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Notes on *Nemesia* and *Iberesia* in the J. Murphy spider collection of the Manchester Museum (Araneae: Nemesiidae)

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ABSTRACT

Representatives of the genera *Nemesia* Audouin, 1826 and *Iberesia* Decae & Cardoso, 2006 deposited in the John Murphy spider collection of the Manchester Museum (University of Manchester, UK) have been re-examined. This part of the collection is found to include ten species of *Nemesia* and one member of *Iberesia*. Males of *N. santeulalia* Decae, 2005 and *N. seldeni* Decae, 2005, unknown hitherto, are described for the first time. Additional data on the structures and distribution of other studied species are also provided.

KEYWORDS: Mygalomorphae, Nemesiinae, Mediterranean, taxonomy, trapdoor spiders, new records.

RESUMEN

Los representantes de los géneros *Nemesia* Audouin, 1826 e *Iberesia* Decae & Cardoso, 2006 depositados en la colección de arañas de John Murphy del Museo de Manchester (Universidad de Manchester, Reino Unido) han sido reexaminados. Esta parte de la colección incluye diez especies de *Nemesia* y un miembro de *Iberesia*. Los machos de *N. santeulalia* Decae, 2005 y *N. seldeni* Decae, 2005, desconocidos hasta ahora, se describen por la primera vez. Se proporcionan datos adicionales sobre las estructuras y la distribución de otras especies estudiadas.

PALABRAS CLAVE: Migalomorphas, nemésidos, región mediterránea, arañas tramperas, taxonomía, nuevos registros.

INTRODUCTION

The specimens, which constitute the object of the current study, represent only a small portion of the copious spider material collected worldwide mainly from mid-1960s until 2001 by an outstanding British arachnologist John A. Murphy. His collection has been recently donated to the Manchester Museum, the University of Manchester, UK. This spider array contains over 75,000 specimens belonging to at least 1,500 species (D. Logunov, pers. comm.).

The present study is based on the re-examination of all specimens belonging to the Mediterranean nemesiid genera *Nemesia* Audouin, 1826 and *Iberesia* Decae & Cardoso, 2006. Within the studied material, ten species of the former genus and one species of the latter have been found and are listed below along with their collecting data. In addition, this excercise has resulted in identifying previously unknown males of *N. santeulalia* Decae, 2005 and *N. seldeni* Decae, 2005, which are described herein for the first time.

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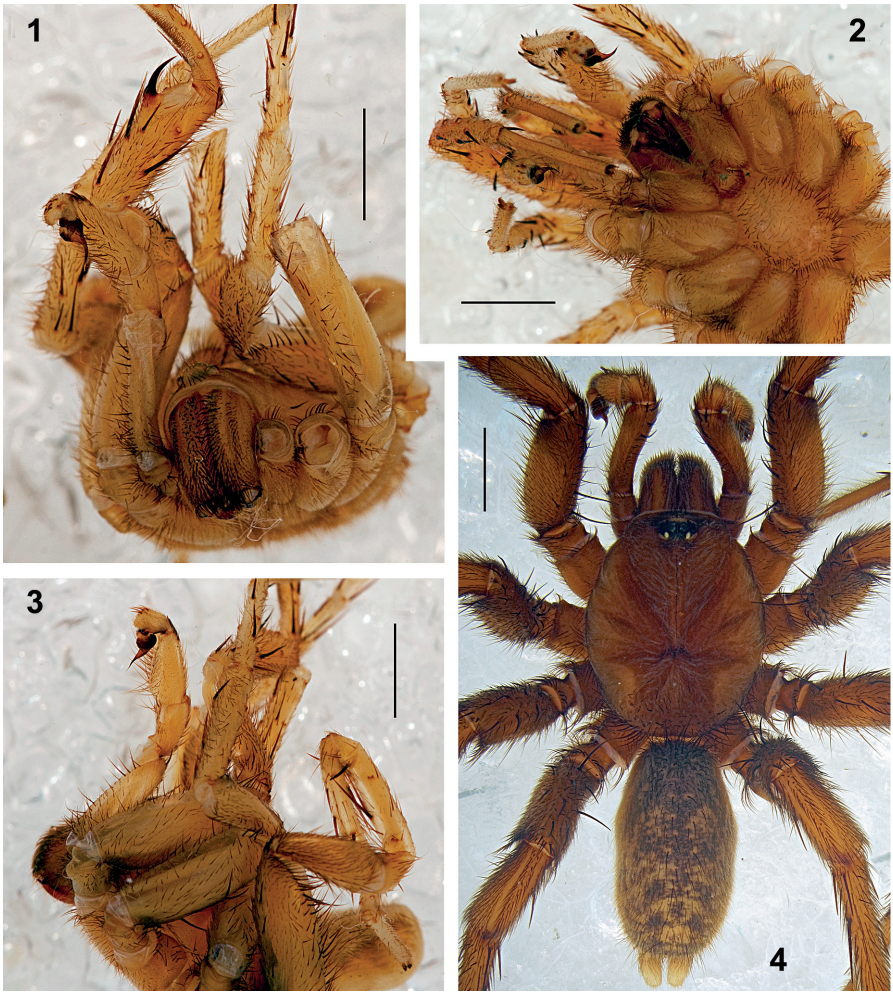
MATERIALS AND METHODS

Specimens from the following collections were studied:

MMUM – Manchester Museum, University of Manchester, UK;
MNHN – Muséum national d'Histoire naturelle, Paris, France;
BMNH – Natural History Museum, London, UK;
SMF – Senckenberg Museum, Frankfurt am Main, Germany.

Comparative material used in this study:

Iberesia Decae & Cardoso: conspecific males and females of *I. brauni* (L. Koch, 1882) from La Palma, Mallorca (BMNH).



Figs 1–4: *Nemesia ?corsica* Simon, AR4328 (1–3) and G7572.3243 (4) males, shown in frontal (1), ventral (2), lateral (3), and dorsal (4) aspects. Scale bars = 2.0 mm.

Nemesia Audouin: types of *N. bristowei* Decae, 2005 (MNHN AR14208), *N. ibiza* Decae, 2005 (MNHN AR14067), *N. randa* Decae, 2005 (MNHN AR14198), *N. seldeni* Decae, 2005 (MNHN AR14202), *N. santeugenia* Decae, 2005 (MNHN AR14197), *N. santeulalia* Decae, 2005 (MNHN AR14194), *N. valenciae* Kraus, 1955 (SMF 9432).

Dissected copulative organs were macerated in the 10% potassium hydroxide aqueous solution and exposed for a few minutes in the ethanol solution of Chlorazol Black. For illustration, the dissected vagina was placed into a small Petri dish filled with a 85% solution of lactic acid. 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.

Measurements were taken using the above stereomicroscope to an accuracy of 0.01 mm, and are given in millimetres. The total body length, as accepted for mygalomorph spiders (Raven & Schwendinger 1995), includes chelicerae but not spinnerets. The diameter of the AME is usually given as the diameter of a sharply edged AME circle (the 'pupil'). When the AME cornea is well-separated and elevated, and its diameter could be measured, the corresponding data follow in brackets. Any eye interdistances counting this parameter are also given in 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 used terms follow Raven (1985): megaspine – an enlarged spine on the male tibia I, metatarsal preening comb – several densely spaced setae forming a crest-shaped structure in the distal part of the metatarsi.

