examined: **Algeria:** 1♀, "Algerie": no date, H. Lucas (MNHN AR4302; labelled as "*Mygale africana*"); **Oran Province:** 5♂, vicinity of Oran (35°42'N 0°38'W), no other data (MNHN 6163/AR4486); **Mascara Province:** 2♀, surroundings of Mohammadia 65 km WSW Oran (labelled as "Perregaun"; 35°35'N 0°04'W), no other data (MNHN 6547/AR4470).

Lectotype of *Nemesia ariasi* Simon, 1914 (designated here): ♂, "Melilla (Arias)" (35°17'N 2°57'W), no other data (MNHN AR4419).

Paralectotype: 1♂, with same collection data and number as lectotype.

Distribution: Spain, Morocco (WSC 2019) and western Algeria.

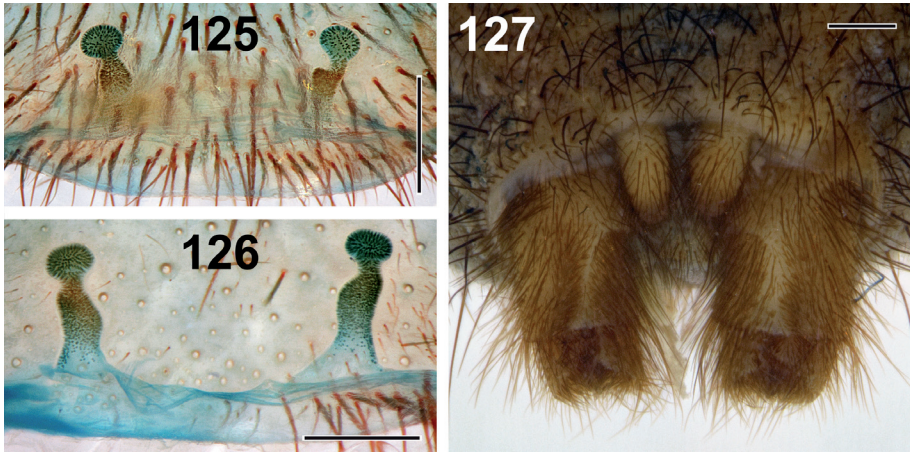
Nemesia ?macrocephala Ausserer, 1871

(Figs 121–127)

Nemesia macrocephala Ausserer, 1871: 170 (♀); Reimoser 1919: 7; Fage 1917: 484; Roewer 1942: 182; Bonnet 1958: 3042; Baldacchino *et al.* 1993: 40, fig. 1a (♂); Le Peru 2011: 97, fig. 77 (♂♀); Decae 2012: 25, figs 2Fc, 5 (♂♀).



Figs 121–124: *Nemesia ?macrocephala* Ausserer, 1871, female AR4432: (121) habitus, dorsal; (122, 124) cephalothorax, dorsal and ventral aspects, respectively; (123) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 121, 2.0 mm for Figs 122, 124 and 0.5 mm for Fig. 123.



Figs 125–127: *Nemesia* ?*macrocephala* Ausserer, 1871, females AR4432 (125, 127) and AR4480 (126): (125, 126) spermathecae, dorsal (inside) aspect; (127) spinnerets, ventral. Scale bars 0.5 mm.

Description: Female (Fig. 121): CL 6.0–8.5 mm. Cephalothorax dorsally and ventrally as in Figs 122 and 124, respectively. Eye tubercle as in Fig. 123. Spermathecae skittle-shaped with swollen stalks and slightly oblate heads, their general shape rather variable (Figs 125, 126). Spinnerets as in Fig. 127.

Male: Absent in the MNHN material from Algeria.

Material examined: **Algeria:** *Bordj Bou Arréridj Province:* 2♀, surroundings of Bordj Bou Arréridj (“Bordj Bouazzerij”, as labelled; 36°04'N 4°46'E), no date, collector's name uncertain, possibly Laporte (noted as “Laparte”; MNHN 4853/AR4432); *Blida Province:* 2♀, Chiffa (labelled as “La Chiffa”; 36°28'N 2°45'E), iv.1882, E. Simon (MNHN 12671/AR4428); *Constantine Province:* 1♀, surroundings of Constantine (36°21'N 6°36'E), no other data (MNHN 11872/AR4480).

Distribution: *Nemesia macrocephala* has been recorded for Malta and Sicily, Italy (WSC 2019); the possible current record for Algeria should be considered as highly questionable.

Notes: The characters of the considered females and their relevance to those of *N. macrocephala* are dealt with in the Discussion.

