



# SUPLEMENTOS DEL BOLETÍN DE LA ASOCIACIÓN ESPAÑOLA DE ENTOMOLOGÍA

A STUDY OF THE GENUS *TIMARCHA* SAMOUELLE, 1819:  
THE SPECIES FROM THE SOUTH OF THE IBERIAN PENINSULA  
(COLEOPTERA, CHRYSOMELIDAE)



JOSÉ MIGUEL VELA AND MAURO DACCORDI

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José Alberto Tinaut Ranera y Carmen Zamora Muñoz  
Departamento de Zoología  
Facultad de Ciencias. Universidad de Granada  
18071 Granada.  
hormiga@ugr.es; czamora@ugr.es

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**A study of the genus *Timarcha* Samouelle, 1819:  
the species from the South of the Iberian Peninsula  
(Coleoptera, Chrysomelidae)**

**Estudio del género *Timarcha* Samouelle, 1819:  
las especies del sur de la península ibérica  
(Coleoptera, Chrysomelidae)**

JOSÉ-MIGUEL VELA<sup>1</sup> AND MAURO DACCORDI<sup>2</sup>

**SUMMARY**

The species of *Timarcha* Samouelle, 1819 living in the South of the Iberian Peninsula are reviewed basing on the available types. We have recognized twelve species-group taxa: *Timarcha apricaria* ssp. *apricaria* Waltl, 1835, *T. apricaria* ssp. *heydeni* Weise, 1882, *T. apricaria* ssp. *parvicollis* Rosenhauer, 1856, *T. granadensis* Bechyně, 1948, *T. insparsa* Rosenhauer, 1856, *T. intermedia* ssp. *intermedia* Herrich-Schäffer, 1838, *T. intermedia* ssp. *lugens* Rosenhauer, 1856, *T. kiesenwetteri* ssp. *kiesenwetteri* Kraatz, 1879, *T. kiesenwetteri* ssp. *sagrensis* Kuntzen, 1911, *T. marginicollis* Rosenhauer, 1856, *T. scutellaris* Waltl, 1835 and *T. strophium* ssp. *carmelena* Petitpierre, 2013. Other two taxa studied here, *Timarcha apricaria* ssp. *melitensis* Weise, 1882 and *T. strophium* ssp. *strophium* Weise, 1888, are spread all around North Morocco (Rif) and Central-Eastern Spain (Cuenca and Teruel) respectively.

The identity of the long-time unknown *T. apricaria* and *T. scutellaris* has been re-established. *Timarcha heydeni*, *T. parvicollis* and *T. melitensis* have been downgraded to a subspecific rank of *T. apricaria*, and *T. carmelena* has been downgraded to a subspecific rank of *T. strophium*. *Timarcha lugens* is confirmed as a subspecies of *T. intermedia*, and *T. kiesenwetteri* ssp. *sagrensis* is tentatively maintained as a subspecies until more specimens will be available.

The following new synonyms are proposed: *Timarcha apricaria* ssp. *apricaria* = *T. coarcticollis* Fairmaire & Allard, 1873, nov. syn. = *T. paulinoi* Kraatz, 1879, nov. syn. = *T. parvicollis* ssp. *nitentula* Bechyně, 1953, nov. syn. *Timarcha apricaria* ssp. *parvicollis* = *T. seidlitzii* Kraatz, 1879, nov. syn. = *T. parvicollis* ssp. *elocata* Bechyně,

1953, nov. syn. *Timarcha apricaria* ssp. *melitensis* = *T. riffensis* Fairmaire, 1888, nov. syn. *Timarcha intermedia* ssp. *lugens* = *T. parnassia* Weise, 1882 nov. syn. = *T. nevadensis* Fairmaire, 1884, nov. syn. *Timarcha scutellaris* = *T. hispanica* Herrich-Schäffer, 1838, nov. syn. = *T. rugipennis* Perez Arcas, 1865, nov. syn. = *T. erosa* Fairmaire & Allard, 1873, nov. syn. = *T. vermiculata* Fairmaire, 1880, nov. syn. = *T. laevisterna* Fairmaire, 1880, nov. syn. = *T. transversicollis* Fairmaire 1884, nov. syn. *Timarcha strophium* ssp. *strophium* = *T. fossulata* Bechyně, 1944, nov. syn. *Timarcha splendida* Pérez-Arcas, 1872 and *T. sericea* var. *escalerae* Kuntzen, 1911, are confirmed as synonyms of *T. marginicollis* Rosenhauer, 1856. *Timarcha strophium* Weise, 1888 has been redescribed basing on the types. The type series of *Timarcha granadensis* ssp. *dislocata* Bechyně, 1948 is made up by two species: one of them is *T. granadensis*; the other is a species from Central-Eastern Spain close to *T. sobrina* Fairmaire, 1884.

Neotypes have been designated for *Timarcha hispanica*, *T. intermedia* and *T. scutellaris*. Lectotypes have been designated for *Timarcha apricaria*, *T. erosa*, *T. granadensis*, *T. heydeni*, *T. insparsa*, *T. kiesenwetteri*, *T. laevisterna*, *T. lugens*, *T. melitensis*, *T. nevadensis*, *T. parnassia*, *T. parvicollis* ssp. *elocata*, *T. parvicollis* ssp. *nitentula*, *T. paulinoi*, *T. riffensis*, *T. rugipennis*, *T. seidlitzii*, *T. sericea*, *T. splendida*, *T. strophium* and *T. vermiculata*. *Timarcha apricaria* Gistel, 1832 and *T. angulicollis* Motschulsky, 1849 are considered *nomina dubia*, and two species described as native of Andalusia, *T. gravis* Rosenhauer, 1856 and *T. rugosula* Rosenhauer, 1856, are alien to the Iberian fauna.

**Key Words:** Leaf beetles, Chrysomelinae, nomenclature, taxonomy, synonyms, Europe, Spain, Portugal, Morocco.

<sup>1</sup> Instituto Andaluz de Investigación y Formación Agrícola y Pesquera (IFAPA), Entomología Agraria, Cortijo de la Cruz, 29140 Málaga, Spain. Email: josem.vela@juntadeandalucia.es

<sup>2</sup> c/o Museo di Storia Naturale, Lungadige Porta Vittoria 9, 37129 Verona, Italy. Email: daccordimauro@gmail.com

## RESUMEN

Se revisan las especies de *Timarcha* que viven en el sur de la Península Ibérica a través de los tipos disponibles. Se reconocen doce taxones de nivel especie: *Timarcha apricaria* ssp. *apricaria* Waltl, 1835, *T. apricaria* ssp. *heydeni* Weise, 1882, *T. apricaria* ssp. *parvicollis* Rosenhauer, 1856, *T. granadensis* Bechyně, 1948, *T. insparsa* Rosenhauer, 1856, *T. intermedia* ssp. *intermedia* Herrich-Schäffer, 1838, *T. intermedia* ssp. *lugens* Rosenhauer, 1856, *T. kiesenwetteri* ssp. *kiesenwetteri* Kraatz, 1879, *T. kiesenwetteri* ssp. *sagensis* Kuntzen, 1911, *T. marginicollis* Rosenhauer, 1856, *T. scutellaris* Waltl, 1835 y *T. strophium* ssp. *carmelena* Petitpierre, 2013. Otros dos taxones aquí estudiados, *Timarcha apricaria* ssp. *melitensis* Weise, 1882 y *T. strophium* ssp. *strophium* Weise, 1888, se distribuyen por el norte de Marruecos (Rif) y el centro-este de España (Cuenca y Teruel), respectivamente.

Se ha restablecido la identidad de *T. apricaria* y *T. scutellaris*, desconocidas durante mucho tiempo. *Timarcha heydeni*, *T. parvicollis* y *T. melitensis* se han considerado subespecies de *T. apricaria*, y *T. carmelena* como subespecie de *T. strophium*. *Timarcha lugens* se confirma como subespecie de *T. intermedia*, y *T. kiesenwetteri* ssp. *sagensis* Kuntzen, 1911 se mantiene provisionalmente como subespecie hasta que se puedan evaluar más ejemplares.

Se proponen los siguientes nuevos sinónimos: *Timarcha apricaria* ssp. *apricaria* = *T. coarcticollis* Fairmaire & Allard, 1873, nov. syn. = *T. paulinoi* Kraatz, 1879, nov. syn. = *T. parvicollis* ssp. *nitentula* Bechyně, 1953, nov. syn. *Timarcha apricaria* ssp. *parvicollis* = *T. seidlitzi* Kraatz, 1879, nov. syn. = *T. parvicollis* ssp. *elocata* Bechyně, 1953, nov. syn. *Timarcha apricaria* ssp. *melitensis* = *T. riffensis* Fairmaire, 1888, nov. syn. *Timarcha intermedia* ssp. *lugens* = *T. parnassia* Weise, 1882 nov. syn. = *T. nevadensis* Fairmaire, 1884, nov. syn. *Timarcha scutellaris* = *T. hispanica* Herrich-Schäffer, 1838, nov. syn. = *T. rugipennis* Pérez Arcas, 1865, nov. syn. = *T. erosa* Fairmaire & Allard, 1873, nov. syn. = *T. vermiculata* Fairmaire, 1880, nov. syn. = *T. laevisterna* Fairmaire, 1880, nov. syn. = *T. transversicollis* Fairmaire 1884, nov. syn. *Timarcha strophium* ssp. *strophium* = *T. fossulata* Bechyně, 1944, nov. syn. *Timarcha splendida* Pérez-Arcas, 1872 y *T. sericea* var. *escalerae* Kuntzen, 1911, se confirman como sinónimos de *T. marginicollis* Rosenhauer, 1856. *Timarcha strophium* Weise, 1888 ha sido redescrita basándose en los tipos. La serie tipo de *T. granadensis* ssp. *dislocata* Bechyně, 1948 está formada por dos especies: una de ellas es *T. granadensis*; la otra es una especie del centro-este de España cercana a *T. sobrina* Fairmaire, 1884.

Se han designado neotipos para *Timarcha hispanica*, *T. intermedia* y *T. scutellaris*. Se han designado lectotipos para *Timarcha apricaria*, *T. erosa*, *T. granadensis*, *T. heydeni*, *T. insparsa*, *T. kiesenwetteri*, *T. laevisterna*, *T. lugens*, *T. melitensis*, *T. nevadensis*, *T. parnassia*, *T. parvicollis* ssp. *elocata*, *T. parvicollis* ssp. *nitentula*, *T. paulinoi*, *T. riffensis*, *T. rugipennis*, *T. seidlitzi*, *T. sericea*, *T. splendida*, *T. strophium* y *T. vermiculata*. *Timarcha apricaria* Gistel, 1832 y *T. angulicollis* Motschulsky, 1849 se consideran *nomina dubia*, y dos especies descritas como nativas de Andalucía, *T. gravis* Rosenhauer, 1856 y *T. rugosula* Rosenhauer, 1856, han resultado ajenas a la fauna ibérica.

**Palabras clave:** Crisomélidos, nomenclatura, taxonomía, sinónimos, Europa, España, Portugal, Marruecos.

## INTRODUCTION

Three subgenera are recognized in *Timarcha* Samouelle, 1919: *Timarcha* s. Str., *Metalotimarcha* Motschulsky, 1860 and *Americanotimarcha* Jolivet, 1948. The last one is spread all along the Western coast of U.S.A. (RILEY *et al.*, 2003). *Metalotimarcha* species are distributed throughout the mountains of Central and Southern Europe (including the South of Italy, see BIONDI *et al.*, 1994) and reach the Caucasus. The *Timarcha* s. str., which spreads around North Africa (Maghreb) and a large part of Europe (GÓMEZ-ZURITA & KIPPENBERG, 2010), can be divided in two groups. One of them, with well developed mesoventrite in the shape of two divergent "horns" protruding evidently (figs. 158-181, and figs. 17a-b in PETITPIERRE, 2019), includes the species living in the South of Spain and Portugal. The other group, with a poorly developed, slightly outstanding or flat, mesoventrite (see figs. 17c-d in PETITPIERRE, 2019), not necessarily monophyletic, is spread all around the rest of the general distribution of the subgenus.

The study of the *Timarcha* species in the South of Spain dates back from the journeys of Joseph Waltl in 1829 (GISTEL, 1832a; PERTY, 1879), Pierre-Jules Rambur in 1834-35 (GRASLIN, 1836, 1872), and Wilhelm Gottlob Rosenhauer in 1849 (ROSENHAUER, 1849) to Andalucía, and that of Christian Handschuch in 1847 (MOTSCHULSKY, 1849) to Murcia region. The first described species from Andalucía were *T. apricaria* and *T. scutellaris* by GISTEL (1832b) and WALTTL (1835), respectively. Rambur collected three species reported, but not described, by DEJEAN (1837) (*nomina nuda*), which are *T. baetica*, *T. parnassia* and *T. rugosula*, these last two were subsequently described. Some years later, Handschuch, a traveller and insect dealer (see HANDSCHUCH, 1849), sent (sold?) his Spanish collections to Motschulsky, who described *T. angulicollis*, among many new Coleopteran species, in 1849. As a result of his trip, ROSENHAUER (1856) described *T. gravis* (alien to our fauna), *T. marginicollis*, *T. insparsa*, *T. lugens*, *T. parvicollis* and *T. rugosula* (alien to our fauna). Long before, it is worth mentioning that Johann Centurius Graf von Hoffmannsegg visited the whole of Portugal from 1798 to 1801 as a botanist and entomologist (LINK, 1808; HOFFMANSEGG & LINK, 1809). He collected in "Lusitania" the specimens that GERMAR (1823) described as *Chrysomela geniculata*, *C. chloropus* and *C. scortea* (now in *Timarcha*) which are spread around Central and Northern Portugal, so they will be dealt with elsewhere.

Up to now, 33 available *Timarcha* names of the species-group have been proposed for the fauna of the South of the Iberian Peninsula, which have been revised. In this paper basing on all the descriptions and examination of nearly all the existing types. All of them are species with protruding mesoventrite. Moreover, other Iberian species with well developed, bifurcated mesoventrite comprise *T. balearica* Gory, 1833, from Balearic Islands, *T. fallax* Pérez-Arcas, 1865, distributed all around Eastern Spain, and *T. calceata* Pérez-Arcas, 1865, spread around the mountains of North-Western and Western Spain and neighbouring areas in Portugal (see PETITPIERRE, 2019). The status, nomenclature and diagnosis of the former one were studied by VELA *et al.* (2020) and those of the two latter will be studied elsewhere.

The taxonomy of *Timarcha* has always been a complicated issue since Linnaean times (see DACCARDI *et al.*, 2000; VELA *et al.*, 2000). Probably this peculiar genus constitutes one of the last

frontiers for the knowledge of the Palaearctic Chrysomelidae. The aim of this paper is to clarify the nomenclature and taxonomy of *Timarcha* and tackle the study of the species living in the South of Spain and Portugal.

## MATERIAL & METHODS

The study area includes the districts of Faro, Beja and South of Setúbal (regions of Algarve and south Alentejo) in Portugal, and Andalucía and Murcia in Spain, which are approx. under latitude 38.25° N (fig. 1). *Timarcha fallax* Pérez-Arcas, 1865, and *T. espanoli* Bechyně, 1948 live in East Spain, arriving to Murcia region, but they will be treated elsewhere; *Timarcha fallax* belongs to a group of close species living in East and Northeast Spain, whereas *T. espanoli* is a closely relative of *T. rugosa* (L.), distributed in the Magreb.

Measurements of body length were made with the ocular grid of a Nikon SMZ-10 stereoscopic microscope at a magnification of 10X. Body size is equivalent to the total length of the specimen from the anterior region of head to the apex of elytron. Photographs of type specimens were taken with an Olympus Stylus TG-3 digital compact camera. Photographs of other specimens or their parts were taken with a Canon EOS 550D attached to a bellows with a Schneider Componon-S 50mm f/2.8 objective. Zerene Stacker® was used for stacking the photographs.

The vestiture of the underside of the tarsi, the sclerite of the aedeagus and the endophallus (internal sac) were studied and named after DACCORDI *et al.* (2020). Maps were generated with free software Google Maps.

The examined material belongs to the following collections, whose curators' names appear in brackets; otherwise, it is explicitly indicated in the text.

BVCM	G. Bastazo and J. M. Vela collection, Málaga, Spain.
CCZ-UGR	Colecciones Científicas de Zoología, Universidad de Granada, Spain (Alberto Tinaut, Daniel Aguayo).
HNHM	Hungarian Natural History Museum, Budapest, Hungary (Ottó Merkl †).
MDCV	Mauro Daccordi collection, Verona, Italy.
MNCN	Museo Nacional de Ciencias Naturales, Madrid, Spain (Mercedes Paris).
MNHN	Muséum National d'Histoire Naturelle, Paris, France (Antoine Mantilleri).
MSNV	Museo Civico di Storia Naturale, Verona, Italy (Leonardo Latella, Roberta Salmaso).
NHMB	Naturhistorisches Museum, Basel, Switzerland (Eva Sprecher, Matthias Borer).
NMPC	Národní Muzeum, Praha, Czech Republic (Lukáš Sekerka).
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (Lothar Zerche, Marianna Simões).
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany (Johannes Frisch, Bernd Jäger).
ZSM	Zoologische Staatssammlung, München, Germany (Michael Balke).

Abbreviations used in the text: cat. = catalogue; com. = commentary; conf. = confirmation; descr. = description; faun. = faunistics; kar. = karyotypes; mol. syst. = molecular systematics; morph. = morphology; rec. = record; rep. = repeated; syn. = synonymy.

Label data cited for all type specimens are as follows: a double slash (//) divides the texts in different labels, a single slash (/) divides the text in different rows. Type localities are cited with their original spellings. Comments and notes are cited in square brackets: [p] preceding data are printed, [h] preceding data are handwritten, [w] white label, [r] red label. Each specimen designated as lectotype, paralectotype or neotype carries a red label indicating its status, its name and the name of this paper's authors as designators of the nomenclatural act.

The figures are arranged as follows: map of the studied area (fig. 1), habitus (figs. 2-62), antennae and maxillary palpi (figs. 63-97), pronota (figs. 98-121), pronotum outlines (figs. 122-159), mesoventrites (figs. 160-183), female metatarsi (figs. 184-194); aedeagi (figs. 195-226); sclerites of the endophallus (figs. 227-244), endophalli (figs. 245-253), spermathecae (figs. 254-280), and distributional maps (figs. 281-288).

In the Coleopterorum Catalogus, Chrysomelinae part, WEISE (1916) listed the species with their synonyms, varieties and aberrations. We will deal with the varieties with a subspecific rank, while the aberrations will have an infrasubspecific rank, in agreement with art. 45.6.4. (INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE, 1999). The paper by BOUSQUET (2016) has been a relevant source for publication dates and references.

The studied species of *Timarcha* are quite different from each other and therefore can be correctly identified. However, this changes when it comes to subspecies. We have maintained a conservative approach by keeping some nominal species as subspecies, for populations with at least one differential character, even if the non-sexual characters are very variable. Furthermore, there are other differentiated populations that have not received any names, and in this case we have referred to them simply as populations, thus avoiding giving multiple names that could obscure the stable category, i.e. the species.

## RESULTS

### 1. *Timarcha apricaria* Waltl, 1835

Figs. 2-21, 63-73, 98-103, 122-130, 160-164, 184, 195-203, 227-234, 245, 254-260, 281.

**Diagnosis.** Males: 8.6-12.8 mm (lectotypes: *T. heydeni*: 10.1 mm; *T. parvicollis elocata*: 12.0 mm; *parvicollis nitentula*: 8.6 mm; *T. riffensis*: 9.5 mm; *T. seidlitzii*: 8.9 mm); females: 9.5-14.2 mm (lectotypes: *T. apricaria*: 13.5 mm, *T. melitensis*: 11.4 mm, *T. paulinoi*: 11.0 mm; syntype: *T. parvicollis*: 10.4 mm). Dorsum black, slightly bright, black with bluish luster (lectotype of *T. paulinoi*), silky (lectotype of *T. coarcticollis*) or matt (figs. 2-21). Scutellum and legs usually have bluish or violet luster. Last maxillary palp generally wider at apex in males than in females, but this character is variable (figs. 63b-73b). The length of the antennomeres is also variable, ranging from very short in mountain specimens, with a ratio of 9, 4, 5, 5, 4, 5, 5, 5, 8 to

more elongate in lowlands ones, with ratio of 11, 5, 8, 7, 7, 6, 7, 6, 6, 8, 11 (figs. 63a-73a). Pronotum generally not very transverse, the ratio width/length in specimens from Rif in North Morocco (ssp. *melitensis*), Southern Spain provinces of Sevilla, Cádiz (ssp. *apricaria*) and Málaga, and South Portugal (ssp. *parvicollis*) is 1.48-1.71 (♂♂), 1.57-1.75 (♀♀), whereas in specimens from Córdoba, Jaén and Granada the pronotum may be more transverse, with a width/length ratio of 1.61-1.88 (♂♂), 1.67-2.00 (♀♀). Lateral sides of pronotum curved inwards near the base, straight and parallel in the middle, narrowing again near the apex, never protruding outwards. Near the base, there is a pronounced notch where the marginal lateral line is interrupted (figs. 122-130). Very rarely, the lateral border is absent or almost absent (in Moroccan Rif: ssp. *melitensis*) (figs. 129-130). Punctuation is very fine, often hardly visible (figs. 98, 101, 103), but in some subspecies the punctures are stronger and visible (figs. 99, 100, 102). In the elytra the punctuation is usually fine; the elytral surface tends to be smooth, but sometimes, in females of Sevilla and Cádiz populations the surface of the elytra is irregular (lectotype of *T. apricaria*). Mesoventrite is well bituberculated, bifurcated and protruding outwards and backwards, with some variations (figs. 160-164). Tarsal vestiture in males is 0, 0, 0; 0-1/4, 0, 0; 1/3, 0, 0-1/5, and in females 1/4-1, 0-4/5, 0-1/4; 4/5-1, 0-1/2, 0-1/4; 5/6-1, 1/2-5/6, 1/2-1/3. The glabrous line in metatarsomere II is narrowing near the apex (fig. 184). Aedeagus: Slightly narrowed near the apex (figs. 195-201), rarely rounded (figs. 202-203). Laterally, the apex ends in a point generally not acute (figs. 195-203). In the sclerite of the endophallus, the flagellum is long and curved, and the phanera is simple and considerably small; it is slightly separated at half or  $\frac{3}{4}$  of the length of the flagellum (figs. 227-234). Endophallus as in fig. 245 (see also fig. 8 in PETITPIERRE & ANICHTCHENKO, 2018). Spermatheca elongate, closely curved, and turned to the sides, with a longer arm distally acute (figs. 254-260).

**Comments.** WEISE (1882) correctly claimed that *T. apricaria* is very close to *T. coarcticollis*. ACHARD (1923), BECHYNĚ (1948) and GÓMEZ-ZURITA & KIPPENBERG (2010) considered *T. rugosula* Rosenhauer 1856 a synonym of *T. apricaria*. PETITPIERRE & ALONSO-ZARAZAGA (2019) proposed *T. rugosula* as a synonym of *T. parvicollis* ssp. *coarcticollis* (here considered *T. apricaria*). The study of types shows that *T. rugosula* is a species alien to the Spanish fauna, different from *T. apricaria*.

**Differential diagnosis:** The constriction of the lateral side of the pronotum near the base, including the interruption of the lateral line in this part (figs. 98-103, 122-130), and the morphology of sclerites of internal sac in the aedeagus (figs. 227-234) are very distinctive in *T. apricaria*. However, the pronotum constriction with marginal line interrupted at the base also occurs, though less visible, in *T. strangulata* Fairmaire, 1861, from Western and Central Pyrenees (see JEANNE, 1967; WINKELMAN & DEBREUIL 2008) and is sometimes found in *T. strophium* ssp. *carmelena* Petitpierre, 2013, from provinces of Málaga, Granada, Jaén and Albacete (PETITPIERRE, in PETITPIERRE & DACCARDI, 2013; VELA *et al.*, 2017). *Timarcha strangulata* is quite different in its truncated mesoventrite, which does not protrude, whereas the pronotum of *T. strophium carmelena* is laterally widened, its basal constriction, when existing, is hardly visible (figs. 121, 159), maxillary palps not widened near the apex in males (fig. 96b) and the vestiture of metatarsomeres I and II in females shows a complete, wide glabrous line (fig. 194).

**Variability and Populations.** We have conserved the existing name for some distinctive populations with the subspecific category: ssp. *apricaria*, ssp. *heydeni*, ssp. *parvicollis*, ssp. *melitensis*. However, characters may be very variable within a given population. Specimens coming from North Morocco (ssp. *melitensis* and other populations) and from mountains about 1500 m high in South Spain have usually a smaller size. Specimens from Portugal and some areas in Spain (Cádiz and Málaga: Estepona mountains) have dorsal bluish luster, the others being usually black (ssp. *parvicollis*) or with silky teguments in populations of Sevilla and Cadiz provinces (ssp. *apricaria*). The constriction at the base of the pronotum is really noteworthy in Western populations (Portugal, Central and Western Andalucía), and it is little marked but noticeable enough in some specimens from Eastern Andalucía (Sierra Nevada, Almería coast). The pronotum is from nearly 1.5 to 2.0 times wider than long, depending on populations. Other small sized specimens can also be found in Sierra de Baza (Granada), with transverse pronotum and almost absence of margin in lateral sides of the pronotum. In Sierra Nevada (different areas, among them Puerto de la Ragua, Granada) and other locations in Almería, there are big specimens with convex pronotum and almost obliterated emargination at the base of the pronotum. In the Eastern Middle Atlas (Morocco), it is possible to find specimens with completely margined lateral sides of the pronotum which cannot be considered *T. apricaria* ssp. *melitensis*, as this has an almost obliterated marginal line on the sides of the pronotum. To sum up, this is a very variable species, whose considered subspecies are composed by populations usually also variable in a mosaic of morphological traits.