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

TAXONOMY

Family Nemesiidae Simon, 1889

Genus *Nemesia* Audouin, 1826

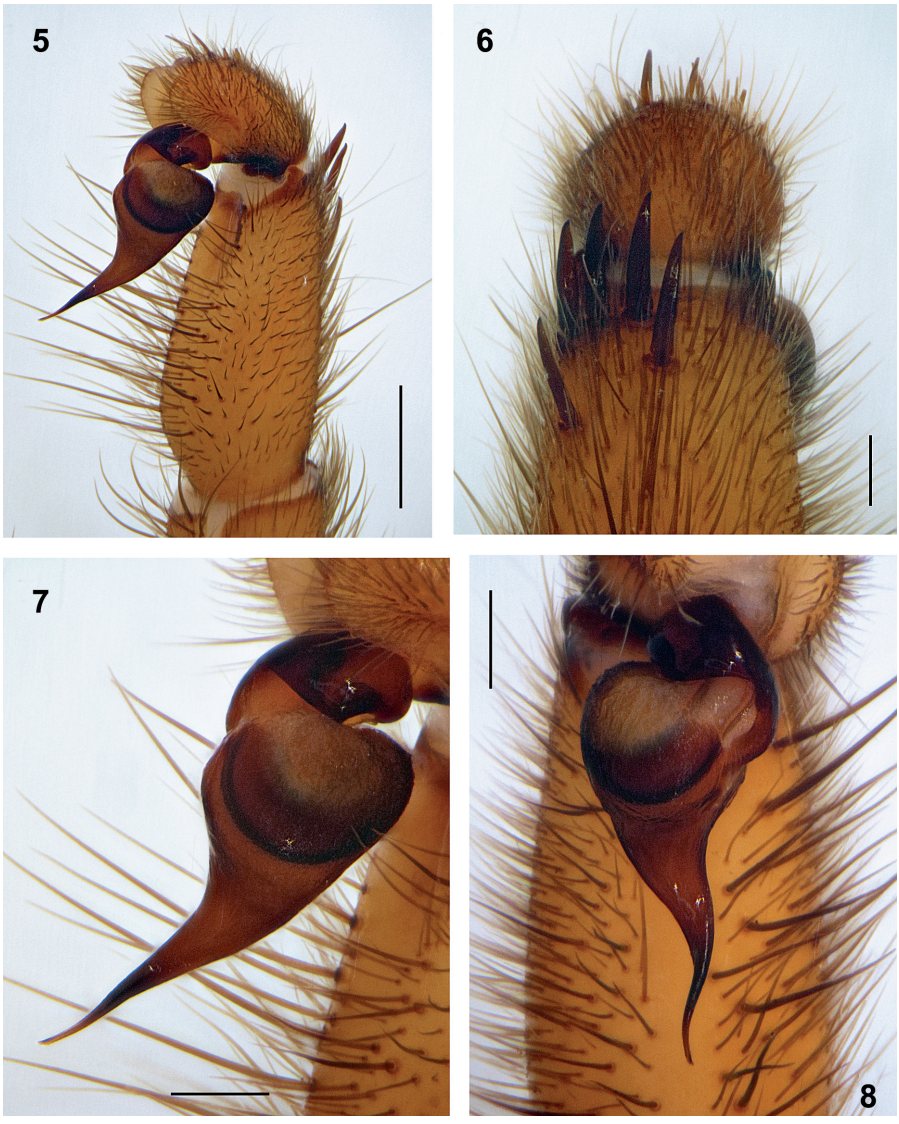
Nemesia ? corsica Simon, 1914

(Figs 1–8)

Nemesia corsica: Simon 1914: 11, 12, 14, 20, fig. 27 (♂♀); Kraus 1955: 372, pl. 35, figs 1, 2 (♂); Le Peru 2011: 94, fig. 64 (♂).

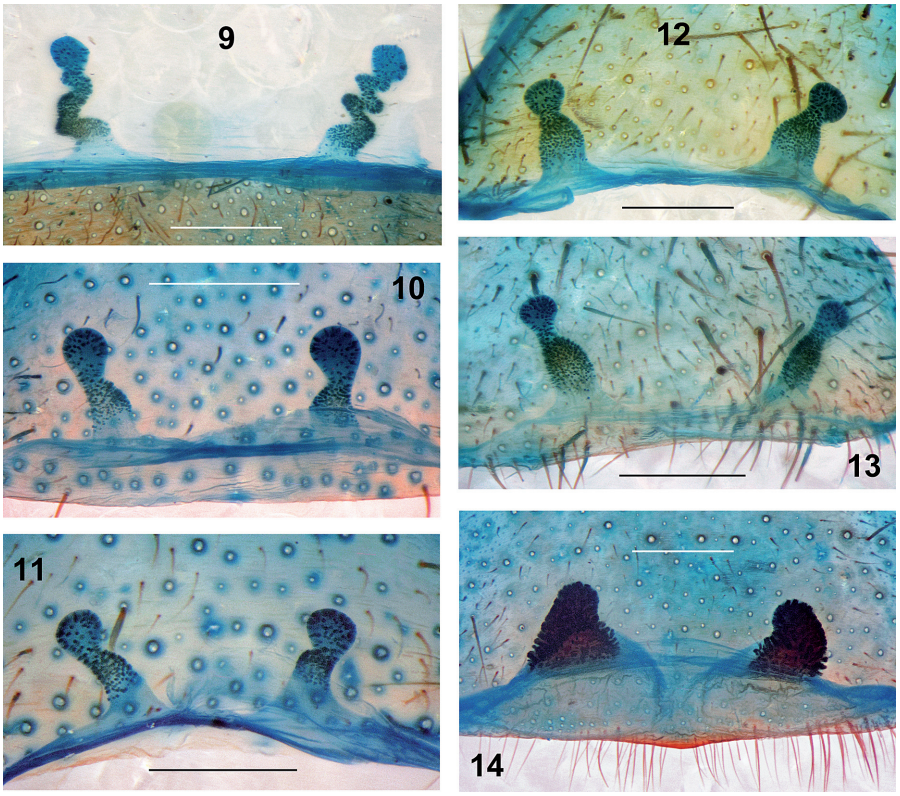
Material examined: France: 1♂ (MMUM G7572.3243), Corsica Isle, Noceta Co., surroundings of Venaco (42°14'N 09°11'E), 23.v.1989, J.A. Murphy. Originally identified as "*Nemesia corsica* Simon" (det. J. Murphy, 1990).

Distribution: Known only from Corsica Isle, France (WSC 2017).



Figs 5–8: *Nemesia* ?*corsica* Simon, male G7572.3243: (5) distal segments of pedipalp, showing bulb and embolus, retrolateraly; (6) subapical part of palpal tibia, showing spine comb, and cymbium, dorsal; (7, 8) palpal organ, retrolateral and ventral aspects, respectively. Scale bars for Fig. 5 = 0.50 mm, for Figs 6–8 = 0.25 mm.

