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Aterigena, a new genus of funnel-web spider, shedding some light on the *Tegenaria-Malthonica* problem (Araneae: Agelenidae)

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Abstract. *Aterigena* n. gen. is erected for four Palearctic species of funnel-web spiders previously placed in *Tegenaria* Latreille 1804 or *Malthonica* Simon 1898 (Agelenidae: Tegenariini) and *A. aspromontensis* n. sp., an Italian species described here. The following new combinations are proposed: *Aterigena aculeata* (Wang 1992), *A. ligurica* (Simon 1916), n. comb. (from *Tegenaria*), as well as *A. aliquoi* (Brignoli 1971) and *A. soriculata* (Simon 1873), n. comb. (from *Malthonica*). The latter two species were originally described in *Tegenaria*. The new genus is diagnosed by the unique combination of several morphological character states (e.g., notched trochanters III and IV, lateral spines on patellae, shape of vulvae). The monophyly of the new genus is also supported by a molecular analysis based on CO1 sequences of several taxa. Keys are provided for the identification of the recognized genera of Tegenariini and the species of *Aterigena* n. gen. Several species of *Pseudotegenaria* Caporiacco 1934, originally described in *Tegenaria*, are morphologically close to *Tegenaria tridentina* L. Koch 1872, a species that is grouped in the cladistic analysis using CO1 in the monophyletic taxon "*Tegenaria* clade 1". The species are therefore transferred back to *Tegenaria* as *Tegenaria animata* Kratochvíl & Miller 1940 stat. rev., *T. bayeri* Kratochvíl 1934 stat. rev., *T. bosnica* Kratochvíl & Miller 1940 stat. rev. and *T. decolorata* Kratochvíl & Miller 1940 stat. rev. *Aterigena* n. gen. has an interesting geographical distribution: it is widely disjunct in the Palearctic. Four species occur in the Mediterranean and one in China, respectively. *A. ligurica* is relatively widely distributed in mainland Italy and adjacent Southern France with a single specimen known each from Spain and Egypt (Alexandria), respectively. The latter may be the result of an accidental introduction. The other three European species are endemic to Sicily, Corsica (perhaps also Sardinia) and Calabria, respectively.

Keywords: Taxonomy, new taxa, biogeography, Palearctic, disjunct distribution, endemism

Some representatives of the araneomorph funnel-web spiders (Agelenidae) are well known even to the general public: i.e., the very large and long-legged European house spiders (*Tegenaria atrica* C.L. Koch 1843, *T. duellica* Simon 1875 and *T. domestica* (Clerck 1757)) or the notorious hobo spider (*T. agrestis* (Walckenaer 1802)). The last has been introduced into North America where it is blamed for biting humans and causing necrotic wounds (Akre & Myhre 1991; Baird & Stoltz 2002; Binford 2001; Vest 1987; Vetter et al. 2003; Vetter & Swanson 2004). Despite this publicity, the taxonomic and phylogenetic relationships within the Agelenidae are still poorly understood (e.g., Zhang et al. 2006).

Currently the Agelenidae consists of 42 genera and 514 described species (Platnick 2010). There is an ongoing discussion about the definition of the Agelenidae and, in particular, whether the subfamily Coelotinae belongs to the Agelenidae or the Amaurobiidae (Lehtinen 1967; Wunderlich 1986; Griswold et al. 1999; Bi et al. 2005; Spagna & Gillespie 2008) and whether the Australian genera currently affiliated with Agelenidae are phylogenetically closely related to it (Spagna & Gillespie 2008; see Endnote). Within the subfamily Ageleninae, Lehtinen (1967) recognized four tribes: Agelenopsini (Nearctic and Neotropical), Agelenini (Holarctic and Afrotropical), Textricini and Tegenariini (mainly Palearctic). The European tribes Agelenini, Textricini and Tegenariini, of relevance here, can be recognized with the table published by Lehtinen (1967:344, table 23; but also see Table 2).

According to Lehtinen (1967) the Tegenariini comprises the following nominal genera: *Hadites* Keyserling 1862, *Histopona* Thorell 1869, *Malthonica* Simon 1898, *Pseudotegenaria* Caporiacco 1934 and *Tegenaria* Laterille 1804. Most species have been associated with *Tegenaria* and *Malthonica*. The original definitions of the two genera are vague. In its present composition, *Tegenaria* is probably not monophyletic (e.g., Levy 1996). The transfer of many *Tegenaria* species to *Malthonica* by Guseinov et al. (2005) did not render the genera more natural, but rather added more taxonomic confusion: apparently closely related species based on morphological and molecular characters now belong to two different genera (e.g., *Tegenaria parietina* (Fourcroy 1785) and *Malthonica ferruginea* (Panzer 1804), or *Tegenaria henroti* Dresco 1956 and *Malthonica eleonorae* (Brignoli 1974; Bolzern et al. 2008). Guseinov et al. (2005) erected a new genus, *Azerithonica*, which seems to be closely related to *Tegenaria* and *Malthonica*, also belonging to the tribe Tegenariini. Barrientos & Cardoso (2007) redefined *Malthonica*, but this was not followed by Deltshev (2008) and Seyyar et al. (2008).

Dankittipakul & Zhang (2008) erected the genus *Acutipetala*, which they compared to *Agelena* and *Tegenaria*, but did not assign to a particular tribe. The strongly procurved eye-rows (in frontal and dorsal view) and the spination of the patellae in combination with the devided colulus, mentioned in their description, suggest that it is a member of the Agelenini.

The aim of the present work is to improve the taxonomy of *Tegenaria*, *Malthonica* and relatives.

METHODS

The specimens examined in this work are preserved in 75% ethanol at the Naturhistorisches Museum Basel (NMB), the Muséum d'Histoire Naturelle Genève (MHNG), the Senckenberg Forschungsinstitut und Naturmuseum Frankfurt a. M.

(SMF), the Naturhistorisches Museum Wien (NHMW), the Muséum National d'Histoire Naturelle Paris (MNHN), the Museo Civico di Storia Naturale Verona, (MCSN), the Brignoli Collection housed in the Museo Civico di Storia Naturale Verona (PMBC), the Museo Civico di Scienze Naturli "E. Caffi" Bergamo (MSNB) and the private collections of Z. Zhang, China (ZZ) and K. van Keer, Belgium (KK).

For the morphological examination and the preparation of drawings a Leica stereomicroscope MZ12 (up to 110 × magnification) and MZ Apo with drawing tube were used. Most measurements were taken from digital pictures made with a Leica DFC320 camera and calculated with the program ImageJ 1.38 × (http://rsb.info.nih.gov/ij/). Photographs were stacked using the program CombineZM (http://hadleyweb.pwp.blueyonder.co.uk/CZM/News.htm) and processed with Adobe Photoshop and Illustrator. For clearing the vulva, the removed epigynum was placed into clove oil for several minutes. The descriptions of the bulb are given from a ventral view. The spines on the male palp are not illustrated, as they are considered of minor taxonomic significance. Leg measurements were taken from the dorsal side. All measurements are given in millimeters. The color description is based on ethanol-preserved specimens. The nomenclature of morphological structures follows Jocqué & Dippenaar-Schoeman (2006) and Bolzern et al. (2008). The following abbreviations are used: AER = anterior eye row; ALE = anterior lateral eyes; AME = anterior median eyes; ALS = anterior lateral spinnerets; PMS = posterior median spinnerets; PER = posterior eye row; PLA = posterior lateral eyes; PME = posterior median eyes; PLS = posterior lateral spinnerets; RTA = retrolateral tibial apophysis (used here as the sum of all structures in retrolateral position of the tibia of the male pedipalp).

For the DNA extraction, one leg was removed from freshly sampled specimens and stored in pure ethanol. The legs were then placed into a vacuum centrifuge for 30 min at 40° C to remove the ethanol. Then the legs were processed according to the protocol for the purification of total DNA from animal tissues (Spin-Column Protocol) of the DNeasy Blood & Tissue Kit (Qiagen). The DNA concentration of the resulting solution was measured with NanoDrop equipment. A 471-bp sequence of the cytochrome oxidase 1 gene (CO1) was amplified using primers C1-J-1718 and C1-N-2191 (Simon et al. 1994). For the PCR illustra PuReTaq Ready-To-Go PCR Beads (GE Healthcare) were used. The following thermocycling conditions were applied: initial denaturation step of 93° C for 3 min, followed by 35 cycles of 95° C for 30 s, an annealing temperature of 55° C for 30 s and an extension temperature of 72° C for 45 s. This was then followed by an additional extension of 72° C for 7 min. To eliminate incorporated dNTP and primers, the PCR products were treated with ExoSAP-IT® (GE-Healthcare). Then the fragments were sequenced in both directions using ABI PRISM® BigDye™ Terminator Cycle Sequencing Ready Reaction Kit (Applied Biosystems). Sequences were then analysed using an ABI Prism 3100 Genetic Analyzer and edited with the software Sequence Navigator (Applied Biosystems).

The complementary sequences (5′ and 3′ directions) of each specimen were aligned using ClustalW2 (Larkin et al. 2007) and checked manually. All processed sequences and additional sequences from GenBank (Table 5) were aligned using ClustalW2. The aligned sequences were then translated into amino acids to check for any inappropriately placed stop codons and the triplet positions.

Bayesian analysis was applied using MrBayes 3.1.2 (Huelsenbeck & Ronquist 2001; Ronquist & Huelsenbeck 2003). The software jModelTest 0.1.1 (Psoda 2008; Guindon & Gascuel 2003) was used for the selection of best-fit models of nucleotide substitution for the present alignment. Since the underlying sequences are coding for a protein, the analyses were performed with respect to the codon position, allowing MrBayes to use different substitution models with independent rates for each partition (one partition for each codon position). The models statistically chosen under the Akaike information criterion, with correction for small samples (AICc), were K80+G (1^{st}), JC+I (2^{nd}) and HKY+G (3^{rd}). Two parallel and independent analyses, each with four chains (three heated, one cold MCMC chains) were run for 5 million generations, sampling trees every 1000 generations. At the end of the analysis, the first quarter of the collected trees was discarded as "burnin". Of the remaining trees, a consensus tree was calculated (50% majority rule).

Maximum parsimony analysis was performed using PAUP* (Swofford 2003). Transversions were weighted twice transitions. Additionally, the 1^{st}, 2^{nd} and 3^{rd} positions of the codons were weighted 3:6:1, an approximation of the inverse observed relative frequency of substitution. Full heuristic search was performed with random addition of sequences (1000 replications). The branch-swapping algorithm tree-bisection-reconnection (TBR) on best trees was applied to escape local optima. Bootstrap support values were calculated in PAUP* based on 1000 replicate searches, each with 1000 replications of random taxon addition. The analyses were carried out on the freely available Bioportal (www.bioportal.uio.no). Trees were drawn using FigTree v1.2.2 (Freeware from Andrew Rambaut, Institute of Evolutionary Biology, University of Edinburgh; available at: http://tree.bio.ed.ac.uk/software/figtree/) and edited in Adobe Illustrator.

RESULTS

Phylogeny.—The Bayesian analysis reached convergence before 3,000,000 generations, after which the deviation of split frequencies remained below 0.01. The tree presented in Fig. 57 was calculated using the last 7,502 trees (5,001 were sampled from each run and the first 25% discarded as "burnin"). The tree was rooted with the *Amaurobius* spp. clade. The topology and the posterior probability values suggest that *Aterigena* n. gen. is the sister clade of *Malthonica+Histopona*. In this tree 1) the only possibility for a monophyletic Agelenidae is to include the subfamily Coelotinae; 2) the relationships between most genera and the tribes *Tegenariini*, *Agelenini*, *Agelenopsini* are not completely resolved; and 3) the genera *Agelena* and *Textrix* are not monophyletic.

The Maximum Parsimony Analysis resulted in the two shortest trees. In the strict consensus tree, most clades at genus rank were identical to those from the Bayesian analysis (indicated in Fig. 57 with a +). However, the relationship between the genera and/or the subgenera are unresolved (Fig. 57). The bootstrap values are generally very low.

Relative to the support of the other genera, that for *Aterigena* n. gen. is relatively high (83%).

TAXONOMY

Family Agelenidae C.L. Koch 1837
Tribe Tegenariini Lehtinen 1967

The tribe Tegenariini comprises the genera *Azerithonica* Guseinov et al. 2005, *Hadites*, *Histopona* and the taxonomically problematic *Malthonica-Tegenaria* complex, including *Pseudotegenaria*. Guseinov et al. (2005) transferred several species from *Tegenaria* to *Malthonica* using characters of doubtful phylogenetic significance (Jäger 2006, see also Bolzern et al. 2008; Bolzern et al. 2009). These transfers are not followed here: instead we adopt the narrow definition of *Malthonica* by Barrientos & Cardoso (2007), which includes only the type species, *Malthonica lusitanica* Simon 1898, along with *M. oceanica* Barrientos & Cardoso 2007.

Pseudotegenaria was established by Caporiacco (1934). His description is not diagnostic. *Pseudotegenaria* allegedly differs from *Tegenaria* in the anterior eye row, which is strongly recurved, and the posterior row, which is weakly recurved (Caporiacco 1934:140). This character is variable in *Tegenaria* sensu lato. In the original description, the drawing of the vulva of the type species, *Pseudotegenaria parva* Caporiacco 1934 (only female known), is uninformative. Therefore, we follow Brignoli (1971a:60, 61), rather than Lehtinen (1967), who added four species to *Pseudotegenaria*. Apart from *P. parva*, for which no material was available for examination and whose original description is not diagnostic, all species currently included in *Pseudotegenaria* show a striking morphological similarity to *Tegenaria annulata* Kulczyński 1913 and *T. tridentina* L. Koch 1872 (Brignoli 1971a; Kratochvíl & Miller 1940). Here we transfer these species from *Pseudotegenaria* back to *Tegenaria*: *T. animata* Kratochvíl & Miller 1940, stat. rev., *T. bayeri* Kratochvíl 1934, stat. rev., *T. bosnica* Kratochvíl & Miller 1940, stat. rev. and *T. decolorata* Kratochvíl & Miller 1940, stat. rev.

