

Funnel web spiders from Sardinia: Taxonomical notes on some *Tegenaria* and *Malthonica* spp. (Araneae: Agelenidae)

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Funnel web spiders from Sardinia: Taxonomical notes on some *Tegenaria* and *Malthonica* spp. (Araneae: Agelenidae). - Based on specimens collected by hand during several field trips to Sardinia and on specimens examined in several collections, the female of *Tegenaria henroti* Dresco and the male of *Malthonica sardoa* Brignoli are described for the first time. *Malthonica eleonora* (Brignoli) is redescribed. It can be distinguished from *T. henroti*, which we regard as its sister species without yet proposing a new combination, by the number of teeth on the upper margin of the cheliceral groove and by the spine formulae of all leg tibiae. Additionally, the rim of the atrium, the form of the spermathecae, as well as the shape of the tegular apophysis and the ridge on the male bulb are important characters for separating these species. The female described under *T. henroti* by Wunderlich actually belongs to *M. dalmatica* (Kulczynski). The latter species would be new to Sardinia but has been recorded before on this island under the name *T. drescoi* Brignoli, which we consider as a new junior synonym of *M. dalmatica*. In addition, *Malthonica sicana* Brignoli is recorded for the first time from Sardinia, and the species is redescribed here. Males of the three species, *M. sardoa*, *M. sicana* and *M. arganoi* (Brignoli), can be distinguished by the shape of their retrolateral tibia apophysis, the shape of the terminal end of the conductor and the shape of the median apophysis.

Keywords: New male - new female - new synonym - taxonomy - species description.

INTRODUCTION

Malthonica Simon and *Tegenaria* Latreille represent two species-rich genera of agelenid spiders. They are predominantly Palaearctic in distribution. Currently 41 valid species and one subspecies are listed in *Malthonica* and 101 species in *Tegenaria* (Platnick, 2008). These two genera are notorious for causing taxonomic problems: Lack of diagnoses, doubtful generic assignment of species, information available only for one sex in many species, unknown internal phylogenetic relationships between the species.

Tegenaria was erected by Latreille (1804) to include the species listed by Walckenaer (1802) under "Tapiformes": *T. domestica* (Clerck), *T. civilis* (Walckenaer) (= *T. domestica*), *T. agrestis* (Walckenaer) and *T. murina* (Walckenaer) (= *T. parietina* (Fourcroy)). The characters originally defining *Tegenaria* are the arrangement and size of the eyes, the almost square labium, the shape of the gnathocoxa, the leg formula, the elongated posterior spinnerets and the typical funnel web. Many species were added subsequently until Simon (1898) described *Maltonica* for a single species on the basis of procurved eye rows with small anterior median eyes, a narrow clypeus, a big tooth followed by several smaller teeth on the posterior margin of the cheliceral groove and segmented posterior spinnerets with the apical segment shorter than the basal (Simon, 1898; see also: Barrientos & Cardoso, 2007). *Malthonica* remained a genus with few species until Brignoli (1971, 1976a, b, 1978, 1980, 1984) added several species mostly on the basis of general similarity and small size, and hereby created taxonomic chaos. Guseinov *et al.* (2005) used the embolus length to separate *Tegenaria* from *Malthonica*. Apart from describing some new species from Azerbaijan they transferred several other species from *Tegenaria* to *Malthonica*. Jäger (2006) convincingly showed that this character, at least in Sparassidae, is unsuitable for phylogenetic evaluation. Furthermore Guseinov *et al.* (2005) omitted many described species from their list. In short, they added to the already existing confusion. Barrientos & Cardoso (2007) addressed this problem when describing a new species from Portugal. They redefined *Malthonica* for the Iberian species based on the original description of Simon (1898) and on a systematic evaluation by Lehtinen (1967). The current situation, presented in the catalogue of Platnick (2008), is extremely unsatisfactory as several pairs of apparently closely related species are assigned to different genera (e.g. *Malthonica eleonorae* and the supposed sister species *Tegenaria henroti*). Another problem in dealing with species of the *Tegenaria-Malthonica*-complex is the fact that many species are known from one sex only (59 species = 41 %).

The purpose of the present paper is to improve the taxonomic knowledge of some species from Sardinia by providing descriptions of the previously unknown sex, one new synonymy and a new record. A phylogenetic analysis of the two genera is in progress (Bolzern in prep.) and is not the subject of the present paper. In order to avoid additional synonyms or new combinations, no generic rearrangements are made at this stage and the combinations used in the catalogue of Platnick (2008) are adopted here throughout.

MATERIAL AND METHODS

Material was examined from the Muséum d'histoire naturelle, Genève (MHNG), Muséum national d'Histoire naturelle, Paris (MNHN), Museo Civico di Storia Naturale, Verona (MSNV, holding P.M. Brignoli's collection), Senckenberg Forschungsinstitut und Naturmuseum, Frankfurt am Main (SFM, holding the collection of J. Wunderlich (JW)). Additional hand collected material comes from M. A. Arnedo and colleagues (Universitat de Barcelona, Spain), as well as S. Ramseyer and A. Bolzern, and is deposited at the Naturhistorisches Museum Basel (NMB), the MHNG and MSNV.

Drawings were made using a Leica MZ12 stereomicroscope (with up to 110 x magnification) with a drawing tube. Most measurements were taken from digital pictures made with a Leica DFC320 camera and calculated with the programme ImageJ 1.38x (free software available on the internet at <http://rsb.info.nih.gov/ij/>). A few specimens were measured with an ocular scale bar. Measurements are taken from the dorsal side of the palps and legs. Eye-rows are straight, pro- or recurved according to the definition given in Jocqué & Dippenaar-Schoeman (2006) and Ubick *et al.* (2005). In frontal view, the eye-row is called “procurved” when the median eyes are situated more dorsally than the lateral eyes (Fig. 2). The number and arrangement of spines on femur, tibia and tarsus are presented in a spine formula. For each leg segment this formula gives the number in the following order: Dorsal - prolateral - retrolateral - ventral. A “p” indicates that at this position a pair of spines is present. E.g., the formula 2-2-2-1p+1+1p+1 stands for 2 dorsal, 2 prolateral, 2 retrolateral and 1 pair (2 spines at the same level close together) plus 1 plus 1 pair plus 1 ventral spine/spines (from proximal to distal; see Fig. 3). For clearing the vulva, the dissected epigynum has been placed into clove oil for several minutes. The descriptions of the palpal bulbs refer to the ventral view. The spines on the male palp (drawn in Fig. 13) are mostly not illustrated, as they are of no taxonomical significance.

The following abbreviations are used in the morphological sections (see also Figs 1-3): AER = anterior eye row; ALE = anterior lateral eyes; AME = anterior median eyes; AME-AME = distance between AME, expressed in eye diameters; AS = anterior spinnerets; AT = atrium of epigynum; BL/CL = ratio of bulb length / cymbium length; C = conductor; CD = copulatory duct; CHA = anterior (upper) margin of cheliceral groove; CHP = posterior (lower) margin of cheliceral groove; CLY1 = clypeus height measured below the AME; CLY2 = clypeus height measured below the ALE; CO = copulatory opening; DV = small diverticulum on the CD; E = length of apex of embolus; EP = epigynum; ET = epigynal teeth; FD = fertilisation duct; GNA = width/length ratio of gnathocoxa; MA = median apophysis; MS = median spinnerets; PA = patellar apophysis; PER = posterior eye row; PLA = posterior lateral eyes; PME = posterior median eyes; PME-AME = distance between PME and AME, expressed in eye diameters; PME-PME = distance between PME, expressed in eye diameters; PS = posterior spinnerets; R = distal ridge on tegulum of bulb; RTA = retrolateral tibia apophyses (used here for all structures in a retrolateral position on the male palp, therefore consisting of one, two or three branches); ST = spermathecae; TEA = tegular apophysis; TTN = tarsal trichobothria number (dorsally). Some measurements and characters, clypeus height and spine formula are illustrated in Figs 1-3.