Notes: The male palp of *Nemesia corsica* was previously depicted only once (Kraus 1955: figs 1, 2). Unfortunately, those figures are rather schematic and the palp of the studied male looks somewhat different (Figs 5–8).



Figs 9–14: *Nemesia* spp., spermathecae, dorsal (inside) aspect: (9) *Nemesia* sp. aff. *dubia* O. Pickard-Cambridge (G7572.3074); (10, 11) *N.* ?*ibiza* Decae (G7572.3262 and G7572.3263, respectively); (12, 13) *Nemesia* sp. (G7572.3134 and G7572.3264, respectively); (14) *N. santeugenia* Decae (G7572.3071). Scale bars = 0.5 mm.

Nemesia sp. aff. *dubia* O. Pickard-Cambridge, 1874

(Fig. 9)

Material examined: France: 1♀ (MMUM G7572.3074), Corsica, Vizzavona, 1000 m, 16.v.1989, J. & F. Murphy. Originally identified as "*Nemesia dubia* O. Pickard-Cambridge" (det. J. Murphy, 1990).

Notes: The configuration of the spermathecae in the studied specimen (Fig. 9) actually matches that illustrated for *Nemesia dubia* (cf. Blasco Feliu 1986*a*: fig. 1C). However, the species *N. dubia* has been hitherto recorded only in the mainland France and adjoining north-eastern Spain (Blasco Feliu 1986*b*; WSC 2017), and never in Corsica (Helsdingen 2017). Therefore, the presented here assumption concerning the taxonomic position of the studied specimen remains very tentative.

Nemesia ? *ibiza* Decae, 2005

(Figs 10, 11)

Nemesia ibiza: Decae 2005: 161, figs 161–167 (♀); Le Peru, 2011: 96, fig. 73 (♀).

Material examined: Spain: 1♀ (MMUM G7572.3262), Ibiza Isle, San Carlos, 30 m, from burrow in pine area, 23.ix.1976, J. & F. Murphy; 1♀ (MMUM G7572.3263), Ibiza Isle, Puig de Perella, 50 m, dry scrubby hillside, 21.xii.1981, J. & F. Murphy. Originally identified as "*Nemesia macrocephala* Ausserer, 1871" (det. J. Murphy, 1985).

Distribution: Known only from Ibiza Isle, Spain (Decae 2005; WSC 2017).

Notes: The shape of the spermathecae in both examined females (Figs 10, 11) somewhat differs from that in types of *N. ibiza* (cf. Decae 2005: fig. 67). Nevertheless, these females do not differ significantly from the examined types of *N. ibiza* in a wide array of features, including the habitus, the eye arrangement, the character of the leg spination, and the shape of the spinnerets. It is not thus excluded that the aforementioned variants reflect variability of the spermathecae in this species, or may be based on differences in the preparation technique. However, without further study of this question, the current assignment of these specimens to *N. ibiza* is only tentative. It should be noted that the abovementioned configuration of the spermathecae also resembles that in *N. bristowei* Decae, 2005 from Mallorca Isle (Decae 2005: fig. 32). However, until now none of the same *Nemesia* species has been found in both Mallorca and Ibiza (see WSC 2017).

Nemesia sp.

(Figs 12, 13)

Material examined: Greece: 1♀ (MMUM G7572.3134), Kefallinia [=Kefalonia] Isle, Pasira, 100 m, 21.v.1987, J. & F. Murphy; 1♀ (MMUM G7572.3264), same island, Sisia, 100 m, 29.v.1987, J. & F. Murphy. Originally identified as "*Nemesia* sp (?)" (det. J. Murphy, 1985, 1987).

Notes: Judging from a very similar body morphology and especially the almost uniform configuration of the vulva, both females from Greece may be assigned to the same species. It should be noted that the shape of the vulva in the studied females is distinguishable from that in all geographically closest species of *Nemesia*, where it is known, i.e. in *N. apenninica* Decae, Pantini & Isaia, 2015, *N. caranhaci* Decae, 1995, *N. daedali* Decae, 1995, *N. hastensis* Decae, Pantini & Isaia, 2015, and *N. pedemontana* Decae, Pantini & Isaia, 2015 (cf. Decae 1995: figs 4, 9; Decae *et al*. 2015: figs 5E, 6E, 7E). Unfortunately, a gap in information concerning the Balkan representatives of *Nemesia* is clearly evident. Despite several studies dedicated exclusively to *N. pannonica* Herman, 1879 and its relatives (Kolosváry 1939; Loksa 1966; Fuhn & Polenec 1967), no attempt to scrutinize the spermathecae of *N. pannonica* has been so far done.

Nemesia santeugenia Decae, 2005

(Fig. 14)

Nemesia santeugenia: Decae 2005: 156, figs 40–46 (♀); Le Peru 2011: 99, fig. 85 (♀).

Material examined: Spain: 1♀ (MMUM G7572.3070), Mallorca Isle, near Puerto de Pollensa, alt. 50 m, 13.iv.1975, J. & F. Murphy; 1♀ (MMUM G7572.3071), same data, but 7.iv.1975. Originally identified as "*Nemesia caementaria* Latreille, 1798" (det. J. Murphy, 1985).

Distribution: Known only from Mallorca Isle, Spain (Decae 2005; WSC 2017).

Notes: The configuration of the spermathecae in these specimens is very characteristic (Fig. 14) and perfectly matches that in the holotype of *N. santeugenia* (cf. Decae 2005: fig. 46). The male of this species remains to be unknown.

Nemesia santeulalia Decae, 2005

(Figs 15–23)

Nemesia santeulalia: Decae 2005: 159, figs 54–60 (♀), 2012: 25, fig. 2Ec; Le Peru 2011: 99, fig. 86.

Male: Body length 11.30.