**Previous specific records:** The literature records are collected for the whole species, being generally uncertain the attribution to a given subspecies, except for *T. apricaria* ssp. *melitensis* (from Moroccan Western Rif).

PORTUGAL. ALGARVE. Serra de Monchique (OLIVEIRA, 1894).

SPAIN. CÁDIZ: San Roque (BECHYNĚ, 1953); Chiclana (MEDINA, 1895); Algeciras (BECHYNĚ, 1953; PETITPIERRE, 1970); San Roque (VIVES & GONZÁLEZ-PEÑA, 1998); Bolonia; Tarifa (TEUNISSEN, 2002); Tarifa, Puerto del Cabrito, Algeciras, San Roque, Palmones, Jimena de la Frontera, Chiclana, Alcalá de los Gazules, Vejer de la Frontera, Barbate, San Fernando (PETITPIERRE *et al.*, 2011); Los Barrios (GÓMEZ-ZURITA *et al.*, 2000a).

GRANADA. Sierra Nevada (ROSENHAUER, 1856; VELA & BASTAZO, 2013); Capileira (TEUNISSEN, 2002); Sierra Arana: Venta del Molinillo (CODINA, 1963); Sierra Tejeda: El Robledal, Maroma (PETITPIERRE, 2016; VELA *et al.*, 2017); La Sagra, Sierra de Guillemona (PETITPIERRE & DACCARDI, 2013); Sierra de Lanjarón (WEISE, 1882, BECHYNĚ, 1953); Sierra Nevada (TEUNISSEN, 2002); Vélez de Benaudalla, Sierra Nevada: Rio Lanjarón, Sierra Nevada: Pico Veleta, 2500 - 2700 m alt., Sierra de Baza: Prados del Rey, 2300 m alt. (PETITPIERRE & ANICHTCHENKO, 2018).

HUELVA. Aracena (MEDINA, 1895); Huelva: Niebla (PETITPIERRE & LÓPEZ-PÉREZ, 2015).

JAÉN. Sierra de Cazorla: Fuente Bermeja, Sacejo (DACCARDI & PETITPIERRE, 1977); Sierra de Cazorla (TEUNISSEN, 2002); Sierra Mágina, 1800m alt. (PETITPIERRE & ANICHTCHENKO, 2018).

MÁLAGA. Torcal, Torremolinos (BECHYNĚ, 1953); Mijas (TORRES-SALA, 1962); Málaga (PETITPIERRE, 1970); Sierra de las Nieves (VELA & BASTAZO, 1985); Estepona, Cortes de la Frontera, Parador del Juanar (Ojén) (TEUNNISSEN, 2002); Sierra de las Nieves, 1730-1800 m alt. (PETITPIERRE & ANICHTCHENKO, 2018).

**Distribution:** Central and Southern Portugal (districts of Santarém, Setúbal, Évora and Faro), Southern Spain (provinces of Huelva, Cádiz, Sevilla, Córdoba, Málaga, Jaén, Málaga, Almería, Albacete), Morocco (Rif, Eastern Middle Atlas). In Morocco, this species was only known on Rif mountains, but we also found it in Eastern Medium Atlas (Jbel Bou Iblane, Jbel Bou Naceur), in the Southernmost fringe of its distribution area (fig. 278).

**Host plants:** *Galium* sp. (VELA & BASTAZO, 1999); *Rubia peregrina* L. (PETITPIERRE, 2019) (Rubiaceae).

### 1.1. *Timarcha apricaria* ssp. *apricaria* Waltl, 1835

Figs. 2-6, 12-13, 63-66, 98, 122-123, 160, 184, 195-197, 227-229, 245, 254, 281.

*Timarcha hesperica* Rambur in Dejean, 1836: 399 (*nomen nudum*, unavailable).

*Timarcha hesperica* Rambur in Dejean, 1837: 423 (*nomen nudum*, unavailable).

*Timarcha apricaria* Waltl, 1835: 83 (original description).

*Timarcha coarcticollis* Fairmaire & Allard, 1873: 147 (original description), **nov. syn.**

*Timarcha paulinoi* Kraatz, 1879: 383 (original description), **nov. syn.**

*Timarcha parvicollis* ssp. *nitentula* Bechyně, 1953: 92 (original description), **nov. syn.**

*Timarcha apricaria*: SILBERMANN, 1836: 158 (rep. descr. in Latin); WALTl, 1839: 83 (rep. descr.); ROSENHAUER, 1856: 321 (rec.); MARSEUL, 1857: 177 (cat.), 1863: 269 (cat.), 1869: 31 (rep. descr. in French), 1889: 506 (cat.); FAIRMAIRE, 1868: 261 (cat.); FAIRMAIRE & ALLARD, 1873: 200 (rep. from Marseul, 1869); HAROLD, 1874: 3459 (cat.); MARTORELL-PEÑA, 1879: 63 (cat., misidentification); ROSENHAUER, 1856: 321 (rec.), 1882: 162 (larval morph.); WEISE, 1882: 320 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 203 (cat.); BECHYNĚ, 1948: 31 (cat.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 438 (cat.).

*Timarcha coarcticollis*: HAROLD, 1874: 3459 (cat.); MARSEUL, 1878: 82, 1883: 37 (key), 75 (descr.), 1889: 506 (cat.); WEISE, 1882: 320 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.); FAIRMAIRE, 1884: 77 (key, descr.); BECHYNĚ, 1953: 93 (morph.), 1962: 185 (rec.); GÓMEZ-ZURITA *et al.*, 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.); STEINHAUSEN, 2000: 61 (larval morph.); WARCHAŁOWSKI, 2003: 217 (key), 2010: 621 (key); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 438 (cat.).

*Timarcha coarcticollis* ssp. *paulinoi*: WARCHAŁOWSKI, 2003: 217 (key), 2010: 621 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 438 (cat.).

*Timarcha hesperica*: GAUBIL, 1849: 193 (cat.).

*Timarcha parvicollis* ssp. *coarcticollis*: WEISE, 1916: 208 (cat., as var.); BECHYNĚ, 1948: 39 (cat.); PETITPIERRE, 2019: 108 (key); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 504 (cat.).

*Timarcha parvicollis* ssp. *nitentula*: WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 441 (cat.).

*Timarcha parvicollis* ssp. *paulinoi*: PETITPIERRE, 2019: 109 (key); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 504 (cat.).

*Timarcha paulinoi*: WEISE, 1882: 320 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 209 (cat.); MARSEUL, 1883: 37 (key), 74 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1884: 76 (key, descr.); OLIVEIRA, 1894: 358 (cat.); BECHYNĚ, 1948: 40 (cat.).

**Type localities.** *T. apricaria*: "Andalusien". *T. coarcticollis*: "Murcie, Andalousie". *T. paulinoi*: "Portugal". *T. parvicollis nitentula*: "Andalucia: Algeciras [Cádiz province]".

**Type specimens examined.** *Timarcha apricaria*: LECTOTYPE (herein designated, fig. 2), 1 ♀: "Timarcha / apricaria / mihi [h by Waltl, w] // Type [p, r] // 1905 [h, w] // SYNTYPUS / Timarcha / apricaria Waltl, 1835 // labelled by MNHUB 2014 [p, r]" (ZMHB). Another syntype ♀ in ZMHB has been designated as paralectotype.

*Timarcha coarcticollis*: not found. However, we studied a female identified by Fairmaire (fig. 3) labelled "Bideau / Espagne [h, round yellow] // coarcticollis / Fairm. [h by Fairmaire]" (MHNP).

*Timarcha paulinoi*: LECTOTYPE, 1 ♀ (herein designated, fig. 5): "coarcticollis / Portugal [h, w] // sublocata / Kraatz.79. [h by Kraatz, w with black borders] // Paulinoi / m. [h by Kraatz, w] // Coll. Kraatz [p, w] // Syntypus [p, r] // DEI Müncheberg / Col - 08243 [p, green label] // Timarcha / paulinoi / Kr. [h in blue ink, w] // LECTOTYPUS [p] / Timarcha / paulinoi Kraatz [h] / Daccordi et Vela des. 2017 [p, r] // Timarcha / apricaria Waltl [h] / Daccordi et Vela det. 2017 [p, w]" (SDEI). PARALECTOTYPE, 1 ♀: "Coll. Kraatz [p, w] // Syntypus [p, r] // DEI Müncheberg / Col - 08244 [p, green label] // PARALECTOTYPUS [p] / Timarcha / paulinoi Kraatz [h] / Daccordi et Vela des. 2017 [p, r] // Timarcha / apricaria Waltl [h] / Daccordi et Vela det. 2017 [p, w]" (SDEI).

*Timarcha parvicollis* ssp. *nitentula*: LECTOTYPE, 1 ♂ (herein designated, fig. 6): "Algeciras / 20.4.95 Korb [h by Korb] // parvicollis / v. Coarcticollis Frm [h] / det, H. Bollow 19 [p]39[h] // TIPE [sic] / T. parvicollis ♂ / ssp. nitentula m [h. By Bechyně] // Type [p, r] (NHMB (col. Frey)).

**Other relevant specimens.** *Timarcha hesperica*, *nomen nudum* (fig. 4), 1 ♂: "parvicollis [h, w] // 19105 [h, bluish] // Hist.-Coll. (Coleoptera) / Nr. 19105 / Timarcha hesperica Dej. / Andalus., Ramb., Laf. / Zool. Mus. Berlin" (ZMHB). *Timarcha hesperica* was cited (as a *nomen nudum*) by DEJEAN 1837: 423 coming from "Hispania mer [idionalis]".

**Diagnosis:** With the specific characters. Dorsal colour matt greyish (Cádiz and Sevilla specimens) or bluish (in some specimens from South Portugal and Southeastern Spain), usually antennae and head with bluish, greenish, ferruginous or turquoise shine. Surface of elytra commonly irregular, in

females tending to be slightly vermiculated (in Cádiz specimens, fig. 2). Pronotum weakly transverse, 1.48-1.71 (♂♂), 1.57-1.75 (♀♀) times wider than long. Notch at the posterior angles of the pronotum very conspicuous (figs. 2-5, 98, 122-123).

**Distribution.** Populations in Central and South Portugal, and Southwestern Spain (fig. 281).

**Host plants:** Unknown.

**Studied material.** PORTUGAL. ALGARVE. Sagres, 2/4/1983, 1 ♂, J. & E. Vives leg. (col. E. Vives); Algarve, Serra de Monchique, Foia, 880 m, 31/10/2011, 2 ♂♂, 1 ♀, Bastazo y Vela leg. (BVCM); Alentejo, Vendas Novas, 8/11/2013, zona servicio A6, 1 ♀, A. Zuzarte leg. (BVCM); Monchique, ex-Museo Dr. Ch. H.-Martin, 1 ♂ (MDCV); Monchique, Foia, 808 m., 22/2/2014, 1 ♂, 1 ♀, Z. Lucbauer leg. (BVCM); Alcácer do sal, 8/6/2013, 1 ♀, A. Zuzarte leg. (AZCM); Ribatejo, Benavente, 21/6/86, 1 ♂, A. Zuzarte leg. (AZCM).

SPAIN. ALBACETE. El Bonillo, camino de Navalucudia, 30/11/1985, 1 ♂, M. Sánchez Ruiz leg. (BVCM); Riópar, pista frente a Mesones, 1200 m, 39°28'28"N 2°21'41"W, 2 ♀♀, Bastazo y Vela leg. (BVCM); Calar del Mundo, Mai 1908, 1 ♀, G. Schramm leg. (MDCV).

CÁDIZ. Alcalá de los Gazules, 27/4/1997, 1 ♀, P. Coello leg. (BVCM); Algeciras, Getares, Punta Carnero, 25/5/2002, 1 ♀, M. Baena leg. (BVCM); Algeciras, sierra de la Luna, 21/1/1993, 1 ♀, J. de Ferrer leg. (BVCM); Arcos de la Frontera, 14/11/1990, 1 ♀, J. Susín leg. (BVCM); Conil, carretera del Colorado, 1/1/1996, 1 ♀, P. Coello leg. (BVCM); Conil, El Palmar, 13/11/2009, 1 ♂, P. Coello leg. (BVCM); Chiclana de la frontera, febr/1988, 1 ♂, F. Sánchez-Piñero leg. (BVCM); Grazalema, Puerto de las Palomas, 1150 m., 6/12/1987, 2 ♂♂, G. Bastazo leg. (BVCM); Grazalema, Cinco fuentes, 15/6/1990, 1 ♂, M. Baena leg. (BVCM); La Línea, 7/01/1982, 1 ♂, 2 ♀♀, J.L. Torres leg. (BVCM); idem, 3/09/1983, 1 ♂, (MDCV); idem, 12/01/1984, 1 ♀, M.A. Gómez de Dios leg. et col.; Palmones, 18/05/1976, 1 ♂, J. de Ferrer leg. (BVCM); Puerto de Gáliz, 5/4/1977, 1 ♀, J. de Ferrer leg. (BVCM); San Fernando, 12/11/1992, 1 ♀, P. Coello leg. (BVCM); San Fernando, Cerro de la Ermita, 26/1/1993, 1 ♂, P. Coello leg. (BVCM); San Fernando, Cerro de los Mártires, 31/10/2010, 1 ♀, Bastazo y Vela leg. (BVCM); San Roque, i/1954, 1 ♀, J. Ramírez leg. (MDVC); idem, 2/1/1976, 1 ♀, J. de Ferrer leg. (BVCM); San Roque, Cortijo Salomón, 8/1/1993, 1 ♂, Bastazo y Vela leg. (BVCM); Sierra de Grazalema, Manga de Villaluenga del Rosario, 8/12/1987, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra de Grazalema, El Pinar, 6/11/1968, 1 ♀, A. Cobos leg. (MDVC); Tarifa, 15/01/1984, 2 ♂♂ 3 ♀♀, J.L. Torres leg. (BVCM); Tarifa, Puerto del Cabrito, dic/1966, 1 ♂, J. de Ferrer leg. (BVCM); idem, 1/12/1984, 1 ♂, M. Dellacasa leg. (MDCV); idem, 22/3/1981, 1 ♂, 1 ♀, M.A. Alonso Zarazaga leg. (BVCM); idem, 2/12/1995, 1 ♂, Bastazo y Vela leg. (BVCM); Venta Los Naveros, 18/12/2020, 1 ♀, J.L. Morell leg. et col.; Strasse Gibraltar-Algeciras, 8/04/2006, 1 ♂, W. Ziegler leg. (MDCV); Castillo de Castellar, 2/03/2008, 1 ♂, Hillert leg. (MDCV); Puerto de las Palomas, Sierra de Grazalema, 6/12/1987, G. Bastazo leg. 1 ♂ (CCZ-UGR); Sierra de la Luna, Tarifa, 4/11/1989, 1 ♀, J.M. Ávila leg. (CCZ-UGR).

SEVILLA. Dos Hermanas, 20/5/2010, 1 ♂, 2 ♀♀, T. Alcántara leg. (BVCM); idem, 1 ♂ (MDCV); Dos Hermanas, La Corchuela, 10/12/2012, 2 ♂♂, 3 ♀♀, J.M. Barreda leg. (BVCM); idem, 1 ♀ (MDCV); Pinares de Aznalcázar, 7/5/2011, 1 ♀, Bastazo y Vela leg. (BVCM).

## 1.2. *Timarcha apricaria* ssp. *heydeni* Weise, 1882, nov. comb.

Figs. 7, 14-16, 67-70, 99-100, 126-128, 161-163, 198, 255, 281.

*Timarcha heydeni* Weise, 1882: 321 (original description).

*Timarcha heydeni*: MARSEUL, 1883: 77 (descr.), 1889: 506 (cat.); WEISE, 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.); FAIRMAIRE, 1884: 78 (key, descr.); BECHYNÉ, 1953: 91 (morph.); WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.).

*Timarcha parvicollis* ssp. *heydeni*: WEISE 1916: 209 (cat., as var.); BECHYNÉ, 1948: 39 (cat., morph.); PETITPIERRE, 2019: 108 (key, descr.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 504 (cat.).

**Type localities.** *T. heydeni*: "Sierra de Lanjaron der Alpujarras [Granada: Sierra Nevada]".

**Type specimens examined.** *Timarcha heydeni*: LECTOTYPE (herein designated, fig. 7), 1 ♂: "Heydeni / \* [h by Weise] // Heydeni / Weise / Lanjaron / Sr. Nevada / Heyden [h] // ex coll. / J. Weise [p, w] // Type // SYNTYPUS / *Timarcha* / *heydeni* Weise, 1882 // labelled by MNHUB 2014 [p, r]" (ZMHB). PARALECTOTYPE, 1 ♀: "Heydeni / Weise / Sr. Nevada / Heyden [h] // ex coll. / J. Weise [p, w] // Type // SYNTYPUS / *Timarcha* / *heydeni* Weise, 1882 // labelled by MNHUB 2014 [p, r]" (ZMHB). PARALECTOTYPES, 2 ♂♂: "Heydeni [vertical] / Alpujarras [black border] // *parvicollis* [w] // COTYPE [h, r] // *T. parvicollis* COTYPE / ssp. *heydeni* Wse ♂ [h] / 194[p]8[h] Det. J. Bechyné [p, w]" (NMPC);. PARALECTOTYPE, 1 ♀: "Heydeni [vertical] / Alpujarras [black border] // *parvicollis* [w] // COTYPE [h, r] // *T. parvicollis* COTYPE / ssp. *heydeni* Wse ♀ [h] / 194[p]8[h] Det. J. Bechyné [p, w]" (NMPC).

**Diagnosis.** Males: 8.8-12.5 mm (lectotype: 10.1 mm), females: 11.3-12.3 mm (paralectotype: 11.9 mm). With the characters of *T. apricaria* but dorsum black, elytra not irregular, with well marked punctuation, pronotum normally very transverse (figs. 7, 126-128), width/length ratio 1.87-1.96 (♂♂) and 1.99-2.04 (♀♀). Lateral sides of the pronotum protruding outwards, with evident punctures, sometimes sparsely foveolated (figs. 14-15, 99). Sometimes, the notch at the posterior angles of the pronotum is poorly visible.

**Variability:** A population in Sierra de la Contraviesa (South of Sierra Nevada, Granada) is remarkable for the pronotum less transverse and with strong and foveolated punctures (figs. 16, 100).

**Distribution.** Southern slopes of Sierra Nevada (Alpujarras), coast of Granada and Almería (fig. 281).

**Studied material.** SPAIN. ALMERÍA. Aguadulce, 16/03/1949, 1 ♂, 1 ♀, Mateu et Cobos leg. (MDCV); idem, 13/02/1962, 1 ♂, A. Cobos leg. (MDCV); Sierra de Filabres, Tetica Bcares, 2050 m, 2/11/2014, 1 ♀, Bastazo y Vela leg. (BVCM); Fiñana, Las Ollas, Paso Aguas, 1625 m, 25/4/2016, 3 ♀♀, M.A. Gómez de Dios leg. (BVCM); Alto de Velefique, 1860 m, 27/10/2015, 1 ♀, A. Castro Tovar leg. (BVCM); Velefique, 1300 m., 2/11/2015, 37.205733, -2.412932, 1 ♀, A. Castro Tovar leg. (BVCM); Alrededores alto de Velefique, 1860 m. 37.223738, -2.404508, 2/11/2015, 1 ♂, A. Castro Tovar leg. (BVCM); Félix, Casa de la Nieve, abrevadero, 19/10/2009, 1 ♂, M.A. Gómez de Dios leg. (BVCM); Sierra de María, La Borrica, 16/4/1992, 1 ♂, Bastazo y Vela leg. (BVCM); El Palmer, 12/02/1959,



1 ♀, A. Cobos leg. (MSNV); idem, 1 ♂ (MDCV); Barranco de la Garrofa, 83m, 24/11/2017, 1 ♂, Bastazo y Vela leg. (BVCM).

GRANADA. Sierra Nevada, Órgiva env., 800m, 4/04/1985, 1 ♂, leg. Ozmann, *T. strophium* det. Steinhausen (ZSM); Lanjarón, 2000 m, strada al Veleta, 3/05/1990, 1 ♂, 1 ♀, Neri leg. (MDCV); Sierra de la Contraviesa, Cerro Salchicha, Haza del Lino, 24/01/2017, 1 ♀, A. Castro Tovar leg. (MDCV); idem, 1 ♂, 1 ♀, (BVCM); idem, 3/12/2020, 1 ♂, J.M. Vela leg. (MDCV); idem, 1 ♀ (BVCM).

### 1.3. *Timarcha apricaria* ssp. *melitensis* Weise, 1882, nov. stat.

Figs. 11, 17, 71, 103, 129-130, 164, 199, 234, 256, 281.

*Timarcha melitensis* Weise, 1882: 318 (original description).

*Timarcha riffensis* Fairmaire, 1888: cxcii (original description), **nov. syn.**

*Timarcha melitensis*: MARSEUL, 1883: 81 (rep. descr. in French), 1889: 506 (cat.); WEISE, 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 208 (cat.); LUIGIONI, 1929: 810 (cat.); PORTA, 1934 (key); JOLIVET, 1989: 304 (com.), 1996: 205 (morph.); WARCHAŁOWSKI, 2003: 212 (key); GÓMEZ-ZURITA, 2010: 73 (com.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat.).

*Timarcha melittensis*: FAIRMAIRE, 1884: 76 (key, rep. descr.).

*Timarcha riffensis*: MARSEUL, 1889: 506 (cat.); WEISE, 1916: 210 (cat.); BECHYNĚ, 1948: 40 (cat.), 62 (rec.); KOCHER, 1953: 329, 330 (com., key); WARCHAŁOWSKI, 2003: 217 (key), 2010: 621 (key); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 441 (cat.).

**Type locality.** "Malta [Portugal?, see JOLIVET, 1996: 206; wrong type locality]". *T. riffensis*: "Montagnes du Riff [Morocco]".

**Type specimens examined.** *Timarcha melitensis*: LECTOTYPE, 1 ♀ (herein designated, fig. 11): "meliten- / sis \* [h by Weise, w] // Type [r] // Zool. Mus. / Berlin [p, w] // LECTOTYPUS [p] / *Timarcha / melitensis* Weise [h] / Daccordi et Vela des. 2017 [p, r] // *Timarcha / apricaria* Waltl [h] / Daccordi et Vela det. 2017 [p, w]" (ZMHB).

*Timarcha riffensis*: LECTOTYPE, 1 ♂ (herein designated): "TYPE [p red ink, w] // LECTOTYPUS [p] / *Timarcha / riffensis* Fairmaire [h] / Daccordi et Vela des. 2017 [p, r] // *Timarcha / apricaria* Waltl [h] / Daccordi et Vela det. 2017 [p, w]" (MHNP, coll. Fairmaire). PARALECTOTYPE, 1 ♀: "*Timarcha / riffensis* / Fairm / maroc [h by Fairmaire] // 33 [h] // TYPE [p in red, w] // PARALECTOTYPUS [p] / *Timarcha / riffensis* Fairmaire [h] / Daccordi et Vela des. 2017 [p, r] // *Timarcha / apricaria* Waltl [h] / Daccordi et Vela det. 2017 [p, w]" (MHNP, coll. Fairmaire).

**Comments.** This species does not live on the island of Malta or in the locality Malta in northern Portugal, 24 km N. of Guarda (JOLIVET, 1996). This author correctly argued that this species has a bifurcated mesosternum and is close to *T. paulinoi* from Portugal (here considered a junior synonym of *T. apricaria* ssp. *apricaria*). *Timarcha melitensis* is known by its lectotype, which lacks a marginal lateral border on the sides of the pronotum, similarly to the type of *T. riffensis* (from Moroccan Rif mountains). In Eastern Middle Atlas there is a population of *T. apricaria*, with well visible lateral border in the pronotum, differently from *T. melitensis* and similarly to Spanish specimens of *T. apricaria* ssp. *parvicollis*.

**Diagnosis.** Males: 9.0-10.0 mm (lectotype of *T. riffensis*: 9.5 mm), females: 10.2-11.5 mm (lectotype of *T. melitensis*: 11.4 mm). With the characters of *T. apricaria* ssp. *apricaria*, but general matt colour (fig. 11a, 17), and lateral sides of pronotum not very curved (fig. 103) and without borders (figs. 129, 130). Fine and regular punctation of pronotum (fig. 103); punctation of elytra a bit stronger and less regularly distributed (figs. 11a, 17).

**Distribution.** Morocco: Rif mountains. The locality in Malta for *T. melitensis* as indicated by WEISE (1882) is surely wrong. The subspecific ascription of the population in Eastern Middle Atlas is doubtful because of the presence of a marginal border of the pronotum (fig. 281).

**Previous concrete records:** MOROCCO: Bab Tazza (BECHYNĚ, 1948); Tetouan, Jbel Haus (GÓMEZ-ZURITA *et al.*, 2000b).

**Studied material.** MOROCCO. Tetuan, 11/05/1933, 1 ♂, 1 ♀, R. & C. Koch (MDVC); Tetouan, Sierra del Haus, Tleta-Taghramt, 23/11/1997, 3 ♂♂, 4 ♀♀, J.L. Ruiz leg. (BVCM); Prov. Tetouan, Sierra del Haus, Douar el Ounsar, 420 m., 24/11/2012, 3 ♂♂, 5 ♀♀, Bastazo y Vela leg. (BVCM).

### 1.4. *Timarcha apricaria* ssp. *parvicollis* Rosenhauer, 1856, nov. stat.

Figs. 8-10, 18-21, 73, 101-102, 124-125, 200-203, 230-233, 257-260, 281.