Nemesia ?*meridionalis* (Costa, 1835)

(Figs 128–134)

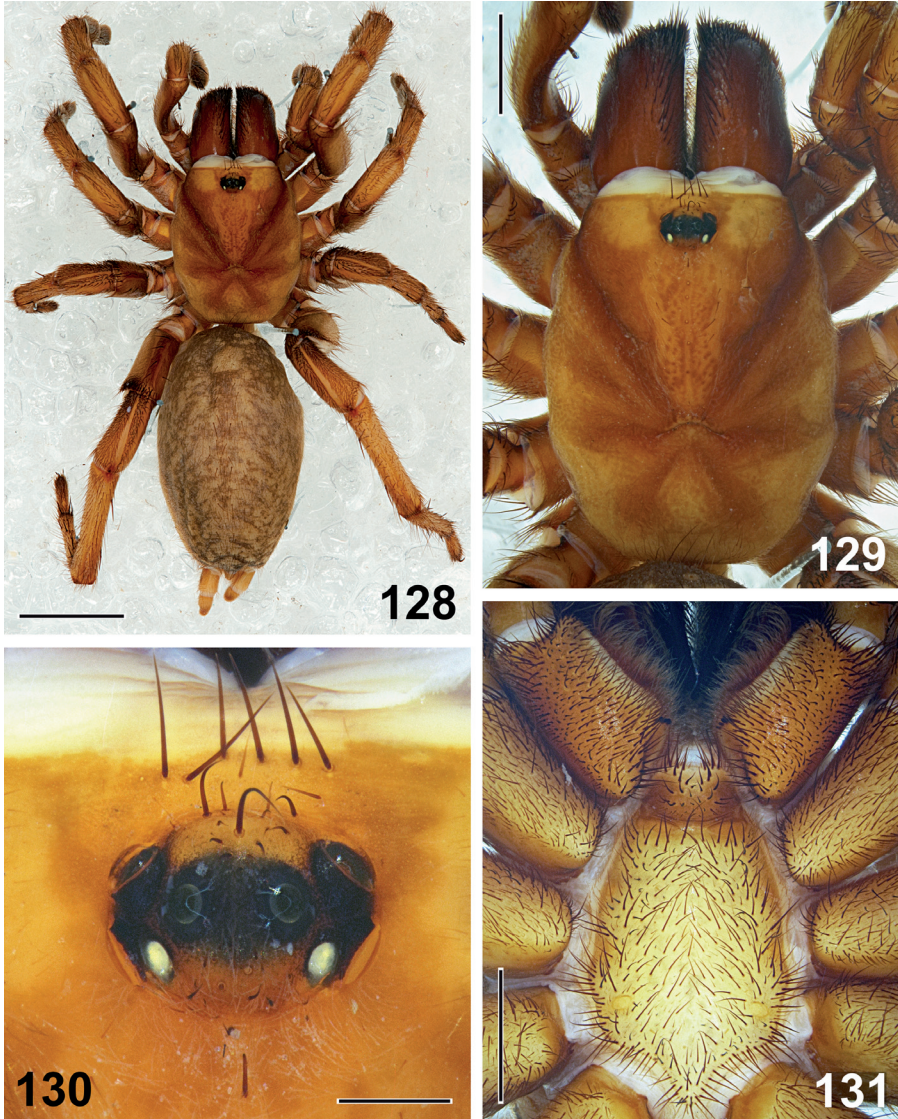
Mygale meridionalis Costa, 1835: 122 (♀).

Nemesia badia Ausserer, 1871: 169 (♀); Reimoser 1919: 6; Roewer 1942: 179; Bonnet 1958: 3036; Decae 2012: 25, fig. 1Ce (♂). First synonymized with *N. meridionalis* by Pérez de San Román y Ruiz de Zárate 1947: 419.

Nemesia meridionalis: Simon 1873: 21; Reimoser 1919: 7; Frade & Bacelar 1931b: 228; Roewer 1942: 182; Pérez de San Román y Ruiz de Zárate 1947: 419; Bonnet 1958: 3042; Le Peru 2011: 98, fig. 80 (♀); Isaia & Decae 2012: 281, figs 1–10 (♂♀); Decae 2012: 25, figs 2Db, 5 (♂♀).

Leptopelma meridionalis: Ausserer 1875: 168.

Description: Female (Fig. 128): CL 5.5–8.0 mm. Cephalothorax dorsally and ventrally as in Figs 129 and 131, respectively. Eye tubercle as in Fig. 130. Spermathecae tapered, with basally straight, medially bent, and subapically twisted stalks, and noticeably dilated heads (Figs 132, 133). Spinnerets as in Fig. 134.



Figs 128–131: *Nemesia meridionalis* (Costa, 1835), female AR4437: (128) habitus, dorsal; (129, 131) cephalothorax, dorsal and ventral aspects, respectively; (130) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 128, 2.0 mm for Figs 129, 131 and 0.5 mm for Fig. 130.