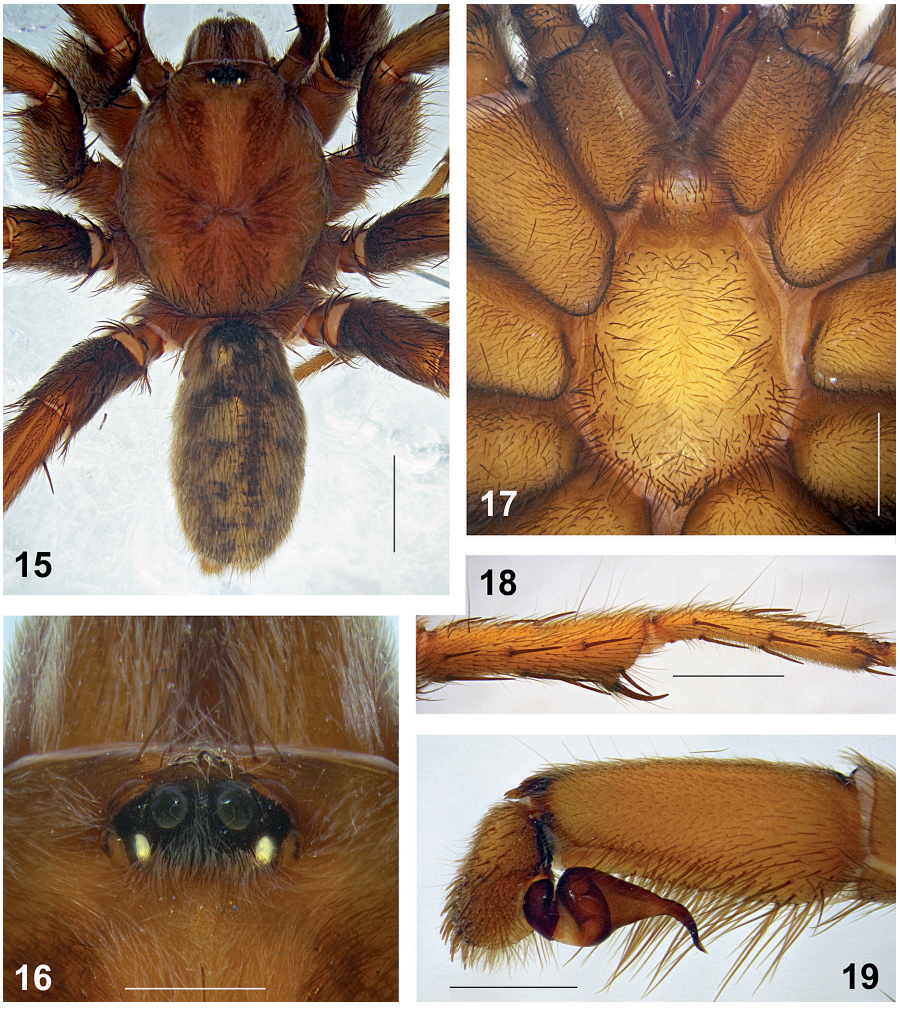
Color in alcohol: carapace, chelicerae, palps and legs medium brownish orange, with darker brown clypeus, H-shaped area on carapace and all femora; eye tubercle brownish black; sternum brownish yellow; labium, maxillae, leg coxae and PLS light brownish orange; most part of abdomen and PMS light brownish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

Entire male body in dorsal aspect and prosoma ventrally as in Figs 15 and 17, respectively. Carapace 5.38 long, 4.34 wide. Eye tubercle as in Fig. 16. Eye diameters and interdistances: AME 0.17(0.25), ALE 0.26, PLE 0.20, PME 0.13, AME–AME 0.13(0.06), ALE–AME 0.07(0.03), ALE–PLE 0.03, PLE–PME 0.03, PME–PME 0.45. Chelicerae: each furrow with 6 small promarginal teeth and about 20 mesobasal denticles; rastellum with 5 heavy cone teeth in front of cheliceral fang. Labium 0.49 long, 0.93 wide. Sternum 2.58 long, 2.03 wide. Sternal sigilla small submarginal (Fig. 17). Each maxilla with 3 or 4 thick bristles (instead of true cuspules), confined to inner maxillary heel. Serrula nit evident.

Palp and legs. Tibia and metatarsus I as in Fig. 18. Spines (tarsi I–IV aspinose). Palp: femur d0–1–1–2, dp1; patella p1; tibia with *ca*. 20 apical and subapical dorsal spines; cymbium with 20–25 short dorsal spines. Leg I: femur d1–1–1–1–2, pd0–1–1, rd1–1–1; patella d1, p1–1; tibia d2(1)–1–1–0, p1–1–1, r1–1, pv1–0–1–M; rv1–1–0–1; metatarsus d0–1–1, p1–1–1–1, r1–1–1, v1–1–3. Leg II: femur d1–1–1–1–2, pd1–1–1, rd1–1–1; patella d1, p1–1, r1; tibia d2–1–0, p1–1–1, r1–1, v2–2–2; metatarsus d1–1–1, p1–1–1, r1–1–1–1, v2–2–3. Leg III: femur d 1–1–1–1–2, pd1–1–1, rd1(0)–1–1; patella d1–1(0), p1–1, r1; tibia d2–1–1(0), p1–1–1, r1–1–1, v2–2–3; metatarsus d2–1–1–0, p1–1–1–1, r1–1–1, v2–2–3. Leg IV: femur d 1–1–1–1–1, pd1–1–1, rd1–1–1; patella d1(0), p1–1, r1; tibia d2–1–1–1, p1–1–1–1–1, r1–1–1–1, v2–2–3; metatarsus d1–2–1–1, p1–1–1–1, 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 tarsi III and IV. Trichobothria: 2 rows of 8–10 in each row on tibiae, 14–16 on metatarsi, 13–14 on tarsi, 9 on cymbium. Paired claws on tarsi I–II, III, and IV with 8–10, 8–9, and

7–8 teeth in each row, respectively. Unpaired tarsal claw small and sharply curved. Leg measurements (palp–legs I–II–III–IV):

Femur	2.50	4.32	4.18	3.58	4.74
Patella	1.21	2.41	2.12	1.48	2.58
Tibia	2.02	3.32	3.13	2.75	5.56
Metatarsus	–	3.44	3.39	4.01	5.35
Tarsus	0.99	2.52	2.27	2.40	2.73
Total	6.72	16.01	15.09	14.22	20.96



Figs 15–19: *Nemesia santeulalia* Decae, male G7572.3071: (15) body, dorsal; (16) eye tubercle, dorsal; (17) prosoma, ventral; (18) tibia and metatarsus I, prolateral; (19) distal segments of pedipalp, showing palpal organ, retrolateral. Scale bars for Figs 15, 18 = 2.0 mm, for Fig. 16 = 0.5 mm, and for Figs 17, 19 = 1.0 mm.

Copulatory organs. Palpal tibia moderately short, with numerous dorsoapical spines (Figs 19, 20). Palpal organ with broadly tipped embolus (Figs 21, 22).

Spinnerets as in Fig. 23. PMS: length 0.23; diameter 0.14. PLS: maximal diameter 0.55; length of basal, medial and apical segments 0.56, 0.17, 0.10, respectively; total length 0.83; apical segment domed.

Figs 20–23: *Nemesia santeulalia* Decae, male G7572.3071: (20) subapical part of palpal tibia, depicting spine comb and cymbium, dorsal; (21, 22) palpal organ, ventral and retrolateral aspects, respectively; (23) spinnerets, ventral. Scale bars for Figs 20–22 = 0.50 mm and for Fig. 23 = 0.75 mm.

Material examined: Spain: 1♂ (MMUM G7572.3239), Ibiza Isle, C'an Prats, pine litter, 13.iv.1980, J. & F. Murphy; 1♂ (MMUM G7572.3240), same island, Puig de Perella, dry scrubby hillside, 25.xii.1981, J. & F. Murphy; 1♀ subad. (MMUM G7572.3131), same island, Atalayassa, 250 m, tube under stone, 15.iv.1980, J. & F. Murphy. Originally identified as "*Nemesia brauni*?" (det. J. Murphy, 1985).

Distribution: Known only from Ibiza Isle, Spain (Decae 2005; WSC 2017).