*Timarcha parvicollis* Rosenhauer, 1856: 320 (original description).

*Timarcha seidlitzii* Kraatz, 1879: 383 (original description), **nov. syn.**

*Timarcha parvicollis* ssp. *elocata* Bechyně, 1953: 92 (original description), **nov. syn.**

*Timarcha parvicollis*: MARSEUL, 1863: 270 (cat.), 1883: 38 (key), 77 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1868: 260 (cat.), 1884: 79 (key, descr.); FAIRMAIRE & ALLARD, 1873: 145 (key), 148 (descr.); HAROLD, 1874: 3460 (cat.); WEISE, 1882: 320 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 208 (cat.); HEYDEN, 1883: 232 (cat.); BECHYNĚ, 1948: 39 (cat.); COBOS, 1949: 604 (faun.); CODINA, 1963: 46 (faun.); PETITPIERRE, 1970: 12 (morph.), 2019: 78 (key), 107 (descr.), 2021: 12 (cat.); DACCORDI & PETITPIERRE, 1977: 231; WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 441 (cat.); VELA & BASTAZO, 2013: 128 (faun.); VELA *et al.*, 2017: 49 (faun.); PETITPIERRE & ANICHTCHENKO, 2018: 366 (morph.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha parvicollis* ssp. *elocata*: WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 441 (cat.).

*Timarcha parvicollis* ssp. *seidlitzii*: WEISE, 1916: 209 (cat., as var.); PETITPIERRE & ANICHTCHENKO, 2018: 366 (morph.).

*Timarcha seidlitzii*: WEISE, 1882: 320 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.); MARSEUL, 1883: 38 (key), 76 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1884: 78 (key, descr.); BECHYNĚ, 1948: 39 (cat.), 1953: 92 (morph.); WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA & KIPPENBERG,

2010: 439 (cat., as synonym of *T. insparsa*); PETITPIERRE & DACCORDI, 2013: 69 (faun., morph.); VELA & BASTAZO, 2013: 129 (faun.); VELA *et al.*, 2017: 51 (faun.); PETITPIERRE, 2019: 79 (key), 105 (descr.), 2021: 12 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

**Type localities.** *T. parvicollis*: “Yunquera [Málaga], Sierra Nevada [Granada]”. *T. seidlitzii*: “Sierra Nevada [Granada]”. *T. parvicollis elocata*: “Sierra Nevada: Torcal [wrongly located: Torcal is not in Sierra Nevada in Granada, but in the North of Málaga province, close to Antequera town]; Torremolinos [Málaga]”.

**Type specimens examined.** *Timarcha parvicollis*: not studied. See below, in “Other relevant specimens”.

*Timarcha seidlitzii*: LECTOTYPE, 1 ♂ (herein designated, fig. 9): “Hispania / merid. [h] // seidlitzii [h probably by Weise] // Coll. Kraatz [p] // Syntypus [p, r]” (SDEI, col. Kraatz). PARALECTOTYPES, 2 ♂♂: “Hispania / merid. [h] // Coll. Kraatz [p] // Syntypus [p, r]” (SDEI, col. Kraatz). PARALECTOTYPE, 1 ♂: “parvicollis Rshr / p 321 / Hispania Andalousie // Timarcha / Lugens / Rshr / S Nevada / Seidlitzii [h probably by Weise, w] // COLL. ACHARD / MUS. PRAGENSE [p, w] // COTYPE [h, r] // *T. parvicollis* COTYPE / ssp. seidlitzii Kraatz ♂ [h] / 194[p]8[h] Det. J. Bechyně [p, w]” (NMPC).

*Timarcha parvicollis* ssp. *elocata*: LECTOTYPE, 1 ♂ (herein designated, fig. 10): “Torcal / (Korb) // S. Nevada / 24.4.[18]93 [h, w] // Type / *T. parvicollis* / ssp. *elocata* m. [h, blue] / J. Bechyně det., 195 [p]2[h] // Type [red label] (NHMB (col. Frey)).

**Other relevant specimens.** In HNHM there is a female that could be considered a syntype (fig. 8) of *T. parvicollis*, in agreement with Dr. Ottó Merkl (com pers. to JMV, 25/07/2017), with following labels: “Andalus / Rosenh. [h by Rosenhauer] // parvicollis / typ. Rosenh. [h by Rosenhauer] // Coll. Reitter [p] // Andalusia / leg. Rosenhauer [h by Kaszab, w] // Paratypus [p, r] 1856 / Timarcha / parvicollis / Rosenhauer [h by Kaszab, w with red borders]” (HNHM). However, KIPPENBERG (2017) designated two female specimens with label “Spanien” in Zoologische Staatssammlung München as lecto and paralectotype.

**Diagnosis.** With the specific general characters. Dorsum usually black, sometimes with metallic shine, not folded elytra, without any traces of vermiculation, and weak punctation of pronotum and elytra (figs. 8-10, 18-21), but some populations may have stronger punctures in pronotum and elytra (figs. 101, 102).

**Distribution.** Southern Spain (provinces of Albacete, Córdoba, Granada, Jaén, Málaga) (fig. 281).

**Studied material.** SPAIN.CÓRDOBA. Fernán Núñez, 9/4/1994, 1 ♀, M. Baena leg. (BVCM); Fernán Núñez, Cerro del Gallinero, 23/10/2019, 1 ♀, José Ignacio Morales Mata leg. (BVCM); idem, 25-30/12/2019, 4 ♀♀ (BVCM); Santa Cruz, Haza de Valenzuela, 30/11/2002, 1 ♀, M. Baena leg. (BVCM); idem, 25/12/2002, 1 ♂, M. Baena leg. (BVCM); idem, 3/01/2004, 1 ♂, M. Baena leg. (BVCM); Luque, Pozo Cortés, 2/1/1979, 1 ♂, M. Baena leg. (BVCM); Luque, Araguillas, 27/11/1993, 1 ♂ (MDCV).

GRANADA. Alhambra, 18/5/1973, 1 ♀ (BVCM); Alhama, Sierra Tejeda cara N, 1300 m., 2/12/1990, 1 ♂, Bastazo y Vela leg. (BVCM); Atarfe, 19/4/1984, 1 ♀, F. Medina leg. (BVCM); Guadix, mayo 1982, 1 ♂, M. Soler leg. (BVCM); Iznalloz, Sierra

Arana, Pico Arana, 16/10/2010, 1900 m., 1 ♂, Bastazo y Vela leg. (BVCM); Iznalloz, Sierra Arana, Pico Arana, 3/10/2010, 1900 m., 1 ♂, M. Baena leg. (BVCM); Iznalloz, Sierra Arana, Pico Arana, 31/10/2015, 1800 m., 1 ♀, Bastazo y Vela leg. (BVCM); Iznalloz, Sierra de Huétor, Cerro Orduña, 1940 m., 2/10/2010, 1 ♂, M. Baena leg. (BVCM); Játar, alrededores, 1100 m., 30/1/2016, 1 ♂, 1 ♀, A. Castro Tovar leg. (BVCM); Jete, 8/1/2015, 2 ♀♀, A. François leg. (BVCM); La Zubia, 2/2/1985, 1 ♂, L. Rozas leg. (BVCM); Montes de Granada, 18/3/1985, 1 ♂, J. Pascual Linares leg. (BVCM); Puebla de D. Fadrique, La Sagra, Toscanillos, 1700 m., 1/6/2012, 1 ♂, M. Daccordi leg., (BVCM); idem, 12/10/2012, 2 ♂♂, 2 ♀♀, Bastazo y Vela leg. (BVCM); idem, 25/5/2013, 1 ♀, Bastazo y Vela leg. (BVCM); Puerto de la Ragua, 13/4/1987, 1 ♂, R. Salas leg. (BVCM); Salobreña, Tajo de la Virgen, 20/3/1987, 2 ♀♀, A. Garzón-J. Hódar leg. (BVCM); Sierra de Almijara, Lucero, Puerto llano, 1500 m., 13/10/2014, 1 ♂, Bastazo y Vela leg. (BVCM); Sierra de Baza, Santa Bárbara, 2000 m., 13/10/1990, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra de Baza, Prados del Rey, 19/4/2011, 2000 m., 1 ♂, M. Baena leg., (BVCM); Sierra de Loja, Charco del Negro, 1480 m., 3/11/2014, 4 ♂♂, A. Castro Tovar leg. (BVCM); Sierra Harana, Pico de la Cruz, 27/6/1982, 1 ♂, A. Tinaut leg. (BVCM); Sierra Elvira, 31/10/1987, 1 ♂, L. Rozas leg. (BVCM); Sierra Nevada, Refugio Club, 3/06/1936, 1 ♂, C. Koch leg. (MDCV); Sierra Nevada, Pico Veleta, 2600 m., 8/07/2006, 1 ♂, M. Daccordi leg. (MDCV); Sierra Nevada, Camino Peña del Perro, 3/11/2001, 1 ♀, A. Castro Tovar leg. (BVCM); Sierra Nevada, sept./1978, 1 ♀, J.A. Fernández-Cortés leg. (BVCM); Sierra Nevada, Mulhacén, 23/11/1984, 1 ♂ (BVCM); Sierra Nevada, Loma del Mulhacén, 3100 m., 5/08/1990, 1 ♂, J.M. Vela leg. (BVCM); Sierra Nevada, Barranco de S. Juan, 1200 m., 11/7/1982, 1 ♀ (BVCM); Sierra Nevada, alrededores de La Cortijuela, 37.085156, -3.470134, 11/11/2013, 1 ♂, A. Castro Tovar, (BVCM); Sierra Nevada, La Cortijuela, 26/3/1983, 1 ♂, F. Campos leg. (BVCM); Sierra Nevada, septiembre 1978, 1 ♀, J.A. Fernández Cortés leg. (BVCM); Sierra Nevada, Camino de la Estrella, Río Genil, 1420 m., 30SVG689090, 25/10/1987, 1 ♂, P. Barranco leg. (BVCM); Sierra Nevada, Barranco San Juan, 1200 m., 11/7/1982, 1 ♂, J. M. Ávila leg. (BVCM); Sierra Tejeda, La Maroma, 2000 m., 27/12/1983, 1 ♂, G. Bastazo leg. (BVCM); Suspiro del Moro, 8/2/1987, 1 ♀, F.S. Piñero leg. (BVCM); Tajo de los Vados, 8/11/1986, 1 ♂, L. Rozas leg. (BVCM); Carretera Almuñécar a Granada, 15/11/1971, 1 ♂, R. Yús Ramos leg. (CCZ-UGR); Sierra de Baza, Prados del Rey, 23/5/1994, 1 ♂, Unidad Zoología Granada leg. (CCZ-UGR); Puerto de la Ragua, Sierra Nevada, 2000 m., 11/10/2007, 3 ♀♀, F. Pérez-Vera leg. (CCZ-UGR); Alberca de los Guardas, Pampaneira, 2300 m., 7/1/2007, 1 ♀, F. Pérez-Vera leg. (CCZ-UGR).

JAÉN. Hornos, sima del Campamento, trampa 17, 6/1-3/2/2013, 1 ♀ GEV leg. (BVCM); Sierra Sur, Pico Grajales, 3/3/2014, 3 ♂♂, 1 ♀, A. Castro Tovar leg. (BVCM); Sierra de Cazorla, 25/06/1975, 1 ♂, E. Petitpierre leg. (MDCV); Sierra de Cazorla, puente de las Herrerías, 29/1/2012, 1 ♀, A. Castro Tovar leg.; Parque Natural Cazorla, Segura y Las Villas, Pico Banderillas, 30/4/2000, 1 ♂, M. Aguilar leg. (BVCM); Cazorla, 1000 m, Castillo 5 esquinas, 30/11/2016, 2 ♂♂, 4 ♀♀, A. Castro Tovar leg. (BVCM); Sierra Mágina, Almadén, 2036 m., 16/4/2005, 1 ♂, 1 ♀, A. Castro Tovar leg. (BVCM); Sierra Mágina, Caño del Aguadero, 1700 m, 37° 43'50" N; 3°28'54" W, 1 ♂, A. Castro Tovar leg. (BVCM); Úbeda, 12/04/1983, 1 ♀ (MDCV); Alcalá la Real, Jaén, 18/5/1997, 1 ♂, M. Pichot leg. (CCZ-UGR); Cazorla, 27/9/1980, 1 ♂, F. Pascual leg.

(CCZ-UGR); Linarejos, Sierra de Cazorla, 26/6/1973, 1 ♀, F. Pérez-Vera leg. (CCZ-UGR).

MÁLAGA. Alhaurín el Grande, Ardalejos, 26/5/1998, 1 ♂, Bastazo y Vela leg. (BVCM); Almáchar, 3/2/1978, 1 ♀, A. Jiráldez leg. (BVCM); Antequera, Sierra de las Cabras, 4/12/1981, 1 ♂, Bastazo y Vela leg. (BVCM); idem, 7/12/1981, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); idem, 20/4/1984, 1 ♂, Bastazo y Vela leg. (BVCM); idem, 10/2/1985, 1 ♂, G. Bastazo leg. (BVCM); Antequera, Sierra Llana, 13/2/1994, 1 ♀, Bastazo y Vela leg. (BVCM); Antequera, El Romeral, 19/2/1984, 1 ♂, J. A. Rodríguez leg. (BVCM); Boquete de Zafarraya, 1/10/1989, 1 ♂, A. Tinaut leg. (BVCM); Benalmádena, Arroyo de la Miel, salida autovía, 14/11/2015, 1 ♀, J. R. Boyero leg. (BVCM); Cala del Moral, 1 ♀, A. Cobos leg. (MDCV); Coín, Albuqueira, 15/5/2012, 1 ♀, J. M. Vela leg. (BVCM); Colmenar, Sierra de Camarolos, Rodadero, 1100 m, 21/2/1993, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); Cruce Alfarnate, 22/10/1982, 1 ♀, J. M. Ávila leg. (BVCM); Corumbela, 29/12/2012, 1 ♀, R. Vela leg. (BVCM); Cueva de S. Marcos, 6/04/1982, 1 ♀ (BVCM); Estepona, Sierra Bermeja, 21/2/1976, 1 ♀, J. de Ferrer leg. (BVCM); idem, Los Reales, 1200m, 26/1/2014, 1 ♂, Óscar Gavira leg. (BVCM); Málaga, Arroyo Toquero, 10/2/1979, 1 ♂, J. M. Vela leg. (BVCM); idem, 30/4/1979, 1 ♀, Ávila & Vela leg. (BVCM); idem, 25/1/1982, 1 ♀, Bastazo y Vela leg. (BVCM); Málaga, Campanillas, río Campanillas, abril 1980, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); Málaga, Cerrado de Calderón, marzo 1981, 1 ♂, I. López Linares leg. (BVCM); Málaga, Churriana, 14/12/2011, 1 ♀, J. M. Vela leg. (BVCM); Málaga, La Misericordia, febrero 1981, 1 ♀, E. Crespillo leg. (BVCM); Málaga, Montes de Málaga, 20/10/1996, 1 ♀, J. M. Vela leg. (BVCM); Málaga, Monte San Antón, 13/12/1981, 1 ♂, Bastazo y Vela leg. (BVCM); idem, 28/3/1984, 1 ♀, Hergueta & Fernández leg. (BVCM); Periana, vía verde, 6/12/2012, 1 ♂, E. Wong leg. (BVCM); Málaga, Puerto de la Torre, 21/10/1981, 1 ♂, V. Cruz leg. (BVCM); idem, 2/02/1990, 1 ♂, Bastazo y Vela leg. (BVCM); idem, Los Verdiales, Arroyo León, 31/10/1999, 1 ♂, Bastazo y Vela leg. (BVCM); Mijas, urb. Buenavista, 11/5/2013, 1 ♀, J. R. Boyero leg. (BVCM); Rincón de la Victoria, playa, 13/08/1978, 1 ♀, J. M. Vela leg. (BVCM); Umg. Ronda, 700-1200m, v/1968, 1 ♂ (MDCV); Ronda, Prof. G. Strobl, 1 ♂ (MDCV); Ronda, Sierra de las Nieves, Cortijo de Quejigales, 1250m, 9/12/1983, 1 ♂, G. Bastazo leg. (BVCM); Ronda, Carretera de Algodonales, km 28, Finca Alcobacín, 31/5/2013, 1 ♀, J. M. González Moreno leg. (BVCM); Sierra de las Nieves, Cortijo de Quejigales, 1250 m, 30SUF1762, 9/12/1983, 1 ♀, G. Bastazo leg. (BVCM); Sierra de las Nieves, Cañada del Cuerno, 1500 m, 24/11/1984, 1 ♀, M. A. Alonso Zarazaga leg. (BVCM); idem, 21/11/1992, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); Vélez-Málaga, Chilches, El Cañuelo, 12/4/1981, 1 ♀, Bastazo y Vela leg. (BVCM); Villanueva del Trabuco, carretera Pto. Alazores, 3/2/2003, 1 ♂, M. Baena leg. (BVCM); Yunquera, Cañada de la Encina, 10/10/1982, 1 ♂, Bastazo y Vela leg.; Yunquera, Camino forestal sierra Nieves, 30SUF2466, 9/1/1983, 1 ♂, Bastazo y Vela leg. (BVCM); Yunquera, Llano de la Casa, 1400 m., 12/1/2012, 1 ♂, J. R. Boyero leg. (BVCM); Cortijo de Quejigales, Málaga, 28/1/1982, 1 ♂, A. Cabello leg. (CCZ-UGR); Sierra de las Cabras, Antequera, 4/12/1981, 1 ♂, Bastazo y Vela leg. (CCZ-UGR); idem, 7/12/1981, 1 ♂ (CCZ-UGR); Rincón de la Victoria, 11/6/1975, 1 ♂, J.L. Martín R. leg. (CCZ-UGR).

MOROCCO. Atlas medio oriental, Jbel Bou Iblane, Tizi bou Zabel, 2265 m., 13/7/2015, 1 ♂, Bastazo y Vela leg. (BVCM); Atlas medio oriental, Ouled Ali Yousuf, ruta Jbel Bou Naceur, 2100 m., 11/7/2015, 1 ♀, Bastazo y Vela leg. (BVCM).

## 2. *Timarcha granadensis* Bechyně, 1948

Figs. 22-25, 74-75, 104, 131, 165, 185, 204, 235, 247, 261-262, 282.

*Timarcha granadensis* Bechyně, 1948: 60 (original description).

*Timarcha granadensis* ssp. *dislocata* Bechyně, 1948: 61 (original description), *partim*.

*Timarcha granadensis*: WARCHAŁOWSKI, 2003: 215 (key), 2010: 620 (key); GÓMEZ-ZURITA *et al.*, 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.), 2004: 334 (kar.); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.); PETITPIERRE & DACCORDI, 2013: 68 (faun., morph.); PETITPIERRE & ANICHTCHENKO, 2018: 379 (morph.); PETITPIERRE, 2019: 77 (key), 96 (descr.), 2021: 10 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha granadensis* ssp. *dislocata*: WARCHAŁOWSKI, 2003: 215 (key), 2010: 620 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.).

**Type localities.** *T. granadensis*: "Hab. Granada: Env. de la ville de Granada; Puebla de D. Fadrique". *T. granadensis* ssp. *dislocata*: "Sierra de Guadalupe [Guadalupe], Cáceres; Castille [Castilla]".

**Type specimens examined.** *Timarcha granadensis*, LECTOTYPE, 1 ♂ (herein designated, fig. 22): "Puebla de /D. [Don] Fadrique / (Granada) / Escalera 1900 // COLL. ACHARD / MUS. PRAGENSE [p] // P-TYPE [h, r] // T. P-TYPE / granadensis ♂ [h] / 194[p]8[h] Det. J. Bechyně [p, w] (NMPC).

*Timarcha granadensis* ssp. *dislocata*, SYNTYPES, 2 ♂♂ (fig. 23): "SIERRA DE GUADALUPE / (CÁCERES) / MAI 1904 / G. SCHRAMM [p] // TYPUS [p, r] / T. granadensis TYPE / ssp. *dislocata* m. ♂ [h] / 194[p]8[h] Det. J. Bechyně. [p]. (NMPC). SYNTYPE, 1 ♂: "Castille [h] // TYPUS [p, r] // COLL. ACHARD / MUS. PRAGENSE [p] // T. granadensis / ssp. P-TYPE / *dislocata* m. ♂ [h] / 194[p]8[h] Det. J. Bechyně. [p]." (NMPC).

**Comments.** PETITPIERRE & ALONSO-ZARAZAGA (2019) considered *T. granadensis dislocata* a junior synonym of *T. hispanica* (here considered a junior synonym of *T. scutellaris*). We were able to study two syntype males of *T. granadensis* ssp. *dislocata* coming from Sierra de Guadalupe (Cáceres) and a syntype male coming from "Castille" (NMPC), as established by BECHYNĚ (1948) and they turned out to be different from *T. hispanica*. The two syntypes from Sierra de Guadalupe (Cáceres) have the characters of *T. granadensis* in pronotum, elytra, shape of aedeagus, endophallus and sclerite, and therefore the locality label is surely erroneous. The other syntype, from Castille [Castilla], belongs to another species alien to the fauna of Southern Spain, close to *T. sobrina*, and will be dealt with elsewhere.

**Diagnosis.** Males: 7.6-10.0 mm (lectotype of *T. granadensis*: 8.1 mm; syntypes of *T. granadensis dislocata* from Guadalupe: 9.7 mm and 10.0 mm); females: 9.4-11.5 mm. Dorsum black, antennae and legs show a slight blue shine. Head densely punctated; its punctures are stronger than the main ones in the pronotum. Last maxillary palp not wider in males than in females (figs. 74b, 75b). Antennomeres short, their ratio is 9-3-5-5-6-5-5-5-5-4-9 (fig. 74a) or 9-4-6-5-6-5-6-4-5-5-8 (fig. 75a).

Lateral sides of pronotum with maximum width in the middle, sometimes a little ahead of it, somewhat sinuous and narrowed near the base, posterior angles slightly protruding outwards (fig. 131); marginal line complete, uninterrupted along the four sides; pronotum transverse, 1.8-2.0 (♂♂), 1.9-2.2 (♀♀) times wider than long; primary punctation evenly but not very densely distributed, normally the distance between punctures is 1-2 times their diameter; secondary punctation with 10-15 points that are coarser, almost foveolated, and dispersed unevenly (fig. 104), though sometimes there are no foveola. Elytra with a double punctation; the main punctation is strong, deep, usually not anastomosed, except in the distal third, where in some areas the punctures are joined, making the surface look rugose (figs. 22-25); the finer punctures of elytra and pronotum are similar in size. Mesoventrite bituberculated and very protruding (fig. 165). Tarsal vestitures are complete in males. In females there is always a glabrous line along the tarsomeres, the tarsal formula being 1,1,1; 1,1,1; 1,1,1; in the tarsomeres III the glabrous line is narrowed distally, but not obliterated, with a deep notch distally (fig. 185). Aedeagus pointed and sinuated near the apex in dorsal view; laterally very curved (fig. 204). Sclerite of endophallus with the phanera in form of two parallel, narrow and elongate wings (fig. 235). Inflated endophallus as illustrated in fig. 247 (see also fig. 32 in PETITPIERRE & ANICHTCHENKO, 2018 and fig. 27 in DACCORDI *et al.*, 2020), with small teeth on its surface (see detail in fig. 247c). Spermatheca C-shape, short, with the two arms of nearly similar length, apex distally widened (figs. 261-262).

**Variability.** In some specimens, the coarse punctation (almost foveae) of the pronotum can be weaker or even absent. The coarse punctures of elytra are rarely weaker. Some specimens (Sierra de Baza in Granada) have almost obliterated lateral margins of the pronotum

**Differential diagnosis.** A small-sized *Timarcha*, usually showing rugose appearance. It may be confused with some small specimens of *T. scutellaris*, but the latter is different in several ways: a) the pronotum is somewhat more closely and heavily punctated (fig. 116-119); b) the punctation of the elytra is normally not so deep and sometimes more vermiculated (figs. 50-58); c) the aedeagus is not (or only slightly) sinuated near the apex (figs. 217-221); d) the sclerite (figs. 242) and endophallus (figs. 251, 252) are quite different; e) the spermatheca is thicker (figs. 274-276).

**Host plants.** *Galium* sp. (Rubiaceae) (PETITPIERRE, 2019).

**Distribution.** Mountains in Granada, Jaén and Murcia provinces (fig. 282).

**Previous concrete records:** GRANADA: Sierra de Guillemona (GÓMEZ-ZURITA *et al.*, 2000b); Puerto de la Sagra; Sierra Seca: Peñón del Toro (PETITPIERRE & DACCORDI, 2013); La Sagra, Puebla de Don Fadrique (PETITPIERRE, 2019). JAÉN: Sierra de Segura (PETITPIERRE, 2019).

**Studied material.** MURCIA, Moratalla, Salchite, Covachas de Zaén, 1300m, 4.I-24.II. 2018, 1 ♂, Lencina y Miñano leg. (col. Lencina).

GRANADA. Sierra de Baza, 15/08/1987, 1 ♂, A. Tinaut leg. (BVCM); idem, 22/09/91, 1 ♂, 1 ♀ (BVCM); Puebla de D. Fadrique, 1900, 2 ♂♂, M. Escalera leg. (MDCV, BVCM); Puerto de la Losa, 1750 m, 2/04/2012, 3 ♂♂, M. Baena leg. (BVCM); idem,

12/10/2013, 1 ♂, F.A. Montes leg. (BVCM); Huéscar. Puerto de la Sagra, 13/05/1997, E. Petitpierre leg. (MDVC); idem, 1600m, 20/10/2010, 1 ♀, M. Daccordi leg. (MDVC); idem, 30/04/2014, 1 ♂ (MDVC); idem, 1670 m., 1/05/2014, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); Huéscar, Sierra Guillemona, 1500 m., 18/10/1988, 1 ♂, 1 ♀, J.L. Lencina leg. (BVCM); Sierra de Castril, pico Tejo, 13/07/1991, 1 ♂, J.L. Ruiz leg. (BVCM); Sierra de Baza, Granada, 2000 m., 7/5/1989, 1 ♂, A. Tinaut leg. (CCZ-UGR); Sierra de Baza, Granada, 2000 m., 22/9/1993, 1 ♂, A. Tinaut leg. (CCZ-UGR).