Figs 132–134: *Nemesia* ?*meridionalis* (Costa, 1835), females AR4437 (132, 134) and AR4480 (133): (132, 133) spermathecae, dorsal (inside) aspect; (134) spinnerets, ventral. Scale bars 0.5 mm.

Male: Absent in the MNHN material from Algeria.

Material examined: **Algeria:** *Blida Province*: 3♀, Chiffa (labelled as "La Chiffa"; 36°28'N 2°45'E), iv.1882, E. Simon (MNHN 12671/AR4428); *Constantine Province*: 8♀, surroundings of Constantine (36°21'N 6°36'E), no other data (MNHN 2168/AR4442); 3♀, same locality, no other data (MNHN 11872/AR4480); 2♀, same locality, no other data (MNHN 9965/AR4437); 5♀, same province (?), Souk el Harras? (labelled as "Souk Harras", may also correspond to the neighbouring Souk Ahras), coll. Ler, no other data (MNHN 385/AR4477).

Distribution: *Nemesia meridionalis* has been recorded for Spain, France and Italy (WSC 2019); the possible current record for Algeria should be considered as highly questionable.

Note: The characters of the considered females and their relevance to those of *N. meridionalis* are covered in the Discussion.

Nemesia tanit n. sp.

(Figs 135–140)

LSID: urn:lsid:zoobank.org:act:9A20DB8A-CD36-44A7-8AD6-9116AEE72A88.

Etymology: The lion-headed Punic goddess Tanit was considered patroness of the ancient state Carthage; the species name is a noun in apposition.

Diagnosis: The new species shares the combined presence of the retroventral preening comb on metatarsus IV and the minute-sized PMS with several South European species related to *N. bristowei* (see Diagnosis of *N. algerina* n. sp.), as well as with an undescribed *Nemesia* species from Tunisia. However, *N. tanit* n. sp. differs from all the above-noted species in the structure of the female copulatory organs.

In *N. tanit* n. sp., the spermathecae appear to converge and slightly incline inwards, while in all the other noted species the left and right branches of the spermathecae are diverge and inclined outwards (Fig. 139 cf. Fig. 156; Decae 2005: figs 32, 39, 67; Decae & Huber 2017: fig. 4F).



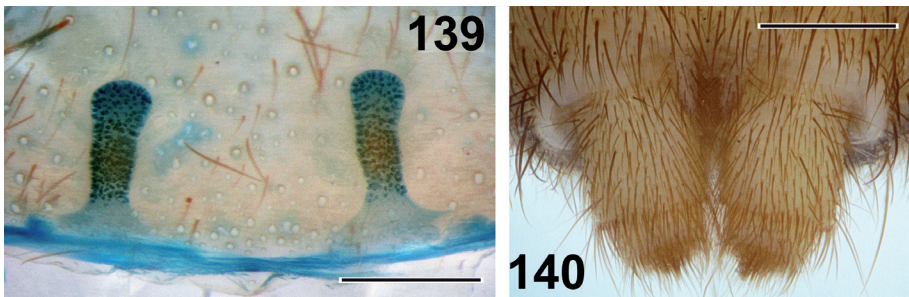
Figs 135–138: *Nemesia tanit* n. sp., holotype female AR4472: (135) habitus, dorsal; (136, 138) cephalothorax, dorsal and ventral aspects, respectively; (137) eye tubercle, dorsal. Scale bars 2.0 mm for Figs 135, 136, 0.25 mm for Fig. 137 and 1.0 mm for Fig. 138.

Description: Female (holotype MNHN 9964/AR4472; Fig. 135): Body length 11.15.

Colour in alcohol: carapace medium yellowish brown, with lighter yellowish medial stripe and narrow bands alongside lateral margins, eye tubercle brownish black; chelicerae medium reddish brown; sternum, labium, maxillae, pedipalps and legs light yellowish brown; sternum brownish yellow; most part of abdomen and PMS light brownish grey; darker dorsal abdominal pattern consisting of narrow median stripe crossed with several transverse chevrons medium brown.

Cephalothorax dorsally and ventrally as in Figs 136 and 138. Carapace 4.20 long, 3.29 wide. Eye tubercle as in Fig. 137. Eye diameters and interdistances: AME 0.14(0.18), ALE 0.21, PLE 0.16, PME 0.13, AME–AME 0.14(0.10), ALE–AME 0.10(0.08), ALE–PLE 0.07, PLE–PME 0.03, PME–PME 0.37. Chelicerae: each furrow with 6 promarginal teeth and 20–25 small mesobasal denticles; rastellum with 5 heavy cone teeth and several smaller spikes in front of cheliceral fang. Labium 0.45 long, 0.86 wide. Sternum 2.34 long, 1.82 wide. Each maxilla with 4 cuspules confined to inner maxillary heel.