TAXONOMY

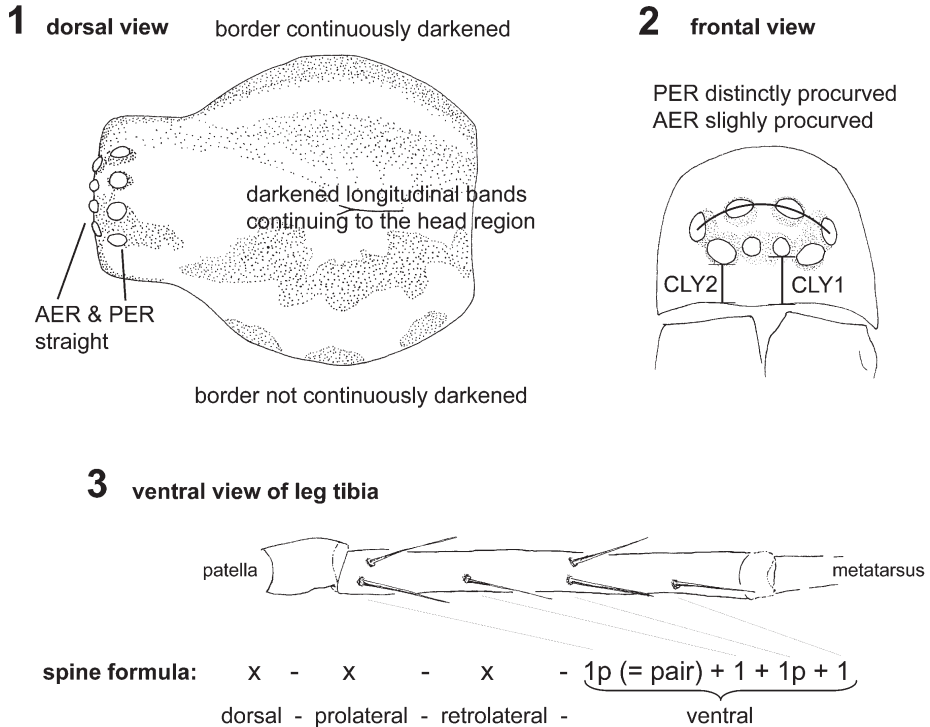
Malthonica dalmatica (Kulczynski, 1906)

Teegenaria dalmatica Kulczynski, 1906: 162-164.

Teegenaria zinzulusensis Dresco, 1959: 506-509; synonymised by Levy (1996: 103) after Brignoli (1976b: 568-569).

Teegenaria drescoi Brignoli, 1971: 110-112; **syn. n.**

Malthonica dalmatica (Kulczynski). – Guseinov *et al.* (2005: 164).



FIGS 1-3

Schematic drawings of carapace and tibia of a *Tegenaria* specimen. (1) Dorsal view of carapace with two different colour patterns. (2) Frontal view of carapace. (3) Ventral view of a leg tibia with a possible spine pattern. AER = anterior eye row, CLY1 = clypeus height measured under the anterior median eyes, CLY2 = clypeus height measured under the anterior lateral eyes, PER = posterior eye row. "p" (= paired) in the spine formula indicates that a pair of spines is situated at the same level on the tibia.

TYPE MATERIAL EXAMINED: ♀ holotype of *T. drescoi* (MSNV, vas. 543); Castelsardo, Sassari, Sardinia, IT; leg. A. Vigna, 28.4.1967; det. P. M. Brignoli.

OTHER MATERIAL EXAMINED: 1 ♀ (JW, described under *T. henroti* by Wunderlich (1994)); "NSG oberhalb Baunei", Ogliastra, Sardinia, IT; leg. J. Wunderlich, "in V"; det. J. Wunderlich. – 1 ♂, 3 ♀ (SFM, nr. 8939/4-135, published under *T. pagana* (C.L. Koch) by Kraus (1955)); "Höhle bei Sassari", Sardinia, IT; leg. K. Schnellbäcker, 6.4.1952; det. A. Bolzern. – 14 ♀ (MNHN, nr. 1953, loc. 481, specimens were in a tube with specimens of *T. pagana*, det. E. Simon); "Gallia merid., Cors.", FR; leg. E. Simon; det. A. Bolzern. – 1 ♀ (MNHN, nr. 1965, loc. 460, specimen was in the type series of *T. armigera* Simon); Corsica, FR; leg. E. Simon; det. A. Bolzern.

DESCRIPTION: Descriptions and figures of both sexes were published by Kulczynski (1906), Dresco (1959), Brignoli (1971), Levy (1996), Dimitrov (1999), Ledoux (2004) and Kovblyuk & Nadolny (2007).

DISTRIBUTION: Reported from Montenegro (Kulczynski, 1906), Italy including Sardinia and Sicily (Dresco, 1959; Brignoli, 1971; Wunderlich, 1994, female under *T. henroti*), Greece and Cyprus (Brignoli, 1976b; 1979b), Bulgaria (Deltshev, 1995),

Israel (Levy, 1996), mainland France (department Var) (Ledoux, 2004) and Corsica (Simon, 1873, one female under *T. armigera*). *M. dalmatica* was not previously known from Corsica. The species occurs also in Croatia, Lebanon and Tunisia (unpublished data, JW, NMB and MSNV under *T. zinzulusensis*).

COMMENTS: The examination of numerous specimens of *M. dalmatica*, including material from France, Greece, Lebanon and Italy, showed a high degree of variation in the arrangement of the ST and in the dimensions of the CT. The holotype of *T. drescoi* lies within this range of variation and the name is therefore synonymised with *T. dalmatica*. Brignoli (1971) mentioned that the holotype of *T. drescoi* is morphologically close to *T. zinzulusensis*, and the latter similar to *T. dalmatica* (see Brignoli, 1976b), which led Levy (1996) to synonymise *T. zinzulusensis* with *T. dalmatica*.

Tegenaria henroti Dresco, 1956

Figs 4-7

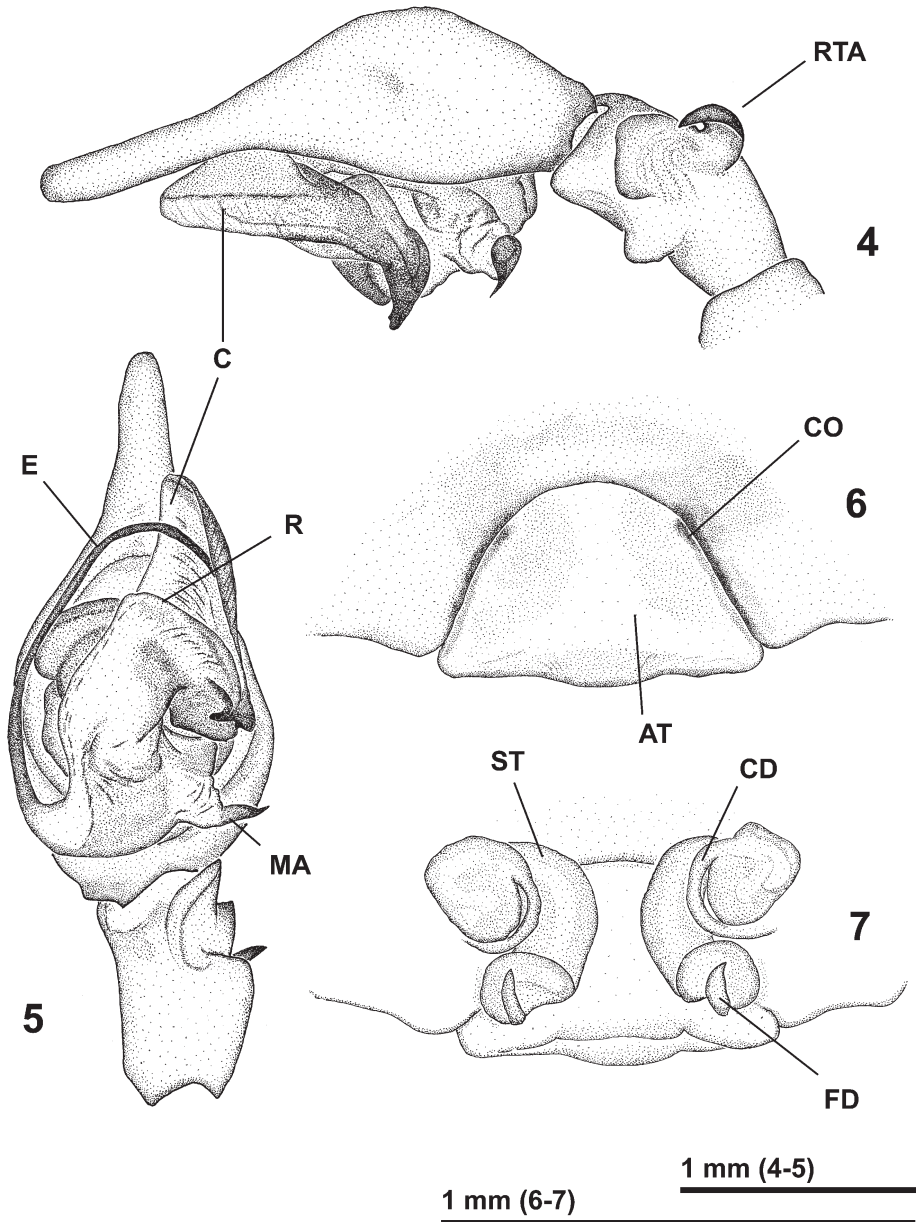
Tegenaria henroti Dresco, 1956: 115-118.