Notes: *Nemesia santeulalia* was diagnosed and described in detail by Decae (2005) on the basis of a small type series, represented only by females. The previously unknown male is first described here. *N. santeulalia* together with *N. santeugenia* and several other congeners (*N. dorthesi* Thorell, 1875, *N. uncinata* Bacelar, 1933 and *N. valenciae* Kraus, 1955), constitute a well-defined species group. Additionally, some (but not all) group features are known for *N. athiasi* Franganillo, 1920 (see Decae *et al*. 2007, figs. 25, 26, 37, 38). The defining characters of this group, which distribution is confined to the Iberian Peninsula and NW Africa, are:

– dorsal spines on tibiae and metatarsi I–IV (not only III–IV);
– numerous dorsoapical spines on the male palpal tibia (as in Figs 20 and 39);
– a broadly tipped embolus with subapical flanges and keels (as in Figs 21, 22, 37, 38, 40, 41; for *N. santeugenia*, where the male characters are unknown, this condition may be gingerly assumed);
– a sack-shaped form of the spermathecae (like in Fig. 14; this condition is confirmed in all above-listed group members with known females, i.e. in all those species save *N. valenciae* – see Blasco Feliu (1986*a*: fig. 2F), Decae (2005: figs 46, 60, 2012: fig. 2Ea–c) and Decae *et al*. (2007: fig. 43));
– tiny conical PMS (unlike the above-listed characters, this feature is shared also by some other congeners outside the species group).

Thus, the studied males from Ibiza and females of N. *santeulalia* belong definitely to the same small species group. In addition, they share the same type of the body coloration, as well as the practically uniform structure of the spinnerets. The conformation of the eye group in these males and females also appears to be very similar to each other. On these reasons, the mentioned two males, on the one hand, and the recognized females of *N. santeulalia*, on the other hand, may be considered as belonging to the same species.

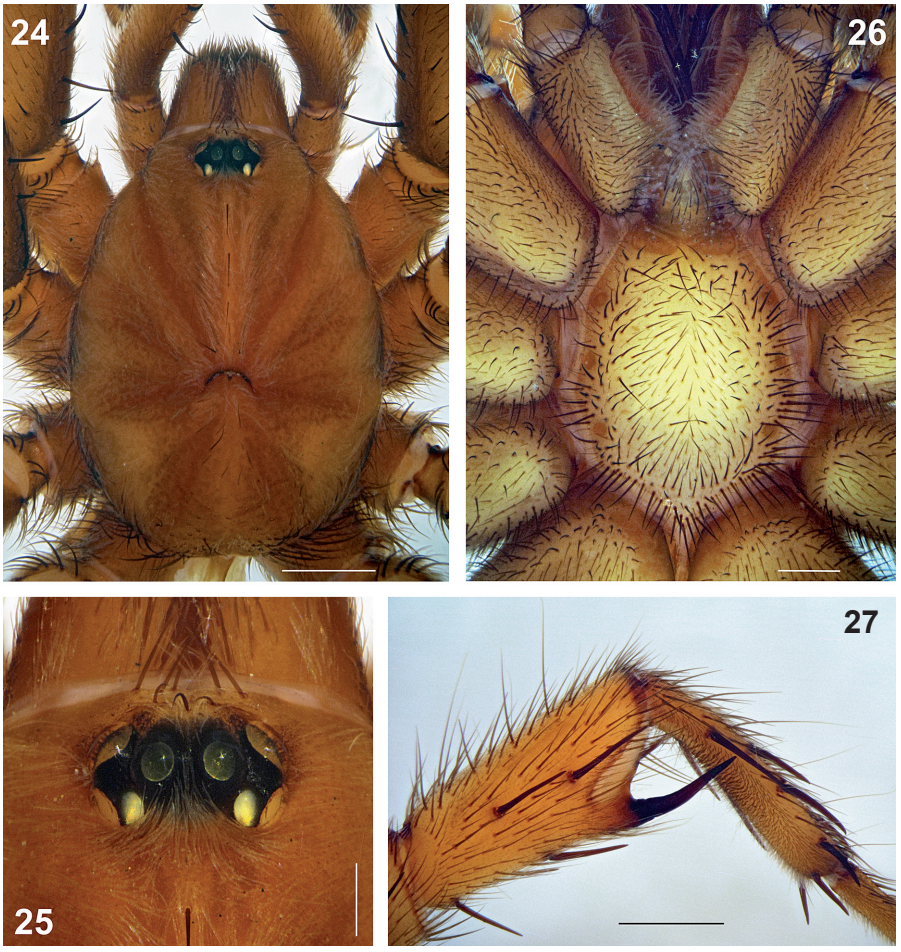
Nemesia seldeni Decae, 2005

(Figs 24–31)

Nemesia seldeni: Decae 2005: 157, figs 47–53 (♀); Le Peru 2011: 100, fig. 88 (♀).

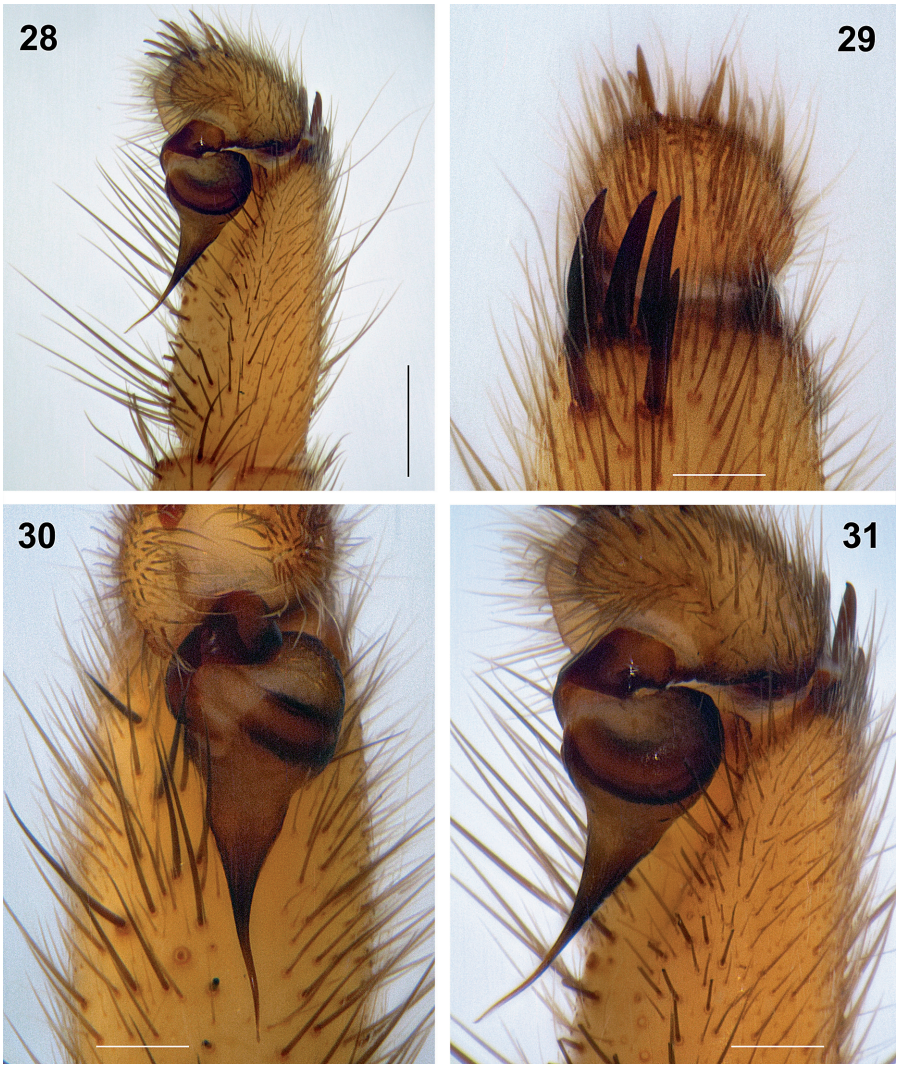
Male: Body length *ca.* 10.00 (prosoma and abdomen separated from each other).