Palp and leg structures. Spines (femora III–IV with dorsoapical transverse row of 5–7 spines; patellae III–IV dorsally with numerous small spines; palpal tarsus and tarsi I–II each with 7–10 small ventral spines arranged in medial row; patellae I–II and tarsi III–IV aspinose). Palp: femur d1–1–2, dp1; tibia p1, v2–2–3; tarsus v2. Leg I: femur d1–1–1–1–2, pd1; tibia v1–1–2; metatarsus v2–1–3. Leg II: femur d1–1–1–1–2, pd1; tibia v1–1–2; metatarsus v2–1–3. Leg III: femur d1–1–1–1–1; tibia p1–1, r1–1, v1–2–2; metatarsus p1–1–1, r1–1, v2–2–3. Leg IV: femur d1–1–1–1–1; tibia r1–1, v2–2–2; metatarsus p1–1, r1–1–1, v2–2–3. Metatarsal preening comb present on metatarsus IV. Scopula entire and distal on metatarsus I, narrowly divided on palpal tarsus and tarsus I; widely divided on tarsus II; elsewhere absent. Trichobothria: 2 rows of 7–8 in each row on tibiae, 10–12 on metatarsi, 10–13 on tarsi, 8 on palpal tarsus. Palpal claw with 3 teeth on promargin. Paired claws on tarsi I–II, III, and IV with 3–4, 2–4, and 0–4 teeth in each row, respectively. Unpaired tarsal claw small and sharply curved.



Figs 139–140: *Nemesia tanit* n. sp., holotype female AR4472: (139) spermathecae, dorsal (inside) aspect; (140) spinnerets, ventral. Scale bars 0.5 mm.

Leg and palp measurements:

	Palp	I	II	III	IV
Femur	2.11	2.95	2.44	2.23	3.07
Patella	1.23	1.72	1.51	1.33	2.06
Tibia	1.38	1.87	1.61	1.30	3.17
Metatarsus	–	1.86	1.48	1.71	2.62
Tarsus	1.41	1.09	1.06	1.15	1.36
Total	6.13	9.49	8.10	7.72	12.28

Copulatory organs. Spermathecae robust and club-like, with slightly dilated heads, as in Fig. 139.

Spinnerets as in Fig. 140. PMS: length 0.26; diameter 0.12. PLS: maximum diameter 0.47; length of basal, medial and apical segments 0.54, 0.13, 0.08, respectively; total length 0.75; apical segment domed.

Male: Unknown.

Holotype: ♀ **Algeria:** *Algiers Province:* surroundings of Algiers (36°45'N 03°33'E), xi–xii.1886, other data are unknown (MNHN 9964/AR4472).

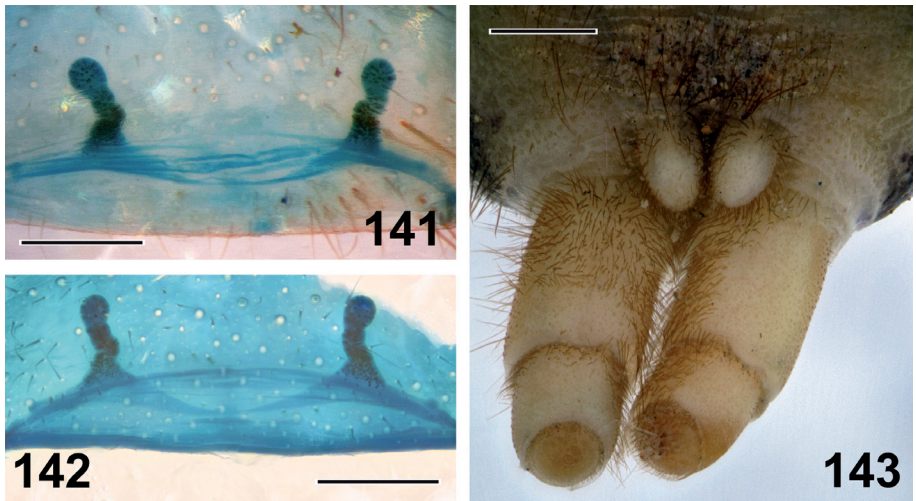
Paratype: **Algeria:** 1 ♀, collected together with the holotype.

Distribution: Known only from the type locality.