MATERIAL EXAMINED: 1 ♂ (MHNG); "Grotta di Gonone", Cala Gonone, Nuoro, Sardinia, IT; leg. P. Strinati & V. Aellen, 20.3.1971; det. P. M. Brignoli (Brignoli, 1974). – 1 ♂ (JW); "NSG oberhalb Baunei", Ogliastra, Sardinia, IT; leg. J. Wunderlich, "in V"; det. J. Wunderlich. – 1 ♂, 1 ♀ (SFM, nr. 11299-135, under *T. domestica*); "Höhle Buo Marino", Sardinia, IT; leg. Patrizi; det. A. Bolzern. – 1 ♂ (Figs 4-5), 1 ♀ (Figs 6-7) (NMB, 2791a, b); Cave NNE of Cala Gonone, Cala Gonone, Nuoro, Sardinia, IT (40°17'39"N / 9°38'50"E, altitude: 3 m); leg. A. Bolzern & S. Ramseyer, 5.7.2006 (then juv.); det. A. Bolzern. – 1 ♀, 16 juv. (NMB, 2791c); Cave at Cala Luna, Cala Gonone, Nuoro, Sardinia, IT (40°13'37"N / 9°37'37"E, altitude: 5 m); leg. A. Bolzern & S. Ramseyer, 6.7.2006; det. A. Bolzern. – 4 ♀, 4 juv. (MHNG); small cave above "Grotte Sa Oche", Valle di Lanaitho, Oliena, Nuoro, Sardinia, IT (40°15'23"N / 9°29'10"E); leg. A. Bolzern & S. Ramseyer, 7.7.2006; det. A. Bolzern.

The female from the "Cave NNE of Cala Gonone, 5.7.2006" was juvenile when collected and was reared in the laboratory at the NMB. It reached maturity in November 2006. The depository of the type material is unknown.

DESCRIPTION OF FEMALE (the ♀ described by Wunderlich (1994) under *T. henroti* actually belongs to *T. dalmatica*): Prosoma: Carapace: Plumose hairs present. 5.05 mm long, 4.01 mm wide in male (n=1); 3.66-5.91 mm long, 2.71-4.4 mm wide in females (n=4). Ratio fovea/carapace length: 0.115-0.167. Border not continuously darkened, two longitudinal darkened bands present, strongest pigmentation close to head region, sometimes very weakly pronounced. Head region without a pattern. AER slightly recurved and PER straight in dorsal view; AER slightly procurved and PER strongly procurved in frontal view. AME smallest, other eyes equal in size. PME-PME longer than half their diameter; PME-AME equal to the diameter of PME; AME-AME equal to half their diameter or slightly longer. CLY1 2-3 x the diameter of AME; CLY2 equal to or slightly higher than the diameter of ALE. Chelicerae: 2.22 mm long, 0.88 mm wide in male; 1.64-2.75 mm long, 0.78-1.15 mm wide in female. CHA: 4 teeth; CHP: 4-6 teeth. Chelicerae uniformly brownish. Labium: As long as wide or slightly wider than long. GNA: 0.497-0.576. Sternum: 2.56 mm long, 2.28 mm wide in male; 1.77-2.82 mm long, 1.71-2.58 mm wide in female. Pale median band and 3 pale dots on each side, not clearly delimited and sometimes fused together.

Legs: Plumose hairs present. Annulated, especially on femora and tibiae. Trochanter straight. TTN on legs I-IV: 8-9. For leg measurements see Tables 1 and 2



FIGS 4-7

Tegenaria henroti Dresco. (4) Left male palp, retrolateral view. (5) Same, ventral view. (6) Epigynum, ventral view. (7) Vulva, dorsal view. AT = atrium, C = conductor, CD = copulatory duct, CO = copulatory opening, E = embolus, FD = fertilisation duct, MA = median apophysis, R = ridge on tegulum, RTA = retrolateral tibia apophysis, ST = spermatheca.

TABLE 1: Leg measurements (in mm) and leg formula of males of *Tegenaria henroti*, *Malthonica eleonorae*, *M. sardoa* and *M. sicana* (*specimen from Sicily).

		<i>T. henroti</i> (n=1)	<i>M. eleonorae</i> (n=1)	<i>M. sardoa</i> (n=3)	<i>M. sicana</i> (n=1*)
Palp	Femur	2.05	1.82	0.94-1.15	1.25
	Patella	0.85	0.62	0.35-0.42	0.46
	Tibia	1.07	0.80	0.38-0.46	0.66
	Cymbium	2.40	1.83	0.93-1.12	0.91
	(Bulb)	(1.67)	(1.29)	(0.67-0.92)	(0.42)
	Total	6.37	5.07	2.60-3.15	3.28
Leg I	Femur	8.00	5.94	2.43-3.22	3.92
	Patella	2.05	1.59	0.76-0.94	1.00
	Tibia	8.65	5.76	2.16-3.24	3.85
	Metatarsus	9.22	6.3	2.10-3.16	3.55
	Tarsus	3.65	3.07	1.33-1.58	1.82
	Total	31.57	22.66	8.78-12.14	14.14
Leg II	Femur	8.11	5.90	2.12-2.53	2.92
	Patella	1.90	1.60	0.74-0.77	0.91
	Tibia	7.48	5.35	1.64-2.09	2.57
	Metatarsus	8.45	6.00	1.80-2.25	2.70
	Tarsus	3.00	2.77	1.16-1.36	1.53
	Total	28.94	21.62	7.46-9.00	10.63
Leg III	Femur	7.18	5.25	1.99-2.35	2.62
	Patella	1.84	1.39	0.71-0.82	0.94
	Tibia	6.42	4.42	1.51-1.83	2.00
	Metatarsus	8.33	5.95	1.86-2.38	2.66
	Tarsus	2.88	2.33	1.04-1.16	1.18
	Total	26.65	19.34	7.11-8.54	9.40
Leg IV	Femur	7.98	6.12	2.67-3.15	2.52
	Patella	1.91	1.49	0.76-0.89	0.86
	Tibia	6.95	5.75	2.44-2.86	2.16
	Metatarsus	10.19	7.35	2.75-3.38	2.70
	Tarsus	3.10	2.73	1.29-1.56	1.34
	Total	30.13	23.44	9.91-11.84	9.58
Formula		I > IV > II > III	IV > I > II > III	IV = I > II > III	I > II > IV > III

(one female from the "Grotte Sa Oche" was much bigger than the others and had only legs 1 and 2 left). For spine formulae see Table 3.

Opisthosoma: 6.71 mm long, 4.74 mm wide in male; 4.57-5.24 mm long, 3.34-3.52 mm wide in females. Plumose hairs present. Anterior part with pale median band and big pale dots on both sides, mottled; pale dots continuing to posterior part in chevrons, posterior part with dark ground colour. Spinnerets: PS longer than all others; distal segment as long as or longer than the basal one, basal segment slightly darkened or both segments pale. MS as long as AS. Colulus forming a more or less rectangular plate, wider than long.

Male palp (Figs 4-5): PA absent. RTA with lateral, dorsal and ventral branch; lateral branch lamella-like; dorsal branch strongly sclerotized, horn-like; ventral apophysis developed as a big not strongly sclerotized bulge. Cymbial modifications absent. BL/CL 0.7. Alveolus length 1.31 mm. Embolus filiform, becoming more

TABLE 2: Leg measurements (in mm) and leg formula of females of *Tegenaria henroti*, *Malthonica eleonorae*, *M. sardoa* and *M. sicana*. The values in parentheses for *M. sicana* are measurements of an extremely large paratype specimen (in MHNG) from Sicily. Leg I of one of the two *M. sardoa* females examined is missing.