Based on the examination of extensive material a monophyletic group of species, described here as a new genus, is recognized within *Tegenaria* s.l., which is supported by morphological and molecular characters (Fig. 57, Table 4; also see following key). The remainder of *Tegenaria* species studied (mostly European species) form two monophyletic clades (*Tegenaria* Clade 1 and *Tegenaria* Clade 2: Fig. 57). Apart from *Azerithonica*, for which no specimens were available for examination, the genera of Tegenariini, can be recognized by following key:

KEY TO THE GENERA OF TEGENARIINI

1 Trochanters III and IV notched 2
All trochanters straight or only slightly curved 5
2 Dorsal and lateral spines present on patellae III and IV, 1–2 ventral spines present on tarsus IV . . . . . *Aterigena* n. gen.
Only dorsal spines present on all patellae, tarsus IV ventrally lacking spine 3
3 Colulus reduced, only hairs present, patellar apophysis on male palps absent, median apophysis present 4
Colulus developed as two separated plates, patellar apophysis on male palps sometimes present, median apophysis absent . . . *Histopona*
4 Eyes fully developed, tarsi with less than 7 dorsal trichobothria . . . . . *Malthonica*
Eyes very small or lacking, tarsi with 7 or more dorsal trichobothria . . . . . *Hadites*
5 Conductor lamelliform, terminal end often bifid, distal apex of conductor longer than its width, median apophysis strongly protruding, RTA mostly with three branches, vulva forming only convoluted duct or with more or less evenly sclerotized, globular receptacula . . . . . *Tegenaria*-Clade 1
Conductor massive, terminal end of conductor simple or ending in several points, distal apex of conductor smaller than its width (exceptions possible), RTA mostly with two branches, vulva irregularly sclerotized enclosing convoluted ducts, and/or with diverticulae attached to the copulatory duct . . . . . *Tegenaria*-Clade 2

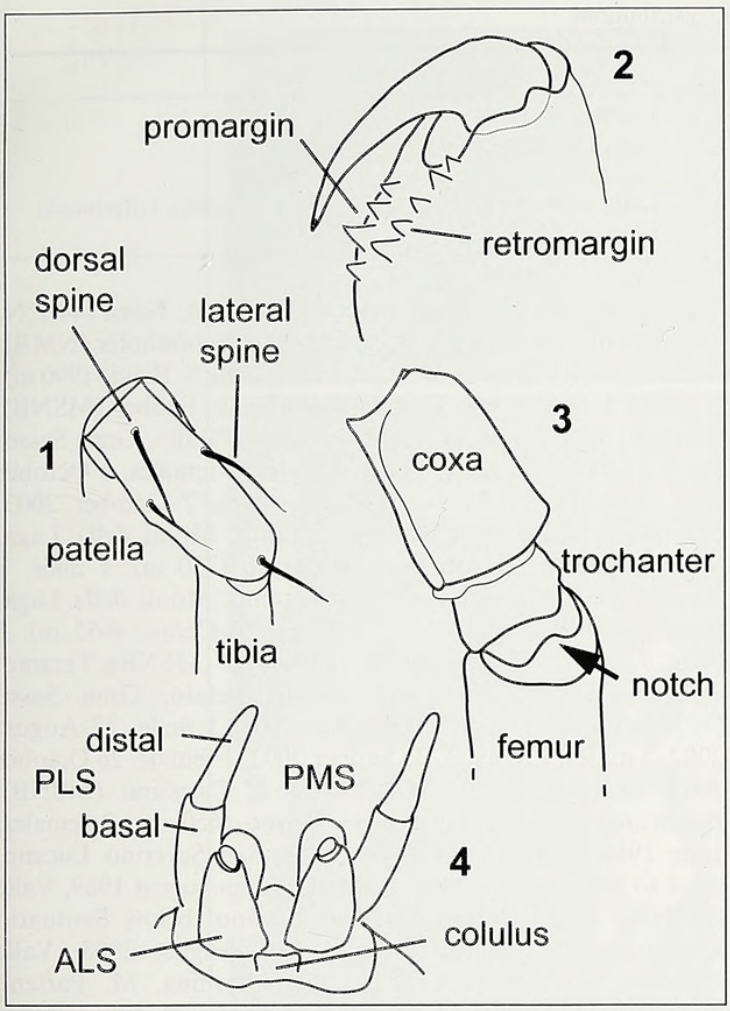
Genus ***Aterigena*** new genus

Type species.—*Tegenaria ligurica* Simon 1916, by present designation.

Diagnosis.—Agelenid spiders bearing the combination of following characters: presence of notched trochanter on legs III and IV (present also in *Hadites*, *Histopona* and *Malthonica* but absent in other European agelenids) (Fig. 3); presence of lateral spines on patellae I–IV (absent in other Tegenariini but present in Agelenini and Textricini) (Fig. 1); presence of ventral spines on tarsus IV (absent in other Tegenariini but present in several genera of other tribes); both eye rows straight in dorsal view (anterior row can be slightly recurved) and straight or slightly procurved in frontal view (Figs. 5, 7, 9, 11, 48); most proximal teeth at the retromargin of chelicerae biggest (Fig. 2); colulus distinctly trapezoidal or rectangular (present also in *Tegenaria* s.l., other genera with reduced or divided colulus) (Fig. 4); male palp with lamelliform and laterally folded conductor, terminal end simply pointed (Figs. 13–20); median apophysis with membranous base and distally with thin and curved plate-like sclerite; vulva consisting of a straight and short copulatory duct, smoothly sclerotized globular receptacula and convoluted fertilization ducts (Figs. 30, 32, 34, 36, 38, 39).

Etymology.—Anagram of *Tegenaria*, gender feminine.

Description.—Body size medium to large (carapace length between 3 and 7 mm). Margin of carapace narrowly and continuously darkened; two symmetric longitudinal dark bands dorsally on carapace present (sometimes intensified by white and black plumose hairs). Sternum longer than wide with an indistinct pattern of bright median band; plumose hairs present on carapace, legs and opisthosoma. Four promarginal teeth, second from proximal is largest; 4–6 retromarginal teeth, most proximal tooth largest. Trochanter III and IV notched. Colulus developed as rectangular plate, distal margin more or less straight. PLS longer than all others, with distal segment as long as or slightly longer than basal segment. In dorsal view both eye rows straight or slightly recurved; in frontal view PER procurved and AER straight or slightly procurved. Smallest eyes are AME or PME. Male palp without femoral and patellar



Figures 1–4.—Diagnostic characters of *Aterigena* n. gen. (schematic). 1. Patella IV with dorsal and lateral spines; 2. Left chelicera with dentition of pro- and retromargin; 3. Trochanter of leg IV, ventral view; 4. Colulus and spinnerets in ventral view.

apophyses; RTA with large dorsal branch, distally more or less obtuse and strongly sclerotized; lateral branch expressed as sclerotized, elongate process; ventrally with weakly developed rounded ridge. Embolus filiform, getting thinner to apex. Conductor elongate distally (parallel to cymbium) and folded along the whole length laterally, terminal end (proximal) forming sclerotized peak; median apophysis consisting of membranous base and thin and broad sclerotized distal plate, base as broad as or slightly smaller than length of median apophysis. Other tegular apophyses absent. Epigynal plate strongly sclerotised with distinct atrium; receptacula visible through plate; copulatory duct short and straight; one pair of smooth, sclerotized receptacula, medium to large in size, oval to globular; fertilization ducts long and mostly strongly convoluted. Constructing horizontal funnel web in which they live (characteristic for family).

Distribution.—Disjunct in the Palearctic, with four species in the Mediterranean Basin and one species in China.

Phylogenetic relationships.—The eye arrangement, the pattern of cheliceral teeth, the notched trochanter on legs III–IV and the distinct trapezoidal colulus place *Aterigena* n. gen. in the tribe Tegenariini. However, *Aterigena* n. gen. bears lateral spines on patellae III and IV and ventral tarsal spines, which are absent in other Tegenariini but usually present in the other tribes (Table 2). This shows that the last two characters are not diagnostic for the agelenid tribes. In removing *Aterigena* n. gen. from *Tegenaria* s.l. the latter becomes morphologically more homogeneous. In addition to the morphological characters the monophyly of *Aterigena* n. gen. is also supported by molecular characters (Fig. 57). Three apomorphic amino acid substitutions are present in a very short sequence section of the mitochondrial CO1 gene (Table 4).

Comments.—*Aterigena* n. gen. comprises five species (Table 1), four transferred from *Tegenaria* and one described here as new.

KEY TO THE SPECIES OF *ATERIGENA*

1 Carapace longer than 5.2, cymbium longer than 2.0, dorsal branch of RTA more or less conical (in retrolateral view), embolus longer than twice cymbium width, epigynal plate wider than 0.8; atrium of epigynum rectangular or trapezoidal; if transversally divided, posterior part much shorter than anterior part 2
Carapace smaller than 5.2, cymbium shorter than 2.0 mm, tip of dorsal branch of RTA skewed ventrad (in retrolateral view), embolus shorter than twice cymbium width, epigynal plate smaller than 0.8; atrium of the epigynum oval; tranversely subdivided into subequal parts 4

2 Lateral branch of RTA relatively long, distal apex of conductor only weakly bent, ratio bulb length to cymbium length smaller than 0.7, atrium of the epigynum transversally divided, forming membranous oval part anteriorly, and sclerotized semicircular bar posteriorly . . . . . *aliquoi*
Combination of characters different 3

3 Ratio of palpal tibia length to cymbium length smaller than 0.43, dorsal branch of RTA originating approximately in middle of tibia, copulatory openings well visible, lateral margins of epigynal atrium converging posteriad, each vertex forming strongly elongated process . . . . . *ligurica*
Ratio of palpal tibia length to cymbium length larger than 0.43, dorsal branch of RTA originating in distal half of tibia, lateral margin of epigynal atrium diverging posteriad, each vertex froming at most blunt tubercle . . . . . *aculeata*

4 Ratio bulb length (laterally from cymbium base to conductor tip) to cymbium length smaller than 0.7; ratio tibia length to cymbium length smaller than 0.6; distal apex of conductor longer than wide; transverse separation of epigynal atrium more or less straight; receptacula globular, round; fertilization ducts strongly convoluted . . . . . *soriculata*
Ratio bulb length to cymbium length larger than 0.7; ratio tibia length to cymbium length larger 0.6; distal apex of conductor as long as or shorter than wide; transverse separation of epigynal atrium in the middle slightly curved posteriad; receptacula oval; fertilization ducts weakly convolute . . . . . *aspromontensis* n. sp.

Table 1.—Checklist of *Aterigena* n. gen. species with known geographic distributions.

Taxon name	Original genus	Distribution
Aterigena aculeata (Wang 1992)	*Tegenaria*	southern China
Aterigena aliquoi (Brignoli 1971)	*Tegenaria*	Sicily
Aterigena aspromontensis n. sp.	-----	Calabria (Italy)
Aterigena ligurica (Simon 1916)	*Tegenaria*	Italy, southern France, Spain, Egypt (possibly introduced)
Aterigena soriculata (Simon 1873)	*Tegenaria*	Corsica, Sardinia?

Aterigena ligurica (Simon 1916) new combination
Figs. 5, 6, 13, 14, 23, 24, 29, 30, 40, 41

Tegenaria ligurica Simon 1916:210, male and female; Platnick 2009.

Type material.—FRANCE: *Alpes-Maritimes*: Menton, le Moulinet: lectotype female, paralectotype male, 1915, Dalmas (MNHN), present designation.

Other material.—FRANCE: *Alpes-Maritimes*: 1 male, 4 females, April 1905, E. Simon (MNHN, Nr. 614); Lantosque, NE exp. slope close to village (43.97416°N, 7.31104°E, 484 m): 1 male, 3 September 2008, Schönhofer (NMB); dry valley between Villars-sur-Var and tunnel of Mescla (43.93119°N, 7.13273°E, 231 m): 3 females, 1 juvenile, 2 September 2008, Schönhofer (NMB); Vallon de Cervagne at Roquebillière (44.01562°N, 7.29831°E, 685 m): 1 male, 2 September 2008, Schönhofer (NMB); Mercantour National Park, Paganin Gorge (44.02833°N, 7.57712°E, 500 m): 1 male, 4 September 2008, Schönhofer (NMB); Les Mèces, Mercantour National Park: 2 males, 2 females, 16 July 1986, Maurer & Thaler (NMB, 1 male measured, MHNG). ITALY: *Liguria*: Savona, Bormida, km 17 on provincial road 15: 1 male, 11 October 2001, Pantini (MSNB); Savona, Calizzano, Colla Melogno (920 m): 1 female, 1 juv., 17 July 2001, Mus. Bergamo (MSNB); *Piemonte*: Cuneo, Val Pesio, Pian delle Gorre: 1 male, 15 August 1983, Giachino (MSNB); Cuneo, Garessio: 1 male, 2 females, 3 October 2004, Isaia & Beikes (MSNB); Cuneo, National Park Alpi Marittime, Bousset-Valley, Ponte di Porcera (44.20097°N, 7.44126°E, 1117 m): 1 female, 11 September 2008, Schönhofer (NMB); Cuneo, Nava (44.1°N, 7.87°E, 890 m): 1 male, 8 September 2008, Schönhofer (NMB); *Marche*: Ascoli Piceno, Montemonaco, Isola S. Biagio (990 m): 1 male, 1 September 2004, Rismondo & Fabbri (MSNB); *Abruzzo*: Teramo, Isola del Gran Sasso d'Italia, Gran Sasso, toward Lake Pagliara (900 m): 5 males, 2 females, 3 October 2002, 1 male, 28 August 2003, 3 males, 7 October 2003, Marotta & Carissimi (MSNB); Teramo, Monti della Laga, Valle Castellana, 1 km next to Ceraso (750 m): 1 male, 7 August 2003, Marotta (MSNB); Teramo, Monti della Laga, toward Valley Castellana, 2 km next to Ceraso (655 m): 1 male, 1 female, 28 October 2001, Marotta (MSNB); Teramo, Tossicia, Tozzanella, towards Colle Petato, Gran Sasso (1050 m): 1 female, 18 November 2001, 1 male, 27 August 2002, 5 males, 2 females, 3 October 2002, 1 female, 26 October 2002, Marotta, Matin, Di Marco & Carissimi (MSNB); *Basilicata*: Potenza, Viggianello, Torno (650 m): 2 females, June 1989, Valle (MSNB); Potenza, San Severino Lucano, close to Santuario (1500 m): 1 male, June-August 1989, Valle (MSNB); Potenza, San Severino Lucano, below Santuario Madonna del Pollino: 1 female, 27 August 2008, Valle (MSNB); *Campania*: Avellino, Pietrastornina, M. Parteni, Acqua Vene (1200 m): 3 males, 12 August 1981, Boffa, Giachino & Verna (MSNB); *Calabria*: Cosenza, SE of Paola (39.33306°N, 16.06083°E, 564 m): 1 male, 29 May 2007, Bolzern & Mühlethaler (NMB, was juvenile till end of August). SPAIN: 1 female, no further information (MNHN, Nr. 12602). EGYPT: *Alexandria*: 1 female, E. Simon (sub *T. domestica*) (MNHN, Nr. 1976, 5960).