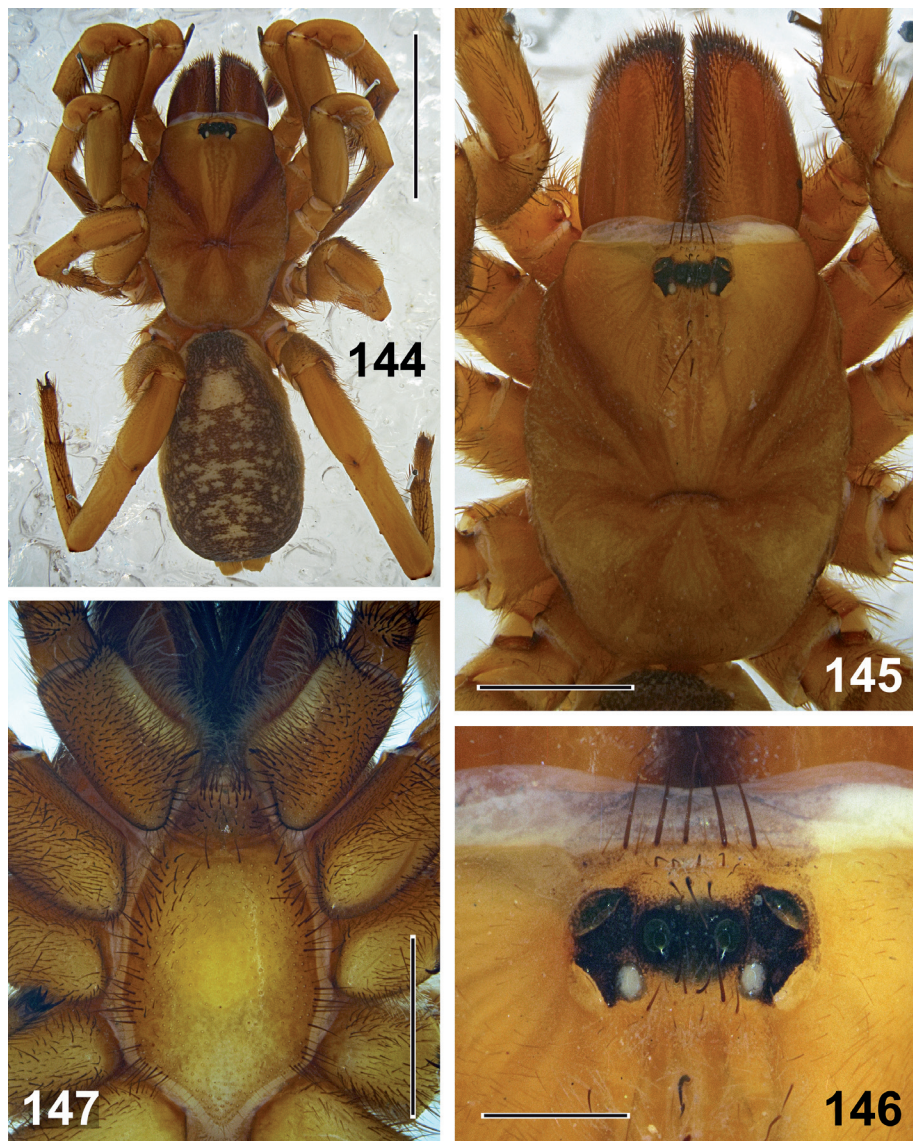
Nemesia sp.

(Figs 141–147)

Description: Female (Fig. 144): CL 5.2–5.4 mm. Cephalothorax dorsally and ventrally as in Figs 145 and 147. Eye tubercle as in Fig. 146. Spermathecae and spinnerets as in Figs 141, 142 and 143, respectively.



Figs 141–143: *Nemesia* sp., females AR4434 (141, 143) and AR4435 (142): (141, 142) spermathecae, dorsal (inside) aspect; (143) spinnerets, ventral. Scale bars 0.5 mm.



Figs 144–146: *Nemesia* sp., female AR4434: (144) habitus, dorsal; (145, 147) cephalothorax, dorsal and ventral aspects, respectively; (146) eye tubercle, dorsal. Scale bars 5.0 mm for Fig. 144, 2.0 mm for Figs 145, 147 and 0.5 mm for Fig. 146.

Male: Absent in the MNHN material from Algeria.

Material examined: **Algeria:** *Tiaret Province:* 1 ♀, Meghila (35°36'N 1°25'E), no other data (MNHN 12337/AR4434); *Skikda Province:* 1 ♀, Filfla (labelled as "Filfila"; 36°54'N 7°03'E), no other data (MNHN 15164/AR4435).

Notes: In possessing a spotted dorsal pattern of the abdomen, this species resembles the Maltese *N. arboricola* Pocock, 1903 (Fig. 141 cf. Kritscher 1994: fig. 9). However, it differs from the latter taxon, as well as from other *Nemesia* spp. with known female characters, in the unique shape of the short, widely spaced and slightly twisted spermathecae (Figs 141, 142). During the current study, the species is believed to be new to science. The formal description of this *Nemesia* species, also distributed in Tunisia, is currently under preparation for publication by other researchers, the information on this taxon is provided here only in a very general form.