JAÉN. Sierra de Cazorla, Campos de Hernán Perea, 23/10/2010, 1 ♂, A. Castro Tovar leg. (BVCM); Sierra de Cazorla, Llanos de Hernán Perea, alr. Rambla Seca, 24/10/2015, 1 ♀, M. López-Vergara leg. (BVCM); Santiago de la Espada, 2 ♂♂, J. Martínez leg. (MNCN).

### 3. *Timarcha insparsa* Rosenhauer, 1856

Figs. 26-28, 84-85, 105, 132-133, 166, 186, 205-206, 236, 246, 263-264, 283.

*Timarcha rugosula* Rambur in Dejean 1836: 399 (*nomen nudum*, unavailable).

*Timarcha rugosula* Rambur in Dejean 1837: 423 (*nomen nudum*, unavailable).

*Timarcha insparsa* Rosenhauer, 1856: 318 (original description)

*Timarcha rugosula*: KIESENWETTER & SCHAUM, 1849: 77 (cat.).

*Timarcha insparsa*: MARSEUL, 1863: 270 (cat.), 1883: 38 (key), 82 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1868: 261 (cat.), 1884: 79 (decr.); FAIRMAIRE & ALLARD, 1873: 145 (key), 149 (descr.); HAROLD, 1874: 3460 (cat.); WEISE, 1882: 320 (key, descr.), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 207 (cat.); BECHYNĚ, 1948: 38 (cat.), 61 (morph.); COBOS, 1954: 152 (faun.); PETITPIERRE *et al.*, 1988: 166 (kar.); WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA *et al.*, 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.), 2004: 334 (kar.); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.); VELA & BASTAZO, 2013: 128 (faun.); PETITPIERRE, 2019: 78 (key), 102 (descr.), 2021: 11 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

**Type localities.** *T. insparsa*: "Sierra Nevada".

**Type specimens examined.** *Timarcha insparsa*: LECTOTYPE ♂ (herein designated, fig. 27): "insparsa / Roseh. / S. Nevada [h] // Allard [h] // Thiere / Andalusiens / Rosenhauer [p] // LECTOTYPUS [p] / Timarcha / insparsa Rosh. [h] / Daccordi et Vela des. 2020 [p, r]". PARALECTOTYPE, 1 ♀ (fig. 28), "insparsa. [h] // Allard. [h] // Thiere / Andalusiens / Rosenhauer [p] // PARALECTOTYPUS [p] / Timarcha / insparsa Rosh. [h] / Daccordi et Vela des. 2020 [p, r]" (MNHN).

**Other relevant specimens.** In MNHN there is a female with the labels "Timarcha / Rugosula Ramb / hispan[ia] [h by Rambur] // ? insparsa [h by Fairmaire]" (MNHN). This specimen of *T. rugosula* Rambur in Dejean, unavailable *nomen nudum* (non Rosenhauer, 1856) is not a type, but it is a historical specimen (fig. 26); it was collected by Rambur on his journey to Andalucía (1834-1835), where he visited Sierra Nevada and

concretely the region of the Veleta Peak (see GRASLIN, 1872), where *T. inspersa* is not rare.

**Diagnosis.** Males: 8.4-12.1 mm; females: 11.3-11.7 mm. Body black, sometimes with a weak bluish shine on pronotum, antennae and legs (figs. 27-28). Last maxillary palp is only a little bit wider in male than in female (figs. 84b, 85b). The antennomeres are not very elongate; their ratio is 9-5-6-7-6-7-6-6-7-10 (figs. 84a, 85a). Pronotum transverse, 1.7-2.0 (♂♂, ♀♀) times wider than long, cordiform, narrowed posteriorly; the margin is complete around the perimeter (fig. 132-133). Punctuation of the pronotum is not very strong or dense, the distance between punctures is 2-3 times the diameter of a puncture (fig. 105); among the primary punctures there are also many stronger punctures, in variable number. The punctuation of the elytra is also double, quite similar or slightly heavier than that of the pronotum (figs. 26-28). Bituberculated and clearly protruding mesoventrite (fig. 166). Tarsal formula in female is 1,1,4/5-1; 1,1,4/5-1; 1,1,4/5-1; in tarsomeres III the glabrous line is narrowed distally, whether obliterated or not (fig. 186). Aedeagus at the apex pointed in dorsal view, and acute and slightly elevated upwards in side view (figs 205-206). Sclerite of endophallus with two large wings, their apices convergent or not, being the flagellum curved downwards (fig. 236). Inflated endophallus as illustrated in fig. 246 (see also fig. 9 in PETITPIERRE & ANICHTCHENKO, 2018). Spermatheca C-shaped, short, with the basal part shorter than the distal one, apex distally not widened (figs. 263-264).

**Variability:** The cordiform pronotum is usually very constant in its aspect, but the punctuation may vary, in a more or less pronounced way.

**Differential diagnosis.** It is a well characterized species, easily recognized by its bituberculated mesoventrite and its pronouncedly transverse, cordiform pronotum with heavy punctures. It may be confused with some specimens of *T. apricaria* ssp. *heydeni*, but the strong constriction with interruption of the marginal line at the base of the pronotum in the latter, as well as the different aedeagi and the vestiture of the female tarsomeres may clarify the diagnosis.

**Host plants:** *Plantago nivalis* Boissier (Plantaginaceae) (PETITPIERRE, 2004; VELA & BASTAZO, 2013), endemic to Sierra Nevada.

**Distribution:** Endemic to the high altitudes (over 2000m) of Sierra Nevada in Granada and Almería (present data) (fig. 283).

**Previous concrete records:** GRANADA. Sierra Nevada (ROSENHAUER, 1856); Sierra Nevada: several localities over 2000m (COBOS, 1954; PETITPIERRE, 1976; VELA & BASTAZO, 2013).

**Studied material:** SPAIN. ALMERÍA. Sierra Nevada, Almería, Paterna del Río, Cerro del Almirez, 2450 m., 18/10/1991, 1 ♂, P. Barranco leg. (BVCM).

GRANADA. Sierra Nevada, Veleta, 18/07/1965, 2 ♂♂, La Greca leg. (MSNV); Sierra Nevada, Pico Veleta, 2600-3100m, 14/07/1979, 1 ♂, Belló leg. (MSNV); idem, 2500m, 27/06/1975, 1 ♂, M. Daccordi leg. (MDCV); Sierra Nevada, Veleta cara N, 2900 m., 15/08/1981, 2 ♂♂, J.M. Ávila leg. (BVCM); Sierra Nevada, carretera Granada-Veleta, 2500m, 15/07/1981, 1 ♂, J.M. Ávila

leg. (BVCM); idem, 2700 m, 13/08/1982, 3 ♂♂ (BVCM); idem, 30/08/1981, 1 ♀ (BVCM); idem, 19/09/1981, 1 ♀ (BVCM); Mulhacén, Laguna de la Caldera, 2/10/1987, 1 ♂, 1 ♀, X. Vázquez leg. (BVCM); Sierra Nevada, Siete Lagunas, 7/08/2012, 2900 m, 3 ♂♂, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra Nevada, Laguna de la Caldera, 3000 m., 2/08/2014, 3 ♂♂, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra Nevada, Laguna de las Yeguas, 3000 m, 28/07/2000, 1 ♂, J.M. Vela leg. (BVCM); Sierra Nevada, Laguna de la Caldereta, 3000m, 12/07/1982, 1 ♂, 1 ♀, J.M. Ávila leg. (MDCV); idem, 25/07/1990, 1 ♂, 1 ♀, Francisco Nocete leg. (col. Zapata de la Vega); idem, 20/07/1991, 1 ♂, 1 ♀ (col. Zapata de la Vega); Sierra Nevada, Puerto del Lobo, 1 ♀, Mateu et Suárez leg. (MDCV); Sierra Nevada, Trevélez, 8/08/1914, 1 ♂, G. Schramm (MDCV); Laguna la Caldereta, 3000 m., 10/7/1982, 2 ♂♂, 1 ♀, J.M. Ávila leg. (CCZ-UGR); Laguna de la Virgen, 3000 m., 8/7/1989, 2 ♂♂, A. Tinaut leg. (CCZ-UGR); Siete Lagunas, 3000 m., 14/9/79, 1 ♂, F. Pascual leg. (CCZ-UGR); Barranco de los Tejos, 6/7/1973, 1 ♂, R. Yus Ramos leg. (CCZ-UGR); Ventisquero Morón, 8/8/1972, 1 ♂, R. Yus Ramos leg. (CCZ-UGR).

#### 4. *Timarcha intermedia* Herrich-Schäffer, 1838

This species will be treated by focusing on its two subspecies.

##### 4.1. *Timarcha intermedia* ssp. *intermedia* Herrich-Schäffer, 1838

Figs. 29-34, 76-81, 106-108, 134-142, 167-171, 187, 207-210, 237, 248, 265-268, 284.

*Timarcha intermedia* Herrich-Schäffer, 1838: 156: 21c (original description).

*Timarcha sericea* Fairmaire & Allard, 1873: 153 (original description), **syn. conf.**

*Timarcha sericea* var. *ehlersi* Weise 1882: 319 (original description), **syn. conf.**

*Timarcha ehlersi*: Gómez-Zurita & Kippenberg, 2010: 440 (cat., as a synonym to *T. intermedia*).

*Timarcha intermedia*: KIESENWETTER & SCHAUM, 1849: 77 (cat.); MARSEUL, 1957: 177 (cat.); 1863: 269 (cat.); WEISE, 1916: 208 (cat., misidentified as a synonym of *T. nicaeensis* Villa et Villa, 1835); BECHYNĚ, 1948: 35 (cat., synonymized with *T. sericea*); PETITPIERRE, 1970: 10 (morph.), 2019: 78 (key), 99 (descr.), 2021: 11 (cat.); PETITPIERRE *et al.*, 1988: 166 (kar.); STEINHAUSEN, 2000: 61 (larval morph.); WARCHAŁOWSKI, 2003: 216 (key), 2010: 620 (key); GÓMEZ-ZURITA *et al.*, 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.), 2004: 334 (kar.); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat.); PETITPIERRE & ANICHTCHENKO, 2018: 364 (morph.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha intermedia* morpho *ehlersi*: BECHYNĚ, 1948: 35 (cat.), 1953: 91 (synonymized with *T. intermedia*).

*Timarcha intermedia* morpho *nevadensis*: BECHYNĚ, 1948: 35, 62 (cat., incorrect attribution).

*Timarcha sericea*: HAROLD, 1874: 3461 (cat.); MARSEUL, 1878: 82 (cat.), 1889: 506 (cat.); WEISE, 1882: 319 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 553 (cat.), 1916: 211 (cat.);

MARSEUL, 1883: 38 (key), 79 (decr.); FAIRMAIRE, 1884: 81 (key, descr.); BECHYNĚ, 1948: 35 (cat., as a synonym to *T. intermedia*); COBOS, 1949: 604 (faun., probable misidentification with *T. strophium carmelenae*); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat., as a synonym of *T. intermedia*).

*Timarcha sericea* var. *ehlersi*: WEISE, 1883: 197 (cat.), 1891: 365 (cat.).

*Timarcha sericea* ab. *ehlersi*: WEISE, 1906: 551 (cat.), 1916: 208 (cat., unavailable infrasubspecific name).

**Type localities.** *T. intermedia*: "Tallante, Murcia [about 14 km W of Cartagena, Murcia, Spain]"; *T. sericea*: "Sierra-Neveda; Murcie".

**Type specimens examined.** *Timarcha intermedia*, NEOTYPE ♂ (herein designated, fig. 29): "Tallante / Murcia [h] // MN CN\_Ent / 287941 [p, light blue label // NEOTYPUS [p] / Timarcha intermedia H.-S. [h] / Daccordi et Vela des. 2021 [p, r]" (MNCN).

*Timarcha sericea*, LECTOTYPE ♀ (herein designated, fig. 31): "sericea / murcie [h by Fairmaire, w] // LECTOTYPUS [p] / Timarcha / sericea Frm.Allard. [h] / Daccordi et Vela des. 2017 [p, r]" (MNHN).

*Timarcha sericea* var. *ehlersi*: SYNTYPE, 1 ♀ (fig. 32): "Süd-Spanien / Cartagena / Simon [p] // thor. Punctis / majoribus base / [unreadable] // v. Ehlersi / Ws. [w] // ab. Ehlersi Ws \* [h by Weise, b] // Type [p, r] // ex coll. / J. Weise [p, w] // SYNTYPE / Timarcha sericea / var. Ehlersi Weise, 1882 / labelled by MFNB 2016 [p, r]" (ZMHB).

**Comments.** After its description by HERRICH-SCHÄFFER (1838), there was uncertainty about the identity of *T. intermedia*. So, FAIRMAIRE & ALLARD (1873) and FAIRMAIRE (1884) did not record this species, but they described *T. sericea* instead. WEISE (1916) considered *T. intermedia* as a possible synonym of *T. nicaeensis* Villa et Villa, 1835. Much later, BECHYNĚ (1948) recognized *T. intermedia* as a good species, gave localities (Granada, Murcia, Valencia), and established *T. sericea* as its junior synonym. From then on, this species has been well known by its present name. However, like in the case of *T. hispanica*, we failed to find the types, and therefore the designation of a neotype is necessary to fix the identity of the species.

**Diagnosis.** Males: 12.1-14.7 mm (neotype of *T. intermedia*: 14.4 mm); females: 13.2-17.8 mm (lectotype of *T. sericea*: 14.4 mm; specimen of *T. sericea* var. *ehlersi*: 17.0 mm). Body black, usually dorsum matt, but sometimes males are slightly shinier than females (figs. 29-34). Last maxillary palp not wider in males than in females (figs. 76b-81b). Antennomeres III-XI, elongated, at least twice as long as it is wide; their ratio is 14-7-10-9-10-10-9-8-9-9-14 (figs. 76a-78a) but in some specimens may be shorter: 12-6-8-7-7-8-8-7-7-8-11 (figs. 79a, 80a). Pronotum transverse, 1.7-2.1 (♂♂, ♀♀) times wider than long, regularly curved or subcordiform, with maximum width in the middle or a bit forward, slightly narrower posteriorly than anteriorly; the margin is complete around the perimeter. Basal angle of the pronotum sometimes protrudes slightly outwards (figs. 134-142). Punctuation of the pronotum is very fine, sometimes hardly visible and regularly distributed (figs. 106-108). On the elytra the punctures are very fine, similar or slightly stronger than those in the pronotum, and more sparsely distributed. The

last abdominal ventrite shows a strong punctation, especially on lateral and apical sides, and a tuft of hair in the middle. Mesoventrite bituberculated and clearly protruding (fig. 167). Tarsal formula in female is (1,1,<sup>3</sup>/<sub>4</sub>-1; 1,1,<sup>3</sup>/<sub>4</sub>-1; 1,1,1) (fig. 187, see also fig. 9 in DACCORDI *et al.*, 2020), with a wide glabrous line along the tarsus. Aedeagus in dorsal view narrowed near the apex (fig. 207-210). Sclerite of endophallus with a short, reduced phanera separated at nearly 1/3 of the length of the sclerite (fig. 237). Inflated endophallus as illustrated in fig. 248 (see fig. 4 in PETITPIERRE & ANICHTCHENKO, 2018, and fig. 26 in DACCORDI *et al.*, 2020). Spermatheca large, elongate, with distal arm longer than basal one, and apex acute and recurved (figs. 265-268); sometimes, as occurs in other species, the apex is bifid; the ductus is long and coiled.

**Variability:** It is a species with reduced variability. However, there is a population in Almería, Sierra de Gádor, at about 2000m altitude, where the specimens' size is rather small (fig. 33, 34) and they have a variable mesoventrite, with long or short horns, or they may be almost flat (figs. 168-171). The specimens with short horns are similar to *T. intermedia* ssp. *lugens* in this character, but females in Sierra de Gádor do not show any trace of keel on their elytra, which are characteristic in *T. intermedia* ssp. *lugens*. Moreover, the lateral margin of the pronotum in that population can have an almost obliterated inner sulcus in its anterior part or in its middle (figs. 141, 142) and the antennomeres are shorter (figs. 80-81). In Sierra de María (also in Almería), at about 1700-2000 m altitude, there is a population where the size of the specimens is smaller than in lowland populations of *T. intermedia*.

**Differential diagnosis:** It is an easily recognisable species within the group with the two tubercles of mesoventrite divergent due to its big size, its transverse pronotum with a complete marginal line and the sclerite of the aedeagus.

**Host plants:** *Carrichtera annua* D.C., *Lobularia maritima* (L.) Desv. (sub *Alyssum*) (Brassicaceae) (JOLIVET & PETITPIERRE, 1973; PETITPIERRE, 2004). We have found specimens in Almería: Sierra de Gádor at 2000m and Sierra de María at 1600-2000m altitude, under *Hormatophylla spinosa* (L.) Kúpfer (Brassicaceae).

**Distribution:** Southeastern Spain: provinces of Alicante, Murcia, Almería, Granada (fig. 284).

**Previous specific records:** ALICANTE. Isla de Tabarca (PETITPIERRE, 1970; JOLIVET & PETITPIERRE, 1973); Arenales del Sol (GÓMEZ-ZURITA *et al.*, 2000a); Faro de Santa Pola (PETITPIERRE & ANICHTCHENKO, 2018); Torrevieja (TEUNISSEN, 2002). ALMERÍA. Rodalquilar; Nacimiento (GÓMEZ-ZURITA *et al.*, 2000a); Cabo de Gata, San José (TEUNISSEN, 2002; PETITPIERRE & ANICHTCHENKO, 2018). MURCIA. Águilas (DONCKIER DE DONCEEL, 1884)

**Studied specimens:** SPAIN. ALICANTE. Torrevieja playa, 9/04/1998, 1 ♂, 2 ♀♀, Bastazo y Vela leg. (BVCM); Carretera Torrevieja-La Mata, 9/04/1998, 7 ♂♂, 5 ♀♀, J.M. Vela leg. (BVCM); Laguna de la Mata, 9/04/1998, 1 ♀; Torrevieja, camping La Campana, 8/04/1998, 2 ♂♂, Bastazo y Vela leg. (BVCM); Santa Pola este, 30/03/2018, 4 ♂♂, 2 ♀♀, Bastazo y Vela leg. (BVCM); Cabo de Santa Pola, 8/05/1966, 1 ♂, S. Doguet leg. (MDVC); Crevillente, Polig. Ind. La Cerámica, 30/03/2018, 2 ♂♂, Bastazo y Vela leg. (BVCM); Isla de Tabarca, april/1970, 1 ♂, E. Petitpierre leg. (MDVC).

ALMERÍA. Cabo de Gata, Los Escullos, 14/03/1987, 4 ♂♂, 3 ♀♀; Bastazo y Vela leg. (BVCM); idem, 12/04/1990, 1 ♂, P. Barranco leg. (BVCM); Vera, 13/04/1981, 1 ♂, J. Muñoz leg. (BVCM); Carretera Almería-Níjar, km. 16, 17/02/1990, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); El Alquián, 16/12/1987, 1 ♀, J.M. Ávila leg. (BVCM); Níjar, 26/10/1991, 2 ♂♂ 1 ♀, Bastazo y Vela leg. (BVCM); Cabo de Gata, Los Escullos, 23/10/2010, 1 ♀, M. Daccordi leg. (MDVC); Aguadulce, 19/03/1948, 1 ♀, Mateu-Cobos leg. (MDVC); Carboneras, 15/02/2000, 1 ♀, Facello leg. (MDVC); Lubrín, 3/05/1985, 1 ♂, A. Cobos leg. (MDVC); Arboleas, 11/11/2009, 1 ♀, J.M. Vela leg. (BVCM); Carretera Níjar-Sorbas 26/10/1991, 1 ♀, Bastazo y Vela leg. (BVCM); Barranco del Palmer, 1 /03/2001, 1 ♂, 2 ♀♀, Bastazo y Vela leg. (BVCM); Rambla de Archidona, 22/04/1989, 2 ♂♂, 1 ♀, P. Barranco leg. (BVCM); Retamar, 30/10/1988, 2 ♀♀, P. Barranco leg. (BVCM); Carboneras, 1/05/1979, 1 ♂ (BVCM); Isleta del Moro, 18/05/2015, 3 ♂♂, 2 ♀♀, A. Castro Tovar leg. (BVCM); Tabernas, 20/06/2011, 1 ♂, J.M. Barreda leg. (BVCM); idem, 2/11/2015, 2 ♂♂, 1 ♀, A. Castro Tovar leg. (BVCM); Tabernas, 7 km. antes cruce Castro Filabres, 27/10/2015, 1 ♂, 2 ♀♀, A. Castro Tovar leg. (BVCM); Castell del Rey, 17/11/2017, 5 ♂♂, 2 ♀♀, F. Rodríguez Luque leg. (BVCM); Rodalquilar, 14/12/2004, 1 ♂, A. Castro Tovar leg. (BVCM); idem, 15/10/2007, 1 ♀, M.A. Gómez de Dios leg. et col.; Turre, La Mezquita, 2/11/2013, 1 ♂, Bastazo y Vela leg. (BVCM); Roquetas, Punta del Sabinar, 1/11/1991, 1 ♀, C. Canella leg. (BVCM); Roquetas, Cerrillos, 5/05/2015, 2 ♀♀, L. Fernández leg. (BVCM); Velefique, 1300 m., 2/11/2015, 3 ♂♂, 3 ♀♀, A. Castro Tovar leg. (BVCM); Sierra de Filabres, Tetica de Bacares, 2050 m., 2/11/2014, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra de Gádor, Sima del Aire, 18/12/2011, 1 ♂, P. Barranco leg. (BVCM); Benahadux, 14/02/2016, 2 ♂♂, 2 ♀♀, J.C. Martínez leg. (BVCM); Aguamarga, 31/01/2016, 2 ♂♂, 2 ♀♀, J.C. Martínez leg. (BVCM); idem, 14/02/2015, 1 ♂, L. Fernández leg. (BVCM); Cuevas de Almanzora, 27/01/2015, 1 ♂, L. Fernández leg. (BVCM); Vícar, abril 2016, 1 ♂, M. Corra leg. (BVCM); Gérgal, pista de aterrizaje, 2/08/2004, 1 ♀, M.A. Gómez de Dios leg. et col.; Sierra de Gádor, Mina Parrapa, 2000 m., 29/10/1988, 7 ♂♂, 3 ♀♀ in *Hormatophylla spinosa*, Bastazo y Vela leg. (BVCM); idem, 3 ♂♂ (MDCV); Sierra de Gádor, 2000 m., 1/11/2013, 1 ♂, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra de María, Portal Chico, 1860 m., 15/08/1990, 1 ♂, P. Barranco leg. (BVCM); idem, 10/10/2015, 1 ♂, 2 ♀♀ in *Hormatophylla spinosa*, Bastazo y Vela leg. (BVCM); idem, 1900 m., 17/08/1991, 1 ♂, 1 ♀, A. Ochotorena leg. (BVCM); Sierra de Filabres, Tetica de Vacares, 2/11/2014, 1 ♂, carcass, Bastazo y Vela leg. (BVCM); Palomares de Vera, 1 ♀ (MNCN); Sorbas, 1 ♂ (MNCN); Tijola, 1 ♂ (MNCN); Huerca Overa, 1 ♀ (MNCN); Águilas: 1 ♀ (MNCN); Pico Palomas, Pulpí, Almería, 27/10/1984, 1 ♂, A. Tinaut leg. (CCZ-UGR); Sierra Alhambilla, Almería, 17/6/1989, 1 ♂, A. Tinaut leg. (CCZ-UGR); Punta del Sabinar, El Ejido, 10/8/1992, 2 ♂♂, Unidad de Zoología de Granada leg. (CCZ-UGR); Playa de los Genoveses, Cabo de Gata, 28/12/2007, 1 ♂, 2 ♀♀, F. Pérez-Vera leg. (CCZ-UGR); Níjar, 12/3/1983, 1 ♀, F. Pascual leg. (CCZ-UGR).

GRANADA. Motril, Tajo del Canal, 21/03/1987, 2 ♂♂, 4 ♀♀; A. Garzón y J. Hódar leg. (BVCM); Entre Calahonda y Castell de Ferro, N-340, km. 343, 12/10/1989, 1 ♂, 1 ♀, M. Baena leg. (BVCM); Castell de Ferro, febr. 1964, 1 ♂, A. Cobos leg. (MDVC); Salobreña, IV/1978, 1 ♀, col. D. Zoología (CCZ-UGR).

MURCIA. Portman, 6/04/1992, 2 ♂♂, 2 ♀♀, Bastazo y Vela leg. (BVCM); idem, 26/04/1992, 1 ♂, A. Sánchez-Ruiz leg.

(BVCM); Cabezo Gordo, 19/10/2008, 1 ♂, 1 ♀, J.F. Sánchez Gea leg. (BVCM); Águilas, Playa del Arroz, 1 ♂, J.A. Jódar leg. (BVCM); Cartagena, 1 ♂ 1 ♀ (MNCN); Cartagena, col del Sr. Pérez-Arcas, 1 ♂ (MNCN), Tallante, 2 ♂♂ (MNCN); Cartagena, Playa de Calblanque, 18/10/2015, 1 ♂, J.M. Vela leg. (BVCM); idem, 5/04/2015, 1 ♀, L. Fernández leg. (BVCM); idem, Playa Arturo, 29/10/2016, 1 ♂ 1 ♀, Bastazo y Vela leg. (BVCM); Sierra de las Moreras, 15-25/02/2000, 1 ♂, L. Fancello leg. (MDCV); Bolnuevo, Puerto de Mazarrón, 14/11/2019, 1 ♂, M. Daccordi leg. (MDCV).