Color in alcohol: prosoma and appendages brownish yellow, with darker brownish clypeus, H-shaped area on carapace and all femora; eye tubercle brownish black; most part of abdomen and spinnerets light brownish gray; dorsal part of abdomen with darker brownish pattern represented by narrow median stripe and several paired lateral chevrons.



Figs 24–27: *Nemesia seldeni* Decae, male G7572.3241: (24, 26) prosoma, dorsal and ventral aspects, respectively; (25) eye tubercle, dorsal; (27) tibia and metatarsus I, prolateral. Scale bars for Figs 24 and 27 = 1.00 mm, for Fig. 25 = 0.25 mm, and for Fig. 26 = 0.50 mm.

Prosoma in dorsal and ventral aspects as in Figs 24 and 26 respectively. Carapace 4.49 long, 2.28 wide. Eye tubercle as in Fig. 25. Eye diameters and interdistances: AME 0.15(0.22), ALE 0.24, PLE 0.18, PME 0.14, AME–AME 0.11(0.04), ALE–AME 0.07(0.04), ALE–PLE 0.05, PLE–PME 0.02, PME–PME 0.33. Chelicerae: each furrow with 6 relatively small promarginal teeth and about 20–25 tiny mesobasal denticles; rastellum consists of 4 stout cone teeth in front of cheliceral fang. Labium 0.31 long, 0.64 wide. Sternum 2.20 long, 1.71 wide. Sternal sigilla small submarginal (Fig. 26). Each maxilla with 3 long and thin cuspules, confined to inner maxillary heel. Serrula nit evident.



Figs 28–31: *Nemesia seldeni* Decae, male G7572.3241: (28) distal segments of pedipalp, showing palpal organ, retrolateral; (29) subapical part of palpal tibia, showing spine comb and cymbium, dorsal; (30, 31) palpal organ, ventral and retrolateral aspects, respectively. Scale bars for Fig. 28 = 0.50 mm and for Figs 29–31 = 0.25 mm.

Palp and legs. Tibia and metatarsus I as in Fig. 27. Spines (palpal patella and tarsi I–IV aspinose). Palp: femur d0–1–1–2, dp1; tibia d5 (3 apical + 2 subapical); cymbium with 8 small spines. Leg I: femur d1–1–1–1–2, pd0–1–1, rd1–1–1; patella p1–1; tibia p1–1, pv1–1–M, rv1–1–1; metatarsus d1–1–2, p1–0–0, rd1–1–1, 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)–1, v2–2–3; metatarsus d1–1–2, p1–0–0, rd1–1–1, r0–1–1(0), v2–1–2. Leg III: femur d 1–1–1–1–2, pd1–1–1, rd1–1–1; patella p1–1, r1; tibia d2–1–1, p1–1, r1–1, v2–2–3; metatarsus d1–1–1, p1–2–1, r1–1–2(1), v3–2–3. Leg IV: femur d 1–1–1–1–2, pd1–1–1, rd1–1–1; patella r1; tibia r1–1–1; v2–2–3; metatarsus d1–1–1, p2–2–1–2, rd1–1–1, v3–3(2)–3. Metatarsal preening combs absent. Scopula: entire on metatarsus and tarsus I, entire and distal on metatarsus II; narrowly divided on tarsus II; absent on tarsi III and IV. Trichobothria: 2 rows of 9–10 in each row on tibiae, 14–15 on metatarsi, 12–14 on tarsi, 7–8 on cymbium. Paired claws on tarsi I–II and III–IV with 6–7 and 7–8 teeth in each row, respectively. Unpaired tarsal claw small and sharply curved. Leg measurements (palp – legs I–II–III–IV):

Femur	1.78	3.28	3.03	2.66	3.76
Patella	1.03	1.83	1.75	1.51	2.12
Tibia	1.40	2.31	2.15	1.89	3.70
Metatarsus	–	2.41	2.39	2.60	3.61
Tarsus	0.64	1.81	1.57	1.46	1.72
Total	4.85	11.64	10.89	10.12	14.91

Copulatory organs. Palpal tibia moderately short, with few dorsoapical spines (Figs 28, 29). Embolus tapering, slightly curved (Figs 30, 31).

Spinnerets (poorly preserved). PMS: length 0.22; diameter 0.15. PLS: maximal diameter 0.36; length of basal, medial and apical segments 0.41, 0.15, 0.11, respectively; total length 0.67; apical segment domed.

Material examined: Spain: 1♂ (MMUM G7572.3241), Mallorca Isle, Alcudia, under stone, 5.ix. 1979, A. Rundle; 1 juv. (MMUM G7572.3133), same island, Ternelles, 150 m, wooded streamside, 11.iv.1975, J. & F. Murphy. Originally identified as "*Nemesia brauni* ?" (det. J. Murphy, 1985).

Distribution: Known only from Mallorca Isle, Spain (Decae 2005; WSC 2017).

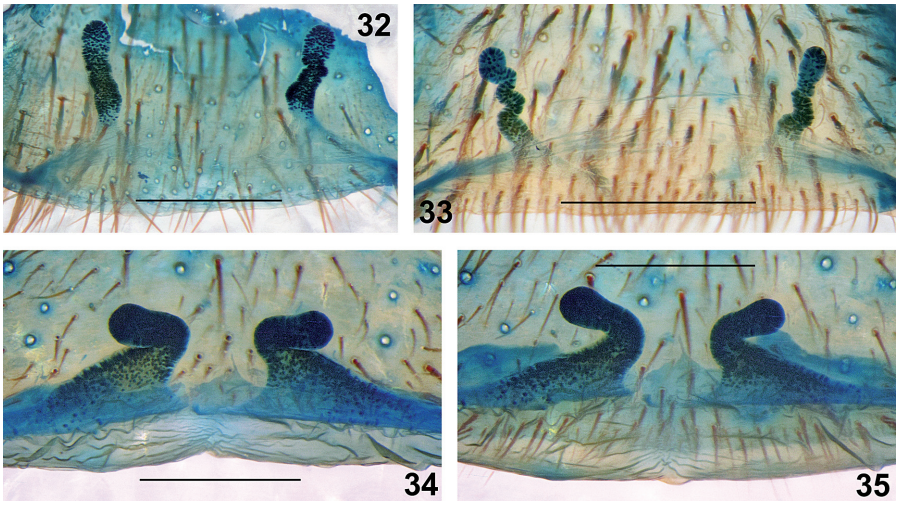
Notes: Among the members of *Nemesia* occurring in Mallorca Isle, three species have been hitherto known only from females: *N. randa* Decae, 2005, *N. santeugenia* Decae, 2005, and *N. seldeni* Decae, 2005 (Decae 2005; WSC 2017). A single male identified here as *N. seldeni* shares with the examined type series of this species a wide array of the characters, including the same body pattern, as well as the eyes and spinnerets shape and arrangement. It consistently differs in these features from *N. randa*, whereas *N. santeugenia*, as noted above (see p. 150), belongs to quite a different species group.