DISCUSSION

The issues concerning the Algerian representatives of *Nemesia* come down chiefly, though not exclusively, to the questions regarding the taxonomy and distribution of the first known regional congener, *N. africana*.

Since 1838, when C.L. Koch described *Cteniza africana*, the identification and relationships of this species have been considered unclear. The female specimen that served as the holotype disappeared and could never be located. The species description indicated that the type was kept in the collection of a prominent German geographer and naturalist, Moritz Wagner. None of the subsequent authors who noted *N. africana* since Walckenaer (1841) and probably Lucas (1846), dealt with the holotype.

A deteriorated female specimen from “Algerie” kept in the MNHN spider collection in vial AR4302 and labelled as *Mygale africana* Wlk. [sic!], was apparently considered by Lucas (1846) to belong to this species. Upon examination, this female was found to lack the genital plate together with the spermathecae (they were evidently extracted and then lost). Since the specimen during its long conservation became bleached, its dorsal abdominal pattern was almost indiscernible. A detailed examination revealed that this female lacks the metatarsal preening combs on metatarsi III and IV (their presence there is an important character of *N. africana*). However, the scrutiny revealed also that this specimen possesses two retrolateral megaspines on tibia III, which is a characteristic feature of *N. dorthesi*.

According to the parameters used in the original description, the diagnostic characters of *N. africana* can be summarized and listed as follows:

1. According to the original textual description:
 - 1.1. The measured length of the spider body was indicated as 8 lines, that is 17–20 mm, depending on the unit character (whether 12 or 10 lines per inch, respectively).
 - 1.2. The ground colour of the carapace was noted as intensely reddish brown.
 - 1.3. The dorsal pattern of the abdomen was characterised as marble-looking (this could have resulted from the presence of a layered blurry ornament of densely spaced chevrons).
 - 1.4. A wavy appearance of these chevrons was one of the noted specific features.

2. According to the original illustrations:

- 2.1. A moderately wide clypeus seems to be only slightly wider than the ALE diameter.
- 2.2. The distance AME–AME is slightly longer than the visible AME diameter.
- 2.3. The diameter of ALE is considerably wider than those of the other eyes, including PLE.
- 2.4. The visible diameter of AME is subequal in size to that of PLE (the latter seems to be slightly shorter than the AME diameter).
- 2.5. The chelicerae are contrastingly very dark, even in comparison with the intensely reddish brown (i.e. not pale-coloured) carapace.
- 2.6. Throughout the anterior and median thirds of the abdomen, the dorsal pattern looks like an ornament consisting of a narrow middle strip crossed with numerous unusually densely arranged (as if doubled) transverse chevrons. On the posterior third, the medial strip becomes dashed and the chevrons and the distance between them become wider. Thus, to conform to the depicted type of the abdominal pattern, those chevrons should have an intermittent scalloped (wavy) form, providing the impression of being doubled.

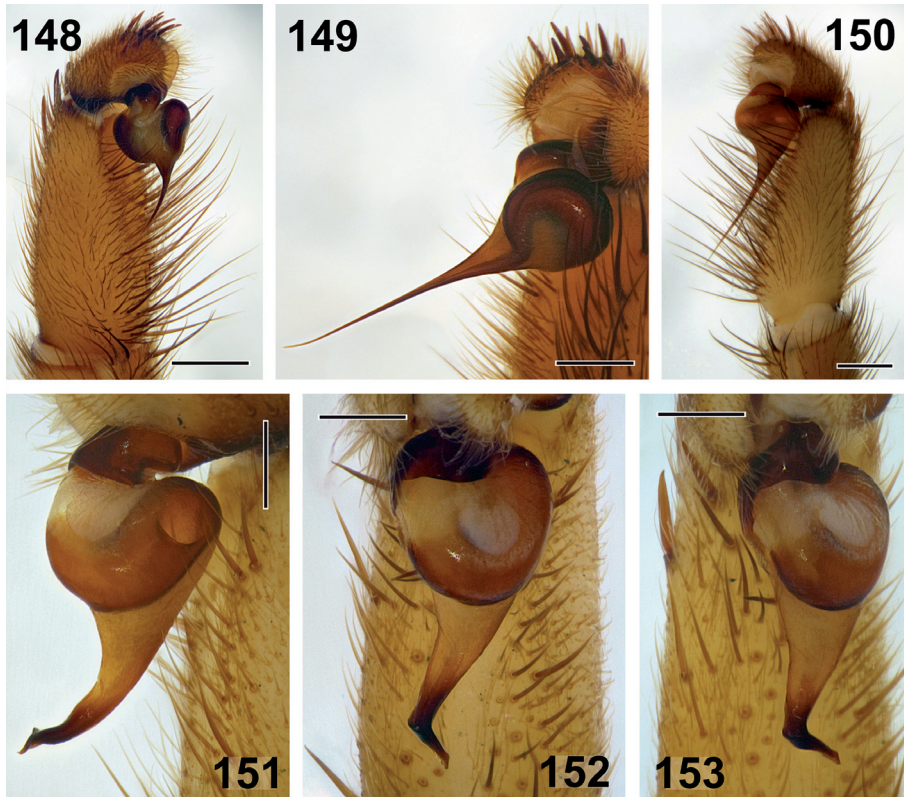
Based on all the above, among the Algerian representatives of *Nemesia* only the species considered first in the present study meets these requirements entirely. Or more correctly, only the set of female characters observed in this congener can be recognized as fitting the original description of *Cteniza africana* (see Figs 10–12 cf. Figs 26–28, 42–44, 59–61, 75–77, 90–92, 96–98, 114–116, 121–123, 128–130, 135–137, 144–146). The males recognized as conspecific with females of *N. africana* share with them a number of characters, including certain specific details of the body colouration, a similar shape and arrangement of the eyes and the spinnerets, and the presence of preening combs on both posterior pairs of the metatarsi.