#### 4.2. *Timarcha intermedia* ssp. *lugens* Rosenhauer, 1856

Figs. 35-40, 82-83, 109, 143, 172, 188, 211-212, 238, 249, 269-270, 284.

*Timarcha parnassia* Rambur in Dejean, 1836: 399 (*nomen nudum*, unavailable).

*Timarcha parnassia* Rambur in Dejean, 1837: 423 (*nomen nudum*, unavailable).

*Timarcha lugens* Rosenhauer, 1856: 319 (original description).

*Timarcha parnassia* Weise, 1882: 332 (original description) (non *T. parnassia* Fairmaire, 1868: 261), **nov. syn.**

*Timarcha nevadensis* Fairmaire, 1884: 81 (original description), **nov. syn.**

*Timarcha intermedia* ssp. *lugens*: PETITPIERRE & ANICHTCHENKO, 2018: 365 (endophallus morph.).

*Timarcha lugens*: MARSEUL, 1863: 270 (cat.), 1883: 39 (key), 88 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1868: 261 (cat.), 1884: 88 (key, descr.); FAIRMAIRE & ALLARD, 1873: 145 (key), 159 (descr.); HAROLD, 1874: 3460 (cat.); KRAATZ, 1879: 381 (morph.); WEISE, 1882: 319 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 207 (cat.); BECHYNĚ, 1948: 39 (cat., as a junior synonym to *T. gravis* Rosenhauer); COBOS, 1954: 152 (faun., morph.); JOLIVET, 1954: 70 (biol.); PETITPIERRE *et al.*, 1988: 166 (kar.); GÓMEZ-ZURITA *et al.*, 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.), 2004: 334 (kar.); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat.); VELA & BASTAZO, 2013: 128 (faun.); PETITPIERRE, 2019: 78 (key), 100 (descr.), 2021: 11 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha nevadensis*: MARSEUL, 1889: 506 (cat.); WEISE, 1891: 365 (cat.), 1906: 551 (cat.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat., mistakenly as a syn. to *T. marginicollis*); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 501 (cat., mistakenly as a syn. to *T. marginicollis*).

*Timarcha marginicollis* ab. *nevadensis*: WEISE, 1916: 208 (cat., erroneous attribution).

*Timarcha parnassia*: KIESENWETTER & SCHAUM, 1849: 77 (cat.); GAUBIL, 1849: 193 (cat.).

**Type localities.** *T. lugens*: "Sierra Nevada und bei Granada [Sierra Nevada and near Granada]"; *T. parnassia*: "Hispan. Merid." [as indicated in Dejean, 1837: 423]; *T. nevadensis*: "Sierra Nevada".

**Type specimens examined.** *Timarcha lugens*: LECTOTYPE, ♀ (herein designated, fig. 37): "S. Nevada [p] // Allard [h] //

Thiere / Andalusien / Rosenhauer [p] // LECTOTYPUS [p] / Timarcha / lugens Rosh. [h] / Daccordi et Vela des. 2020 [p, r]" (NMHN). PARALECTOTYPE, 1 ♂ "Andalus / Rosh. // lugens / typ. Rosh. [h by Rosenhauer] // Andalusien / leg. Rosenhauer [h not by Rosenhauer] // Coll. Reitter [p] // Paratypus [p, r] 1856 / Timarcha / lugens / Rosenhauer [h] // PARALECTOTYPE [p] / Timarcha / lugens Rosh. [h] / Daccordi et Vela des. 2020 [p, r]" (HNHM). PARALECTOTYPE, 1 ♂ "lugens / Andalus [h] // lugens Rosh. / typ. [h by Rosenhauer] // Type [p, r] // ex coll. / J. Weise [p] // PARALECTOTYPUS [p] / Timarcha / lugens Rosh. [h] / Daccordi et Vela des. 2021 [p, r]" (ZMHB).

*T. parnassia* Weise: LECTOTYPE, ♀ (herein designated, fig. 39): "[illegible] der / parnassia Ramb. / Andal. Rambur! / (cotype von Rambur) [h by Weise] // Hist.-Coll. (Coleoptera) / Nr. 19108 / Timarcha Parnassia / Ramb. / Andalus., Ramb. Laf. / Zool. Mus. Berlin [p] // 19108 [h, greenish label] // LECTOTYPUS [p] / Timarcha / parnassia Weise [h] / Daccordi et Vela des. 2021 [p, r]" (ZMHB).

*T. nevadensis*: LECTOTYPE, ♀ (herein designated, fig. 38): "S. Nevada [h by Fairmaire] // nevadensis / Fairm. [h by Fairmaire] // LECTOTYPUS / Timarcha / nevadensis Frm. [h] / Daccordi et Vela des. 2017 [p, r] / TIMARCHA [p] / lugens Rosenh. [h] / Daccordi et Vela det. 2017" (NMHN).

**Other relevant specimens.** We studied a female specimen corresponding to *T. parnassia* Rambur in Dejean, unavailable name (*nomen nudum*) (fig. 40), labelled: "S. Nev. [h] // Parnassia Ramb. / Hispan [h by Rambur] // apricaria [h] // Ex-Musaeo Mniszech [p] / TIMARCHA [p] lugens Rosenh. [h] / Daccordi et Vela det. 2017" (NMHN). This specimen belongs to *T. intermedia* ssp. *lugens*.

**Comments.** *Timarcha parnassia* Rambur was firstly mentioned, but not described, by DEJEAN (1836, 1837), and so it is an unavailable name. Later, WEISE (1882) made this name available in his own authorship. *Timarcha parnassia* Weise 1882 is a junior homonym of *T. parnassia* Fairmaire 1868: 261, described and known as being from Greece, which belongs to a different group of species. KIPPENBERG (2017) designated two paralectotypes of *T. lugens* kept in Zoologische Staatssammlung München, while the lectotype was never designated. Here we have designated the lectotype. *Timarcha gravis* Rosenhauer, 1856 was generally considered a synonym of *T. intermedia* ssp. *lugens* (ACHARD, 1923; GÓMEZ-ZURITA & KIPPENBERG, 2010: 440; PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503), but *T. gravis* proved to be a different species alien to the Iberian fauna (see below).

**Diagnosis.** Males: 10.5-12.0 mm; females: 12.5-15.9 mm (lectotype of *T. lugens*: 14.2 mm; lectotype of *T. parnassia*: 13.5 mm, lectotype of *T. nevadensis*: 12.5 mm; historical spec. of *T. parnassia* Rambur *nom. nud.*: 14.4 mm). Body black, usually dorsum matt in females (figs. 35-40), sometimes legs and antennae with a slight blue shine. Last maxillary palp not wider in males than in females (figs. 82b-83b). Antennomeres not elongate, their ratio is 12-5-9-7-8-7-8-6-7-7-12 (figs. 82a, 83a). Pronotum transverse, 1.7-2.0 (♂♂, ♀♀) wider than long, sparsely but uniformly punctated, with small but uneven punctures. Margin of sides of the pronotum generally complete and rarely interrupted at the basal angles, which are slightly protruded outwards; lateral sides almost regularly curved, but narrower near the base (fig. 143). Elytra a bit more strongly

punctated than pronotum; females very distinctive in their elytra with traces of keels (figs. 35, 37-40). Mesoventrite usually moderately protruding and not distinctly bituberculated (fig. 172); when distinct tubercles are present, they have a lateral rather than vertical orientation. Tarsal formula in female as in nominotypical subspecies: 1,1,1; 1,1,1; 1,1,1. Genitalia male and female as in the nominotypical subspecies. Aedeagus in dorsal view narrowed near the apex (fig. 211-212). Sclerite of endophallus as illustrated in fig. 238. Inflated endophallus as in fig. 249 (see also fig. 7 in PETITPIERRE & ANICHTCHENKO, 2018). Spermatheca as described for the typonominal subspecies (figs. 269-270).

**Variability:** Some specimens show a slightly interrupted margin of the lateral sides of the pronotum at the base, or an almost obliterated inner sulcus of the lateral sides of their pronotum at the apex.

**Differential diagnosis.** With same characters as nominotypical subspecies, *T. intermedia* ssp. *lugens* is remarkable for the usual small size of the tubercles of its mesoventrite (fig. 170); the females are well characterized by their somewhat folded elytra; the tuft of hair in the middle of the last abdominal ventrite is very small, sometimes almost invisible. We maintain this subspecies because of the above mentioned differential characters and its populational isolation at the heights of Sierra Nevada.

**Host plants:** *Hormatophylla spinosa* (L.) Kúpfer (Brassicaceae) (PETITPIERRE, 1976 sub *Alyssum spinosum*; GONZÁLEZ-MEJÍAS & GÓMEZ, 2001; GONZÁLEZ-MEJÍAS *et al.*, 2004). The records of *Veronica fruticulosa* L. and *Plantago nivalis* Boiss. (JOLIVET, 1954, 1967; JOLIVET & PETITPIERRE, 1973) possibly resulted from a misidentification with *T. insparsa*.

**Distribution:** A taxon endemic to altitudes over 2000m in Sierra Nevada in Granada province (fig. 281).

**Previous specific records:** GRANADA. Sierra Nevada: above 2000m (COBOS, 1954; VELA & BASTAZO, 2013); Sierra Nevada: Cerro Pelado y Mulhacén (JOLIVET, 1954); Sierra Nevada: Pico Veleta (PETITPIERRE, 1976); Sierra Nevada: Laguna de Aguas Verdes (PETITPIERRE & ANICHTCHENKO, 2018).

**Studied material:** SPAIN. GRANADA. Sierra Nevada, carretera Granada-Veleta, 2700 m, 13/08/1982, 3 ♂♂, 2 ♀♀, J.M. Ávila leg. (BVCM); Sierra Nevada, Camino Cucaracha a Laguna Vacares, 2900 m., 11/07/1981, 1 ♂, J.M. Ávila leg. (BVCM); Sierra Nevada, cara N del Veleta, 2900 m., 26/06/1980, 2 ♂♂, 1 ♀, J.M. Ávila leg. (BVCM); Sierra Nevada, Peñones de S. Francisco, 17/07/1986, 1 ♂, M. Baena leg. (BVCM); Sierra Nevada, Camino de la Laguna de las Yeguas, 25/08/1994, 2 ♂♂, 1 ♀, M. Baena leg. (BVCM); Sierra Nevada, Siete Lagunas, 7/08/2012, 2900 m, 3 ♂♂, Bastazo y Vela leg. (BVCM); idem., 5/07/1993, 1 ♂, M.A. Gómez de Dios leg. et col.; Sierra Nevada, Camino Siete Lagunas a Alcazaba, 3100 m., 21/06/2015, 1 ♂, 1 ♀, J.R. Boyero leg. (BVCM); Sierra Nevada, Albergue Universitario, 2550 m., 2/10/1982, 3 ♂♂, 2 ♀♀, J.A. Fernández Cortés leg. (BVCM); idem, 27/05/2014, 2 ♂♂, 1 ♀, A. Castro Tovar leg. (BVCM); Sierra Nevada, Loma del Mulhacén, 3100 m., 5/08/1990, 2 ♂♂, J.M. Vela leg. (BVCM); idem, 3200 m., 30/08/2011, 2 ♀♀, Bastazo y Vela leg. (BVCM); Sierra Nevada, Siete Lagunas, Laguna Altera, 3100 m., 5/08/1990, 1 ♀, J.M. Vela leg. (BVCM); Sierra Nevada, Lagunillos de la Virgen, 2960 m., 24/06/1990, 1 ♂, 1 ♀, P. Barranco leg. (BVCM); Sierra Nevada, Veleta, 17/06/1980,



1 ♂, J.M. Ávila leg. (BVCM); Sierra Nevada, Veleta, 3300 m., 24/07/2011, 1 ♂, J.R. Boyero leg. (BVCM); idem, 26/07/1999, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra Nevada, Borreguiles de S. Juan, 6/09/1981, 2 ♀♀, J.M. Ávila leg. (BVCM); Güéjar, Ladera del Mulhacén, 5/07/1993, 4 ♂♂, 3 ♀♀, M.A. Gómez de Dios leg. y col.; Puerto de la Ragua, Monte Chullo, 2000 m., 15/07/1979, 1 ♂, 2 ♀♀, Bello leg. (MDCV); Sierra Nevada, Borreguiles de San Juan, 6/11/1981, 1 ♂, J.M. Ávila leg. (MDCV); Cara N Veleta, Sierra Nevada, 3000 m., 26/6/1980, 1 ♂, 1 ♀, M.A. Alonso Zarazaga leg. (CCZ-UGR); Albergue Universitario, 2500 m., 27/8/78, 1 ♀, A. Tinaut leg. (CCZ-UGR); Cuenca del Monachil, Sierra Nevada, 8/8/1972, 1 ♂, R. Yus Ramos leg. (CCZ-UGR); Laguna Larga, Sierra Nevada, 1/10/1969, 1 ♀, A. Tinaut leg. (CCZ-UGR).

### 5. *Timarcha kiesenwetteri* Kraatz, 1879

This species will be treated by focusing on its two subspecies.

#### 5.1. *Timarcha kiesenwetteri* ssp. *kiesenwetteri* Kraatz, 1879

Figs. 41-42, 86-87, 110-111, 144, 174, 215, 239, 271, 285.

*Timarcha kiesenwetteri* Kraatz, 1879: 382 (original description)

*Timarcha kiesenwetteri*: WEISE, 1882: 318 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 207 (cat.); MARSEUL, 1883: 79 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1884: 80 (translation to French from KRAATZ, 1879); BECHYNĚ, 1948: 35 (cat.); WARCHAŁOWSKI, 2003: 216 (key), 2010: 620 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat.); PETITPIERRE & ANICHTCHENKO, 2018: 365 (erroneous attribution as a ssp. of *T. intermedia*); PETITPIERRE, 2019: 79 (key), 103 (descr.), 2021: 11 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

**Type locality.** "Jaen".

**Type specimens examined.** LECTOTYPE, ♂ (herein designated, fig. 41): "Jaen [h] // Coll. Kraatz [p, w] // Syntypus [p, r]" (SDEI, coll. Kraatz). PARALECTOTYPE, 1 ♀ (fig. 42): "Coll. Kraatz [p, w] // Syntypus [p, r]" (SDEI, coll. Kraatz).

**Comments.** In the description, KRAATZ (1879) stated that he found several specimens of this species; so maybe there are additional syntypes somewhere. PETITPIERRE & ANICHTCHENKO (2018) erroneously misidentified *T. kiesenwetteri* as a subspecies of *T. intermedia*. Later, PETITPIERRE (2019) correctly considered *T. kiesenwetteri* a proper species.

**Diagnosis.** Male: 12.7 mm (lectotype); females: 14.3-15.3 mm, 15.0 mm (paralectotype). Dorsum black with a violet shade, matt (figs. 41, 42). Last maxillary palp is slightly wider in the male than in the female (figs. 86b-87b). Antennomeres not very elongate; their ratio is 12-5-10-8-9-8-9-8-7-7-10 (♂) (fig. 86a) and 12-5-11-8-9-9-9-8-7-8-12 (♀) (fig. 86a). Pronotum 1.7 (♂), 1.8-2.0 (♀♀) wider than long, very protruding laterally, almost similarly narrowed both distally and proximally, with maximum width at the middle (fig. 144), sparsely but uniformly punctated, with small and uneven punctures (figs. 110-111). Punctures of the elytra stronger than in pronotum, with a fine secondary punctation (figs. 41, 42). Femora and tibiae thick, the latter well widened at the apex. Mesoventrite bituberculated

(fig. 174). Meso and metatarsomeres I in males show a glabrous line at its basal 1/4. Vestiture formula of tarsi in females is 1,1,4/5; 1,1,4/5; 1,1,4/5-1. Aedeagus slightly pointed, not very curved in lateral view (fig. 215). Sclerite of the endophallus with a single phanera, elongate, almost reaching the apex of the flagellum (fig. 239). The endophallus has not been inflated. Spermatheca in asymmetric C-shape, with basal arm shorter than distal one, apex acute (fig. 271).

**Differential diagnosis:** this species can be only confused with *T. marginicollis*. The lateral sides of the pronotum of *T. kiesenwetteri* are not so sinuate near the base, the pronotum is more protruding laterally (figs. 110-111, 142), and the elytra have a somewhat stronger punctation (figs. 41-42), whereas in *T. marginicollis* the punctation of the elytra is usually much weaker, which gives it a smooth appearance. The vestiture of tarsus in females has an almost complete glabrous medial band in *T. kiesenwetteri* (fig. 189 for *T. kiesenwetteri sagrensis*, similar to typonominal subspecies), whereas in *T. marginicollis* the tarsomeres II and III have a glabrous medial band that reaches only the middle of each tarsomere (fig. 190). The aedeagus of *T. marginicollis* is very characteristic in its anchor shaped apex (fig. 213), which is different from that of *T. kiesenwetteri* (fig. 215). The spermathecae too are quite different (fig. 268 for *T. kiesenwetteri*, and fig. 270 for *T. marginicollis*).

**Host plants:** Unknown.

**Distribution:** Ciudad Real (Villahermosa) (present data), Granada (present data), Jaén.

**Previous specific records:** JAÉN (KRAATZ, 1879).

**Studied material:** SPAIN. CIUDAD REAL. Villahermosa, 30-V-95, 1 ♀, Escalera leg. (MNHN). GRANADA. Iznalloz, Sierra Arana, Monte Arana, 1850 m a.s.l., 11-X-2010, 1 ♀ (found dead), leg. Daccordi-Bastazo-Vela (MDCV). Granada, 1 ♀ (MDCV).

#### 5.2. *Timarcha kiesenwetteri* ssp. *sagrensis* Kuntzen, 1911

Figs. 43-44, 88-89, 112-113, 145-146, 175, 189, 216, 240, 272, 285.

*Timarcha sagrensis* Kuntzen, 1911: 215 (original description).

*Timarcha fallax* ssp. *sagrensis*: BECHYNĚ, 1948: 59 (key); WARCHAŁOWSKI, 2003: 215 (key), 2010: 620 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.).

*Timarcha kiesenwetteri* ssp. *sagrensis*: PETITPIERRE, 2019: 104, 105 (descr., key); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha sagrensis*: WEISE, 1916: 210 (cat.); PETITPIERRE & DACCORDI, 2013: 68 (faun., morph.).

**Type localities.** "La Sagra (Granada)".

**Type specimens examined.** LECTOTYPE, ♂ (herein designated, fig. 43): 1 ♂, "La Sagra / (Granada) / Escalera 1900 [p] // Type // SYNTYPUS / *Timarcha* / *sagrensis* Kuntzen, 1911 / labelled by MNUB 2004 [p, r] // LECTOTYPUS / *Timarcha* / *sagrensis* Kuntze / Daccordi et Vela des. 2021 [p, r]" (ZMHB). PARALECTOTYPE, 1 ♂, "La Sagra / (Granada) / Escalera 1900 [p] // Type // SYNTYPUS / *Timarcha* / *sagrensis* Kuntzen, 1911

/ labelled by MNUB 2004 [p, r] // PARALECTOTYPUS / *Timarcha* / *sagrensis* Kuntze / Daccordi et Vela des. 2021 [p, r]" (ZMHB).

**Comments.** The original description is based on two males collected in 1900 by Escalera and kept in ZMHB. We have been able to study very few specimens of *T. kiesenwetteri* s.str. and *T. kiesenwetteri sagrensis*, and provisionally prefer to keep both taxa separate due to some differential features of the punctuation of the pronotum and elytra, and of the aedeagal sclerite.

**Diagnosis.** Males: 11.0-13.0 mm (lectotype: 11,5 mm; paralectotype: 11.0 mm); females: 13.8-16,1 mm. Body black to completely bronze (figs. 43, 44). Last maxillary palp similar in the male than in the female (figs. 88b, 89b). Antennomeres not very elongate; their ratio is 12-6-8-8-8-7-9-7-8-7-12 (♂) (fig. 88a) and 13-5-10-9-8-8-10-7-7-8-13 (♀) (fig. 89a). Pronotum 1.8-2.0 (♂♂), 2.0-2.1 (♀♀) wider than long, very protruding laterally, almost similarly narrowed distally and proximally, with maximum width at the middle (figs. 145, 146), moderately and densely punctated with some stronger punctures (figs. 112, 113). The elytra's punctures are stronger than those in pronotum, without a fine secondary punctuation; interspaces elevated, usually making a vermiculate sculpture (figs. 43, 44). Femora and tibiae thick, the latter being well widened at the apex. Mesoventrite bituberculated (fig. 175). Vestiture formula of tarsi in females is 1,1,4/5; 1,1,4/5; 1,1,4/5-1 (fig. 189). Aedeagus as illustrated in fig. 214. Sclerite of endophallus (fig. 240) a little bit different to the type of *T. kiesenwetteri kiesenwetteri*. The endophallus has not been inflated. Spermatheca in asymmetric C-shape, with basal arm shorter than distal one, apex acute (fig. 272), similarly to that of the nominotypical subspecies.

**Differential diagnostic.** It can be distinguished from *T. kiesenwetteri* s.str. in that *T. kiesenwetteri* ssp. *sagrensis* has bronze shine and a much stronger punctuation on pronotum and elytra, and the spaces between punctures in the elytra are elevated and usually vermiculated in different degrees.

**Host plants:** Unknown.

**Distribution:** Albacete (Riópar, Sierra del Calar del Mundo, Nerpio, Sierra de las Cabras), Murcia (Sierra de Revolvedores near Cañada de la Cruz), Granada (Puebla de Don Fadrique, Sierra de Guillemona and Sierra de La Sagra) (fig. 285).

**Previous specific records:** Granada: La Sagra (KUNTZEN, 1911; PETITPIERRE & DACCORDI, 2013); Sierra de Guillemona; Puerto de la Sagra (PETITPIERRE & DACCORDI, 2013).

**Studied material:** SPAIN. ALBACETE. El Nerpio, 1 ♂, 1 ♀ (MNCN); Sierra de Cabras, 2 ♂♂, 1 ♀ (MNCN); Riópar, Arroyo de la Celadilla, 1 ♀ (J.L. Lencina leg. & col.).

GRANADA. Puebla de Don Fadrique, Sierra Guillemona, 1 ♀, R. Salas leg. (BVCM); Puebla de Don Fadrique, La Sagra, camino Toscanillos al Embudo, 1780m, 2/06/2012, 1 ♀, Daccordi leg. (MDCV); Los Toscanillos, 1600m, 8/07/2016, G. Bastazo leg., 1 ♂ ex larva (flawed) (BVCM); La Sagra, 8/10/[18]95, 1 ♂, Escalera leg. (MNCN).

MURCIA. Cañada de la Cruz, Puerto Alto, 1500m, 1/09/2019, 1 ♂ carcass, Bastazo y Vela leg. (BVCM); idem, 11/10/2015, 1 ♀ carcass, Bastazo y Vela leg. (BVCM).

## 6. *Timarcha marginicollis* Rosenhauer, 1856

Figs. 45-49, 90-91, 114-115, 147-148, 173, 190, 213-214, 241, 250, 273, 286.

*Timarcha marginicollis* Rosenhauer, 1856: 317 (original description).

*Timarcha splendida* Pérez-Arcas, 1872: 121 (original description), **syn. conf.**

*Timarcha sericea* var. *escalerae* Kuntzen, 1911: 215 (original description), **syn. conf.**

*Timarcha marginicollis* ab. *violetta* Bechyné, 1948: 61 (unavailable infrasubspecific name)

*Timarcha escalerae*: WEISE, 1916: 208 (cat., as a syn. of *T. marginicollis*); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat., as a syn. of *T. marginicollis*).

*Timarcha marginicollis*: FAIRMAIRE, 1868: 261 (cat.), 1884: 79 (key, descr.); FAIRMAIRE & ALLARD, 1873: 145 (key), 150 (descr.); HAROLD, 1874: 3460 (cat.); WEISE, 1882: 320 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 207 (cat.); MARSEUL, 1883: 38 (key), 81 (descr.), 1889: 506 (cat.); BECHYNĚ, 1948: 38 (cat.), 61 (morph.); COBOS, 1954: 153 (faun.); JOLIVET, 1954: 70 (biol.); CODINA, 1963: 46 (faun.); PETITPIERRE, 1970: 10 (morph.), 2019: 78 (key), 85 (descr.); DACCORDI & PETITPIERRE, 1977: 231 (faun.); PETITPIERRE *et al.*, 1988: 166 (kar.); GÓMEZ-ZURITA *et al.*, 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.), 2004: 334 (kar.); WARCHAŁOWSKI, 2003: 216 (key), 2010: 621 (key); GÓMEZ-ZURITA, 2004: 650 (mol. syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat.); PETITPIERRE & DACCORDI, 2013: 68 (faun., morf.); VELA & BASTAZO, 2013: 129 (faun.); PETITPIERRE & ANICHTCHENKO, 2018: 366 (morph.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 501 (cat.).

*Timarcha marginicollis* var. *splendida*: WEISE, 1916: 208 (cat.).

*Timarcha marginicollis* ab. *splendida*: WEISE, 1901: 350 (syn.), 1906: 551 (cat.); BECHYNĚ, 1948: 38 (cat.).