Nemesia sp. aff. *seldeni* Decae, 2005

(Fig. 32)

Material examined: Spain: 2♀ (MMUM G7572.994), Ibiza Isle, Santa Eulalia, riverside, 14.ix.1976, J. & F. Murphy. Original identification: "*Nemesia dubia* O.P. Cambridge, 1874 (?)"(det. J.A. Murphy, 1985).

Notes: Both these females from Ibiza Isle show some resemblance to the Mallorcan *N. seldeni* in many characters, including the shape of the spermathecae (Fig. 32; cf.



Figs 32–35: *Nemesia* spp., spermathecae, dorsal (32–34) and posterodorsal (35) aspects: (32) *Nemesia* sp. aff. *seldeni* Decae (G7572.994); (33) *Nemesia* sp. aff. *didieri* Simon from Hammam-Lif, Tunisia (AR4487); (34, 35) *N. simoni* O. Pickard-Cambridge (G7572.3072). Scale bars = 0.5 mm.

Decae 2005: fig. 53). Nevertheless, as already noted above (see p. 146), none of *Nemesia* species represented in Mallorca or Ibiza has been found inhabiting both islands together. Thus, it could be assumed that the studied representatives and *N. seldeni* form a pair of the vicarious species, like *N. santeugenia* and *N. santeulalia*, known from Mallorca and Ibiza, respectively. In addition, the configuration of the spermathecae in these females from Ibiza also resembles that in a probably undescribed congener from Hammam-Lif, Tunisia (MNHN AR4487) (cf. Fig. 33).

Nemesia simoni O. Pickard-Cambridge, 1874

(Figs 34, 35)

Nemesia simoni O. Pickard-Cambridge in Moggridge 1874: 297, pl. 16, fig. A (Df); Simon 1914: 5, figs 11, 12 (♂♀); Frade & Bacelar 1931: 223, figs 1, 3 (♂); Blasco Feliu 1986*a*: 346, fig. 2A (♀); Le Peru 2011: 94, fig. 64 (♂♀).

Material examined: France: 1♀ (MMUM G7572.3072), Department Aveyron, 400 m, [no date], J. & F. Murphy. Originally identified as: "*Nemesia simoni* O. Pickard-Cambridge" (det. J. Murphy, 1990).

Distribution: Western Mediterranean: Spain and south France (Simon 1914; Blasco Feliu 1986*b*; WSC 2017). The records for Italia are doubtful (see Helsdingen 2017).

Notes: A very characteristic configuration of the spermathecae in this specimen (Figs 34, 35) entirely confirms the original J. Murphy's identification (cf. Blasco Feliu 1986*a*: fig. 2A).

Figs 36–39: *Nemesia uncinata* Bacelar, male G7572.3238: (36) distal segments of pedipalp, showing palpal organ, retrolateral; (37, 38) palpal organ, retrolateral and ventral aspects, respectively; (39) subapical part of palpal tibia, showing spine comb and cymbium, dorsal. Scale bars for Fig. 36 = 1.00 mm, for Figs 37, 38 = 0.25 mm, and for Fig. 39 = 0.50 mm.

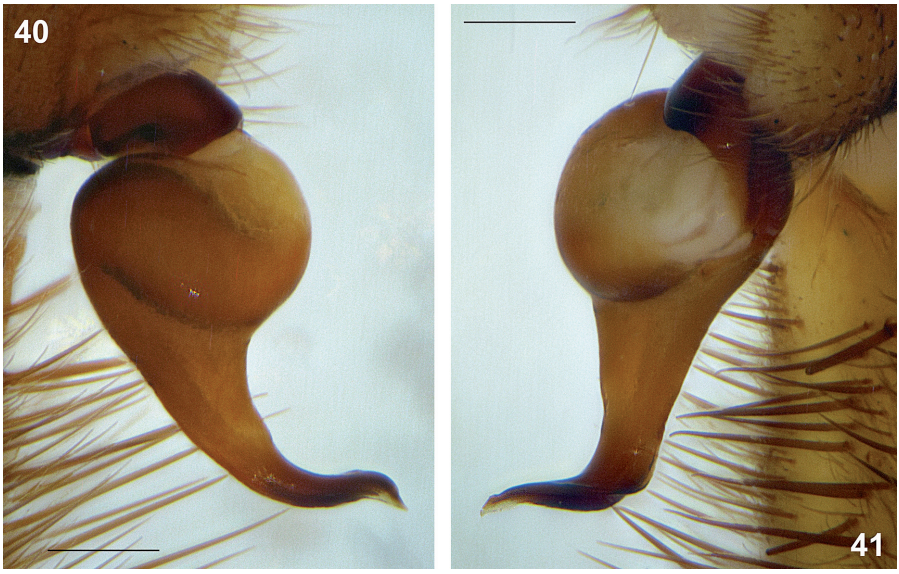
Nemesia uncinata Bacelar, 1933

(Figs 36–39)

Nemesia uncinata: Bacelar 1933: 285, figs 1–3 (♂); Decae *et al*. 2007: 7, figs 7, 8, 19, 20, 31, 32, 43, 44 (♂♀); Le Peru 2011: 100, fig. 91 (♂); Decae 2012: 25, figs 1Ba, 2Ea (♂♀).

Material examined: Portugal: 1♂ (MMUM G7572.3238), Algarve Province, Quarteira, ix.1982, M. Judson. Originally identified as "*Nemesia uncinata* Bacelar" (det. J. Murphy, 1983).

Distribution: According to Decae *et al*. (2007), all known localities of this species group within the southern Portugal. Judging from the figured palpal characters (cf. Barrientos *et al*. 2017: figs 9b–e), somewhat similar male congeners found in the Almería Province, Spain, are rather close to *N. valenciae* Kraus, 1955 (cf. Figs 40, 41) and probably belong to an undescribed member of the same species group.



Figs 40, 41: *Nemesia valenciae* Kraus, holotype male SMF9432, palpal organ, retrolateral and ventral aspects, respectively. Scale bars = 0.25 mm.

Notes: A characteristic broadly tipped embolus (Figs 37, 38) and a dense patch of spines on the palpal tibia (Fig. 39) indicate that this species appears to be closely related to *N. santeulalia*, *N. dorthesi*, and *N. valenciae*. The presence of a large tooth (an angular process) in the subapical part of the embolus in *N. uncinata* does not occur in other members of this group.