In addition to the records in Algeria, L. Koch (1856) and Garnieri (1902) noted for *N. africana* a few records also from Southern Europe. These latter records were later repeated by Reimoser (1919) and several subsequent authors, including Bonnet (1958); some authors had considered them reliable until recently (see Helsingin 2019). However, Frade and Bacelar (1931*b*), Bacelar (1932) and Pantini *et al.* (2013) considered these European records to be based on the misidentified material. It should be noted that no actually confirmed records of *N. africana* in Southern Europe have been reported to date. Nevertheless, a recent Spanish record of *Iberesia barbara*, also known previously only from North Africa (see Luis de la Iglesia 2019), may indicate a theoretical possibility of occurring *N. africana* in Europe as well.

In contrast, there have been no problems with the identification of *N. didieri* based on examination of the type series of this species. Simon (1892) established the description of *N. didieri* on a single female and did not mention any other specimens. In course of the current study, this type series was found to consist of seven female syntypes stored in two vials (AR4431 and 4439). Since the material

kept in the first of these vials was partially damaged during storage, one of the better preserved specimens from another vial was chosen as the lectotype. Examination of the additional material (AR4474) originating from the type locality of *N. didieri* revealed a single conspecific male. Judging from the vial number, this male was collected almost concurrently with the type series of *N. didieri*. The reason why the male was not added to the type series or why it was not described afterwards, remains unknown.

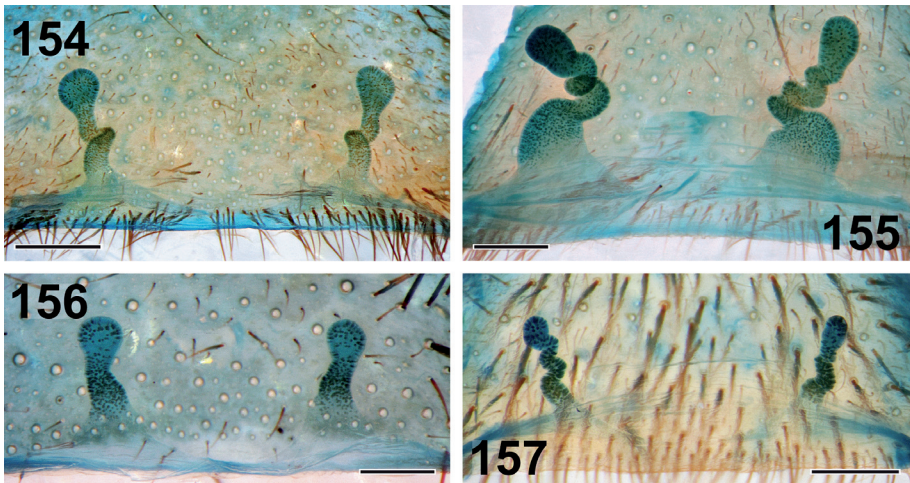
Some difficulties were encountered in identifying those *Nemesia* specimens that were eventually assigned here to *N. dorthesi*. In males of this species, the palpal organ was found to be almost identical to that observed in the lectotype of *N. ariasi* (a recognized junior synonym of *N. dorthesi*). The structure of the keeled embolic tip in these males looks practically the same (Figs 111–113 cf. Figs 151–153).