Table 2.—Character table based on Lehtinen (1967) supplemented with additional characters. <: smaller than; >: bigger than; =: equal. Characters supporting the tribe are shaded.

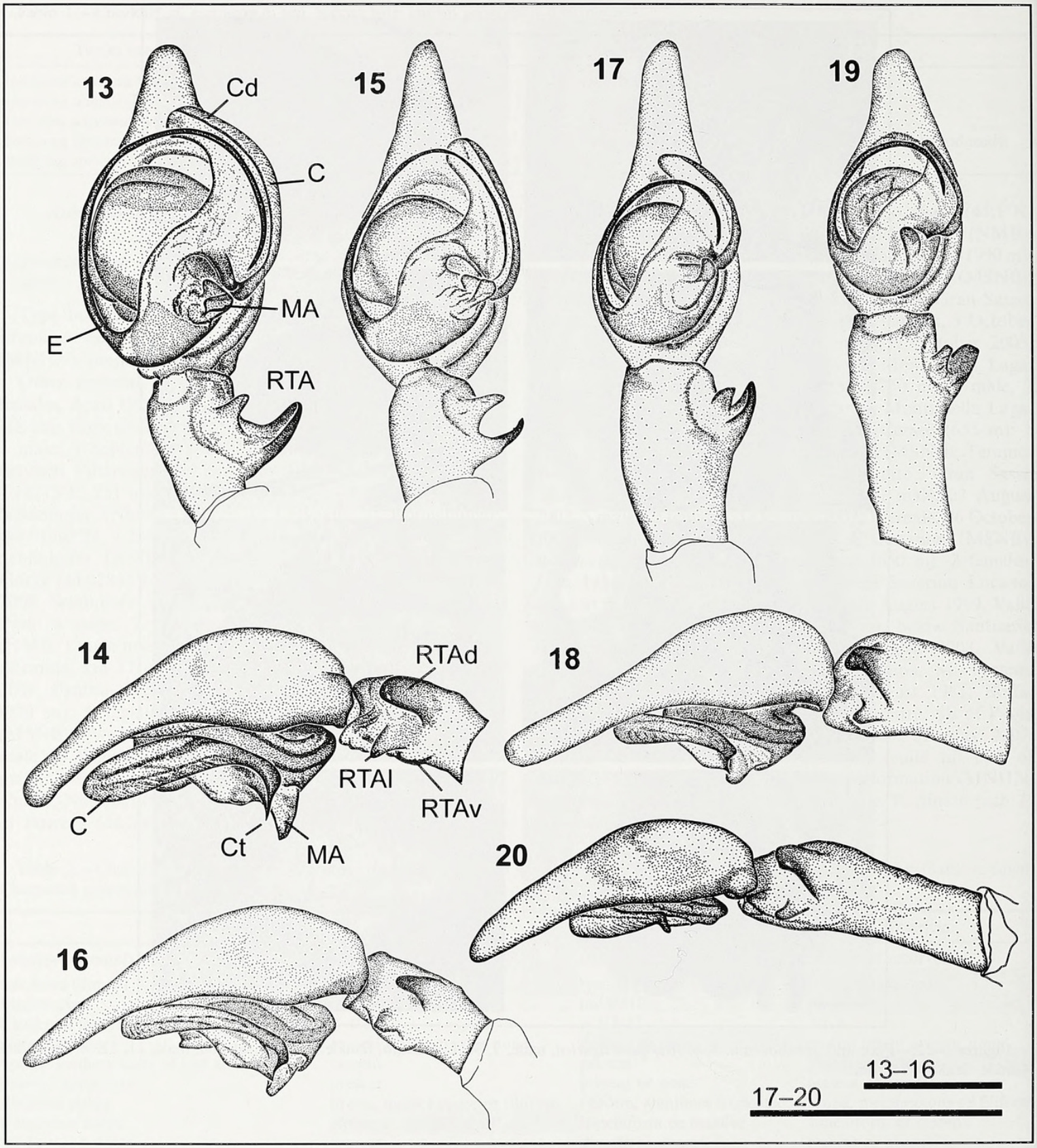
	Agelenini	Tegenariini	Textricini
Eye-rows (frontal)	stongly procurved	straight or procurved	straight of recurved
Eye-rows (dorsal)	procurved	straight	strongly recurved
Biggest eyes	not PME	not PME	PME
Cheliceral teeth (pro-/retromargin)	3–4/2–4	3–5/3–12	3/2–4
Sternal pattern	central bright area or none	distinct or none	central bright area or none
Special feathery hairs at legs and carapace	present	present	absent or different
Patellar apophysis	present	present or none	present or none
Embolus shape	broad, membranous or filiform	filiform, somtimes truncated	broad, membranous or filiform
Conductor shape	strong or spiral helical	lamelliform or massive	lamelliform or massive
Median apophysis	present	present or absent	present or absent
Trochanter IV notched	absent	present or absent	absent
Colulus	2 separated plates	absent or trapezoidal	2 separated plates
PLS, distal to basal segment length	(=) >	< = >	>
Special dark and strong hairs at analtubus	present	absent	absent
Lateral patellar spines	present	absent (present*)	present
Ventral tarsal spines (IV)	present / absent	absent (present*)	present
MA with sclerit	absent	present	present

* Present only in *Aterigena* n. gen.

Figures 5–12.—Face and opisthosoma. 5, 6. *Aterigena ligurica*, male; 7, 8. *A. aculeata*, female; 9, 10. *A. aliquoi*, male; 11, 12. *A. soriculata*, female. Scale = 1.0 mm.

Description.—*Male* (*n* = *1*): Carapace 6.82 long, 4.52 wide. Head region 2.65 wide; PER 1.4 wide. Chelicerae 2.94 long, 1.31 wide. Labium as long as wide. Gnathocoxa ratio width to length: 0.6. Sternum 3.11 long, 2.53 wide. Opisthosoma 6.37 long, 3.8 wide. Ratio bulb length (laterally from cymbium base to conductor tip) to cymbium length: 0.72. Leg measurements:

	fe	pa	ti	mt	ta	total
palp	2.31	0.94	1.07	-	2.67	6.99
I	5.71	2.28	4.67	5.77	3.78	22.21
II	5.63	2.29	4.38	5.72	3.41	21.43
III	5.28	2.24	4.20	6.01	3.34	21.07
IV	6.62	2.27	5.45	8.44	4.02	26.80



Figures 13–20.—Left male palp in ventral and retrolateral view. 13, 14. *Aterigena ligurica*; 15, 16. *A. aliquoi*; 17, 18. *A. soriculata*; 19, 20. *A. aspromontensis* n. sp. C: conductor; Cd: distal apex of C; Ct: terminal end of C; E: embolus; MA: median apophysis; RTA: retrolateral tibial apophyses; RTAd: dorsal branch of RTA; RTAl: lateral branch of RTA; RTAv: ventral branch of RTA. Scale = 1.0 mm.

Females ($n = 3$): Carapace 5.63–6.58 long, 3.77–4.49 wide. Head region 2.43–2.9 wide; PER 1.25–1.44 wide. Chelicerae 2.28–3.04 long, 1.17–1.54 wide. Labium as long as wide. Gnathocoxa ratio width to length: 0.6–0.7. Sternum 2.65–3.40 long, 2.20–2.79 wide. Opisthosoma 6.47–9.43 long, 4.10–6.62 wide. Epigynal plate 1.12 long, 1.3 wide; atrium 0.27–0.29 long, 0.37–0.41 wide. Receptacula 0.50–0.62 wide. Leg measurements:

	fe	pa	ti	mt	ta	total
Palp	1.79–2.17	0.87–1.09	1.09–1.35	-	2.03–2.46	5.78–7.07
I	4.16–4.93	1.98–2.27	3.19–3.89	3.64–4.52	2.26–2.96	15.23–18.57
II	4.00–4.90	1.98–2.25	2.93–3.59	3.52–4.35	2.26–2.90	14.69–17.99
III	3.11–4.95	1.47–2.14	2.46–3.56	3.25–4.77	1.88–2.45	12.17–17.87
IV	4.88–5.71	1.84–2.32	4.04–4.61	5.74–6.36	2.67–3.14	19.17–22.14

Eyes: In dorsal view both eyerows straight or slightly recurved; in frontal view PER procurved and AER straight or slightly procurved (Fig. 5). Diameters: PME: 0.21–0.23; PLE: 0.20–0.24; AME: 0.18–0.21; ALE: 0.21–0.24. Distances: PME–PME less or equal diameter of PME; PME–AME less than diameter of PME; PME–PLE about diameter of PME; PME–ALE about diameter of PME or slightly more; AME–AME 0.5–1.0 times diameter of AME; AME–ALE about half diameter of AME. Clypeus height (measured under AME) less than or equal to 3 times diameter of AME; (measured under ALE) about twice diameter of ALE or slightly more.

Coloration: Carapace with narrow, continuous dark margin; two longitudinal symmetrical darkened bands present on carapace, interrupted and sometimes reduced to triangular dots. Sternum with brighter median band, sometimes very weak. Opisthosoma with red-brown median band, anterolaterally with two bright bands, continuing posteriorly as dots (Fig. 6). Legs weakly annulated best expressed ventrally on femora.

Additional somatic characters: Distal margin of labium weakly concave. Plumose hairs present on carapace, legs and opisthosoma. Four promarginal teeth, the second one from proximal largest; 4–5 retromarginal teeth, most proximal tooth largest. Trochanter III and IV notched. Tarsi I and II with 7–8 dorsal trichobothria and 8–9 on tarsi III and IV. Colulus forming rectangular plate, distal margin straight, only partly colored. PLS longer than all others with distal segment as long as or slightly longer than basal segment, both darkened. PMS as long as ALS. ALS slightly darkened. The formulae of leg spination are listed in Table 3.

Male palp (*Figs. 13, 14, 23, 24*): RTA with a large dorsal branch, distally pointed and strongly sclerotized; lateral branch forming sclerotized finger-shaped appendix; ventrally bearing a weakly developed rounded ridge. Embolus originating (free apex) at 7 o'clock position; length (only the free apex) slightly more than twice cymbium width; distal tip between 3 and 4 o'clock position. Conductor lamella-like, distally elongated (parallel to cymbium), arcuated and laterally folded along the whole length; as long as alveolus, distally reaching beyond alveolus margin; terminal end forming sclerotized peak, pointing ventrally (in lateral view). Connection of conductor and tegulum membranous. Median apophysis consisting of membranous base and thin and broad sclerotized distal plate, pocket-like; originating at 5 o'clock position; protruding ventrally; basis as wide as median apophysis length. Tegular apophysis absent.

Epigynum and vulva (*Figs. 29, 30, 40, 41*): Epigynal plate strongly sclerotized, trapezoidal, with distinct atrium; atrium posteriorly reaching epigastral furrow. Ground plate of atrium strongly sclerotized, anterior distinctly connected with epigynal plate, undivided reversed trapezoidal shaped. Lateral margins of atrium converging posteriad, strongly elongated vertices present. Receptacula visible through plate. Copulatory openings well-visible as holes, located at anterior border of atrium. Copulatory duct short and straight. Receptacula large, oval to globular, almost touching each other; fertilization ducts long and strongly convoluted.