		<i>T. henroti</i> (n=4)	<i>M. eleonorae</i> (n=3)	<i>M. sardoa</i> (n=2)	<i>M. sicana</i> (n=4 + paratype)
Palp	Femur	1.79-2.86	1.54-1.90	0.81-0.96	0.90-0.99 (1.3)
	Patella	0.70-1.02	0.66-0.79	0.35-0.38	0.40-0.44 (0.5)
	Tibia	1.16-1.82	1.00-1.22	0.51-0.59	0.58-0.63 (1.0)
	Tarsus	1.85-2.97	1.65-2.04	0.83-0.92	0.75-0.92 (1.2)
	Total	5.50-8.67	4.85-5.95	2.50-2.85	2.63-2.98 (4.0)
Leg I	Femur	5.52-9.02	4.79-5.96	1.85	2.03-2.22 (3.3)
	Patella	1.51-2.35	1.54-1.67	0.70	0.72-0.84 (1.0)
	Tibia	5.06-8.80	4.60-6.31	1.61	1.90-2.01 (3.3)
	Metatarsus	5.33-9.41	4.89-6.44	1.48	1.77-1.89 (3.0)
	Tarsus	2.49-3.80	2.39-2.95	1.09	1.13-1.24
	Total	19.91-33.38	18.21-23.33	6.73	7.55-8.2
Leg II	Femur	4.86-8.46	4.44-5.73	1.63-1.90	1.76-1.89 (2.8)
	Patella	1.45-2.32	1.40-1.74	0.64-0.75	0.71-0.79 (1.1)
	Tibia	4.31-7.76	3.96-5.22	1.26-1.47	1.33-1.41 (2.5)
	Metatarsus	5.04-8.92	4.48-5.98	1.25-1.56	1.47-1.53 (2.4)
	Tarsus	2.05-3.45	2.15-2.58	0.87-0.92	0.92-1.00 (1.5)
	Total	17.71-30.91	16.43-21.25	5.65-6.6	6.19-6.62 (10.3)
Leg III	Femur	4.50-4.95	5.04-5.36	1.52-1.75	1.65-1.79 (2.7)
	Patella	1.30-1.44	1.41-1.53	0.61-0.71	0.67-0.74 (0.9)
	Tibia	3.79-4.28	4.35-4.42	1.16-1.39	1.22-1.29 (2.2)
	Metatarsus	4.68-5.25	5.13-5.52	1.37-1.74	1.56-1.68 (2.7)
	Tarsus	1.78-1.91	2.20-2.33	0.80-0.93	0.86-0.91 (1.4)
	Total	16.05-17.83	18.13-19.16	5.46-6.52	5.96-6.41 (9.9)
Leg IV	Femur	5.07-5.55	6.03-6.38	2.06-2.46	2.28-2.45 (3.5)
	Patella	1.37-1.49	1.59-1.71	0.66-0.73	0.68-0.83 (1.0)
	Tibia	4.81-5.18	5.54-5.81	1.78-2.23	2.06-2.21 (3.3)
	Metatarsus	6.25-6.89	7.40-7.47	1.99-2.53	2.35-2.51 (3.8)
	Tarsus	2.14-2.39	2.59-2.59	0.91-1.28	1.08-1.21 (1.8)
	Total	19.64-21.5	23.15-23.96	7.40-9.23	8.45-9.21 (13.4)
Formula		IV = I > II > III	IV > I > II > III	IV > I > II > III	IV > I > II > III

slender distally, shorter than 2 x cymbium width, curved through approximately 180°. Embolus base on left palp at 7-8 o'clock position. Median apophysis thorn-like, spirally elongated at 5 o'clock position. Connection between median apophysis and tegulum membranous. Conductor as long as alveolus, triangular, parallel to cymbium and folded along its entire length. Terminal end of conductor developed as a strongly sclerotized peak. Sharp boundary present between conductor and tegulum, clearly visible as a ridge (R). Subtegulum mostly hidden by tegulum and conductor.

Epigynum and vulva (Figs 6-7): EP: 0.52-0.63 mm long, 1.06-1.48 mm wide. Atrium: 0.33-0.40 mm long, 0.49-0.65 mm wide, forming a membranous triangular or trapezoid plate (Fig. 6). Anterior and lateral margin of atrium developed as a strongly sclerotized border. EP not salient. Spermathecae and/or copulatory ducts barely visible through plate. Epigynal teeth absent. Copulatory openings only visible as more

TABLE 3: Spination of legs of *Tegenaria henroti*, *Malthonica eleonorae*, *M. sardoa* and *M. sicana*. The formula gives the number of spines in the following order: Dorsal - prolateral - retro-lateral - ventral. A “p” indicates that at this position a pair of spines is present (1p = 2 spines at almost the same height). All observed spine formulas are presented; only obviously abnormal (teratological?) spinations were ignored. More than one spine formula per taxon and leg segment indicates variation.

	Species	Femur	Tibia	Tarsus
Leg I	<i>T. henroti</i>	2-3-1-0	0-1-0-0	0
		2-3-2-0	2-1-0-0	
	<i>M. eleonorae</i>	2-3-3-0	2-0-0-1p	0
		2-3-2-0	2-0-0-1+1p	
		2-4-3-0	2-1-0-1+1p	
	<i>M. sardoa</i>	2-1-0-0	0-0-0-2	0
		2-2-0-0	0-0-0-1+1p	
		2-2-1-0		
	<i>M. sicana</i>	2-1-0-0	0-0-0-2	0
		2-2-0-0	0-0-0-1+1p	
		0-1-0-2p		
Leg II	<i>T. henroti</i>	2-3-2-0	0-1-0-0	0
			2-1-0-0	
	<i>M. eleonorae</i>	2-2-2-0	2-1-0-2	0
		2-3-2-0	2-2-0-2	
		2-4-2-0		
	<i>M. sardoa</i>	2-1-0-0	0-1-0-2	0
		2-1-1-0	0-1-0-1+1p	
	<i>M. sicana</i>	2-1-0-0	0-1-0-2	0
		2-1-1-0	2-1-0-1+1p	
	Leg III	<i>T. henroti</i>	2-2-2-0	2-1-1-0
<i>M. eleonorae</i>			2-2-2-0	2-2-2-1
			2-2-2-1p+1	
<i>M. sardoa</i>		1-1-1-0	2-1-1-2	0
		2-1-1-0	2-2-1-2	
<i>M. sicana</i>		1-1-1-0	2-2-1-2	0
		2-1-1-0	2-2-1-3	0-0-1-0
			2-2-2-2	
			2-2-2-1+1p	
			2-2-2-2p	
Leg IV	<i>T. henroti</i>	1-1-1-0	1-1-1-0	0-0-1-0
		2-1-1-0	2-1-1-1	
		2-2-1-0		
	<i>M. eleonorae</i>	2-1-1-0	2-2-2-1	0-0-1-0
			2-2-2-2	
	<i>M. sardoa</i>	1-1-1-0	2-2-2-3	0
			2-2-2-1+1p	
			2-2-2-2+1p	
	<i>M. sicana</i>	1-1-1-0	2-2-2-3	0-0-1-0
				2-2-2-1p+1+1p+1

strongly sclerotized regions on both sides of atrium. Vulva (Fig. 7): Copulatory ducts narrow; spermathecae developed as tube-like ducts, in the anterior and posterior part slightly convoluted. Fertilisation ducts short.

DISTRIBUTION: This species is only known from the east coast of Sardinia. It has been found in caves of Nuoro Province (Brignoli, 1974; Dresco, 1956; present study) and in the province of Ogliastra (Wunderlich, 1994).

COMMENTS: The references to *T. henroti* by Brignoli (1971), including the drawings of epigynum and vulva (p. 72, Figs 11-12), refer to *M. eleonorae* (see Brignoli, 1974, 1977). One female described here (Figs 6-7) was collected in the same cave as a male of *T. henroti*. The conspecificity of male and female is supported by the teeth on the margins of the cheliceral groove, the leg spine formula and many other somatic characters. Additionally, the female from this location, though similar to females of *M. eleonorae*, clearly differs from them morphologically.

Wunderlich (1994) described a female, which he had found together with a male of *T. henroti*. This specimen was wrongly associated with *T. henroti*; our re-examination showed that it belongs to *Malthonica dalmatica* (see above).

Malthonica eleonorae (Brignoli, 1974)

Figs 8-11

Tegenaria eleonorae Brignoli, 1974: 390-391.