*Timarcha splendida*: FAIRMAIRE & ALLARD, 1873: 145 (key), 151 (descr.); PÉREZ-ARCAS, 1874: 105 (com.); MARSEUL, 1878: 82 (cat.); WEISE, 1882: 321 (key), 1883: 197 (cat.), 1891: 365 (cat.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 440 (cat., as a syn. to *T. marginicollis*); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 501 (cat. as a syn. to *T. marginicollis*).

**Type localities.** *T. marginicollis*: "Sierra Nevada". *T. splendida*: "S. Juan de Alcaráz (Paz!)", Valencia (Boscá!)" *T. sericea* var. *escalerae*: "Puebla de D. Fadrique, La Sagra".

**Type specimens examined.** *Timarcha marginicollis*. Types not found.

*Timarcha splendida*: LECTOTYPE, 1 ♂ (herein designated, fig. 45): "T. marginico- / llis Ros. var. / S. J. de Alcaraz // Paz! / Ex Fairmaire [reverse, h by Pérez-Arcas] // Col del Sr. / Perez Arcas [colección del Señor Pérez Arcas, p, w] // MNCN\_Ent / 100531 [p, bluish] // MNCN / Cat. Tipos N° / 9924 // Sintipo [p, r] // LECTOTYPUS [p] / *Timarcha* / *splendida* Pérez Arcas [h] / Daccordi et Vela des. 2017 [p, r]" (MNCN).

*Timarcha sericea* var. *escalerae*: not examined.

**Comments.** We were unable to find the types of *T. marginicollis* in ZMHB or MNHN. They're not in Zoologische Staatssammlung München either (KIPPENBERG, 2017). The combination *T. marginicollis* ab. *nevadensis* Fairm. in WEISE (1916: 208) is an erroneous attribution, whereas *T. nevadensis* is a synonym of *T. intermedia* ssp. *lugens*. With regard to *T. sericea* var. *escalerae*, we did not study the types, but we agree with the opinion of WEISE (1916) and GÓMEZ-ZURITA & KIPPENBERG (2010) that, according to the original description, it is a junior synonym of *T. marginicollis*.

**Diagnosis.** A large species. Males: 11.7-15.1 mm (lectotype of *T. splendida*: 12.7 mm); females: 14.4-16.5 mm. Body blackish, bronze black or violet, sometimes may be bicolour, legs with metallic shine (figs. 45-49). Last maxillary palp not or slightly wider in males than in females (figs. 90b, 91b). Antennomeres elongate; their ratio is 11-6-8-8-9-9-8-8-8-9-13 (♂) (fig. 90a) and 16-7-9-10-10-10-8-7-9-9-12 (♀) (fig. 91a). Transverse pronotum, 1.6-2.0 (♂♂, ♀♀) times wider than long, with sparse, uniform and sometimes uneven, strong punctation, usually with complete margin around the whole perimeter, seldom somewhat obliterated at the basal angles (figs. 114-115, 147-148); lateral sides are strongly curved, narrower and slightly sinuated posteriorly, with maximum width shortly ahead of the middle. Punctuation of the elytra normally weaker than the pronotum's, sometimes completely obliterate (figs. 45-49). Mesoventrite bituberculated (fig. 173). Tarsal formula in female is 2/3-1, 1/4-1/2, 0-1/3; 3/4-4/5, 1/4-1/2, 0-1/3; 4/5-1, 2/3-1, 1/4-1/2 (fig. 190). Aedeagus in dorsal view with a characteristic anchor form (fig. 213), in rare specimens may be deformed (fig. 214). Sclerite of endophallus with two well separated, large wings (fig. 241). Inflated endophallus very complex (fig. 250, see also fig. 10 in PETITPIERRE & ANICHTCHENKO, 2018, and fig. 28 in DACCORDI *et al.*, 2020). Spermatheca short, with basal arm shorter than distal one and apex rounded and slightly dilated (fig. 273).

**Variability:** A variable species in size, colour and punctation. In rare specimens the anterior margin of the pronotum is not complete or otherwise the lateral margin is only visible in its central part.

**Differential diagnosis.** This species is hardly mistaken for others. See in *T. kiesnewetteri*.

**Host plants:** *Galium* sp. (Rubiaceae) (JOLIVET, 1954, 1967; JOLIVET & PETITPIERRE, 1973; *present data*). The record of *Asperula* sp. (Rubiaceae) by VELA & BASTAZO (1999) should be confirmed.

**Distribution:** Southern Spain, in the provinces of Granada, Jaén, Murcia, Albacete and Ciudad Real (fig. 285). Old records from Valencia (PÉREZ-ARCAS, 1872) should be confirmed.

**Previous specific records:** ALBACETE: San Juan de Alcaraz [Riópar] (PÉREZ-ARCAS, 1872); Sierras de Huebras and Taibilla (PETITPIERRE, 2019).

GRANADA: Sierra Nevada (ROSENHAUER, 1856); Sierra Nevada: Puerto de la Ragua, 2100m (COBOS, 1954; JOLIVET, 1954); Sierra Nevada: Pico Veleta (PETITPIERRE, 1976); Sierra Nevada: several locations (VELA & BASTAZO, 2013); La Sagra (PETITPIERRE & DACCORDI, 2013).

JAÉN. Sierra de Cazorla: Mesa del Poyo del Manquillo (CODINA, 1963); Sierra de Cazorla: Fuente Bermeja (PETITPIERRE, 1970); Sierra de Cazorla: Fuente de la Umbría, Fuente Bermeja, Puerto Palomas, Mesa del Poyo del Manquillo, Sacejo (DACCORDI & PETITPIERRE, 1977); Sierra de la Pandera and Sierra de Segura (PETITPIERRE, 2019).

MURCIA. Sierra Espuña (HEYDEN, 1884).

**Studied material:** SPAIN. ALBACETE. Pico Almenara, 1600m, 1/05/1992, 1 ♂, J.L. Lencina leg. (MDCV); Mesones, acceso camping río Mundo, 889 m., 28/08/2015, 1 ♂, Irene Gómez de Dios leg. (BVCM); Riópar, 16/09/1977, 1 ♂ Mateu leg. (MDCV); Riópar, Sierra de Alcaraz, 12/05/1989, 1 ♀, X. Vázquez leg. (BVCM); idem, 1600 m., 1/05/1991, 1 ♂ 2 ♀♀, J.L. Lencina leg. (BVCM); Molinicos: 1 ♂, 1 ♀ (MNCN); Sierra de Segura, El Pardal, VI-1903, Escalera leg., 1 ♀ (MNCN); Alcaraz, 1 ♂ (MNCN); Riópar, 2 ♀♀ (MNCN); Sierra del Agua, 1 ♂, 1 ♀ (MNCN).

CIUDAD REAL. Sierra Madrona, 5 km N-NW Fuencaliente, 38°26'5.64"N, 4°20'25.15"W, 24/04/2018, robledal, 1 ♀, Rafael Obregón leg. (Col. Obregón). Lagunas de Ruidera, 3/06/1934, C. Bolívar leg. (MNCN).

GRANADA. Sierra Nevada, Pico Veleta, 2600m, 8/07/2006, 1 ♂, M. Daccordi leg. (MDCV); Sierra Nevada, cara N Veleta, 2900 m., 26/06/1980, 1 ♀, J.M. Ávila leg. (BVCM); Idem, 15/08/1981, 2 ♀♀ (BVCM); Carretera Granada-Veleta, 2700 m., 26/06/1980, 1 ♀, J.M. Ávila leg. (BVCM); idem, 13/08/1982, 2 ♂♂, 1 ♀ (BVCM); idem, 2500 m., 15/07/1981, 2 ♀♀ (BVCM); Sierra Nevada, camino Cucaracha a Laguna de Vacares, 2900 m., 11/07/1981, 1 ♀, J.M. Ávila leg. (BVCM); Sierra Nevada, Albergue Universitario, 2500 m., 27/08/1978, 1 ♂, A. Tinaut leg. (BVCM); idem., 2550 m., 2/10/1982, 1 ♂, 1 ♀, J.A. Fernández Cortés leg. (BVCM); Sierra Nevada, Peñones de S. Francisco, 2400 M., 10/06/1990, 1 ♂, P. Barranco leg. (BVCM); La Zubia, Puente de los Siete ojos, 1/10/1987, 1 ♂, M. Baena leg. (BVCM); Monachil, La Cortichuela, 1650 m., 4/08/1987, 1 ♀, M.A. Alonzo Zarazaga leg. (BVCM); idem., 19/03/1983, 1 ♀, F. Gutiérrez leg. (BVCM); Sierra Nevada, vereda de la Estrella, Cueva Secreta, 14/11/1988, 1 ♀, M. Ortiz leg. (BVCM); Pampaneira, Río Poqueira, 3/05/1982, 1 ♂, J.M. Ávila leg. (BVCM); Sierra Nevada, Puerto de la Ragua, 1 ♂, 1 ♀ (MNCN); La Sagra, 1900, Escalera leg., 1 ♂, 1 ♀ (MNCN); Sierra de Alfacar, 305VG5727, 19/06/1982, 1 ♀, B. Pascual leg. (BVCM); Puebla de Don Fadrique, La Sagra, 30/05/2012, 1 ♂, M. Daccordi leg. (MDCV); Puebla de don Fadrique, La Sagra, Prado de Toscanillos, 1700 m., 12/10/2012, 1 ♀, Bastazo y Vela leg. (BVCM); idem, 2/04/2014, 1 ♂ (BVCM); idem, 28/05/2016, 1 ♂, 1 ♀ (BVCM); idem, 1/11/2019, 1 ♀, Bastazo y Vela leg. (BVCM); Sierra Seca, 1850m, 7/06/2006, 1 ♀ M. Daccordi leg. (MDCV); Puerto de la Ragua, 22/10/1988, 1 ♀, A. Tinaut leg. (CCZ-UGR); Prados de Otero, Sierra Nevada, 25/7/1982, 1 ♂, A. Tinaut leg. (CCZ-UGR); Granada, Veleta, 2700 m., 19/9/1981, 1 ♂, J.M. Ávila leg. (CCZ-UGR).

JAÉN. Sierra de Cazorla, 9 /09/1980, 1 ♀, E. Crespillo leg. (BVCM); Sierra de Cazorla, Puerto de las Palomas, 1 ♂, Mateu et Cobos leg. (MDCV); Sierra de Cazorla, Iruela, Fuente Bermejo, v/1955, 1 ♀, Mateu et Cobos leg. (MDCV); Sierra de Cazorla, Pantano del Tranco, 20/09/1985, 1 ♂, Agustín Castro leg. (BVCM); Sierra de Cazorla, Nava de Paulo, 1700m, 22/06/1972, 1 ♀, Jeanne leg. (MDCV); Sierra de Cazorla, Puente de las Herrerías, 10/08/1986, 1 ♂, M. Baena leg. (BVCM); Siles,

5/11/1983, 1 ♂, J.L. Lencina leg. (MDCV); idem, 28/09/1984, 1 ♂, J.L. Lencina leg. (BVCM); Sierra de Cazorla, Sendero del Collado del Oso, Fuente del Oso, 22/11/2003, 1 ♀, M. López Vergara leg. (BVCM); Alcaudete, Sierra del Ahílo, 14/07/1991, 1 ♀, M. Baena leg. (BVCM); idem, 27/05/2012, 1 ♂ ex-larva on *Galium* (BVCM); Hornos, Sima de la Tubería, 18/08/2017, 1 ♀, G.E.V. leg. (BVCM); Sierra de Segura, Santiago-Pontones, Montalvo, 19/09/2017, 1 ♀, A. Castro Tovar leg. (BVCM); Linarejos, Sierra de Cazorla, 26/6/1973, 1 ♀, R. Yus leg. (CCZ-UGR).

MURCIA. Moratalla, El Sabinar-Benizar, Charán, 13/10/2012, 1 ♂, Bastazo y Vela leg. (BVCM); Moratalla, Cuevas de Zaén, 1200 m., 13/10/2012, 1 ♀, Bastazo y Vela leg. (BVCM).

### 7. *Timarcha scutellaris* Waltl, 1835

Figs. 50-58, 92-93, 116-119, 149-154, 176, 191-193, 217-221, 242, 251-252, 274-276, 287.

*Timarcha hispanica* Dejean, 1821: 122 (*nomen nudum*, unavailable).

*Timarcha scutellaris* Waltl, 1835: 84 (original description).

*Timarcha hispanica* Dejean, 1836: 399 (*nomen nudum*, unavailable).

*Timarcha hispanica* Dejean, 1837: 423 (*nomen nudum*, unavailable).

*Timarcha hispanica* Herrich-Schäffer, 1838: 156: 22b (original description), **nov. syn.**

*Timarcha rugipennis* Pérez Arcas, 1865: 442 (54) (original description), **nov. syn.**

*Timarcha erosa* Fairmaire & Allard, 1873: 157 (original description), **nov. syn.**

*Timarcha vermiculata* Fairmaire, 1880: 332 (original description), **nov. syn.**

*Timarcha laevisterna* Fairmaire, 1880: 332 (original description), **nov. syn.**

*Timarcha transversicollis* Fairmaire 1884: 87 (original description), **nov. syn.**

*Timarcha erosa*: FAIRMAIRE & ALLARD, 1873: 145 (key), 157 (descr.); HAROLD, 1874: 3459 (cat.); MARSEUL, 1878: 82 (cat.), 1883: 39 (key), 86 (descr.), 1898: 506 (cat.); WEISE, 1882: 319 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.); FAIRMAIRE, 1884: 85 (key, descr.); OLIVEIRA, 1894: 357 (cat.); BECHYNĚ, 1948: 31 (cat.); STEINHAUSEN, 2000: 61 (larval morph.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA, 2008: 370 (mol.syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 438 (cat.); PETIPTIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat., syn. of *T. hispanica*).

*Timarcha erosa* ssp. *vermiculata*: BECHYNĚ, 1948: 31 (cat.), 1962: 185 (rec.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA, 2004: 650 (mol. syst.); GÓMEZ-ZURITA et al., 2004: 334 (kar.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 438 (cat.).

*Timarcha hispanica*: GAUBIL, 1849: 193 (cat.); MARSEUL, 1857: 177 (cat.); 1863: 269 (cat.), 1883: 38 (key), 84 (descr.), 1889: 506 (cat.); PÉREZ-ARCAS, 1865: 444 (misidentification),

1874: 104 (com.); FAIRMAIRE, 1868: 261 (cat.), 1884: 83 (descr.); FAIRMAIRE & ALLARD, 1873: 145 (key), 156 (descr.); HAROLD, 1874: 3460 (cat.); WEISE, 1882: 319 (key), 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.), 1916: 206 (cat.); OLIVEIRA, 1894: 357 (cat.); BECHYNĚ, 1948: 31 (cat.); PETITPIERRE, 1970: 10 (morph.), 2019: 77 (key), 94 (morph.), 2021: 10 (cat.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA et al., 2000a: 307 (mol. syst.), 2000b: 593 (mol. syst.), 2004: 334 (kar.); GÓMEZ-ZURITA, 2004: 650 (mol. syst.), 2008: 370 (mol.syst.); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha hispanica* ssp. *erosa*: WEISE, 1916: 206 (cat., as var.).

*Timarcha hispanica* ssp. *laevisterna*: WEISE, 1916: 206 (cat., as var.); BECHYNĚ, 1948: 31 (cat.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.).

*Timarcha hispanica* ssp. *rugipennis*: WEISE, 1916: 206 (cat., as var.); BECHYNĚ, 1948: 31 (cat.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.).

*Timarcha hispanica* ssp. *transversicollis*: WEISE, 1916: 206 (cat., as var.); BECHYNĚ, 1948: 31 (cat.); WARCHAŁOWSKI, 2003: 214 (key), 2010: 619 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 439 (cat.).

*Timarcha hispanica* ssp. *vermiculata*: PETITPIERRE et al., 1988: 166 (kar.).

*Timarcha laevisterna*: MARSEUL, 1883: 39 (key), 87 (descr.), 1889: 506 (cat.); WEISE, 1883: 197 (cat.), 1891: 365 (cat.), 1906: 551 (cat.); FAIRMAIRE, 1884: 84 (key, descr.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat., syn. of *T. hispanica*).

*Timarcha rugipennis*: FAIRMAIRE, 1868: 261 (syn. to *T. hispanica*); FAIRMAIRE & ALLARD, 1873: 156, 157 (syn. of *T. hispanica*); PÉREZ-ARCAS, 1872: 123 (*bona species*), 1874: 104 (*bona species*); WEISE, 1882: 319 (key), 1883: 197 (cat.), 1891: 365 (cat., syn. of *T. hispanica*), 1906: 551 (cat., syn. of *T. hispanica*); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat., syn. of *T. hispanica*).

*Timarcha scutellaris*: SILBERMANN 1836: 158 (repeated descr. in Latin); WALT, 1939: 84 (rep. descr.); MARSEUL, 1857: 177 (cat.); 1863 (cat.); 1869: 32 (repeated descr. in French); FAIRMAIRE, 1868: 261 (cat.); FAIRMAIRE & ALLARD, 1873: 201 (repeated from MARSEUL, 1869); HAROLD, 1874: 3461 (cat.); WEISE, 1916: 206 (cat., as a possible syn. of *T. goettingensis*); GÓMEZ-ZURITA & KIPPENBERG, 2010: 441 (cat., as *nomen dubium*); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (possible synonym of *T. hispanica*).

*Timarcha transversicollis*: MARSEUL, 1889: 506 (cat.); WEISE, 1891: 365 (cat.), 1906: 551 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat., syn. of *T. hispanica*).

*Timarcha vermiculata*: WEISE, 1882: 319 (key), 1891: 365 (cat.), 1906: 551 (cat.), 1883: 197 (cat.); MARSEUL, 1883: 39 (key), 85 (descr.), 1889: 506 (cat.); FAIRMAIRE, 1884: 83 (key, descr.); OLIVEIRA, 1894: 357 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat., syn. of *T. hispanica*).

**Type localities.** *T. scutellaris*: “Cádiz, La Línea”; *T. hispanica*: “Madrid, Chinchón”; *T. rugipennis*: “Castilla la Nueva: El Escorial, Madrid, Aranjuez, Villatobas, Daimiel; Córdoba; Murcia”; *T. erosa*: “Portalègre”; *T. vermiculata*: “Portugal”; *T. laevisterna*: “Cuenca”.

**Type specimens examined.** *Timarcha scutellaris*: NEOTYPE ♂ (herein designated, fig. 50): “Hispania, La Línea, 2 m / Cádiz, Camino de Sobrevela / cerca Asansull 26-XII-1990 / Leg. José Luis Torres [p] // NEOTYPUS / *Timarcha scutellaris* Waltl / Vela et Daccordi des. 2021 [p, r]” (MNCN).

*Timarcha hispanica*: NEOTYPE ♂ (herein designated, fig. 51): “HISPANIA Madrid / Chinchón, 2-XI-2008 / Juan J. de la Rosa leg. [p] // NEOTYPUS / *Timarcha hispanica* Herrich-Schäffer / Vela et Daccordi des. 2021 [p, r]” (MNCN).

*Timarcha rugipennis*: LECTOTYPE ♂ (herein designated, fig. 52): “T. / rugipennis / Per. / Escorial [h by Pérez Arcas] / Laguna [reverse, h by Pérez Arcas] // MNCN\_Ent / 100947 [p] // Sintipo [p, r] // MNCN / Cat. Tipos N° [p] / 9925 [h, r] // LECTOTYPUS [p] / *Timarcha / rugipennis* Pérez Arcas [h] / Daccordi et Vela des. 2017 [r, p]” (MCNM). PARALECTOTYPE ♂, “Aranjuez [h by Pérez Arcas] / Sainz! [reverse, h by Pérez Arcas] // MNCN\_Ent / 100948 [p] // Sintipo [p, r] // MNCN / Cat. Tipos N° [p] / 9925 [h, r] // PARALECTOTYPUS [p] / *Timarcha / rugipennis* Pérez Arcas [h] / Daccordi et Vela des. 2017 [r, p]” (MCNM).

*Timarcha erosa*: LECTOTYPE ♂ (herein designated, fig. 53): “S. Portalegre [p] // *erosa* [h by Fairmaire] // ♂ [h] // TYPE [r, p] // LECTOTYPUS [p] / *Timarcha / erosa* Fairm. [h] / Daccordi et Vela des. 2017 [r, p]” (NMHN).

*Timarcha vermiculata*: LECTOTYPE ♂ (herein designated, fig. 54): “Monchique [p] // 4 [h] // TYPE [red letters] // LECTOTYPUS [p] / *Timarcha / vermiculata* Fairm. [h] / Daccordi et Vela des. 2017 [r, p]” (NMHN).

*Timarcha laevisterna*: LECTOTYPE ♂ (herein designated, fig. 55): “*Timarcha / laevisterna* / f.[?] Cuenca [h by Fairmaire] // 325 [p] // TYPE [red letters] // LECTOTYPUS [p] / *Timarcha / laevisterna* Fairm. [h] / Daccordi et Vela des. 2017 [r, p]” (NMHN).

*Timarcha transversicollis*: It was not found in coll. Fairmaire (MNHN).

**Comments.** WALTZ (1835) validly described *T. scutellaris*. Later authors recorded it in catalogues or repeated the original description. WEISE (1916) listed it with some doubts as a synonym of *T. goettingensis*. GÓMEZ-ZURITA & KIPPENBERG (2010) regarded it as a *nomen dubium*, and PETITPIERRE & ALONSO-ZARAZAGA (2019) listed it among the synonyms of *T. hispanica* with a question mark. We failed to find the types of this species. Interestingly, the types of *T. apricaria*, species described by WALTZ (1835) in the same work, are present in ZMHB. In this situation and with the purpose of clarifying its doubtful taxonomic status, we here designate a neotype for *Timarcha scutellaris*. The selected neotype accords with the original description and comes from a location (Cádiz, La Línea) close to that where we suppose that Waltz could collect the species; it is worth to remark that the types of *T. apricaria*, due to their colouration and slight folding of elytra, are most probably specimens coming from the South of the Cádiz province.

*Timarcha hispanica* was validly described by HERRICH-SCHÄFFER (1838). Later, PÉREZ-ARCAS (1865) considered it

as close to *T. goettingensis*, but this opinion was modified by Fairmaire (in FAIRMAIRE & ALLARD: 1873: 157). Afterwards, FAIRMAIRE (1884: 83) contested again the interpretation of *T. hispanica* given by both PÉREZ-ARCAS (1865) and WEISE (1882). The first locality for *T. hispanica* appears in DEJEAN (1821, 1836, 1837) as Hispania. In the original description (HERRICH-SCHÄFFER, 1838) there is not an explicit locality. Specific locations are found in FAIRMAIRE & ALLARD (1873) as “Madrid, Guadarrama (Mieg.); Andalousie, Murcie (Guirao)”. We failed to find the types of *Timarcha* described by HERRICH-SCHÄFFER (1838), and therefore, with the purpose to clarify the nomenclature we have here designate a neotype from a locality at about 20 km SE Madrid.

*T. scutellaris* was doubtfully listed as a synonym of *T. goettingensis* (WEISE, 1916) or *T. hispanica* (PETITPIERRE & ALONSO-ZARAZAGA, 2019). *Timarcha sobrina* Fairmaire was listed as a synonym of *T. hispanica laevisterna* (GÓMEZ-ZURITA & KIPPENBERG, 2010) or *T. hispanica* (PETITPIERRE & ALONSO-ZARAZAGA, 2019), but *T. sobrina* is a valid species, different from *T. scutellaris*. PETITPIERRE & ALONSO-ZARAZAGA (2019) correctly considered *T. erosa* and *T. vermiculata* as junior synonyms of *T. hispanica*. The statement by GOZIS (1875) that *T. gallica* Fairmaire & Allard, 1873 and *T. bruleriei* Bellier, 1870 are synonyms of *T. scutellaris* is incorrect. Old records of *Timarcha rugosa* (Linnaeus) from Southern Spain (see HEYDEN 1883), possibly are to be referred to *T. scutellaris*.

**Diagnosis.** Males: 10.0-12.2 mm (neotype of *T. scutellaris*: 11.9 mm; lectotypes: *T. rugipennis*: 9.4 mm, *T. erosa*: 11.3 mm, *T. vermiculata*: 11.6 mm, *T. laevisterna*: 10.5 mm); females: 10.6-14.5 mm. Body black, antennae and legs with a slight blue shine (figs. 50-58). Last maxillary palp wider in males than in females (figs. 92b, 93b). Antennomeres not very elongate; their ratio is 10-4-7-7-7-6-8-5-7-7-10 (♂) (fig. 92a) and 11-5-7-7-7-5-6-6-6-6-10 (♀) (fig. 93a). Pronotum transverse, 1.8-2.1 (♂♂), 1.9-2.1 (♀♀) times wider than long, laterally regularly curved, with maximum width in the middle, sometimes the lateral sides are slightly protruding outwards at the base (figs. 149-154). A species usually recognized for its dense punctation on elytra, making the surface vermiculated or rugose, with punctures sometimes anastomosed, and for the regularly curved sides of the pronotum. The punctation of head and pronotum goes from sparsely distributed to a denser punctation, it is to say, ranging the distance between punctures ranges from 2-3 times to 1-2 times the diameter of a puncture. On the elytra the punctation is dense, with distances between punctures from 0.5-1 times the diameter of a puncture in some specimens to 1-2 times the diameter of a puncture in others; secondary punctation is finer in the spaces between punctures; the elytra may be vermiculated, but in some populations the spaces between punctures are not elevated (figs. 54-58). Mesoventrite bituberculated and very protruding (figs. 176). Tarsal vestiture in females with a glabrous line along the tarsomeres, the tarsal formula being 1,1,1; 1,1,1; 1,1,1; the tarsomere III generally deeply notched at the apex, and with the glabrous line narrowed but not obliterated distally (figs. 191-193). Aedeagus in dorsal view narrowed near the apex with usually straight, convergent sides, with shortly rounded tip (figs. 217-221). Sclerite of endophallus with a single, long and distally curved phanera (fig. 242). Inflated endophallus is small and simple (fig. 251-252; see also fig. 31 in PETITPIERRE & ANICHTCHENKO,

2018). Spermatheca variable, short or somewhat elongate, with apex rounded (figs. 274-276).