Comparison to other species.—The description of the male of *A. aculeata* provided by Wang (1992:287, figs. 1–3) suggests that it is closely related to *A. ligurica*. No male material of *A. aculeata* was available for study, and our conclusions are based on the literature only. Based on the original description (Wang 1992) the female holotype and the male allotype of *A. aculeata* are similar in size to *A. ligurica*. In contrast, the relative height of the clypeus is larger in *A. ligurica* than in *A. aculeata* (Figs. 5, 7). The male of *A. ligurica* apparently has a relatively smaller ratio of palpal tibia length to cymbium length than *A. aculeata* (Figs. 13, 14, 21, 22). Furthermore, the RTA originates approximately in the middle on the tibia in *A. ligurica*, but more distally in *A. aculeata*. The male of *A. ligurica* can be separated from the other *Aterigena* n. gen. species by the conical shape of the dorsal RTA branch (distally skewed ventrad in *A. soriculata* and *A. aspromontensis* n. sp.), the relatively short lateral branch of the RTA (in relation to the dorsal branch, this lateral branch is longer in *A. aliquoi*) and the size of the cymbium (much larger than in *A. soriculata* and *A. aspromontensis* n. sp.) (Figs. 13, 14, 23–25). The female of *A. ligurica* can be separated from all other species of the genus by the presence of the well-visible copulatory openings anteriorly on the epigynal atrium (absent in *A. aliquoi*, *A. soriculata* and *A. aspromontensis* n. sp.), the undivided and anteriorly connected ground plate of the atrium with diverging lateral margins (converging in *A. aculeata*) and the strongly developed and elongated vertices (tubercular in *A. aculeata*, Figs. 29, 40, 41). Additionally, the vulva is distinct in shape and larger than in all other species of the genus (Fig. 30).

Natural history.—Specimens of *Aterigena ligurica* were found in different types of Mediterranean forests with rocky or stony ground layers. There the spiders live in funnel webs, characteristic for the whole family Agelenidae. The spiders, collected by A. Bolzern, were caught on and under stones and on the bark of pine trees. Maurer & Thaler (1988) caught many specimens in pitfall traps. The available data are insufficient for drawing any conclusions on the phenology of *A. ligurica*. The specimens listed here were caught from April to October.

Distribution.—*Aterigena ligurica* was previously known only from the Maritime Alps and questionably from southern Italy (Brignoli 1971b; Dresco & Célérier 1976; Maurer & Thaler 1988; Pesarini 1994). The revision of the MSNB collection yielded many additional stations from Italy (Fig. 56). Two

Table 3.—Spination of legs of *Aterigena ligurica* (Simon 1916), *A. aculeata* (Wang 1992), *A. aliquoi* (Brignoli 1971), *A. soriculata* (Simon 1873) and *A. aspromontensis* n. sp. The formula gives the number of spines as follows: dorsal - prolateral - retrolateral - ventral. A "p" indicates that at this position the spine is paired (1p = 2 spines at almost the same longitudinal position). A "(s)" indicates very short but strong spines. A superscript "−" or "+" indicates fewer or more spines than indicated have been observed at this position.

Leg	Species	Femur	Patella	Tibia	Metatarsus	Tarsus
Palp	*A. ligurica*	3-0-0	2-1-0	1^{+}-2p-0	-	-
	A. aculeata	3-0-0	2-1-0	2-2p-0	-	-
	A. aliquoi	3^{+}-0-0	2-1-0	1^{+}-2p-0	-	-
	A. soriculata	3-0-0	2-0^{+}-0	1^{+}-2p-0	-	-
	A. aspromontensis	3-0-0	2-0^{+}-0	1^{+}-2p-0	-	-
I	*A. ligurica*	3-3^{-}-$3^{-/+}$-0	2-1-0^{+}	2-2^{+}-0^{++}-3p	0-2-2-1+2p+1 0-2-2-1p+1+1p+1 0-2-2-3p+1 0-2-2-3p+1+1(s)	0
	A. aculeata	3^{+}-$4^{--/++}$-3^{--}-0	2-1-0	2-2-0-3+1p 2-3-0-3p	0-2-0^{+}-3p+1	0
	A. aliquoi	3-2^{+}-2-0	2-1-0	2-3^{-}-0^{++}-3p 2-3-2-2p+1	0-2^{+}-2^{+}-3p+1	0
	A. soriculata	3-2-1^{+}-0	2-1-0	2^{--}-2^{+}-0-3p	0-2-2-3p+1	0
	A. aspromontensis	3-1-1^{+}-0	2-1-0	2-2^{+}-0-3p	0-2-1^{+}-3p+1	0
II	*A. ligurica*	3-3^{++}-3^{+}-0	2-1-0^{+}	2-2-0-1+2p 2-2-0^{++}-3p	0-3-2-3p+1p(s)+1 1-3-3-1+2p+1p(s)+1	0
	A. aculeata	3-2^{++}-2^{+}-0	2-1-0	2-2-0-1+2p 2-2-0-2+1p	0-2^{+}-1^{+}-3p+1	0
	A. aliquoi	3-2^{+}-2-0	2-1-0^{+}	2-2-0-3p	0^{+}-3-2^{+}-3p+1p(s)+1	0
	A. soriculata	3-2-2-0	2-1-0	2-2-0-1+2p 2-2-0-3p	0^{+}-3-2-3p+1p(s)+1	0
	A. aspromontensis	3-2-2-0	2-1-0	2-2-0-1+2p	0-3-2-3p+1+1(s) 0-3-2-3p+1p(s)+1	0
III	*A. ligurica*	3-3^{+}-2^{++}-0	2-1-1	2-2^{+}-2-3p	1+1p-3-4-3p+1p(s)+1 1+1p-4-3-1p+1+2p+1p(s)+1 1p-4-3-1p+1+2p+1p(s)+1 3-4-4-1p+1+2p+1p(s)+1	0-2^{+}-1-1^{+}
	A. aculeata	3-2-2-0	2-1-1	2-2-2-1p+1+2p 2-2-2-2+1p	1-3-3-3p+1+1(s) 1p-3-3-3p+1	0-$2^{-/+}$-1-1^{+}
	A. aliquoi	3-2^{++}-2-0	2-1-1	2-2-2-1+2p 2-2-2-2p+	1-3-3-3p+1p(s)+1 1+1p-3-3-3p+1p(s)+1 2-3^{+}-3-3p+1p(s)+1	0-2^{+}-1-0
	A. soriculata	3-2-2-0	2-1-1	2-2-2-1^{+}+2p- 2-2-2-3p	1-3-3-3p+1p(s)+1 1p-3-3-3p+1p(s)+1	0-2^{-}-1-1^{-}
	A. aspromontensis	3-2-2-0	2-1-1	2-2-2-1^{+}+2p-	1-3-3-3p+1p(s)+1 1p-3-3-3p+1p(s)+1 2-3-3-3p+1+1(s)	0-2-1-1
IV	*A. ligurica*	3-4^{+}-1^{+}+-0	2-1-1	2-2-2-1+2p 2-2-2-3p 2-2-3-1p+2+1p	1+1p-4-3-2p+3+1p+1(s)+1 1+2p-4-3-1p+1+2p+1(s)+1 1+1p+1-4-3-4+2p+1	0-2^{+}-2^{+}-2
	A. aculeata	3^{-}-$2^{-/+}$-1^{+}-0	2-1-1	2-2-2-$2^{-/+}$+$1p^{+}$	1-4-3-1+3p+1 1-4-3-1p+1+2p+1+1(s) 2-4-3-1p+1+2p+1	0-2-2-2
	A. aliquoi	3-2^{++}-1+-0	2-1-1	2-2-2-3p	2-3-3-1p+1+2p+1+1(s) 2-3-3-3+2p+1+1(s)	0-2-2-1^{+}
	A. soriculata	3-2-1^{+}-0	2-1-1	2-2-2-1p+2^{+}+1p	2-3-3-1+3p+1+1(s) 2-3-3-1p+1+2p+1+1(s)	0-2-2-2
	A. aspromontensis	3-2-1-0	2-1-1	2-2-2-1+2p	2-3-3-1p+1+2p+1+1(s)	0-2-2-2

samples from the MNHN containing a single female each are from outside this range: they are labeled "Hispania" and "Alexandria", respectively. The latter specimens may have been accidentally introduced; the data for the former are too vague for any interpretation. Additional field work is required to solve this puzzle.

Comment.—In accordance with article 74.1 of the Code (ICZN 1999) the female syntype is designated here as lectotype for stabilizing the nomenclature. As the morphology of the epigynum is a good distinctive character for separating the species from its closest relatives, the female has been chosen as lectotype. The male syntype becomes paralectotype.

Table 4.—Apomorphic amino acid substitutions of *Aterigena* n. gen. detected within a small sequence of the mitochondrial CO1 gene. Numbers refer to the *Drosophila yakuba* gene presented by Clary & Wolsenholme (1985).

Triplet #	622			623			624			625			626			627			628			629			630			631		
Nucleotide position	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9	9	9	9
	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3
Amaurobius fenestralis (Ström 1768)	G	C	T	T	C	T	A	T	A	A	T	A	G	G	G	C	A	T	T	C	A	G	G	A	A	G	A	G	C	T
Textrix denticulata (Olivier 1789)	.	.	.	.	.	C	.	C	T	.	.	.	.	.	C	.	.	.	A	G	T	.	.	.	.	.	.	T	.	.
Tegenaria domestica (Clerck 1757)	.	.	.	.	.	.	T	C	T	.	.	G	.	.	A	.	.	.	A	T	.	.	.	G	.	.	.	.	.	.
Tegenaria atrica C.L. Koch 1843	.	.	.	.	.	.	T	C	T	.	.	T	.	.	T	.	.	.	.	T	T	.	.	T	.	A	.	T	.	.
Histopona torpida (C.L. Koch 1837)	.	.	.	.	.	.	T	C	T	.	.	T	.	.	A	.	.	.	A	T	.	.	.	T	.	.	.	T	.	.
Malthonica oceanica Barrientos & Cardoso 2007	.	.	.	.	.	.	T	C	T	G	.	T	.	.	A	.	.	.	G	.	G	.	.	T	.	.	.	T	.	.
Aterigena ligurica (Simon 1916)	T	.	.	.	.	.	T	.	T	.	.	T	.	.	C	.	.	.	G	.	T	.	A	T	.	.	.	A	G	A
Aterigena aliquoi (Brignoli 1971)	T	.	.	.	.	.	T	.	T	.	.	.	.	.	T	.	.	.	G	.	T	.	A	T	.	.	.	A	G	C
Aterigena aculeata (Wang 1992)	T	.	.	.	.	.	T	.	T	.	.	T	.	.	A	.	.	.	G	.	T	A	A	T	.	.	.	A	G	A
synapomorphic amino acid subst.	A →S			-			M,I,S →F			-			-			-			-			G,S →D,N			-			-		

Aterigena aculeata (Wang 1992) new combination
Figs. 7, 8, 21, 22, 31, 32, 42, 43

Tegenaria aculeata Wang 1992:286, figs. 1–5, male and female; Platnick, 2009.

Material examined.—CHINA: *Guizhou*: Daozhen, Natural Reserve Dashahe (27.8333°N, 106.8333°E): 6 females, Zhang, 24–25 August 2004 (3 females ZZ, 3 females NMB).

Description.—As *A. ligurica* but differing in the following characters:

Females (n = 3)*:* Carapace 5.50–6.10 long, 3.70–4.25 wide. Head region 2.0 wide; PER 1.15 wide. Chelicerae 2.40–2.75 long, 1.00–1.30 wide. Gnathocoxa ratio width to length: 0.6. Sternum 2.60–3.10 long, 2.15–2.35 wide. Opisthosoma length: 7.25–7.75 long, 4.00–4.90 wide. Epigynal plate 0.7–0.9 long, 0.9–1.0 wide; atrium 0.22 long, 0.33 wide. Receptacula 0.38 wide. Leg measurements:

	fe	pa	ti	mt	ta	total
Palp	1.95	0.88	1.22		1.95	6.00
I	4.90–5.55	2.00–2.25	4.65–5.25	4.55–5.50	2.85–3.15	18.95–21.70
II	4.50–5.50	2.00–2.15	3.90–4.50	4.25–4.75	2.25–2.75	16.90–19.65
III	4.35–5.05	1.65–1.95	3.60–4.50	4.25–5.00	2.25–2.50	16.10–19.00
IV	5.50–6.25	1.50–2.20	4.75–5.50	6.00–7.00	2.80–3.10	20.55–24.05

Eyes: In dorsal view both eye rows straight (frontal view: Fig. 7). Diameters: PME: 0.26; PLE: 0.28; AME: 0.25; ALE: 0.29. Distances: PME–PME equal diameter of PME; PME–AME less than or equal diameter of PME; PME–PLE about diameter of PME or slightly more. Clypeus height (measured under AME) less than or equal to twice diameter of AME; (measured under ALE) about 1.5 times diameter of ALE or less.

Coloration: Two longitudinal symmetrical darkened bands present on carapace, interrupted and sometimes reduced to only triangular dots, intensified by white and black plumose hairs. Anterolateral bright bands on opithosoma smaller than in *A. ligurica* (Fig. 8).

Additional somatic characters: Chelicerae with five to six retromarginal teeth, all equal or most proximal tooth biggest. Tarsi I–III with 7–8 dorsal trichobothria, tarsus IV with 8. Formulae of leg spination listed in Table 3.

Male palp (*Figs. 21, 22*)*:* No males were available for examination; for description see Wang (1992:286–290, figs. 1–3).

Epigynum and vulva (*Figs. 31, 32, 42, 43*)*:* Ground plate of atrium strongly sclerotized, undivided and trapezoidal. Lateral margin of atrium without elongate vertices. Copulatory openings indistinctly visible as gaps, located at anterior border of atrium. Receptacula large, globular.

Comparison to other species.—Based on the original description, *A. aculeata* is probably most closely related to *A. ligurica*, but males are required to confirm this. The characters separating males of *A. aculeata* and *A. ligurica* are detailed under the latter. Female *A. aculeata* can be separated from *A. ligurica* by the much smaller and less visible copulatory opening (very distinct in *A. ligurica*), the trapezoidal shape of the atrium (rectangular in *A. ligurica*), the outline of the lateral margin of the atrium (vertices not elongated in *A. aculeata* but in *A. ligurica*) (Fig. 31), the dimensions of the vulva and the shape of the fertilization ducts (Fig. 32).

Natural history.—No information is available on the habitat of *A. aculeata*. All known specimens were collected in summer (August).