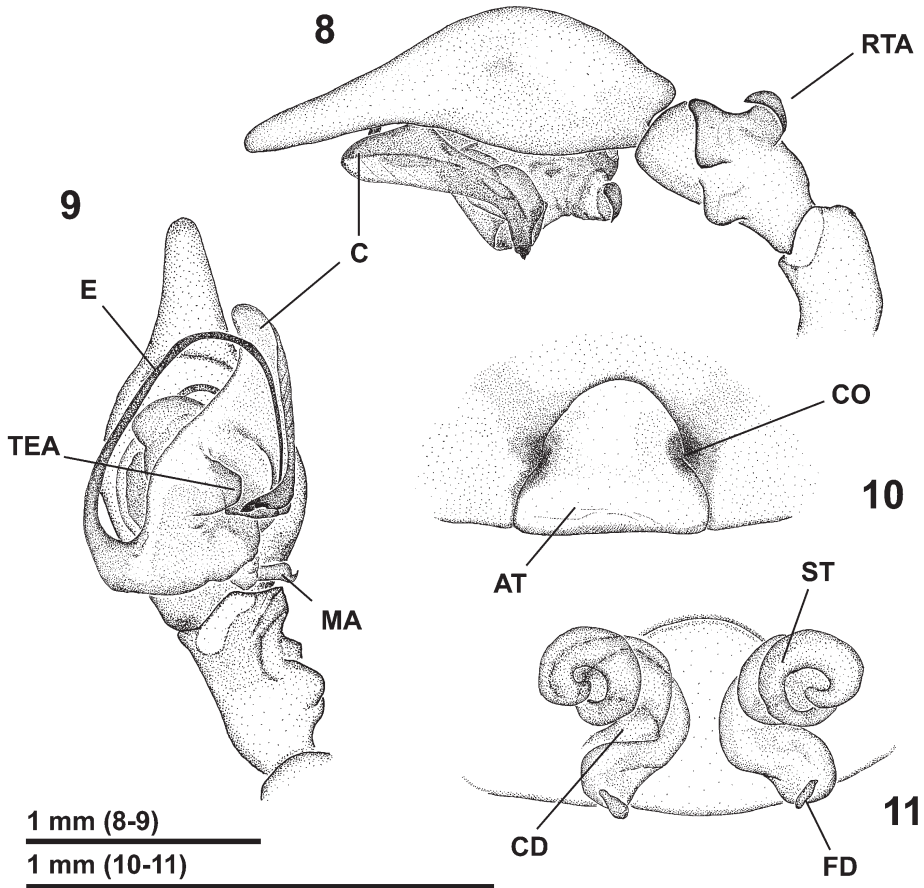
Malthonica eleonorae (Brignoli). – Guseinov *et al.* (2005: 164).

TYPE MATERIAL EXAMINED: ♂ holotype, 1 ♀ paratype (MSNV, vas. 543); “Grotta di S. Giovanni”, Domusnovas, Cagliari, Sardinia, IT; leg. R. Pilia & G. Usai, 6.10.1968; det. P. M. Brignoli. – 1 ♀ paratype (MSNV, vas. 543); from the type locality; leg. G. Pirodda, M. Latte & M. Pinna, 8.9.1968; det. P. M. Brignoli. – 1 ♀ paratype (MSNV, vas. 543); from the type locality; leg. A. Vigna, 28.2.1971; det. P. M. Brignoli. – 1 ♀ paratype (MHNG); from the type locality; leg. A. Vigna.

OTHER MATERIAL EXAMINED: 2 ♀ (MSNV, vas. 52); “Grotta I di Monte Figù”, Iglesias, Cagliari, Sardinia, IT; leg. S. Puddu, 20.5.1973; det. P. M. Brignoli. – 1 ♂ (Figs 8-9, MSNV, vas. 52); “Grotta di S. Giovanni, M. Acque”, Domusnovas, Cagliari, Sardinia, IT; leg. S. Puddu, 5.3.1972; det. P. M. Brignoli. – 1 ♀ (MSNV, vas. 52); “Grotta sa Fossa e Su Fenutrainu”, Domusnovas, Cagliari, Sardinia, IT; leg. A. Lecis & M. Pote, 2.4.1972; det. P. M. Brignoli. – 2 ♀ (MSNV, vas. 52); “Grotta is Angurtidorgius, su Pranu (Perdasdegogu)”, Sardinia, IT; leg. S. Puddu, 4.11.1973; det. P. M. Brignoli. – 2 ♀ (Figs 10-11, NMB, 2792a); “Grotta di S. Giovanni”, Domusnovas, Sardinia, IT (39°19'56"N / 8°37'4"E); leg. A. Bolzern & S. Ramseyer, 9.7.2006; det. A. Bolzern.

DESCRIPTION: Prosoma: Carapace: Plumose hairs present. 3.8 mm long, 3.1 mm wide in male (n=1); 3.57-4.43 mm long, 2.7-3.39 mm wide in female (n=3). Ratio fovea/carapace length: 0.113-0.169. Colouration as in *T. henroti*. Eyes and clypeus same pattern as in *T. henroti*. Chelicerae: 1.6 mm long, 0.7 mm wide in male; 1.66-2.15 mm long, 0.75-0.93 mm wide in females. CHA: 3 teeth; CHP: 4-5 teeth. Colouration as in *T. henroti*. Labium as long as wide or slightly wider than long. GNA: 0.525-0.622. Sternum: 1.9 mm long, 1.8 mm wide in male; 1.78-2.15 mm long, 1.65-2.1 mm wide in female. Colouration as in *T. henroti*.

Legs: Plumose hairs present. Annulated, especially on femora and tibiae (in the paratypes probably bleached due to alcohol preservation). Trochanter straight. TTN on legs I-III: 8; leg IV: 8-9. For leg measurements see Tables 1 and 2. For spine formulas see Table 3.



FIGS 8-11

Malthonica eleonorae (Brignoli). (8) Left male palp, retrolateral view. (9) Same, ventral view. (10) Epigynum, ventral view. (11) Vulva, dorsal view. AT = atrium, C = conductor, CD = copulatory duct, CO = copulatory opening, E = embolus, FD = fertilisation duct, MA = median apophysis, RTA = retrolateral tibia apophysis, ST = spermatheca; TEA = tegular apophysis.

Opisthosoma: 4.28-5.67 mm long, 3.05-4.32 mm wide in females. Plumose hairs present. Colouration as in *T. henroti*, but less pigmented. Spinnerets: PS longer than all others; pale distal segment as long as the darkened basal one. MS as long as or slightly shorter than AS. Colulus forming a more or less rectangular plate, wider than long.

Male palp (Figs 8-9): PA absent. RTA with lateral, dorsal and ventral branch; lateral branch lamella-like; dorsal branch strongly sclerotized, horn-like; ventral apophysis forming a big, weakly sclerotized bulge. Cymbial modifications absent. BL/CL: 0.7. Alveolus length 1.01 mm. Embolus filiform, becoming more slender distally, shorter than 2 x cymbium width, curved through approximately 200°. Embolus base on

left palp at 7 o'clock position. Median apophysis thorn-like and spirally elongated at 5 o'clock position. Connection between median apophysis and tegulum membranous. Conductor as long as alveolus, triangular, parallel to cymbium and folded along its entire length. Terminal end of conductor developed as a strongly sclerotized peak. Boundary between conductor and tegulum not continuous. Tegular apophysis flat, much more protruding than in *T. henroti*. Subtegulum mostly hidden by tegulum and conductor.

Epigynum and vulva (Figs 10-11): EP: 0.47-0.48 mm long, 0.82-0.97 mm wide. Atrium: 0.30-0.36 mm long, 0.38-0.46 mm wide, in the shape of a membranous triangular or trapezoidal plate (Fig. 10). Anterior and lateral margin of atrium forming strongly sclerotized rim, not continuous. EP not salient. Spermathecae and/or copulatory duct hardly visible through plate. Epigynal teeth absent. Copulatory openings only visible as more strongly sclerotized regions on both sides of atrium. Vulva (Fig. 11): Copulatory ducts broad. Spermathecae developed as tube-like ducts, anteriorly weakly spiral, posteriorly only moderately convoluted. Fertilisation ducts short. Due to a slightly different position of the two ducts, the vulva may not be perfectly symmetrical (Fig. 11).

DISTRIBUTION: This species is only known from the south of Sardinia. It has been found in two caves in Carbonia-Iglesias Province (Brignoli, 1974; Brignoli, 1977) and in one cave in the south of Ogliastra Province. Up to now, no overlap in the ranges of *M. eleonora* and *T. henroti* were observed.