**Variability:** Specimens from Southern Portugal (described as *T. vermiculata*) show more weakly punctured pronotum and elytra (figs. 54, 57).

**Differential diagnosis.** Within the species with well developed and evidently bituberculated mesoventrite, the small specimens of *T. scutellaris* can only be mistaken for *T. granadensis* (see in this species for differential characters).

**Host plants:** *Galium* sp. (JOLIVET & PETITPIERRE, 1973), *Crucianella maritima* L. (PETITPIERRE, 2019; present data) (Rubiaceae), and *Plantago macrorhiza* Poirlet (Plantaginaceae) (present data, observations in Cádiz, La Línea).

**Distribution:** Central and Southern Spain (generally North of Guadalquivir basin, missing across the Bethic range) and Central and Southern Portugal (fig. 287).

#### Previous specific records:

PORTUGAL. ALGARVE. Cabo de São Vicente; Vale do Lobo (TEUNISSEN, 2002). BAIXO ALENTEJO. Beja (OLIVEIRA, 1894); São Torpes (GÓMEZ-ZURITA *et al.*, 2000a); ALTO ALENTEJO. Serra de Portalegre; Évora (OLIVEIRA, 1894); RIBATEJO: Azambuja (OLIVEIRA, 1894); Santarem: Porto Alto (GÓMEZ-ZURITA, 2004); PORTALEGRE: Elvas (UHAGÓN, 1887).

SPAIN. BADAJOZ: Badajoz (UHAGÓN, 1887). CÁDIZ: San Roque (BECHYNÉ, 1962); Algeciras (PETITPIERRE, 1976); Algeciras (PETITPIERRE *et al.*, 2011). CIUDAD REAL: Puerto de Caracuel (GÓMEZ-ZURITA *et al.*, 2000a). HUELVA: Almonaster la Real, Cortegana, Hinojales, Valverde del Camino, Zalamea la Real (PETITPIERRE & LÓPEZ-PÉREZ, 2015). MADRID: Sierra de Guadarrama (GARCÍA-OCEJO & GURREA, 1995). MURCIA: Abanilla (TEUNISSEN, 2002).

Records from Teruel (Calomarde, Royuela) by TEUNISSEN (2002), Córdoba (Sierra de Cabra) by TALLÓN & BACH (1986), Salamanca and Palencia (Baltanás) by PETITPIERRE (2019) and Bragança, Douro and Guarda (OLIVEIRA, 1894) should be confirmed with new findings.

#### Studied material:

PORTUGAL. ALGARVE. Cabo São Vicente, vii/1970, 1 ♂, Coiffait leg. (MDCV); idem, 23/3/1989, 4 ♂♂, 5 ♀♀, Bastazo y Vela leg. (BVCM); idem, 25/03/1991, 1 ♂, 7 ♀♀ (BVCM); Algarve, Sagres, 2/4/1983, 1 ♀, J. & E. Vives leg.; Algarve, Sagres, Fortaleza, 5/12/1989, 2 ♂♂, 2 ♀♀, J. & E. Vives leg.; Alto Alentejo, Campo Maior, 28/6/1983, 1 ♂, A. Zuzarte leg. (col. E. Vives); Ribatejo, Coruche, Monte de Barca, 6/11/1983, 2 ♂♂, A. Zuzarte leg. (col. E. Vives); Praia Carrapateira, 31/10/2011, 2 ♂♂, 3 ♀♀, Bastazo y Vela leg. (BVCM); Algarve, Serra de Monchique, 1 ♂ (MDCV); Algarve, Serra de Monchique, Foia, 900 m., 31/10/2011, 6 ♂♂, 6 ♀♀, Bastazo y Vela leg. (BVCM); Sines, São Torpes, 28/03/1991, 1 ♂, 7 ♀♀, on *Crucianella maritima*, Bastazo y Vela leg. (BVCM); Portalegre, Vale Mouro, Parque N.S.S. Mamede, 10-24/10/2001, Pitfall, 1 ♂, A. Zuzarte leg. (BVCM); Portalegre dist., Montargil Dam, 6.5 km NE of Montargil, 7-8/05/2013, 1 ♂, 2 ♀♀, Jan Pelikan leg. (BVCM); São Torpes, Sines, 28/3/1991, 1 ♀, J.M. Ávila leg. (CCZ-UGR).

SPAIN. ALBACETE. El Bonillo, 7/03/2015, 1 ♀, F. A. Montes leg. (BVCM); idem, 8/12/1990, A.S. Ruiz, 1 ♀ (BVCM); Pinilla,

Viveros, 31/03/1986, 1 ♀, P.J. Cano Romero leg. (BVCM).

ÁVILA. Navalperal, 1 ♂ (MNCN); Puerto de Villatoro, 1380m, 12/06/1969, 1 ♂, J.Vives-Durán leg. (MDCV).

BADAJOZ. Olivenza, 38.708304, -7.092944, 29/10/2020, 1 ♂, C. Mora-Rubio leg. y col.

CÁDIZ. Tarifa, 29/01/1984, 1 ♂, J.L. Torres leg. (BVCM); La Línea, 22/02/1982, 1 ♂, J.L. Torres leg. (MDVC); La Línea, El Zabal, 27/07/1984, 2 ♀♀, J.L. Torres leg. (BVCM); La Línea, camino Sobrevela, 26/12/1990, 4 ♂♂, 4 ♀♀, J.L. Torres leg. (BVCM); Algeciras, 1 ♂, Simon leg. (MDCV); Algeciras, marismas del río Palmones, 20/04/1988, 2 ♂♂, 1 ♀, J.L. Torres leg. (BVCM); Idem, 5/01/1989, 1 ♂, 1 ♀, J.L. Torres leg. (BVCM); Gibraltar, 1 ♂, J. Walker leg. (MDCV).

CÓRDOBA. Córdoba, 1 ♂ (MDCV); idem, 1 ♀ (MNCN); idem, Santa María de Trassierra, El Salado, verano 1999, 1 ♀, sin colector (BVCM); Canteras de Santa Ana, alred., 1 ♂, 1 ♀, 23/12/2020, M. Baena leg. (BVCM).

CIUDAD REAL. Daimiel, 1 ♀ (MNCN).

CUENCA. Cuenca, 1 ♂, Korb (MDCV); Uclés, 2 ♂♂ (MNCN).

HUELVA. Moguer, El Cebollar, 7/11/2013, 2 ♂♂, 1 ♀, J.M. Molina leg. (BVCM); Moguer, Mazagón, noviembre 1997, 1 ♀, M.A. Gómez de Dios leg. et col.; Cartaya, Las Cumbres, 28/10/2001, 2 ♂♂, 2 ♀♀, J.M. Vela leg. (BVCM); Cartaya, El Rompido, Agua del Pino, 2/01/2003, 1 ♀, J. M. Vela leg. (BVCM); Niebla, La Peñuela, 16712/1984, 1 ♂, M. Huertas leg. (BVCM); Idem, 22/12/1985, 1 ♂, 2 ♀♀ (BVCM).

MADRID. Chinchón, 2/11/2008, 2 ♂♂, 3 ♀♀, J.J. de la Rosa leg. (BVCM); Escorial, 1 ♂ (MNCN); Escorial, 1 ♂, J. Lauffer (MNCN); Ribas [Rivas-Vaciamadrid], 2 ♂♂ (MNCN); Montarco [Rivas-Vaciamadrid], 2 ♂♂ (MNCN); Cercedilla, 1 ♂ (MNCN).

MURCIA. Yecla, La Anchura, 17/10/2009, 1 ♀, J.L. Lencina leg. (BVCM); Idem, 26/10/2010, 2 ♂♂ (MDVC, BVCM); idem, 7/12/2012, 1 ♂ (BVCM).

SEVILLA. El Pedroso, Embalse de Huesna, 24/11/1996, 1 ♂, 1 ♀, J.M. Barreda leg. (BVCM).

TOLEDO. Navahermosa, 27/02/2007, 1 ♂, A. Anichtchenko leg. (MDVC); Tembleque, 2/11/2008, 1 ♀, F.A. Montes leg. (BVCM).

## 8. *Timarcha strophium* Weise, 1888

This species will be treated by focusing on two subspecies.

### 8.1. *Timarcha strophium* ssp. *strophium* Weise, 1888

Figs. 59-60, 94-95, 120, 155, 177-179, 222, 243, 288.

*Timarcha strophium* Weise, 1888: 124 (original description).

*Timarcha fossulata* Bechyné, 1944: 221 (original description), **nov. syn.**

*Timarcha strophium*: MARSEUL, 1889: 506 (cat.); WEISE, 1891: 365 (cat.), 1906: 551 (cat.); BECHYNÉ, 1948: 34 (cat.), 60 (descr.); WARCHAŁOWSKI, 2003: 215 (key), 2010: 620 (key); GÓMEZ-ZURITA & KIPPENBERG, 2010: 442 (cat.); PETITPIERRE, 2019: 77 (key), 98 (descr.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

*Timarcha fallax* var. *strophium*: WEISE, 1916: 204 (cat.).

**Type localities.** *T. strophium*: “bei Cuenca in Castilien und Camarena in Arragonien” [near Cuenca in Castille and Camarena in Aragon]. *T. fossulata*: “Algeria” [wrong type locality].

**Type specimens examined.** *Timarcha strophium*: LECTOTYPE, 1 ♂ (herein designated, fig. 59): “Cuenca / Korb [h by Weise] // 27.3.87 [h] // strophium / \* 88 [h by Weise] // ex coll. / Weise [p] // Type // SYNTYPUS / Timarcha / strophium Weise, 1888 / labelled by MNHUB 2007 [p, r]” (ZMHB). PARALECTOTYPE, 1 ♀ “Cuenca / Korb [h by Weise] // ex coll. / Weise [p] // Type // SYNTYPUS / Timarcha / strophium Weise, 1888 / labelled by MNHUB 2007 [p, r]” (ZMHB). PARALECTOTYPE, 1 ♂: “Cuenca / Korb [h by M. Daccordi] // SYNTYPUS [p, r] / Timarcha / strophium Weise [h by M. Daccordi]” (ZMHB). PARALECTOTYPE, 1 ♂: “Camarena / 29.4.87 // strophium / Weise [h by Weise]” (ZSM).

*Timarcha fossulata*: HOLOTYPE, ♀ (fig. 60): “rugosa v<sup>a</sup> / ζ Oran [h] // COLL. ACHARD / MUS. PRAGENSE [p] // TYPUS [p, r] // Mus. Nat. Pragae [p] / 65686 [h] / Inv. [p, r] // Timarcha TYPE / fossulata n. sp. [h by Bechyně] / 194[p]4[h] Det . J. Bechyně. // Timarcha / strophium Wse. / nov. syn. / det. M. Daccordi 2015” (NMPC).

**Other relevant specimens.** The type series of *T. strophium* is also composed by 6 additional paralectotypes: 1 ♂, 2 ♀♀ “Cuenca [h, p]” (ZMHB) and 1 ♂ “Cuenca / 1.4.87 [h, w]”, 1 ♀ “Cuenca / 31.3.87 [h, w]”, 1 ♀ “Cuenca / 1.4.87 [h, w]” (ZSM). In ZMHB and ZSM there are some specimens with labels: “Cuenca / 14.4.96 [h probably by Weise, w] which were collected after the description date, so they are not syntypes.

**Diagnosis.** A medium sized species, the length indicated in the original description is 10.5-15.0 mm (♂♂, ♀♀); males: lectotype: 12.5 mm (lectotype), 10.4-12.0 mm (paralectotypes); females: 15.1 mm (paralectotype). Body black (fig. 59, 60). Last maxillary palp similar in males than in females (figs. 94b, 95b). Antennomeres not very elongate; their ratio is about 10-5-7-8-8-7-8-7-7-10 (figs. 94a, 95a). Transverse pronotum, 1.7-1.9 (♂♂), 1.9 (♀) times wider than long, with moderate, well visible, sparse, irregular punctation (fig. 120); margin is normally complete around the whole perimeter; lateral sides are strongly curved and narrower posteriorly, where they are sinuate; posterior angle protrudes a little bit outwards; the maximum width is in the middle (fig. 155). Punctuation of the elytra is stronger than the pronotum's, interspersed with smaller punctures (figs. 59, 60). Bituberculated mesoventrite (figs. 177-179). The last ventrite has a hair tuft in the middle. Tarsal vestiture in female is 1,1,3/4-1; 1,1,3/4-1; 1,1,3/4-1. Aedeagus in dorsal view with rounded apex (fig. 222). Sclerite of endophallus with a thick flagellum, curved inwards distally, and a single phanera longer than in *T. intermedia*, going out the flagellum in its basal 2/5 (fig. 243). Endophallus and spermatheca not studied.

**Differential diagnosis.** This species is closely related to *T. intermedia*. Both species can be distinguished in that *T. intermedia* is on average larger, with finer punctation (sometimes hardly visible) in the pronotum and elytra, the sides of its pronotum near the base are usually not sinuated, and the posterior angles are not protruding. The aedeagus, the endophallus sclerite and the spermatheca are quite different.

**Host plants:** No information, but probably a Brassicaceae, as it is for *T. strophium* ssp. *carmelena*.

**Distribution:** Central Eastern Spain: “Near Cuenca” (Cuenca) and Sierra de Javalambre (Teruel) (WEISE, 1888) (fig. 288).

**Previous specific records:** No one since the original description.

**Studied material.** CUENCA. Castilien, Cuenca, 1 ♀, Korb 1896 (ZSM); idem, 1898 (ZSM).

## 8.2. *Timarcha strophium* ssp. *carmelena* Petitpierre, 2013, nov. comb.

Figs. 61-62, 96-97, 121, 156-159, 180-183, 194, 224-226, 244, 253, 277-280, 288.

*Timarcha carmelena* Petitpierre, 2013: 65 (original description)

*Timarcha intermedia* ssp. *carmelena*: PETITPIERRE & ANICHTCHENKO, 2018: 365 (morph.).

*Timarcha intermedia* ssp. *kiesenwetteri*: PETITPIERRE & ANICHTCHENKO, 2018: 365 (morph., erroneous attribution).

*Timarcha carmelena*: VELA *et al.*, 2017: 49 (faun.); PETITPIERRE, 2019: 79 (key), 106 (descr.), 2021: 10 (cat.); PETITPIERRE & ALONSO-ZARAZAGA, 2019: 503 (cat.).

**Type localities.** “La Sagra: Embudo, 1800-2200 m alt., Huéscar, Granada”.

**Type specimens examined.** *Timarcha carmelena*: PARATYPES (figs. 61-62): 3 ♂♂, 3 ♀♀, “Hispania Granada 1800m / Huéscar, Sierra Seca / Camino de los Prados / Peñón del Toro, 28-05-2011 / Bastazo y Vela leg. [p, w]” (BVCM). 2 ♂♂, “Hispania Granada 2-06 / 2012 Puebla D. Fadrique / 1800m La Sagra Collado / Víboras. Bastazo-Vela leg. [p, w]” (BVCM). 5 ♂♂, 1 ♀ “Hispania Granada / Puerto de la Sagra / Huéscar 1-1-2012 / 1670 m Bastazo y Vela leg. [p, w]” (BVCM).

**Diagnosis.** Males: 10.1-12.1 mm; females: 12.0-15.0 mm. Body black (figs. 61, 62). Last maxillary palp similar in males than in females (figs. 96b, 97b). Antennomeres more or less elongate, with ratio 10-5-8-7-8-7-8-5-7-6-10 (♂) (fig. 96a) and 11-6-9-9-7-9-8-6-7-8-11 (♀) (fig. 97a). Transverse pronotum, 1.8-2.2 (♂♂, ♀♀) times wider than long, with generally weak, regularly sparse punctation (fig. 121); the margin may be complete around the whole perimeter, but in some populations the posterior angle is not well visible from above, or otherwise the margin may be obliterated at the posterior angle; lateral sides regularly curved and occasionally are subcordiform, with maximum width a little bit ahead of the middle; usually the posterior angles are somewhat protruding outwards (figs. 156-159). Punctuation of elytra usually is weak but stronger than in pronotum, with secondary minor punctation (figs. 61, 62). Mesoventrite bituberculated (figs. 180-183). Last ventrite with a tuft of hair in the middle. Tarsal formula in female is 1,1,3/4-1; 1,1,3/4-1; 1,1,3/4-1 (fig. 194). Genitalia as in the nominotypical subspecies. Aedeagus as in figs. 224-226. Sclerite of the endophallus, with some variations, as in figs. 244a-b. Inflated endophallus very large (fig. 253; see also figs. 5-6 in PETITPIERRE & ANICHTCHENKO, 2018). Spermatheca long, thin, sometimes

curved laterally and apex acute (figs. 277–280), rarely bifurcated (fig. 279).

**Differential diagnosis.** The only character that distinguishes the ssp. *carmelena* from the nominotypical subspecies is the somewhat weaker punctuation in pronotum and elytra in the former. We provisionally consider valid this subspecies, despite its weak difference, in consideration of their large geographical gap (see fig. 288).

**Host plants:** Mainly found on *Hormatophylla spinosa* (L.) K pfer (PETITPIERRE & DACCORDI, 2013), but also on *Lobularia maritima* (L.) Desv. ssp. *maritima* (Brassicaceae) (VELA *et al.*, 2017).

**Distribution:** Albacete, Granada, Ja n, M laga (fig. 288).

**Previous specific records:** ALBACETE: Yeste, Cerro de las Mentiras (PETITPIERRE & DACCORDI, 2013); GRANADA: La Sagra; Sierra de Castril: Pe n del Toro; Sierra Guillemona, Puerto de la Sagra (PETITPIERRE & DACCORDI, 2013); Sierra Tejeda: Maroma, Navachica, Pico Lucero (VELA *et al.*, 2017). M LAGA: Surroundings of M laga city (COBOS, 1949 *sub T. sericea*; present data); Maro, C mpeta: Puerto del Collado (VELA *et al.*, 2017). JA N. Sierra M gina (PETITPIERRE & ANICHTCHENKO, 2018).

**Studied material.** SPAIN. GRANADA. Iznalloz, Pico Arana, 1900 m., 2/10/2010, 2 ♂♂ 5 ♀♀, A. Castro Tovar leg. on *Hormatophylla spinosa* (BVCM); *idem.*, 3/10/2010, 2 ♂♂ 1 ♀, M. Baena leg. on *Hormatophylla spinosa* (BVCM); *idem.*, 16/10/2010, 5 ♂♂ 5 ♀♀, Bastazo y Vela leg. on *Hormatophylla spinosa* (BVCM); *idem.*, 19/05/2013, 1 ♀, Daccordi, Bastazo y Vela leg. (BVCM); *idem.*, 17/11/2018, 3 ♂♂, Bastazo y Vela leg. (BVCM); Sierra de Almijara, Pico Lucero, 1770 m., 13/10/2014, 1 ♂, Bastazo y Vela leg. (BVCM); Sierra Tejeda, cara N, 1833 m., 30/10/2016, 1 ♂,  scar Gavira leg. (BVCM); Sierra Tejeda, La Maroma, 2000 m., 27/12/1983, 1 ♀, G. Bastazo leg. (BVCM); Sierra Almijara, Navachica, 1800 m., 14/12/1990, 1 ♀, Bastazo y Vela leg. (BVCM).

C RDOBA. Sierra Horconera, Priego, 4/09/1988, 1 ♀ on *Hormatophylla spinosa*, M. Baena leg. (BVCM).

JA N. Sierra de Cazorla, control Rambla seca, 20/06/2015, 4 ♂♂, 5 ♀♀, under *Hormatophylla spinosa*, Bastazo y Vela leg. (BVCM); Sierra de Cazorla, Campos de Hern n Perea, 15/10/2009, 1 ♀, A. Castro Tovar leg. (BVCM); *idem.* 23/10/2010, 1 ♀; Sierra de la Pandera, Alto de la Pandera, 1800 m., 5/11/2011, 3 ♂♂, 2 ♀♀, M. L pez-Vergara leg. (BVCM); *idem.* 11/06/2011, 3 ♂♂, 3 ♀♀, Bastazo y Vela leg. (BVCM); *idem.* 27/05/2017, 2 ♂♂, Bastazo y Vela leg. (BVCM); Sierra de Jabalcuz, 5/08/2009, 1 ♂, M. Aguilar leg. (BVCM); Mancha Real, Pico Almad n, 2036 m., 25/09/2010, 1 ♂, 2 ♀♀, A. Castro Tovar leg. (BVCM); *idem.* 14/05/2012, 3 ♂♂, 3 ♀♀ on *Hormatophylla spinosa*, A. Castro Tovar (BVCM); *idem.* 27/05/2012, 1 ♂, 2 ♀♀, Daccordi, Bastazo y Vela leg. (BVCM); *idem.* 10/03/2019, 1 ♂, 2 ♀♀, M. Baena leg. (BVCM); Sierra de Cazorla, Barranco r o Borosa, 31/10/1993, 2 ♀♀, A. Ochotorena leg. (BVCM); Sierra de Cazorla, central hidroel ctrica r o Borosa, 3/04/1987, 1 ♂, L. Rozas leg. (BVCM); Sierra de M gina, Ca o del Aguadero, 1700 m., 24/11/2012, 4 ♂♂, 4 ♀♀, A. Castro Tovar leg. on *Hormatophylla spinosa* (BVCM).

M LAGA. Maro, manantial, 1/05/2013, 1 ♂ 1 ♀, Bastazo y Vela leg. (BVCM); Mijas, Cantera Los Arenales, 833 m.,

15/10/2015, 1 ♂, J.R. Boyero leg. (BVCM).

## Nomina dubia

### *Timarcha apricaria* Gistel, 1832a

*Timarcha apricaria* Gistel, 1832a: 130 (original description)

*Timarcha apricaria*: GISTEL, 1832b: 152 (cat.)

**Comment.** The type specimens were collected by Waltl on his entomological trip to Andalusia in 1829 (GISTEL, 1832a). Probably, Gistel named the taxon looking at Waltl's material or getting some of his duplicates. Few years later, WALTl (1835) described the specimens that he had collected with the same name, *T. apricaria*. Gistel's types have not been found in ZSM (Balke, com. pers. to JMV, 2021), and we cannot state for sure if the taxa described by Gistel and by Waltl refer to the same species. Therefore, we consider this name doubtful for the moment.

### *Timarcha angulicollis* Motschulsky, 1849

*Timarcha angulicollis* Motschulsky, 1849: 151

**Comment.** This name had been included as a synonym of *T. tenebricosa* (WEISE, 1882: 322; G MEZ-ZURITA & KIPPENBERG, 2010: 442; PETITPIERRE & ALONSO-ZARAZAGA, 2019: 504). However, it was described as coming from the surroundings of Cartagena or even from a larger area in the South of Spain (MOTSCHULSKY, 1849), where *T. tenebricosa* is missing. The reading of the description indicates that it could be a junior synonym of *T. apricaria*, but it is impossible to be sure. The types are neither in the Zoological Museum of Moscow State University nor in the Zoological Institute of Russian Academy of Sciences, St. Petersburg, even though the type of *T. iberica* Motschulsky, 1849, from Georgia, the other *Timarcha* species described in the same paper, has been successfully found in the latter institution. Another possibility could be that *T. angulicollis* is a junior synonym of *T. intermedia*. In both cases *T. angulicollis* have no priority over said taxa and we cannot take a decision lacking further informations.

## Species excluded from the iberian fauna

### *timarcha gravis* Rosenhauer, 1856

*Timarcha gravis* Rosenhauer, 1856: 316 (“Sierra Nevada” [in Granada]).

**Comment.** The type of this species (in MNHN), with a wrong label, is a North African species that will be dealt with elsewhere.

### *Timarcha rugosula* Rosenhauer, 1856

*Timarcha rugosula* Rosenhauer, 1856: 321 (non *rugosula* Rambur in Dejean, unavailable) (“M laga”).

**Comment.** A syntype (in MNHN) belongs to a European species not living in the South of the Iberian Peninsula. The name was actually proposed by Rambur, but the taxon remained undescribed (*nomen nudum*) in the records by DEJEAN (1836, 1837) (see under *T. insparsa*). ROSENHAUER (1856) erroneously gave this name to a different species, with barely protuberant mesoventrite, close to *T. goettingensis*.



**Key to the southern iberian species of *Timarcha***

*Timarcha* species can certainly be separated by the sclerite and the endophallus (inner sac), sometimes by the aedeagus, the external characters being helpful. Therefore, the key to the females is approximate, as there are few characters that can perfectly separate the species and their subspecies. For the key to the males, we have used mainly the characters of the aedeagus and the sclerite to species, and external characters for separating the subspecies. In addition to using the key, it is advisable to read the "Differential diagnosis" section under each taxon discussed, to correctly identify species and subspecies.