Distribution.—Known from southern China (Hunan, Guangxi and Guizhou provinces) (Wang 1992).

Comment.—The type material of *A. aculeata* is probably lost (Xiang Xu, Hunan Normal University, China pers. comm.), and no males were available for this study.

Aterigena aliquoi (Brignoli 1971) new combination
Figs. 9, 10, 15, 16, 25, 26, 33, 34, 44, 45

Tegenaria aliquoi Brignoli 1971a:86–88, figs. 31–34, male; Brignoli 1977:47, fig. 23, female.

Malthonica aliquoi (Brignoli); Guseinov et al. 2005:164; Platnick 2009.

Type material.—ITALY: *Sicily*: Palermo, Parco Regionale delle Madonie, Piano della Battaglia: holotype male, 28 July 1968, Aliquo (MCSN).

Other material.—ITALY: *Sicily*: Portella di Femminamorta, Monte dei Nebrodi: 1 female, 26 March 1967 (MCSN, PMBC); Palermo, Parco Regionale delle Madonie, Piano della Battaglia (37.875°N, 14.023°E, 1574 m): 1 male, 1 female, 24 May 2007,

Table 5.—Genbank accession numbers of all included CO1 sequences. Sequences that have already been published have been aligned with the new ones to a length of 471 nucleotides.

Taxon name	Accession #	Specimen origin	Voucher specimen	Comments / Reference
Agelena canariensis Lucas 1838	FN554798	ES: Gran Canaria	Departament de Biologia Animal, Universitat de Barcelona: NTxTeg1	
Agelena labyrinthica (Clerck 1757)	FN554797	IT: Sardinia	NMB: AB 424	
Agelenopsis aperta (Gertsch 1934)	DQ628604	-	-	Spagna & Gillespie (2008)
Allagelena gracilens (C.L. Koch 1841)	DQ628606	-	-	Spagna & Gillespie (2008)
Amaurobius fenestralis (Ström 1768)	FN554820	CH: Solothurn	NMB: AB 1006	
Amaurobius ferox (Walchenaer 1830)	FN554819	CH: Basel-Land	NMB: AB 959	
Amaurobius similis (Blackwall 1861)	DQ628608	-	-	Spagna & Gillespie (2008)
Aterigena aculeata (Wang 1992)	FN554790	CN: Guizhou	NMB: AB 591	
Aterigena aliquoi (Brignoli 1971)	FN554791	IT: Sicily	NMB: AB 720	
Aterigena ligurica (Simon 1916)	FN554789	IT: Calabria	NMB: AB 812	
Barronopsis barrowsi (Gertsch 1934)	DQ628609	-	-	Spagna & Gillespie (2008)
Calymmaria sp. 1	DQ628611	-	-	Spagna & Gillespie (2008)
Coelotes terrestris (Wider 1834)	DQ628627	-	-	Spagna & Gillespie (2008)
Cybaeus sp.	FN554818	US: Oregon	NMB: AB 615	
Eurocoelotes inermis (L. Koch 1855)	DQ628628	-	-	Spagna & Gillespie (2008)
Histopona torpida (C.L. Koch 1837)	FN554793	CH: Basel-Land	NMB: AB 212	
Hololena sp. 1	FN554799	US: California	NMB: AB 613	
Hololena sp. 2	FN554800	US: Washington	NMB: AB 883	
Lycosoides coarctata (Dufour 1831)	FN554815	PT: Algarve	NMB: AB 766	identical haplotype as a specimen from IT
Maimuna cretica (Kulczyn'ski 1903)	FN554795	GR: Crete	NMB: AB 855	
Malthonica campestris (C.L. Koch 1834)	FN554770	DE: Hessen	NMB: AB 290	
Malthonica dalmatica (Kulczyński 1906)	FN554781	LB: Mount Lebanon	NMB: AB 577	
Malthonica dalmatica (Kulczyński 1906)	FN554806	IT: Campania	NMB: AB 434	
Malthonica dalmatica (Kulczyński 1906)	FN554811	IT: Sicily	NMB: AB 840	
Malthonica eleonorae (Brignoli 1974)	FN554772	IT: Sardinia	NMB: AB 428	
Malthonica ferruginea (Panzer 1804)	FN554777	GR: Crete	NMB: AB 894	
Malthonica ferruginea (Panzer 1804)	FN554802	FR: Alsace	NMB: AB 293	identical haplotype as a specimen from CH
Malthonica nemorosa (Simon 1906)	FN554780	BG: Sofia	NMB: AB 242	
Malthonica oceanica Barrientos & Cardoso 2007	FN554792	PT: Lisbon	NMB: AB 933	
Malthonica picta (Simon 1870)	FN554785	ES: Pais	NMB: AB 669	
Malthonica ramblae (Barrientos 1978)	FN554774	PT: Lisbon	NMB: AB 589	
Malthonica sardoa Brignoli 1977	FN554786	IT: Sardinia	NMB: AB 580	
Malthonica sicana Brignoli 1976	FN554787	IT: Sardinia	NMB: AB 841	
Malthonica vomeroi (Brignoli 1977)	FN554814	IT: Campania	NMB: AB 734	
Novalena intermedia (Chamberlin & Gertsch 1930)	DQ628618	-	-	Spagna & Gillespie (2008)
Tegenaria ariadnae Brignoli 1984	FN554769	GR: Crete	NMB: AB 845	
Tegenaria ariadnae Brignoli 1984	FN554821	GR: Crete	NMB: AB 974	
Tegenaria agrestis (Walckenaer 1802)	FN554804	DE: Baden-Württemberg	NMB: AB 252	identical haplotype as a specimen from CZ
Tegenaria agrestis (Walckenaer 1802)	FN554816	US: Washington	NMB: AB 880	identical haplotype as a specimen from DE
Tegenaria atrica C.L. Koch 1843	FN554801	ES: Catalonia	NMB: AB 570	
Tegenaria atrica C.L. Koch 1843	FN554805	SE: Uppsala	NMB: AB 610	identical haplotype as specimens from CH and DE
Tegenaria domestica (Clerck 1757)	FN554817	US: Washington	NMB: AB 885	
Tegenaria domestica (Clerck 1757)	FN554808	CH: Basel	NMB: AB 217	identical haplotype as specimens from CN, PT and US
Tegenaria feminea Simon 1870	FN554783	PT: Algarve	NMB: AB 587	
Tegenaria henroti Dresco 1956	FN554771	IT: Sardinia	NMB: AB 584	
Tegenaria herculea Fage 1931	FN554788	ES: Andalusia	NMB: AB 576	
Tegenaria incognita Bolzern, Crespo & Cardoso 2009	FN554784	PT: Lisbon	NMB: NMB-2805c	
Tegenaria mirifica Thaler 1987	FN554775	CH: Grisons	NMB: AB 367	
Tegenaria parietina (Fourcroy 1785)	FN554778	GR: Crete	NMB: AB 864	

Table 5.—Continued.

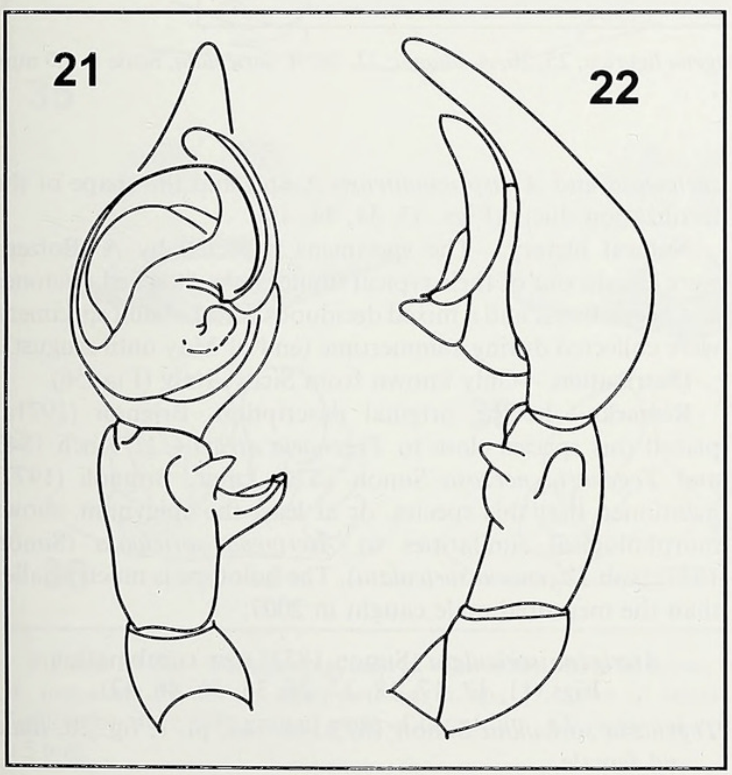
Taxon name	Accession #	Specimen origin	Voucher specimen	Comments / Reference
Tegenaria parietina (Fourcroy 1785)	FN554807	IT: Sicily	NMB: AB 816	identical haplotype as a specimen from DE
Tegenaria parmenidis Brignoli 1971	FN554773	IT: Calabria	NMB: AB 820	
Tegenaria parmenidis Brignoli 1971	FN554809	IT: Campania	NMB: AB 811	
Tegenaria parmenidis Brignoli 1971	FN554810	IT: Calabria	NMB: AB 732	
Tegenaria parmenidis Brignoli 1971	FN554812	IT: Campania	NMB: AB 834	
Tegenaria saeva Blackwall 1844	FN554782	FR: Morbihan	NMB: AB 289	
Tegenaria saeva Blackwall 1844	FN554813	ES: Pais	NMB: AB 668	
Tegenaria sp.	FN554779	GR: Rhodes	Coll.van Keer: 2617	
Tegenaria tridentina L. Koch 1872	FN554776	CH: Grisons	NMB: AB 375	
Textrix caudate L. Koch 1872	FN554803	IT: Lazio	NMB: AB 749	
Textrix cf. caudata	FN554796	IT: Lazio	NMB: AB 467	
Textrix denticulata (Olivier 1789)	FN554794	CH: Basel-Land	NMB: AB 216	
Wadotes dixiensis Chamberlin 1925	DQ628623	-	-	Spagna & Gillespie (2008)

Bolzern & Mühlethaler (NMB, measured); Palermo, Parco Regionale delle Madonie, Monastery close to Piano Zucchi (37.987°N, 14.021°E, 792 m): 1 male, 24 May 2007, Bolzern & Mühlethaler (NMB); Siracusa, Noto (360 m): 1 female, 27 July 1995, Pantini & Valle (MSNB). The males collected in May 2007 were juvenile and reached maturity in July 2007 and July 2008.

Description.—As *A. ligurica*, but differing in the following characters:

Male: Carapace 6.78 long, 5.0 wide. Head region 2.62 wide; PER 1.58 wide. Chelicerae 2.82 long, 1.27 wide. Labium as long as wide or slightly longer than wide. Sternum 3.27 long, 2.61 wide. Opisthosoma 5.82 long, 3.54 wide. Ratio bulb length (laterally from cymbium base to conductor tip) to cymbium length: 0.66. Leg measurements:

	fe	pa	ti	mt	ta	total
palp	2.33	0.92	1.06	-	2.71	7.02
I	6.12	2.40	5.46	6.75	3.85	24.58
II	6.18	2.52	5.60	7.30	3.75	25.35
III	6.12	2.46	4.95	7.20	3.60	24.33
IV	7.90	2.36	6.53	10.10	4.10	30.99



Figures 21, 22.—Left male palp of *Aterigena aculeata*, modified from Wang, 1992:287, figs. 2–3.

Female: Carapace 5.3 long, 3.65 wide. Head region 2.25 wide; PER 1.30 wide. Chelicerae 2.24 long, 1.10 wide. Labium as long as wide or somewhat longer than wide. Gnathocoxa ratio width to length: 0.6. Sternum 2.61 long, 2.12 wide. Opisthosoma 6.0 long, 3.6 wide. Epigynal plate 0.84 long, 1.05 wide; atrium 0.26 long, 0.22 wide. Receptacula 0.33 wide. Leg measurements:

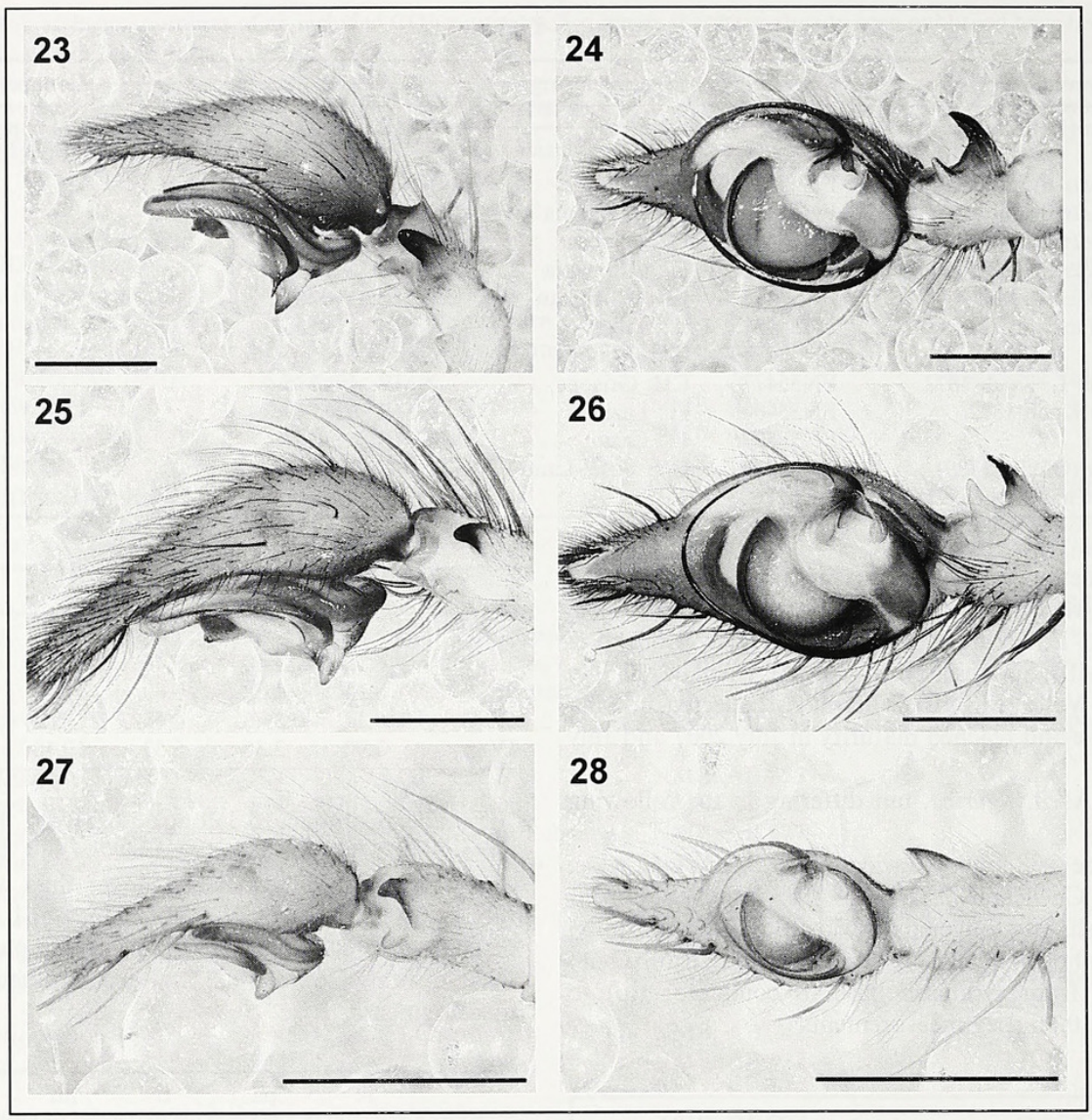
	fe	pa	ti	mt	ta	total
palp	1.71	0.81	1.06	-	1.85	5.43
I	4.27	1.81	3.38	3.85	2.23	15.54
II	4.15	1.79	3.09	3.81	2.21	15.05
III	4.00	1.70	2.97	3.96	2.00	14.63
IV	5.00	1.90	4.20	5.75	2.50	19.35

Eyes: In frontal view PER procurved and AER slightly procurved (Fig. 9). Diameters: PME: 0.19–0.23; PLE: 0.21–0.31; AME: 0.19–0.29; ALE: 0.29. Distances: PME–PME equal to diameter of PME; PME–PLE more than diameter of PME; PME–ALE about 1.5 diameter of PME. Clypeus height (measured under AME) less than 2.5 times diameter of AME; (measured under ALE) about 1.5 times diameter of ALE.

Coloration: two longitudinal symmetric darkened bands on carapace, interrupted and sometimes reduced to triangular dots, intensified by white and black plumose hairs. Opisthosoma with red-brown median band, slightly paler than in *A. ligurica* (Fig. 10).

Additional somatic characters: Distal segment of PLS slightly longer than basal segment, both very weakly darkened. Formulae of leg spination listed in Table 3.

Male palp (*Figs. 15, 16, 25, 26*): Embolus originating (free apex) between 7 and 8 o'clock position. Conductor as long as the alveolus. Median apophysis originating between 4 and 5 o'clock position.



Figures 23–28.—Male palp in retrolateral and ventral view. 23, 24. *Aterigena ligurica*; 25, 26. *A. aliquoi*; 27, 28. *A. soriculata*. Scale = 1.0 mm.

Epigynum and vulva (*Figs. 33, 34, 44, 45*): Epigynal plate sclerotized with a distinct atrium, reversed trapezoid in shape; anterior margin of atrium continuous change from sclerotized epigynal plate to membranous white skin. Ground plate of the atrium transversally divided: anterior part membranous and oval; posterior part forming strongly sclerotized semicircular bar. Receptacula visible through plate. Copulatory openings barely visible as gaps, located medial of atrium. Receptacula large, globular, touching each other; fertilization ducts very long and strongly convoluted.

Comparison to other species.—The male of *A. aliquoi* can be separated from *A. ligurica* by the relation of bulb length to cymbium length (cymbium tip from alveolus to distal end is relatively shorter in *A. ligurica*), the relatively straight distal apex of conductor (distinctly bent in *A. ligurica*), the more slender dorsal branch of the RTA (broader in *A. ligurica*) and the slightly longer lateral branch of RTA (Figs. 15, 16, 25, 26). The female can easily be separated from all other species by the divided ground plate of the atrium in a pale larger oval anterior part and a semicircular posterior bar (not divided in *A. ligurica* and *A. aculeata*; anterior part semicircular in *A. soriculata* and *A. aspromontensis* n. sp.) and the shape of the fertilization ducts (Figs. 33, 34, 44, 45).

Natural history.—The specimens collected by A. Bolzern were caught out of their typical funnel webs attached to stones in a beech forest and a mixed deciduous forest. Adult specimens were collected during summertime (end of May until August).

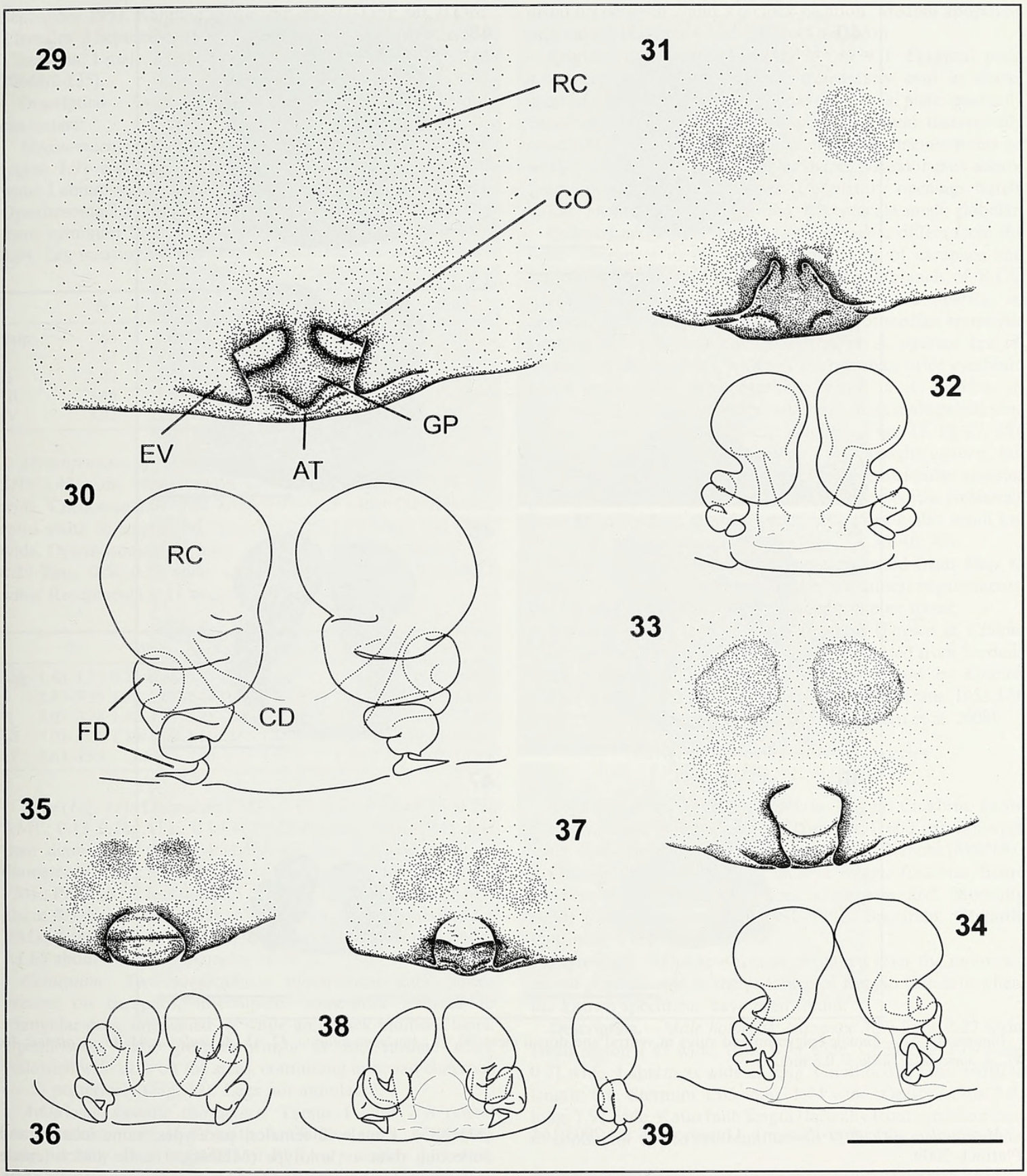
Distribution.—Only known from Sicily, Italy (Fig. 56).

Remarks.—In the original description, Brignoli (1971a) placed this species close to *Tegenaria atrica* C.L. Koch 1843 and *Tegenaria nervosa* Simon 1870. Later, Brignoli (1977) mentioned that this species, or at least the epigynum, shows morphological similarities to *Aterigena soriculata* (Simon 1937) (sub *Tegenaria soriculata*). The holotype is much smaller than the measured male caught in 2007.

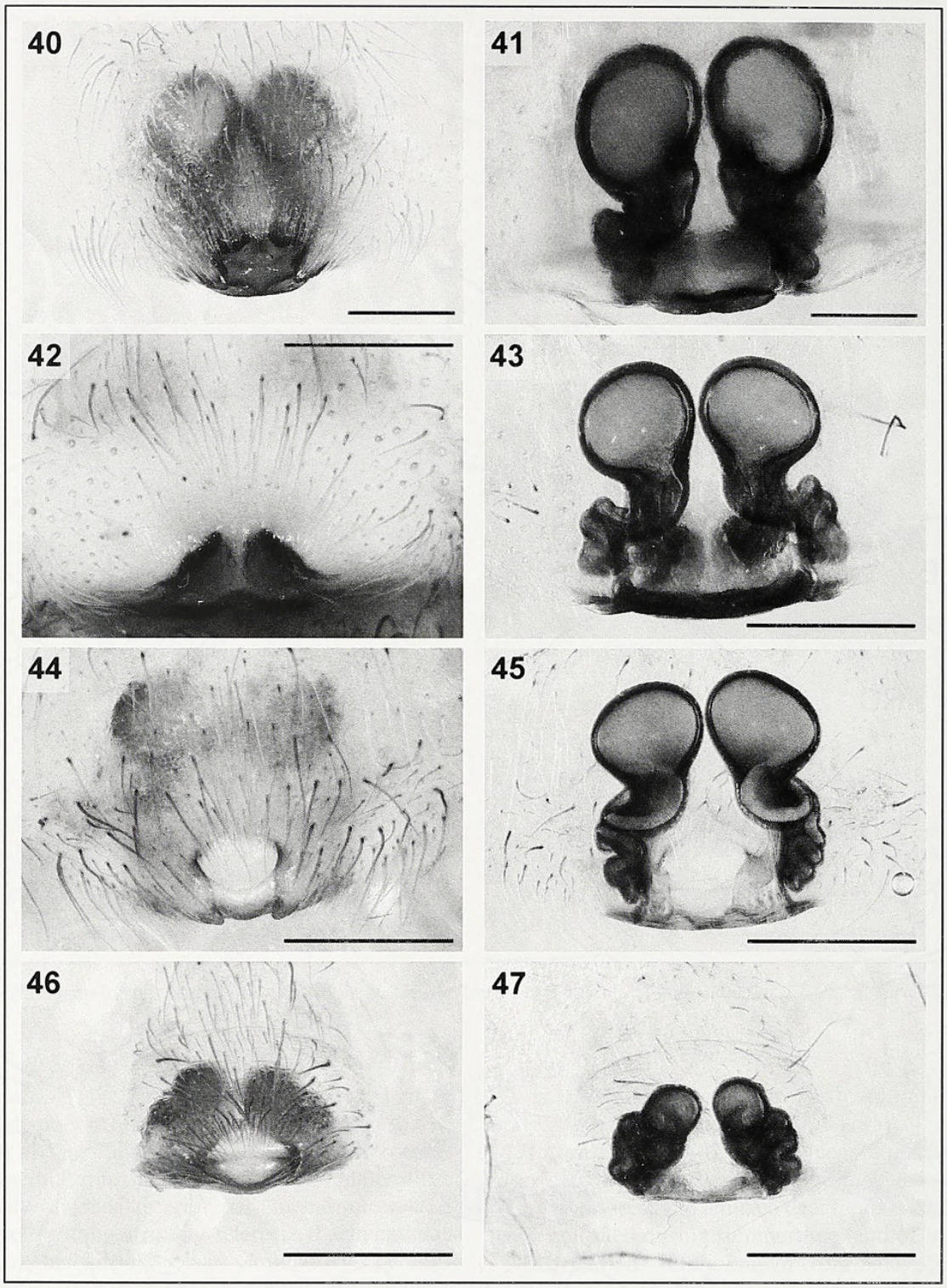
Aterigena soriculata (Simon 1873) new combination
Figs. 11, 12, 17, 18, 27, 28, 35, 36, 46, 47

Tegenaria soriculata Simon 1873:144–146, pl. 1, fig. 20, male and female.

Tegenaria cyrnea Brignoli 1974:392–393, male and female, synonymized by Dresco & Célérier 1979:230.