COMMENTS: The suggestion of Wunderlich (1994) that *M. eleonora* may be a junior synonym of *T. femoralis* Simon is not supported here. The two species clearly differ in morphology and distribution (Brignoli, 1979a; Kraus, 1955).

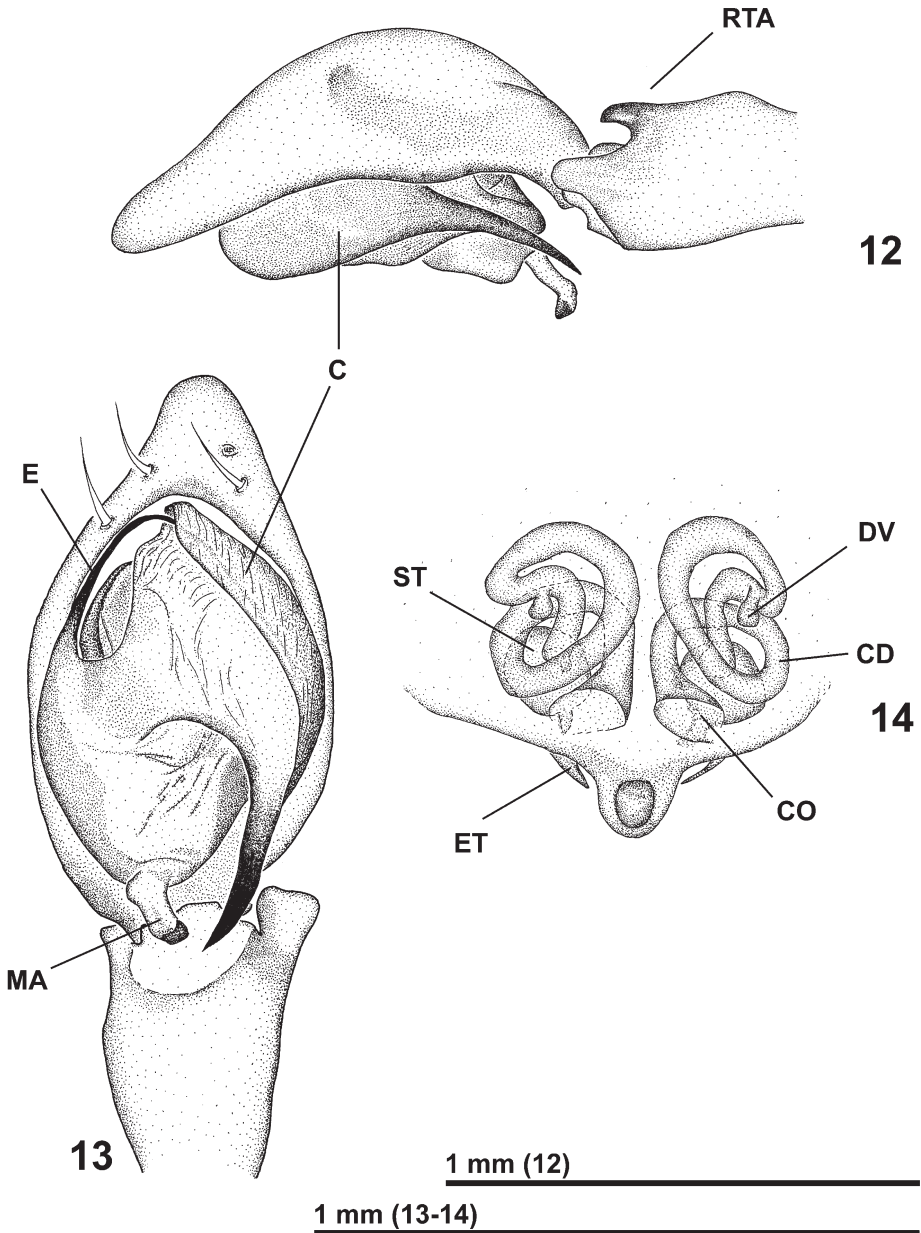
M. eleonora can be separated from *T. henroti* by the number of teeth on the upper margin of cheliceral groove and by the spine formula of all leg tibiae (Table 2). *M. eleonora* always has ventral spines on tibiae I-III, which are absent in *T. henroti*. Females can be distinguished by the almost straight borders on both sides of the genital atrium in *T. henroti* (Fig. 6), whereas in *M. eleonora* these borders are clearly invaginated (Fig. 10). Additionally, the vulva of *M. eleonora* has broader copulatory ducts, anteriorly convoluted and posteriorly less twisted spermathecae (Fig. 11, cf. Fig. 7). The distinction of males is possible on the basis of two characters of the tegulum: The sclerotized lobe median of the conductor (TEA) is more protruding in *M. eleonora* than in *T. henroti*, and the ridge (R), which is running from the terminal end of the conductor across the conductor, reaches in *M. eleonora* only half (Figs 8-9), in *T. henroti* the whole width of the conductor (Figs 4-5). Additionally, the male palp is relatively smaller in *M. eleonora* than in *T. henroti*.

***Malthonica sardoa* Brignoli, 1977**

Figs 12-14

Malthonica sardoa Brignoli, 1977: 38-39.

TYPE MATERIAL EXAMINED: ♀ holotype (MSNV, vas. 62); "dintonri di Asuni", Cagliari, Sardinia, IT; leg. A. Vigna, 20.2.1971; det. P. M. Brignoli. – 1 ♀ paratype (MSNV, vas. 62); "Grotta di S. Giovanni, M. Acque", Domusnovas, Cagliari, Sardinia, IT; leg. S. Puddu, 5.3.1972; det. P. M. Brignoli. – 1 ♀ paratype (MSNV, vas. 62); "Cant. Gaddau, Limbara", Sassari, Sardinia, IT; leg. P. M. Brignoli, 30.3.1971; det. P. M. Brignoli. – 1 ♀ paratype (MNH, nr.



FIGS 12-14

Malthonica sardoa Brignoli. (12) Left male palp, retrolateral view. (13) Same, ventral view. (14) Female epigynum and vulva, ventral view. C = conductor, CD = copulatory duct, CO = copulatory opening, DV = small diverticulum on the CD, E = embolus, ET = epigynal teeth, MA = median apophysis, RTA = retrolateral tibia apophysis, ST = spermatheca.

1942); "M. d'Iscudo, vers. N", Sardinia, IT (altitude: 1300 m); collector unknown; det. P. M. Brignoli. – 1 ♀ paratype (MHNG); "dint. Asumi", Oristano, Sardinia, IT; leg. A. Vigna, 22.2.1971; det. P. M. Brignoli. – 1 ♀ paratype (MNHN); "Monte d'Iscudo", Nuoro, Sardinia, IT (altitude: 1300 m); leg. G. Franzini, 6.9.1975; det. P. M. Brignoli.

OTHER MATERIAL EXAMINED: 1 ♂, 2 ♀ (Fig. 14; NMB, 2793a); "Morgongiori, Mt. Arci", Oristano, Sardinia, IT (39°46'17"N / 8°44'48"E, altitude: 761 m); leg. M. A. Arnedo & M. Mejia, 15.10.2005, "open *Quercus* forest with mosses"; det. A. Bolzern. – 2 ♂ (Figs 12-13; MSNV); "Desulo, Mt. Gennargentu", Nuoro, Sardinia, IT (altitude: 1146 m); leg. M. A. Arnedo, M. Mejia & G. Giribet, 17.10.2005, "*Quercus pub.*, humid"; det. A. Bolzern.

DESCRIPTION OF MALE: Prosoma: Carapace: Plumose hairs present. 1.97-2.36 mm long, 1.61-1.89 mm wide in males (n=3); 1.86-2.19 mm long, 1.33-1.56 mm wide in females (n=2). Ratio fovea/carapace length: 0.10-0.13. Border continuously darkened, two very broad dark longitudinal bands continuing to head region, broader than the pale median band. Both eye rows straight or AER slightly recurved in dorsal view; both rows strongly procurved in frontal view. AME smallest, all other eyes equal in size. PME-PME about their diameter; PME-AME less than the diameter of PME; AME-AME less than or about half their diameter. CLY1 about 1½-2 x the diameter of AME; CLY2 less than or as high as the diameter of ALE. Chelicerae: 0.84-0.95 mm long, 0.36-0.42 mm wide in males; 0.84-0.96 mm long, 0.37-0.46 mm wide in females. CHA: 3 teeth; CHP: 8-9 (4-6 bigger and 3-5 smaller) teeth. Chelicerae uniformly brownish. Labium as long as wide or slightly wider than long. GNA: 0.517-0.538. Sternum: 1.15-1.27 mm long, 1.03-1.18 mm wide in males; 1.01-1.23 mm long, 0.96-1.02 mm wide in females. Only a pale median band present.