Figs 148–153: *Nemesia* spp., male palpal structures: (148–149) *Nemesia* sp. AR4471 from Cap Bon, Tunisia, distal segments of male palp, retroventral and prolateral aspects, respectively; (150) *Nemesia* sp. AR4455 from Kairouan, Tunisia, same, retroventral; (151–153) *N. ariasi* Simon, 1914 (synonym of *N. dorthesi* Thorell, 1875), lectotype AR4419, palpal organ, retrolateral, retroventral and ventral aspects, respectively. Scale bars 0.5 mm for Figs 148, 150; 0.25 mm for Figs 149 and 151–153.

Nevertheless, the shape of the spermathecae in the conspecific females (Fig. 119) was found to be somewhat different from the corresponding structure in *N. dorthesi* depicted by Blasco Feliu (1986a: fig. 2F, presented as *N. ariasi*). Some differences between them, however, can be ascribed to the schematic character of the latter illustration. Shortly before the present study was submitted for publication, Cristian Pertegal Pérez (Universidad de Córdoba, Spain) kindly provided me with some of his photographs, including one showing the shape of the spermathecae in a female of *N. dorthesi* from Almeria, Spain. Judging from the image, the shape of the spermathecae in Spanish and Algerian populations of *N. dorthesi* is almost the same.

Two of the species considered in this study have now been putatively assigned to *Nemesia* ?*macrocephala* and *N. ?meridionalis*, respectively. The features of the former species are found to correspond well to the known characteristics of *N. macrocephala*, including a resemblance in the structure of the spermathecae (Figs 125, 126 cf. Decae 2012: figs 2Fc, 5). *Nemesia macrocephala* is probably widely distributed in the Mediterranean. The same type of spermathecae was observed in *Nemesia* sp. from Kefalonia Island, Greece. It was recently depicted, although those females remained unidentified (Zonstein 2017: figs 12, 13). Characters of *N. ?meridionalis* reveal a great similarity to those of *N. meridionalis*. In addition to the almost identical shape of the spermathecae (Figs 132, 133 cf. Isaia & Decae 2012: fig. 10), the possibly conspecific females from Algeria demonstrate a very similar shape of the PMS and PLS densely covered with spigots (Fig. 134). The anterior portion of the carapace in these specimens is similarly bicoloured, with a darker circum-ocular area and lighter lateral “cheeks”; all leg femora also are covered with



Figs 154–157: *Nemesia* spp., spermathecae, dorsal (inside) aspect: (154) *Nemesia* sp. AR4487a from Hammam-Lif, Tunisia; (155) *Nemesia* sp. AR4479 from Zaghuan, Tunisia; (156, 157) *Nemesia* spp. AR4487b and AR4478, both from Hammam-Lif, Tunisia, respectively. Scale bars 0.25 mm.

thin but dense dark hairs (Figs 128–130). Moreover, the labium and the maxillae in these females are similarly darker than the sternum (Fig. 131 cf. Isaia & Decae 2012: fig. 7). The lighter coloured conspecific females lacking maculae on the PLS appear even more similar to the specimens illustrated by Isaia and Decae (2012) than the female depicted in Fig. 128. Among the observed characters, only the uniformly coloured chelicerae in the females from Algeria demonstrate a clear difference from the bicoloured basal cheliceral segments characteristic for representatives of *N. meridionalis* from the type locality (Figs 128, 129 cf. Isaia & Decae 2012: figs 1, 2). Unfortunately, the absence of the conspecific males in the studied material makes the current tentative identification of the both Algerian species problematic and preliminary.

Other complications were caused by rather “technical” reasons than by problems of taxonomic or nomenclatural nature. Most seemingly, Eugène Simon always provided the vials containing freshly collected material with his handwritten labels. With some exceptions, he never indicated the country or the region of the material origin. His labels often provide no information regarding the collection date and/or the names of the collectors. In particular, Simon did not indicate on the labels his own name as the material collector. Only the locality or several such locations closest to the collection point are always indicated. These handwritten labels were later renewed and replaced with their typographic variants. During this replication, some of the handwritten letters were confused with signs of similar configurations and therefore transferred incorrectly. Thus, “Bordj Bouazzerij” appeared instead of Bordj Bou Arréridj, “Perregaun” instead of Perrégaux (Mohammadia) *etc.* Some of the toponyms have remained ambiguously recognized. For instance, it is still uncertain what Simon or the researchers who renewed his labels meant when indicating “Souk Harras”: either Souk el Harras, the area located nearby Constantine, or the more distantly located Souk-Ahras.

In the course of this study, only the labels that included an exclamation mark (the usual label-writing practice of that time, denoting a personal participation) have been recognized as definitely indicating Simon’s collectorship; although it seems clear that the remaining non-signified material was also personally collected by Simon during his trips to Algeria in 1882–1885.

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