Figures 29–39.—Female epigynum in ventral and vulva in dorsal view. 29, 30. *Aterigena ligurica*; 31, 32. *A. aculeata*; 33, 34. *A. aliquoi*; 35, 36. *A. soriculata*; 37, 39. *A. aspromontensis* n. sp.; 39, vulva in lateral view. AT: atrium; CD: copulatory duct; CO: copulatory opening; FD: fertilization duct; GP: ground plate of the atrium; EV: epigynal vertices projection of lateral margin of the atrium; RC: receptacula. Scale = 0.5 mm.



Figures 40–47.—Female epigynum and vulva in ventral and dorsal view. 40, 41. *Aterigena ligurica*; 42, 43. *A. aculeata*; 44, 45. *A. aliquoi*; 46, 47. *A. soriculata*. Scale = 0.5 mm.

Malthonica soriculata (Simon): Guseinov et al. 2005:164; Platnick 2009.

Type material.—Several specimens in the collection of the MNHN were found in the jar labeled "1967" and containing several unlabeled vials. According to Dresco & Célérier (1979) these represent Simon's syntypes. The samples contain one male and several females with dissected and removed epigynes that were not traceable. Sub *Tegenaria cyrnea* Brignoli: FRANCE: *Corsica*: Poggiolo: Holotype male, summer 1922 (MHNG); 1 male, 2 females, paratypes, same locality and collecting data as holotype (MHNG, 1 male and 1 female measured).

Other material.—FRANCE: *Corsica*: Forêt de Valdo Niello: 5 females, 7 juv., 22 May 1974 (NHMW); Haute-Corse, Corte, Gorge de la Restonica (42.3N, 9.1333E): 1 female, 1 June 1999, van Keer (KK, Nr. 1917, measured); Col de Vizzavona: 1 female, 2 September 1953, Kahman (SMF, Nr. 8937/1-135); Mt. S. Pietro at Morosaglia: 1 female, 22

September 1953, Kahman (SMF, Nr. 8938/1-135); Mt. d'Oro: 2 females, 3 September 1953, Kahman (SMF, Nr. 8936/2-135); Vizzavona: 1 male, 1 female, 29 April 1928, Wiehle (SMF, Nr. 20668/2-135).

Description.—As *A. ligurica*, but differing in the following characters:

Measurements of male: Carapace 4.47 long, 3.23 wide. Head region 1.91 wide; PER 1.0 wide. Chelicerae 2.06 long, 0.91 wide. Labium wider than long. Sternum 2.24 long, 1.86 wide. Opisthosoma 3.42 long, 1.88 wide. Ratio bulb length (laterally from cymbium base to conductor tip) to cymbium length: 0.64. Leg measurements:

	fe	pa	ti	mt	ta	total
palp	1.64	0.66	0.74	-	1.37	4.41
I	3.63	1.68	3.11	3.46	2.09	13.97
II	3.49	1.53	2.72	3.12	2.10	12.96
III	3.49	1.50	2.60	3.64	1.99	13.22
IV	3.92	1.63	3.52	4.79	2.31	16.17

Measurements of females ($n = 2$)*:* Carapace 4.14–5.07 long, 2.93–3.48 wide. Head region 1.56–2.16 wide; PER 0.93–1.0 wide. Chelicerae 2.02–2.22 long, 0.97–1.05 wide. Gnathocoxa ratio width to length: 0.6. Sternum 2.29–2.57 long, 1.81–2.02 wide. Opisthosoma 5.99 long, 3.71 wide. Epigynal plate 0.36–0.39 long, 0.56–0.59 wide; atrium 0.16–0.18 long, 0.23–0.27 wide. Receptacula 0.17 wide. Leg measurements:

	fe	pa	ti	mt	ta	total
palp	1.48–1.73	0.71–0.86	0.88–1.00		1.53–1.75	4.60–5.34
I	2.87–3.39	1.38–1.67	2.44–2.78	2.57–2.98	1.82–1.98	11.08–12.8
II	3.03–3.28	1.42–1.57	2.21–2.4	2.45–2.95	1.56–1.85	10.67–12.05
III	3.07–3.31	1.39–1.62	2.1–2.33	2.46–3.37	1.64–1.73	10.66–12.36
IV	3.63–3.93	1.64	3.00–3.17	3.91–4.57	1.89–2.26	14.07–13.93

Eyes (*Fig. 11*)*:* Diameter: PME: 0.17–0.18; PLE: 0.18–0.21; AME: 0.13–0.18; ALE: 0.19–0.21. Distances: PME–PME less than diameter of PME; PME–AME less than or equal to diameter of PME; PME–PLE less than or equal to diameter of PME; PME–ALE less than 1.5 diameter of PME; AME–AME about 0.5 diameter of AME. Clypeus height (measured under AME) less than 2.5 times diameter of AME; (measured under ALE) about 1.5 times diameter of ALE.

Coloration: Two longitudinal symmetrical dark bands present on carapace, interrupted, sometimes reduced to triangular dots, intensified by white and black plumose hairs. Opisthosoma dark green-brownish, at the cardiac mark yellowish with dots on the sides, continuing in broad chevrons (~ 5) posteriorly (Fig. 12). Legs not annulated.

Additional somatic characters: Tarsus I with 7–8 dorsal trichobothria, tarsi II–IV with 7. Colulus dark, sometimes only partially. Both segments of PLS very weakly darkened. PMS slightly smaller than ALS. The formulae of leg spination are listed in Table 3.

Male palp (*Figs. 17, 18, 27, 28*)*:* RTA with large dorsal branch, distally truncated and strongly sclerotized; lateral branch developed as a weakly sclerotized point. Embolus originating (free apex) between 7 and 8 o'clock position; length (only free apex) less than 1.75 times cymbium width; distal tip between 2 and 3 o'clock position. Median apophysis originating between 4 and 5 o'clock position.

Epigynum and vulva (*Figs. 35, 36, 46, 47*)*:* Epigynal plate sclerotized with distinct atrium, transversely oval in shape; anterior margin of atrium sclerotized at epigynal plate, gradually becoming membranous. Ground plate of atrium transversally subdivided by straight groove: anterior part membranous or weakly sclerotized, semicircular in shape; posterior part sclerotized, forming semicircular bar. Copulatory openings barely visible, located medially of atrium. Receptacula small, globular.

Comparison to other species.—*A. soriculata* differs from the other congeners in the smaller dimensions of carapace and cymbium; in the ventral margin of dorsal branch of RTA, which is slightly bent ventrally (straight in *A. ligurica*, *A. aculeata* and *A. aliquoi*); in the distal plate of median apophysis (simpler and relatively narrower than in *A. ligurica* and *A. aliquoi*); in the embolus, which is shorter than twice cymbium width (more than twice cymbium width in *A. ligurica*, *A. aculeata* and *A. aliquoi*); in the relatively short male palpal tibia (much longer in *A. aspromontensis* n. sp.) (Figs. 17, 18, 27, 28); in the transversally divided atrium (by straight groove, but curved in *A. aspromontensis* n. sp.) with semicircular anterior part and relatively small and globular receptacula (relatively large in *A. ligurica*, *A. aculeata* and *A. aliquoi*, also small but oval in *A. aspromontensis* n. sp.) (Figs. 35, 36, 46, 47).

Natural history.—Adult specimens collected from May to October. Little information available on habitat requirements. One specimen collected under stones in a pine forest.

Distribution (Fig. 56)**.**—Corsica (France) (Dresco & Célérier 1979; Simon 1873). The species was also reported from Sardinia (Italy) (Garneri 1902; Kraus 1955). The record by Garneri (1902:72) was unavailable for study. Material by Kraus (1955:379, SMF-Nr. 9110) concerns *T. parietina* (cf. Bolzern et al. 2008).

Aterigena aspromontensis new species
Figs. 19, 20, 37–39, 48–55

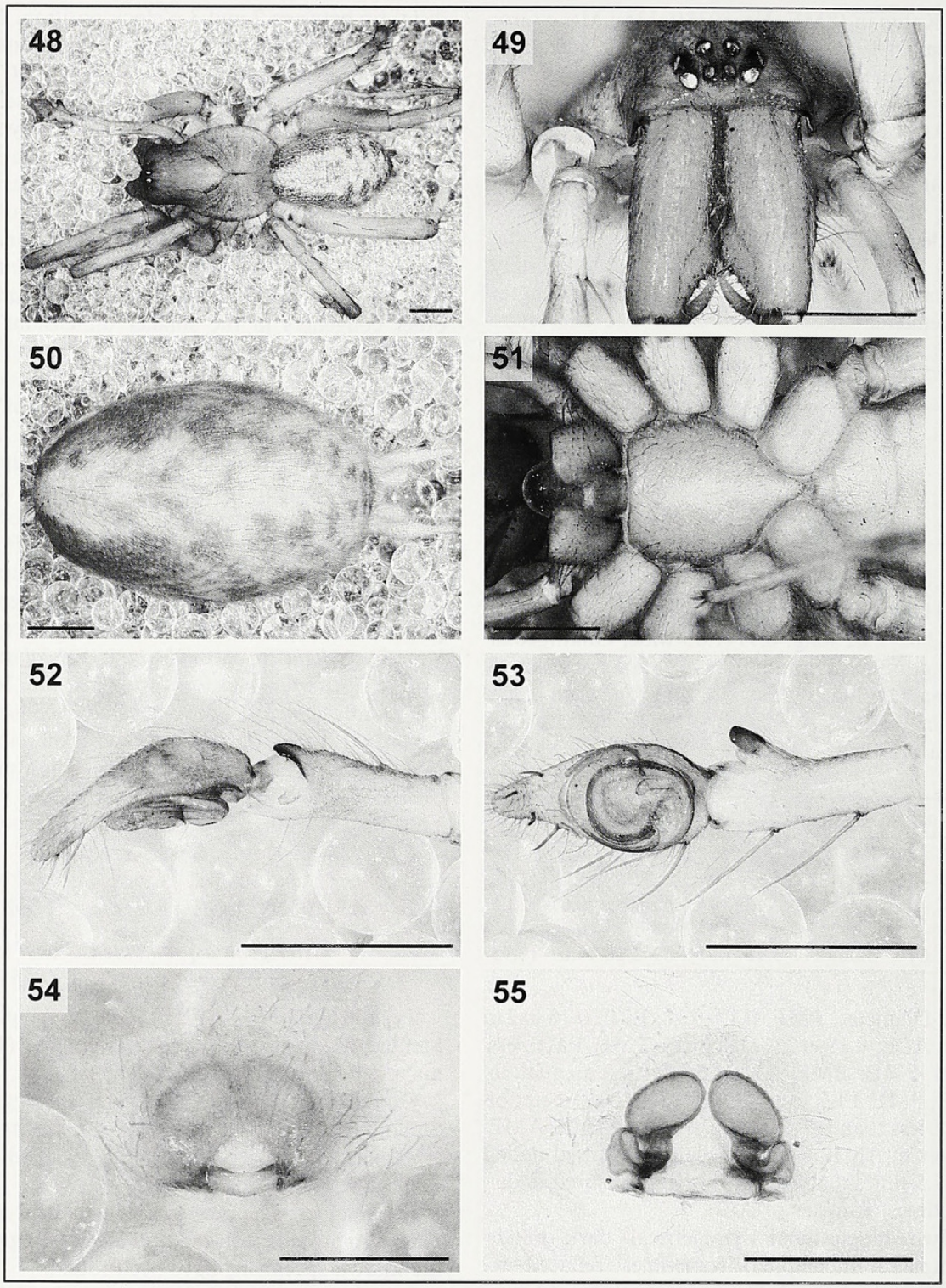
Type material.—ITALY: *Calabria*: Reggio Calabria, Santo Stefano d'Aspromonte, above Gambarie (1600 m): holotype male, 5 female paratypes, 18 August 1978, Bianchi (MSNB).

Other material.—ITALY: *Calabria*: Reggio Calabria, Santo Stefano d'Aspromonte, between Gambarie and Montalto (1500 m): 3 females, June 1990–1991, Buttarelli, Ghilardi, Pantini & Valle (MSNB).

Etymology.—The new species is named after the mountain massif Aspromonte in the province of Reggio Calabria where the known specimens have been found.

Description.—*Male holotype:* carapace 3.27 long, 2.27 wide. Head region 1.45 wide; PER 0.75 wide. Chelicerae 1.69 long, 0.71 wide. Labium as wide as long. Gnathocoxa ratio width to length: 0.6. Sternum 1.65 long, 1.44 wide. Opisthosoma 3.03 long, 1.91 wide. Ratio bulb length (laterally from cymbium base to conductor tip) to cymbium length: 0.73. Leg measurements:

	fe	pa	ti	mt	ta	total
palp	1.63	0.67	0.92	-	1.06	4.28
I	2.52	1.15	2.12	2.48	1.64	9.91
II	2.48	1.09	1.91	2.42	1.51	9.41
III	2.52	1.03	1.94	2.73	1.49	9.71
IV	3.03	1.09	2.64	3.64	1.82	12.22



Figures 48–55.—*Aterigena aspromontensis* n. sp. 48. Habitus, male holotype; 49. Face, male holotype; 50. Opisthosoma, female paratype; 51. Sternum, male holotype; 52. Left male palp, retrolateral view; 53. Left male palp, ventral view; 54. Epigynum, ventral view; 55. Vulva, dorsal view. Scales: 48–53 = 1.0 mm, 54, 55 = 0.5 mm.