Legs: Plumose hairs present. No colour pattern. Trochanter straight. TTN on legs I-IV: 5-6. For leg measurements see Tables 1 and 2. For spine formulas see Table 3.

Opisthosoma: 2.1-2.63 mm long, 1.31-1.59 mm wide in males; 2.12-2.61 mm long, 1.53-1.7 mm in females. Plumose hairs present. Ground colour dark gray-green, anterior half with two symmetric bright longitudinal bands continuing to the back in chevrons and then in spots. Spinnerets: PS longer than all others; distal segment longer than basal one, both darkened or distal segment pale. Colulus forming a more or less rectangular plate, wider than long.

Male palp (Figs 12-13): PA absent. RTA with dorsolateral and lateral branches; dorsolateral branch simple, more or less pointed; lateral branch bigger than the dorsolateral branch, spoon-like. BL/CL: 0.678-0.819. Alveolus length 0.67-0.92 mm. Embolus filiform, becoming more slender distally, less than 1½ x cymbium widths, curved through 150°. Embolus origin on the left palp at approximately 9 o'clock position. Median apophysis a narrow oblong band, terminally spoon-like. Conductor longer than alveolus, continuously connected to the tegulum, parallel to margin of cymbium and folded along its entire length. Terminal end of conductor spine-like, big, strongly sclerotized. Subtegulum mostly hidden by tegulum and conductor.

Epigynum and vulva (Fig. 14): EP: 0.53-0.59 mm long, 0.53-0.62 mm wide. No delimited atrium visible. EP not salient. Posterior margin of the EP plate forming a rounded swelling with a circular depression reaching over the epigastric furrow. Spermathecae and/or copulatory ducts well visible through the plate. Epigynal teeth present, narrow but long. Copulatory openings well visible as holes, located in posterior half of EP. Vulva (Fig. 14): Copulatory ducts very long and winded; Small

diverticula on the copulatory ducts present. One pair of globular spermathecae present, separated by their diameter. Fertilisation ducts short.

DISTRIBUTION: This species can be found all over Sardinia (Brignoli, 1977). The known sites are all in higher altitudes (> ca. 700 m).

COMMENTS: Up to now, the male of *M. sardoa* was unknown. The finding of a male together with two females of *M. sardoa* strongly suggests that they are conspecific. The *M. sardoa* male is similar to those of *Malthonica arganoi* and *Malthonica sicana* from which it differs in the proportions of the cymbium and the bulb, and in the following three characters: 1) *M. arganoi* has an RTA with ventral, lateral and dorsal branches, whereas *M. sardoa* and *M. sicana* have an RTA with only dorsolateral and lateral branches; 2) the conductor of *M. sardoa* has a much longer, strongly sclerotized and more pointed tip compared to the corresponding structures in the other species; 3) the median apophysis of *M. sardoa* (Figs 12-13) is more slender and elongated, whereas in the other two species it is much shorter and broader (Figs 15-16, 19-20). The females can easily be distinguished from those of the other species by the morphology of the epigynum and vulva (Fig. 14; Brignoli, 1976a: 43, fig. 22). Furthermore, *M. arganoi* is, until now, only recorded from the Italian mainland regions Lazio, Umbria (Brignoli, 1971; Brignoli, 1977) and Calabria (not yet published).

***Malthonica sicana* Brignoli, 1976**

Figs 15-18

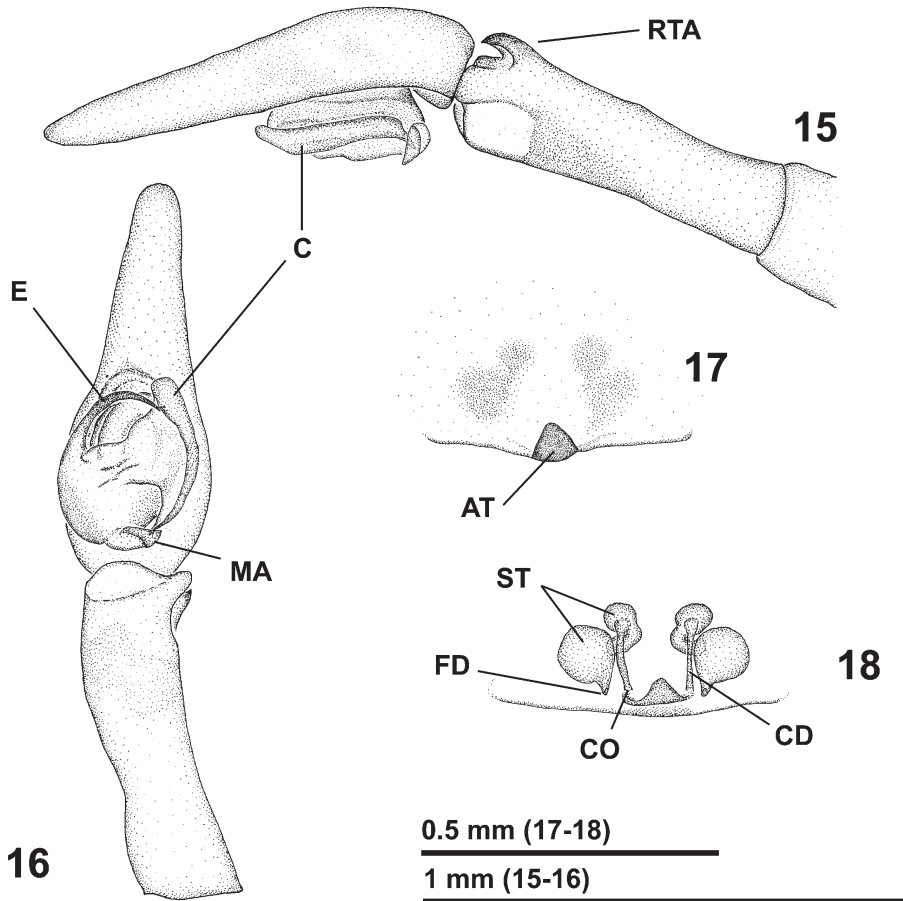
Malthonica sicana Brignoli, 1976: 30-33.

TYPE MATERIAL EXAMINED: ♀ holotype (MSNV, vas. 62); “Piana degli Albanesi”, Palermo, Sicily, IT; leg. Aliquò, 20.11.1972; det. P. M. Brignoli. – 1 ♀ paratype (MSNV, vas. 62); “M. Maganoce”, Palermo, Sicily, IT; leg. A. Vigna, 2.5.1974; det. P. M. Brignoli. – 1 ♀ paratype (MSNV, vas. 62); “Bosco Ficuzza”, Palermo, Sicily, IT; leg. A. Vigna, 4.5.1974; det. P. M. Brignoli. – 1 ♂, many ♀ paratypes (MSNV, vas. 62); “Carini, Grotta del Puntale”, Palermo, Sicily, IT; leg. A. Vigna, 30.4.1974; det. P. M. Brignoli. – 1 ♀ paratype (MHNG); “Grotta del Puntale”, Carini, Sicily, IT; leg. M. Bologna, 01.01.1976; det. P. M. Brignoli.

OTHER MATERIAL EXAMINED: 2 ♀ (Figs 17-18; NMB, 2794a); “Mt. Ferru, road Cuglieri - S. Leonardo”, Oristano, Sardinia, IT (40°9'47"N / 8°37'11"E); leg. M. A. Arnedo & M. Mejia, 14.10.2005, “open *Quercus* forest, rich leaf litter”; det. A. Bolzern. – 2 ♀, 1 juv. (MHNG); “Mt. Ferru, 7 Fuentes, road Cuglieri - S. Leonardo”, Oristano, Sardinia, IT (40°10'46"N / 8°35'8"E); leg. M. A. Arnedo & M. Mejia, 14.10.2005 “*Quercus* forest, open, not wet”; det. A. Bolzern. – 1 ♂ (Figs 15-16; NMB, 2794b); “Mte. Pelegrino, at the W-slope”, Palermo, Sicily, IT (38°11'14"N / 13°20'40"E, altitude: 114 m); leg. A. Bolzern & R. Mühlethaler, 23.5.2007 (juv.) “under stones”; det. A. Bolzern.