Genus *Iberesia* Decae & Cardoso, 2006

Iberesia brauni (L. Koch, 1882)

Nemesia brauni L. Koch, 1882: 642, pl. 20, fig. 21 (♂); Decae 2005: 149, figs 9–19 (♂♀).
Iberesia brauni: Decae & Cardoso 2006: 8, figs 13, 16 (♂♀); Le Peru 2011: 75, fig. 47 (♂♀); Zonstein 2016: 387, figs 19, 20, 24, 25, 28 (♂♀).

Material examined: Spain: 1♀ (MMUM G7572.3071), Mallorca Isle, Puerto de Pollensa, 7.iv.1975, J. & F. Murphy. Originally identified as "*Nemesia caementaria* Latreille, 1798" (det. J. Murphy, 1985).

Distribution: Known only from Mallorca Isle, Spain (Decae 2005; Decae & Cardoso 2006; WSC 2017).

Notes: The species was redescribed in detail by Decae (2005). Later, some illustrations were added by Zonstein (2016).

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REFERENCES

Bacelar, A. 1933. Araignées théraphoses nouvelles ou peu connues de la faune ibérique. *Boletim da Sociedade Portuguesa de Ciências Naturais* **11** (26): 285–290. http://doi.org/10.5281/zenodo.1067512

Barrientos, J.A., Moya, J., García-Sarrión, R., Uribarri, I., Melic, A., Prieto, C.E., Moraza, M.L. & Zaragoza, J.A. 2017. Arácnidos del Parque Natural de Cabo de Gata-Níjar (Almería, España). *Revista Ibérica de Aracnología* **30**: 107–138.

Blasco Feliu, A. 1986*a*. Les spermathèques des *Nemesia* (Araneae, Ctenizidae); valeur taxonomique de ce caractère. *Bulletin du Muséum National d'Histoire Naturelle de Paris* (4) **8** (A1): 343–350.

———1986*b*. El género *Nemesia* Audouin, 1925 (Arachnida: Ctenizidae) en Cataluña. *Publicaciones del Departamento de Zoología, Universidad de Barcelona* **12**: 41–49.

Decae, A.E. 1995. Two new trapdoor spider species in the genus *Nemesia* Audouin, 1827 and the first report of this genus from Greece (Araneae, Mygalomorphae, Nemesiidae). *Deinsea* **2**: 1–8. http://doi.org/10.5281/zenodo.1067588

———2005. Trapdoor spiders of the genus *Nemesia* Audouin, 1826 on Majorca and Ibiza: taxonomy, distribution and behaviour (Araneae, Mygalomorphae, Nemesiidae). *Bulletin of the British Arachnological Society* **13**: 145–168. http://britishspiders.org.uk/bulletin/130501.pdf

———2012. Geography-related sub-generic diversity within the Mediterranean trapdoor spider genus *Nemesia* (Araneae, Mygalomorphae, Nemesiidae). *Arachnologische Mitteilungen* **43**: 24–28. https://doi.org/10.5431/aramit4304

Decae, A. & Cardoso, P. 2006. *Iberesia*, a new genus of trapdoor spiders (Araneae, Nemesiidae) from Portugal & Spain. *Revista Ibérica de Aracnología* **12**: 3–11. http://sea-entomologia.org/Publicaciones/RevistaIbericaAracnologia/RIA12/003_012Iberesia.pdf

Decae, A., Cardoso, P. & Selden, P. 2007. Taxonomic review of the Portuguese Nemesiidae (Araneae, Mygalomorphae). *Revista Ibérica de Aracnología* **14**: 1–18. http://sea-entomologia.org/Publicaciones/RevistaIbericaAracnologia/RIA14/1_18ADecae_NemesiasPortugal.pdf

Decae, A., Pantini, P. & Isaia, M. 2015. A new species-complex within the trapdoor spider genus *Nemesia* Audouin 1826 distributed in northern and central Italy, with descriptions of three new species (Araneae, Mygalomorphae, Nemesiidae). *Zootaxa* **4059** (3): 525–540. http://dx.doi.org/10.11646/zootaxa.4059.3.5

Frade, M.A. & Bacelar, A. 1931. Révision des *Nemesia* de la faune ibérique et description d'espèces nouvelles de ce genre. *Bulletin du Muséum National d'Histoire Naturelle de Paris* (2) **3**: 222–238.

Fuhn, I.E. & Polenec, A. 1967. Über die innerartliche Gliederung von *Nemesia pannonica* Herman (Arach., Araneae: Ctenizidae). *Senckenbergiana Biologica* **48**: 295–300.

Helsdingen, P.J. 2017. Araneae. *In*: *Fauna Europaea*. Version 2017.1. http://www.european-arachnology.org/wdp/?page_id=59 (accessed 22 November 2017).

Koch, L. 1882. Zoologische Ergebnisse von excursionen auf den Balearen. II: Arachniden und Myriapoden. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* **31**: 625–678. https://www.biodiversitylibrary.org/page/13467091#page/759

Kolosváry, G. 1939. Der erste Fund von reifen Weibchen der Art *Nemesia pannonica* O. Herman var. *budense* Kolosváry. *Zoologischer Anzeiger* **127**: 264–266.

Kraus, O. 1955. Spinnen von Korsika, Sardinien und Elba (Arach., Araneae). *Senckenbergiana Biologica* **36**: 371–394.

Le Peru, B. 2011. The spiders of Europe, a synthesis of data: Volume 1 Atypidae to Theridiidae. *Mémoires de la Société Linnéenne de Lyon* **2**: 1–522.

Loksa, I. 1966. *Nemesia pannonica* O. Herman (Araneae, Ctenizidae). *Annales Universitatis Scientiarum Budapestinensis de Rolando Eötvös Nominatae (Biol.)* **8**: 155–171. http://doi.org/10.5281/zenodo.1068605

Moggridge, J.T. 1874. *Supplement to harvest ants and trap-door spiders*. L. Reeve & Co., London, pp. 157–304. https://www.biodiversitylibrary.org/item/29081

Raven, R.J. 1985. The spider infraorder Mygalomorphae (Araneae): Cladistics and systematic. *Bulletin of the American Museum of Natural History* **182**: 1–180. http://hdl.handle.net/2246/955

Raven, R.J. & Schwendinger, P.J. 1995. Three new mygalomorph spider genera from Thailand and China (Araneae). *Memoirs of the Queensland Museum* **38**: 623–641. https://www.biodiversitylibrary.org/page/40060402#page/307

Simon, E. 1914. *Les arachnides de France. Synopsis générale et catalogue des espèces françaises de l'ordre des Araneae.* Tome VI, 1re partie. Roret, Paris, 308 pp. http://doi.org/10.5281/zenodo.1067644

WSC [World Spider Catalog]. 2015. *World Spider Catalog*. Version 16.5. Natural History Museum, Bern. http://wsc.nmbe.ch (accessed 15 October 2015).

Zonstein, S.L. 2016. A redescription and synonymy of North African mygalomorph *Iberesia barbara* (Lucas, 1846), comb. n. (Aranei: Nemesiidae). *Arthropoda Selecta* **25** (4): 385–393. http://kmkjournals.com/upload/PDF/ArthropodaSelecta/25/25_4_385_393_Zonstein_for_Inet.pdf