Female paratypes (*n* = 5): carapace 3.13–4.26 long, 2.10–2.76 wide. Head region 1.50–1.95 wide; PER 0.75–0.95 wide. Chelicerae 1.6–2.0 long, 0.7–1.0 wide. Labium as long as wide. Gnathocoxa ratio width to length: 0.6–0.7. Sternum 1.75–2.20 long, 1.55–1.95 wide. Opisthosoma 4.75–5.00 long, 3.1–3.4 wide. Epigynal plate 0.49–0.57 long, 0.61–0.73 wide; atrium 0.16–0.17 long, 0.18–0.19 wide. Receptacula 0.24 wide. Leg measurements:

	fe	pa	ti	mt	ta	total
palp	1.27–1.51	0.60–0.70	0.77–1.00	-	1.33–1.52	3.97–4.73
I	2.50–2.94	1.13–1.40	1.88–2.33	2.00–2.58	1.42–1.76	6.93–8.43
II	2.27–2.85	1.06–1.24	1.61–2.06	1.82–2.49	1.45–1.58	6.39–7.73
III	2.21–2.76	1.00–1.27	1.58–1.91	2.24–2.72	1.30–1.55	6.09–7.49
IV	2.79–3.48	1.12–1.39	2.33–2.91	3.12–3.88	1.64–1.91	7.88–9.69

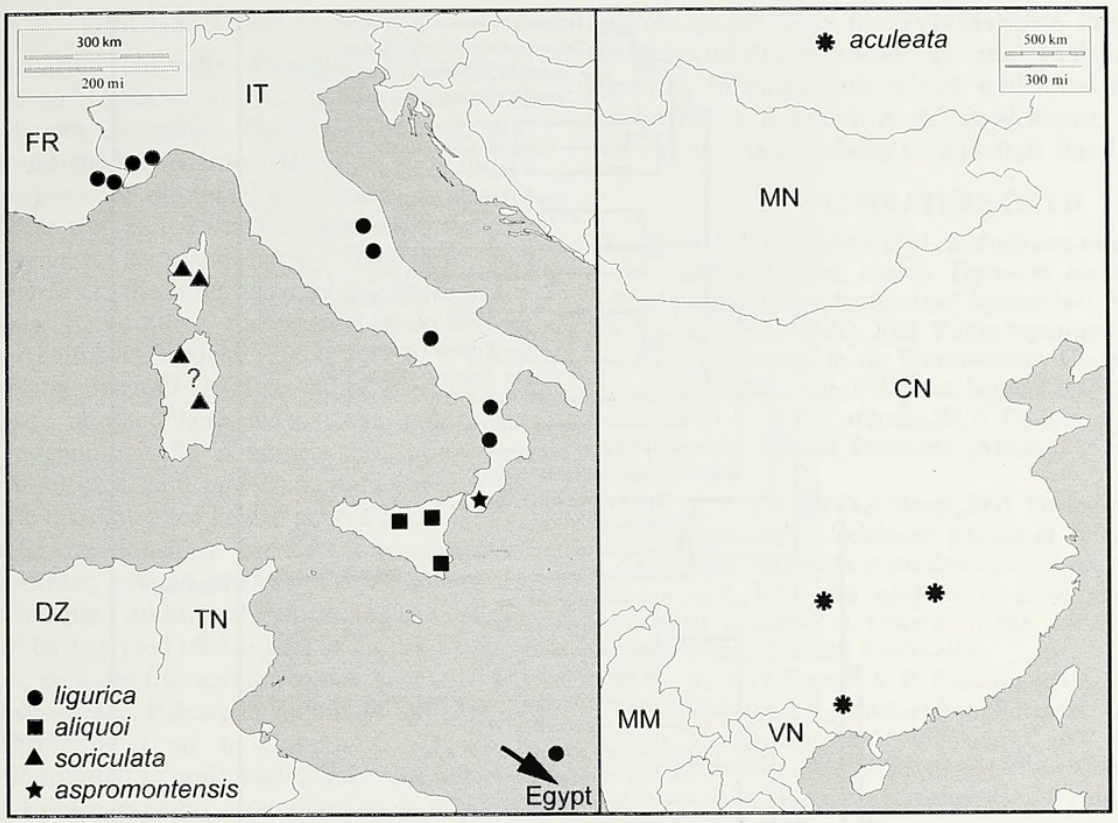


Figure 56.—Known sites of *Aterigena* n. gen.. *A. ligurica* also mentioned from "Hispania". Digital map provided by http://histgeo.ac-aix-marseille.fr.

Eyes: In dorsal view both eye rows straight or slightly recurved; in frontal view PER procurved and AER straight or slightly procurved (Fig. 48). Diameters: PME: 0.124–0.143; PLE: 0.143–0.162; AME: 0.095–0.133; ALE: 0.143–0.162. Distances: PME–PME less than diameter of PME; PME–AME less than diameter of PME; PME–PLE equal to diameter of PME; PME–ALE less than 1.5 diameter of PME; AME–AME about 0.5 times diameter of AME or slightly more; AME–ALE about 0.5 times diameter of AME. Clypeus height (measured under AME) less than 2.5 times diameter of AME; (measured under ALE) less than 1.5 times diameter of ALE.

Coloration: Margin of carapace narrowly and continuously dark; two longitudinal symmetrical dark bands on carapace, interrupted and sometimes reduced to triangular dots. Sternum with indistinct light median band (Fig. 50). Opisthosoma dark green-grayish, anteriorly with two light and partially fused bands, continuing in fused chevrons posteriorly (Fig. 49). Legs weakly annulated, hardly visible on femora ventrally.

Additional somatic characters: distal margin of labium weakly concave. Plumose hairs present on carapace, legs and opisthosoma. Promargin with 4 teeth, second one from proximal largest; retromargin with 4–5, most proximal tooth biggest. Trochanter III and IV notched. Tarsus I with 5–8 dorsal trichobothria, tarsi II–IV with 6–8. Colulus forming rectangular plate, pale, distal margin straight. PLS longer than all others with distal segment shorter than or as long as basal segment, both darkened. PMS as long as ALS. ALS not darkened. The formulae of leg spination are listed in Table 3.

Male palp (*Figs. 19, 20, 51, 52*): RTA with big dorsal branch, distally truncated and strongly sclerotized; lateral branch developed as weakly sclerotized digitiform appendix; ventral branch forming weakly developed rounded ridge. Embolus originating (free apex) between 8 and 9 o'clock position; length (only free apex) less than 1.75 times width of cymbium; distal tip at 2 o'clock position. Conductor lamella-like, distally only weakly elongate (parallel to cymbium), very weakly arched and laterally folded along entire length; shorter than alveolus; distally not reaching beyond distal margin of alveolus; terminal end forming sclerotized peak, pointing ventrally (in retrolateral view). Connection of conductor and tegulum membranous. Median apophysis consisting of membranous base and thin, broad sclerotized distal plate, spoon-like, originating between 4 and 5 o'clock position; protruding ventrodistally (MA on left palp of holotype slightly retracted, probably due to desiccation; see Figs. 19, 20); basi slightly smaller than median apophysis long.

Epigynum and vulva (*Figs. 37, 39, 53, 54*): Epigynal plate sclerotized with distinct atrium, transversely oval in shape; anterior margin of atrium gradually changing from sclerotized epigynal plate to membranous structure; atrium reaching posteriorly epigastral furrow. Ground plate of atrium transversally subdivided (slightly concave medially): anterior part membranous or weakly sclerotized, semicircular in shape; posterior part stronger sclerotized forming semicircular band. Lateral margin of atrium with elongated vertices. Receptacula visible through plate. Copulatory openings indistinct, located medially of atrium. Copulatory duct short, straight; receptacula small, oval or globular; fertilization ducts short, weakly convoluted.

Comparison to other species.—*A. aspromontensis* differs from other *A.* spp. as indicated in the key (also see discussion of *A. soriculata*). Male *A. aspromontensis* n. sp. can be

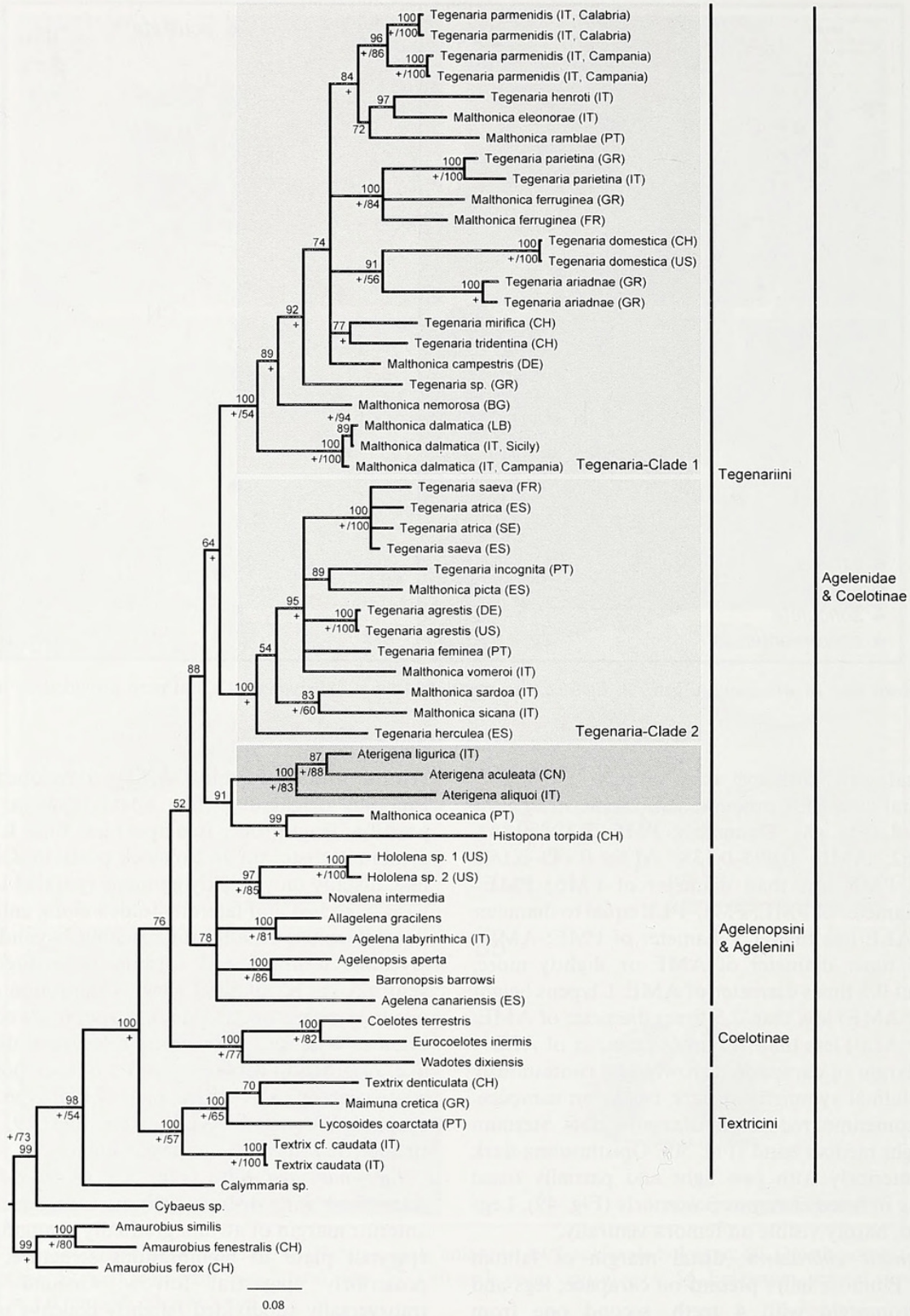


Figure 57.—Cladogram of Tegenariini from Bayesian analysis of CO1 sequences. Only clades supported by a posterior probability larger than 50% are shown (values given at each node). Clades present in maximum parsimony analysis are indicated by "+". Values after slash indicate Bootstrap values higher than 50%. The nomenclature strictly follows Platnick (2010).

separated from those of *A. soriculata* by shorter and smaller distal apex of conductor and relatively long palpal tibia (much shorter in *A. soriculata*) (Figs. 19, 20, 51, 52). Females can be separated from *A. soriculata* by transverse dividing groove of atrium being slightly concave (straight in *A. soriculata*), oval-shaped receptacula and only weakly convoluted and short fertilization ducts (stronger convoluted and longer in *A. soriculata*) (Figs. 37–39, 53, 54).

Natural history.—No information available.

Distribution.—Calabria (Italy) (Fig. 56).

DISCUSSION

The tribe Tegenariini currently comprises six nominal genera in addition to *Aterigena* n. gen., which is described here. *Aterigena* n. gen. resembles *Hadites*, *Histopona* and *Malthonica* in the notched trochanters III and IV. It differs from them in the presence of dorsal and lateral spines on patellae III and IV as well as 1–2 ventral spines on tarsus IV. In erecting *Aterigena* n. gen. and hereby removing some species from *Tegenaria* s.l., the latter becomes morphologically more homogeneous. In addition, the narrow definition of *Malthonica* by Barrientos & Cardoso (2007) and the concept of *Pseudotegenaria* by Brignoli (1971a), rather than that of Lehtinen (1967), are adopted here. With these actions the genera become morphologically compact and, above all, diagnosable. Morphological and molecular data support the monophyly of these taxa (also see key to genera and Fig. 57).

The phylogenetic relationships between the genera of Tegenariini, in contrast, remain unclear. For resolving the intrageneric relationships, additional morphological characters and genes will be analyzed (Bolzern et al. in prep.).

Aterigena n. gen. includes five species, which have a widely disjunct distribution in the Palearctic region (4 spp. in the Mediterranean Basin and 1 sp. in China). *A. ligurica* is relatively widely distributed in continental Italy and adjacent areas of Southern France, possibly also in Spain; *A. aliquoi* is endemic to Sicily; *A. soriculata* to Corsica (maybe also Sardinia) and *A. aspromontensis* n. sp. to Calabria (Fig. 56). Two female specimens of *A. ligurica* are reported from outside Italy and France. One specimen is recorded from Spain without further information. Additional collecting is necessary to confirm its occurrence in Spain. The second specimen is reported from Alexandria (Egypt), which may be the result of inadvertent human introduction.

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