The male collected by Bolzern & Mühlethaler was reared to maturity in the laboratory at the NMB. It reached adulthood in October 2007.

DESCRIPTION: Prosoma: Carapace: Plumose hairs present. 2.60 mm long, 2.01 mm wide in male (n=1); 2.15-2.75 mm long, 1.56-2.00 mm wide in females (n=4). Ratio fovea/carapace length: 0.08-0.29. Border continuously darkened, two relatively indistinct, broad longitudinal dark bands and a pale median band (one paratype pale brownish only, without bands, head region slightly darker; probably due to preservation in alcohol). Both eye rows straight in dorsal view; both rows strongly procurved in frontal view. AME smallest, other eyes equal in size. PME-PME 1-1½ x their diameter; PME-AME ½-1 x the diameter of the PME; AME-AME ½-1 x their diameter. CLY1 2-3 x the diameter of AME; CLY2 smaller than or as high as the diameter of

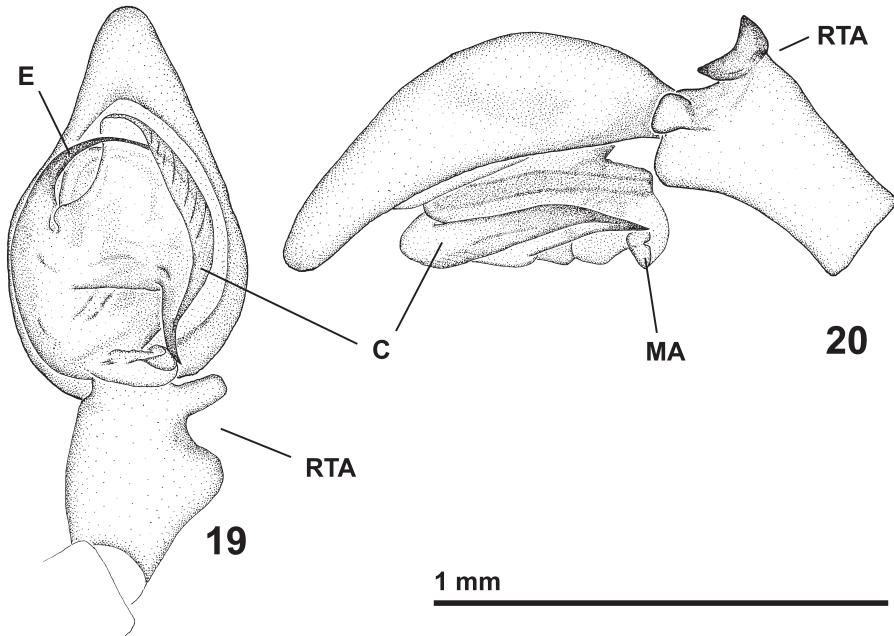


FIGS 15-18

Maltonica sicana Brignoli. (15) Left male palp, retrolateral view. (16) Same, ventral view. (17) Epigynum, ventral view. (18) Vulva, dorsal view. AT = atrium, C = conductor, CD = copulatory duct, CO = copulatory opening, E = embolus, FD = fertilisation duct, MA = median apophysis, RTA = retrolateral tibia apophysis, ST = spermatheca.

ALE. Chelicerae: 1.20 mm long, 0.55 mm wide in male; 0.92-1.46 mm long, 0.45-0.70 mm wide in female. CHA: 3 teeth; CHP: (5 in male) 8-9 teeth (5 bigger and 3-4 smaller ones). Chelicerae partly pigmented, sometimes very weakly so. Labium slightly wider than long. GNA: 0.480-0.589. Sternum: 1.40 mm long, 1.28 mm wide in male; 1.21-1.52 mm long, 1.02-1.30 mm wide in females. Only a pale median band present.

Legs and palps: Plumose hairs present. Female palps with dark pigmentation on patella and tibia, weakly pronounced. Legs annulated, in some paratypes no pattern visible (maybe due to alcohol preservation). Trochanter straight. TTN on legs I-II and IV: 5-6, leg III: 5. For leg measurements see Tables 1 and 2. For spine formulas see Table 3.



FIGS 19-20

Malthonica arganoi (Brignoli). Specimen from “Parco Naz. del Pollino”, Cosenza, Calabria, IT; leg. & det. A. Bolzern, 2007. (19) Left male palp, ventral view. (20) Same, retrolateral view. C = conductor, E = embolus, MA = median apophysis, RTA = retrolateral tibia apophysis.

Opisthosoma: 2.79 mm long, 1.65 wide in male; 2.11-3.01 mm long, 1.61-2.03 mm wide in females. Plumose hairs present. Ground colour dark gray-green, with two symmetric bright longitudinal bands anteriorly, discontinuous, ending posteriorly in 3-4 chevrons. Spinnerets: PS longer than all others, distal segment longer than basal one, both darkened. Colulus forming a more or less rectangular plate, wider than long.

Male palp (Figs 15-16): PA absent. RTA with dorsolateral and lateral branches; dorsolateral branch simple, more or less pointed; lateral branch as long as the dorsolateral branch, lobe-like. BL/CL: 0.464. Alveolus length 0.41 mm. Embolus filiform, becoming more slender distally, less than $1\frac{1}{2}$ x cymbium widths, curved through 150° . Embolus origin on the left palp at 9 o'clock position. Median apophysis short, pocket-like, terminally spoon-like. Conductor as long as or longer than alveolus, continuously connected to the tegulum, parallel to the cymbium margin and folded along its entire length. Terminal end of conductor pointed, sclerotized. Subtegulum mostly hidden by tegulum and conductor.

Epigynum and vulva (Figs 17-18): EP: 0.17-0.23 mm long, 0.29-0.40 mm wide. Atrium visible as a cavity in posterior view, covered by a triangular, strongly sclerotized plate (Fig. 17). Anterior and posterior margins of EP not pronounced. EP strongly salient. Spermathecae and/or copulatory ducts weakly visible through EP plate. Epigynal teeth absent. Copulatory openings indistinct. Vulva (Fig. 18): Copulatory ducts short and straight. Two pairs of globular spermathecae present. Fertilisation ducts short.

DISTRIBUTION: Previously known only from Sicily (Brignoli, 1976a), *M. sicana* is reported here for the first time from Sardinia. The findings of four females at two localities (collected by hand) suggest that the species is fairly common there.

COMMENTS: The species is easily recognisable by the very distinct vulva shape (Fig. 18). Brignoli (1976a) mentioned a very high variability in body size, which is confirmed in the present study (Table 2). Except for a very large female paratype, the specimens from Sicily lie approximately in the same size range as those from Sardinia. This also holds true for the leg spine formulas (Table 3).

DISCUSSION

In his checklist of Italian spiders Pesarini (1994; see also www.faunaitalia.it) listed eleven *Malthonica* and *Tegenaria* species from Sardinia: *Malthonica campestris* (C.L. Koch) (under *T. campestris*), *M. eleonora* (under *T. eleonora*), *M. pagana* (C.L. Koch) (under *T. pagana*), *M. sardoa*, *M. soriculata* (Simon) (under *T. soriculata*), *Tegenaria agrestis* (Walckenaer), *T. armigera* Simon, *T. domestica* (Clerck), *T. drescoi*, *T. henroti* and *T. parietina* (Fourcroy). Here we replace the record of *T. drescoi* with that of *M. dalmatica* and add *M. sicana* to the spider list of Sardinia.

M. eleonora, *M. sardoa* and *T. henroti* are endemic to Sardinia. *M. soriculata* and *M. armigera* are known from Sardinia and Corsica, *M. sicana* from Sardinia and Sicily only. This high rate of endemism may be explained by the fact that these spiders are troglophilous.

We know only about two publications recording *M. soriculata* from Sardinia (Kraus, 1955: 379, under *T. soriculata*, and Garneri, 1902: 72). Already Brignoli (1971: 67) expressed some doubts about the validity of these two records: "sarebbe interessante un controllo di questo materiale, date le somiglianze esistenti tra questa specie e *T. henroti* ...". The material treated by Kraus (1955) was checked in the spider collection of the Senckenberg Museum and proved to be a misidentification of *T. parietina*. The material treated by Garneri (1902) could not be traced. Since we could not confirm any specimens of *M. soriculata* from Sardinia, we question its presence there and assume that it only occurs on Corsica.

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