1. Tarsi large. Ventral part of the tarsomeres with a hairy vestiture complete, without a longitudinal glabrous area in the middle ..... **21 (males)**

1'. Tarsi narrow. Ventral part of the tarsomeres hairy but with a longitudinal glabrous area in the middle (figs. 184-194); this glabrous area may be more or less reduced ..... **2 (females)**

2. Mesoventrite not very prominent, with two short horns or almost plane (figs. 170, 172)..... **3**

2'. Mesoventrite prominent in two long horns, more or less curved (figs. 160-167, 171, 173) ..... **6**

3. Punctuation on pronotum and elytra deep, double. Surface of the elytra smooth between the punctures. Posterior angle of the pronotum of 20°-24° ..... **4**

3'. Punctuation on pronotum and elytra finer, simple. Surface of the elytra uneven or with traces of irregular keels. Posterior angle of the pronotum of 28°-30°..... **5**

4. Basal margin of the pronotum without a border in its middle. Metatarsomere III normally with a continuous crown of setae in the distal margin, better seen in ventral view.....  
..... **group of *T. goettingensis* and allied (not treated here).**

4'. Basal margin of the pronotum with a complete border. Distal margin of the metatarsomere III without setae in its middle, better seen in ventral view .....  
..... **species from Middle East, East and Northeast Spain (not treated here).**

5. Surface of the elytra with traces of irregular keels (figs. 35, 37-40). Posterior angle of the pronotum of about 28°; lateral margin of the pronotum thin. Mesoventrite narrow with close, coarse, short horns, forming an angle of about 110° (fig. 172) .....  
..... ***T. intermedia* subsp. *lugens***

5'. Surface of the elytra without keels (figs. 33, 34). Posterior angle of the pronotum of about 30°; lateral side of the pronotum largely curved, in the anterior part sometimes lacking the internal border; instead, there is an irregular sulcus (figs. 141, 142). Mesoventrite large with short horns in a variable angle, from a right angle (fig. 171) to almost plane (fig. 170).....  
..... ***T. intermedia* ssp. *intermedia* (in Sierra de Gádor)**

6. Distance between punctures on the elytra 1-3 times their average diameter. Surface of the elytra usually rugose or vermiculate ..... **7**

6'. Distance between punctures on the elytra 4-6 times their average diameter. Surface of the elytra smooth, rarely rugose or vermiculate ..... **11**

7. Fore angles of the pronotum very prominent forward. The inner sulcus in the lateral sides of the pronotum does not join the sulcus in the anterior margin (fig. 146). Apex of the mesotibia with blunt teeth .....  
..... ***T. kiesenwetteri* spp. *sagrensis* (variation)**

7'. Fore angles of the pronotum rounded, not prominent in advance. The inner sulcus in the lateral sides of the pronotum follows and joins the sulcus in the anterior margin. Apex of the mesotibia with sharp teeth..... **8**

8. Punctuation on the elytra remarkably dense. Distance between punctures on the elytra 1-2 times their average diameter ..... **9**

8'. Punctuation on the elytra scattered, not dense. Distance between punctures on the elytra at least 2-3 times their average diameter ..... **10**

9. Lateral sides of the pronotum approximately regularly curved (fig. 116-119, 149-154). Punctures of the pronotum of the same diameter through the surface. Metatarsomere III strongly emarginate at apex. Apex of the mesotibia widened in lateral view..... ***T. scutellaris***

9'. Lateral sides of the pronotum bisinuated, nearly cordiform (fig. 131). Punctures of the pronotum stronger at the sides. Metatarsomere III not or weakly emarginate at apex. Apex of the mesotibia not widened in lateral view .....  
..... ***T. granadensis***

10. Usually with a bronze shine. Sides of the pronotum with some scattered stronger punctures. Fore angles of the pronotum with a thick border. Punctuation on the elytra deep. Metatarsomere III narrow..... ***T. fallax* (not dealt with here)**

10'. Usually with black colour. Punctures of the pronotum uniform, moderately strong. Fore angles of the pronotum without a thick border. Punctuation on the elytra not so deep. Metatarsomere III widened to the apex.....  
..... ***T. strophium* ssp. *strophium***

11. Inner border in the lateral sides of the pronotum is lacking, replaced by an irregular sulcus.....  
..... ***T. intermedia* ssp. *lugens* (variation)**

11'. Inner border in the lateral sides of the pronotum is fine and visible..... **12**

12. Proximal angles of pronotum with a deep notch, here the inner margin is interrupted (figs. 123, 125, 127-130)..... **13**

12'. Proximal angles of pronotum without a deep notch, being the inner margin not interrupted and joining the basal margin ..... **16**

13. Head with punctures very fine and sparse. General punctuation on the pronotum hardly visible. Pronotum not transverse..... **14**

13'. Head, pronotum and elytra with strong punctures, usually pronotum with some larger punctures among the others (figs. 7, 14-15, 100). Pronotum tending to be transverse, usually more than 1.8 times wider than long (fig. 99).....  
..... ***T. apricaria* ssp. *heydeni***

14. Lateral sides of the pronotum with a visible margin at least in the distal  $\frac{3}{4}$  ..... **15**

14'. Lateral sides of the pronotum lacking a visible margin along the distal  $\frac{3}{4}$  (figs. 129-130).... ***T. apricaria* ssp. *melitensis***

15. Dorsum black, normally shine (figs. 8-10, 18-21, 101). Elytra smooth, regular. Notch at the proximal angles of the pronotum poorly marked..... ***T. apricaria ssp. parvicollis***
- 15'. Dorsum black with silky teguments, sometimes with bluish or greenish shine (figs. 3-5, 12-13, 98); particularly head and antennae with metallic shine. Punctuation of elytra sometimes irregular or with traces of vermiculation (fig. 2). Nocht at the proximal angles of the pronotum strongly marked ..... ***T. apricaria ssp. apricaria***
16. Bronze, copperish or bluish teguments (figs. 45-49). Punctures of the elytra generally fine or hardly visible. Teeth at the apex of the mesotibiae blunt, not acute..... ***T. marginicollis***
- 16'. Black, sometimes with bluish-greenish shine. Punctures of the elytra clearly impressed. Teeth at the apex of the mesotibia acute, especially the rear one ..... **17**
17. Body elongate, with greenish-bluish weak shine (figs. 26-28). Posterior angle of the pronotum of about 25° ..... ***T. insparsa***
- 17'. Body subglobose, not so elongate, black. Elytra smooth or slightly rugose. Posterior angle of the pronotum of about 28-40° ..... **18**
18. Anterior angle of the pronotum commonly conspicuously protruded forwards (fig. 146). Posterior angle of the pronotum of about 40° ..... **19**
- 18'. Anterior angle of the pronotum normally very slightly or not protruding (figs. 134-142, 156-159). Posterior angle of the pronotum of about 28°-35° ..... **20**
19. Size of the punctures of the elytra nearly double than in the pronotum disc. Surface of the elytra rugose or vermiculate (figs. 44). Mesoventrite horns forming an angle of 110° ..... ***T. kiesenwetteri ssp. sagrensis***
- 19'. Size of the punctures of the elytra alike that on the pronotum disc. Surface of the elytra not vermiculate (figs. 42). Mesoventrite horns forming an angle of 90° ..... ***T. kiesenwetteri ssp. kiesenwetteri***
20. Antennomeres 7-11 normally at least twice longer than wide (figs. 77a-79a, 81a). Last palpomere elongate, narrowed at apex, usually at least 1.5 times longer than wide (figs. 77b-79b, 81b). Punctures of the pronotum sparse and fine (figs. 106-108). Posterior angle of the pronotum of about 28°. Mesoventrite horns forming an angle of 130°. Teeth in the apex of the mesotibia blunt, not acute..... ***T. intermedia ssp. intermedia***
- 20'. Antennomeres 7-11 as much as 1.5 times longer than wide (fig. 97a). Last palpomere shorter, dilated at apex, usually less than 1.5 times longer than wide (fig. 97b). Punctures of the pronotum deeper and more dense on the sides (fig. 121). Posterior angle of the pronotum of about 33-35°. Mesoventrite horns forming an angle of 110°. Teeth in the apex of the mesotibia acute, especially the posterior one ..... ***T. strophium ssp. carmelenae***
21. Apex of the aedeagus anchor-shaped (fig. 213)..... ***T. marginicollis***
- 21'. Apex of the aedeagus not anchor-shaped..... **22**
22. Apex of the aedeagus (dorsal view) clearly pointed (figs. 204-206, 215-216, 217-221); aedeagal phanera well developed, single or paired in two wings (figs. 235-236, 239-242) ..... **23**
- 22'. Apex of the aedeagus (dorsal view) rather rounded (figs. 195-203, 207-212, 222-226); aedeagal phanera reduced to a small stump or to a short branch more or less sinuate (figs. 227-234, 237-238, 243-244) ..... **27**
23. Aedeagal phanera single ..... **24**
- 23'. Aedeagal phanera paired in two well visible wings .. **26**
24. Aedeagal phanera narrow, long and curved towards the flagellum, which is straight (fig. 242). Lateral sides of the pronotum curved but not very expanding in the middle; fore angles rather rounded (figs. 116-119)..... ***T. scutellaris***
- 24'. Aedeagal phanera straight and narrow but slightly expanded; the flagellum is curved (figs. 239-240). Lateral sides of the pronotum strongly expanded in the middle; fore angles usually prominent forward (figs. 110, 112) ..... **25**
25. Elytral punctuation sparse, average distance between points 4-6 times their diameter. Surface of the elytra without wrinkles (fig. 41) ..... ***T. kiesenwetteri ssp. kiesenwetteri***
- 25'. Elytral punctuation closer, average distance between points 2-3 times their diameter. Surface of the elytra rugose, mainly in the apical third (fig. 43) ..... ***T. kiesenwetteri ssp. sagrensis***
26. Aedeagal phanera with two parallel-sided wings; flagellum gently curved (fig. 235). Elytral punctuation strong and close (distance between points similar or lesser than a point) (figs. 22-24) ..... ***T. granadensis***
- 26'. Aedeagal phanera with two large wings, anchor shaped; flagellum hooked at the apex (fig. 236). Points on the elytra small and sparse (average distance between them 2-3 times their diameter) (figs. 26-27) ..... ***T. insparsa***
27. Aedeagal phanera single, as a short stick more or less sinuate, shaped as a spine; flagellum thick with apex abruptly curved inwards (fig. 243-244) ..... **28**
- 27'. Aedeagal phanera single, very short, reduced to a stump, sometimes barely visible; flagellum not abruptly curved at apex (figs. 227-234, 237-238) ..... **29**
28. Points on the elytra dense, average distance between them 1-3 times their diameter (figs. 59). Points on the pronotal disc dense and marked (fig. 120). ***T. strophium ssp. strophium***
- 28'. Punctuation of the elytra scattered, average distance between them 4-6 times their diameter (fig. 61). Points on the pronotal disc fine, barely visible (fig. 121) ..... ***T. strophium ssp. carmelenae***
29. Proximal angles of the pronotum without a deep notch, being the lateral margin not interrupted and joining the basal margin. Aedeagal phanera going out at level of the basal third of the sclerite (figs. 237-238) ..... **30**
- 29'. Proximal angles of pronotum with a deep notch, here the margin is interrupted (figs. 122, 124, 126). Aedeagal phanera going out from the middle or upper sclerite (figs. 227-234) ..... **31**
30. Mesoventrite prominent with two long horns, more or less curved ..... ***T. intermedia ssp. intermedia***
- 30'. Mesoventrite not very prominent, with two short horns or almost plane ..... ***T. intermedia ssp. lugens***

31. Head, pronotum and elytra with well-marked punctuation, with some larger punctures among the others (fig. 14). Pronotum tending to be more transverse, more than 1.8 times wider than long (fig. 99)..... ***T. apricaria ssp. heydeni***

31'. Points on the head, pronotum and elytra small, finely marked; sometimes, the points on the pronotum hardly visible. Pronotum not so transverse, usually less than 1.8 times wider than long (figs. 98, 101, 103) ..... **32**

32. Lateral sides of the pronotum lacking a visible margin along the distal  $\frac{3}{4}$  (figs. 129-130).... ***T. apricaria ssp. melitensis***

32'. Lateral sides of the pronotum with a visible margin at least in the distal  $\frac{3}{4}$ ..... **33**

33. Dorsum black, normally shine (fig. 18). Notch at the proximal angles of the pronotum poorly marked..... ***T. apricaria ssp. parvicollis***

33'. Dorsum black with silky teguments (fig. 12), sometimes with bluish or greenish shine; particularly head and antennae with metallic shine. Notch at the proximal angles of the pronotum strongly marked ..... ***T. apricaria ssp. apricaria***

## DISCUSSION

It is worth noting that in the presently studied species two spermatheca patterns can be separated, i.e., type I: bigger size, elongate, apex acute, and type II: smaller, short arms, apex rounded. Spermatheca of type I can be found in *T. apricaria* (figs. 254-260), *T. intermedia* (incl. *T. intermedia lugens*) (figs. 265-270), *T. kiesenwetteri* (incl. *T. kiesenwetteri sagrensis*) (figs. 271-272) and *T. strophium carmelena* (*T. strophium* s.str. was not studied) (figs. 277-280). Spermatheca of type II is in *T. granadensis* (figs. 261-262), *T. insparsa* (figs. 263-264), *T. marginicollis* (fig. 273), and *T. scutellaris* (fig. 274-276). Even further, species with spermatheca of type I have a single, reduced phanera in the sclerite of the endophallus. Instead, spermatheca of type II are found in species with a paired, more or less developed two-winged phanera; an exception is *T. scutellaris*, with a type II spermatheca but apparently single phanera in the sclerite. However, no conclusions can be reached on this topic until more species are studied.

We analysed the identity and status of 33 described taxa of *Timarcha* at the species-group. After the study of all available types and many other specimens, we can define the presence in Southern Iberian Peninsula of eight species, some of them with differentiated populations that deserve the subspecific rank. Two taxa (in brackets) outside the studied area have also been dealt with here to complete the overview on the group.

- 1.1. *Timarcha apricaria ssp. apricaria* Waltl, 1835
- 1.2 *T. apricaria ssp. heydeni* Weise, 1883
- 1.3. *T. apricaria ssp. parvicollis* Rosenhauer, 1856
- [1.4. *T. apricaria ssp. melitensis* (Morocco)]
2. *T. granadensis* Bechyně, 1948
3. *T. insparsa* Rosenhauer, 1856
- 4.1. *T. intermedia ssp. intermedia* Herrich-Schäffer, 1838
- 4.2. *T. intermedia ssp. lugens* Rosenhauer, 1856
- 5.1. *T. kiesenwetteri ssp. kiesenwetteri* Kraatz, 1879

5.2. *T. kiesenwetteri ssp. sagrensis* Kuntzen, 1911

6. *T. marginicollis* Rosenhauer, 1856

7. *T. scutellaris* Waltl, 1835

[8.1. *T. strophium ssp. strophium* Weise, 1888 (Central-Eastern Spain: Cuenca and Teruel)]

8.2. *T. strophium ssp. carmelena* Petitpierre, 2013

There exists a high variability in the external morphological characters. Each *Timarcha* species is made up by several populations in different degree of external morphological differentiation. Some of the populations have variability in their size and in their pronotum or elytral shape, in the sculpture, the shape of the mesoventrite, or they even show a limited variability in their aedeagus and spermatheca, as shown. Anyway, the examination of the endophallus permits the correct identification of the species, but it is a difficult and sometimes unsuccessful technique (DACCORDI *et al.*, 2020). Therefore, the study of the aedeagus or the sclerite of the endophallus in males, and the spermatheca and vestiture of metatarsi in females, which are easy to dissect, is of prime importance to confirm the identifications of the species. The subspecies, on the contrary, are not well defined, as they generally present transitional specimens. Moreover, populations occur showing morphological differences which have not received any subspecific name. The studied species of *Timarcha* consist of polymorphic populations distributed in geographic mosaics. We are aware that present subspecific taxonomy might change as the molecular phylogenetic approach develops, at population level.

The variability of species and populations of *Timarcha* have long been a source of wrong attributions, misidentifications and production of synonyms, as shown by our studies. The origin of this confusion may lie in the capacity of some populations of a given species for mimicry among other species with sympatric or even parapatric distribution. Some examples of homoplasmy are the populations of *T. apricaria ssp. parvicollis* and *T. granadensis* in Sierra de Baza, which are similar in their small size, transverse pronotum and almost obliterated lateral side of the pronotum. Also, the populations of *T. apricaria ssp. heydeni* in the Southern slopes of Sierra Nevada in Granada (Alpujarras and Sierra de Contraviesa) are similar to *T. insparsa* in their transverse, cordiform pronotum that is foveolated at the sides. Some specimens of *T. apricaria ssp. parvicollis* in Sierra Nevada, mainly in the Eastern part, are similar to *T. strophium ssp. carmelena* or even to *T. intermedia* in their pronotum with a hardly visible emargination at the base and their elytra with fine punctuation. Populations of *T. apricaria ssp. apricaria* in Cádiz have slightly vermiculated elytra, and they are sympatric to *T. scutellaris*, which shows a similar characteristic. High altitude specimens of *T. intermedia* (Sierra María, Sierra de Gádor) may be externally very similar to specimens of *T. strophium carmelena*.

Species of genus *Timarcha* have a toxic haemolymph and produce reflex bleeding (JOLIVET, 1946, 1995; JOLIVET & VERMA, 2002). Its haemolymph accumulates anthraquinones (PETITPIERRE, 1995; JOLIVET & PETITPIERRE, 1981) that they might sequester from their host plants (Rubiaceae) (BLUM & HILKER, 2002; SHUKLA *et al.*, 2017) or alternatively they may self-produce them or perhaps they harbour endosymbionts with this ability, although their existence has not been proved so far (HOWARD *et al.*, 1982b; BLUM & HILKER, 2002). Besides, *Timarcha* species are aposematic because the black (with more or less metallic shine) colour stands out on the green vegetation or on the ground (JOLIVET *et al.*, 2013). Therefore,

a Mullerian mimicry could be claimed for genus *Timarcha*. Mimicry rings are described in some invertebrate groups as *Heliconius* (Lepidoptera) (MALLET & GILBERT Jr., 1995; THE *HELICONIUS* GENOME CONSORTIUM, 2012; ENCISO-ROMERO *et al.*, 2017), Mutillidae and bumblebees (Hymenoptera) (WILSON *et al.*, 2015; HINES & WILLIAMS, 2012) or Coleoptera Carabidae (MUÑOZ-RAMÍREZ *et al.*, 2016.), among others. The possibility that the generalized mimicry in *Timarcha* is a result of introgressive hybridization, as shown by GÓMEZ-ZURITA & VOGLER (2006) in *T. goettingensis* populations, is an interesting line of research for the future. This fact could explain the mosaic variability found in the populations of the species of *Timarcha*, which has historically hindered its taxonomy.

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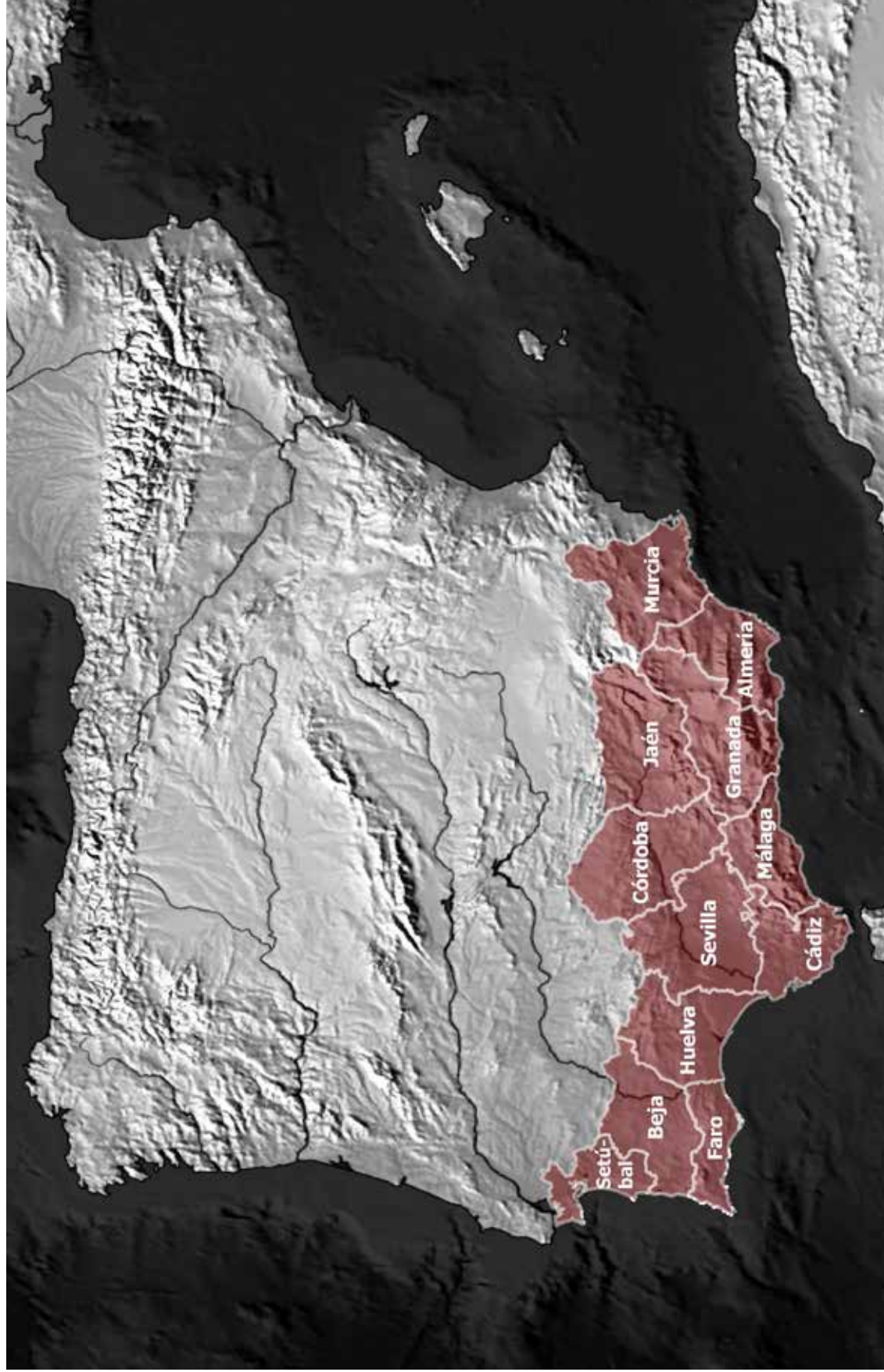
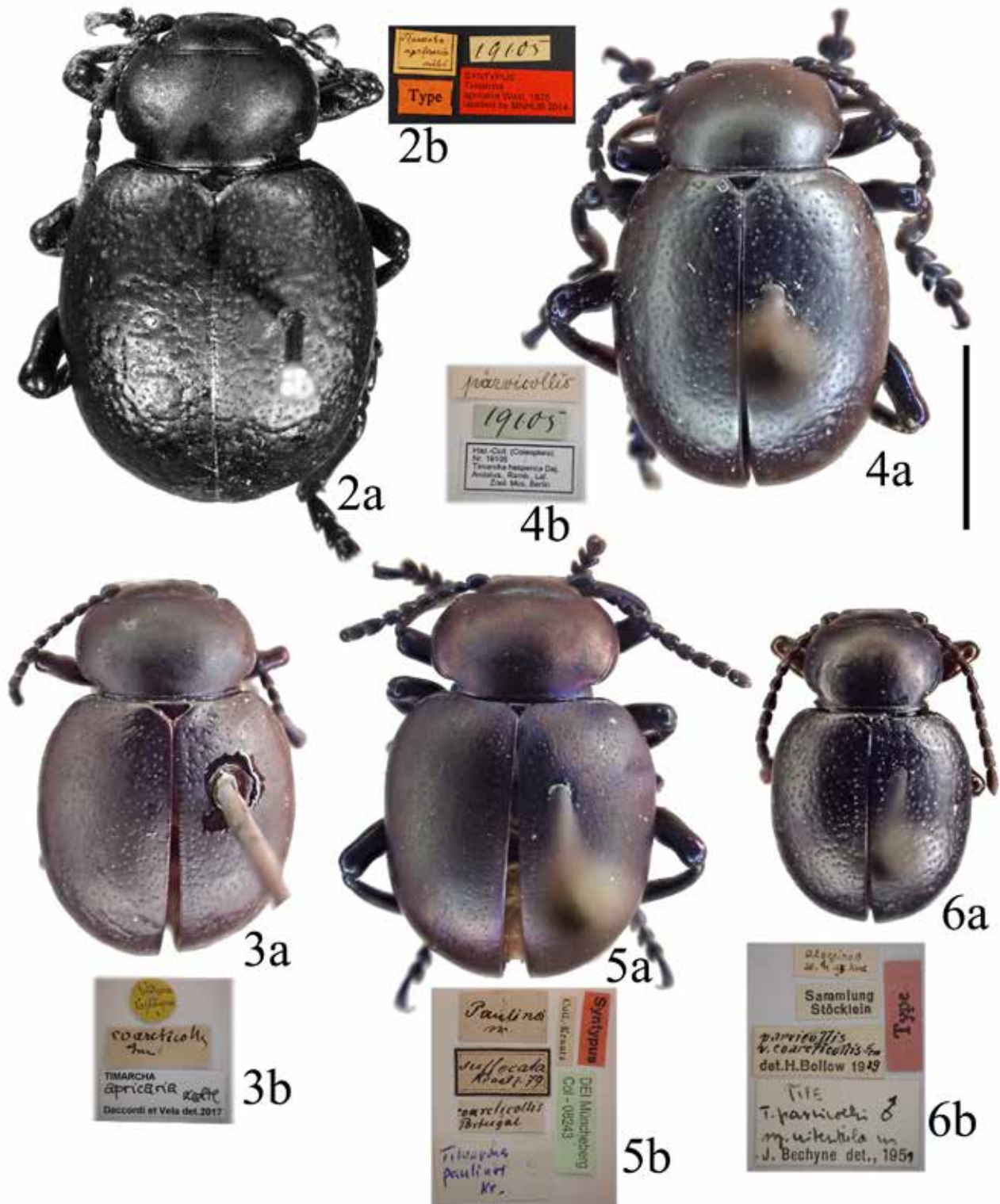


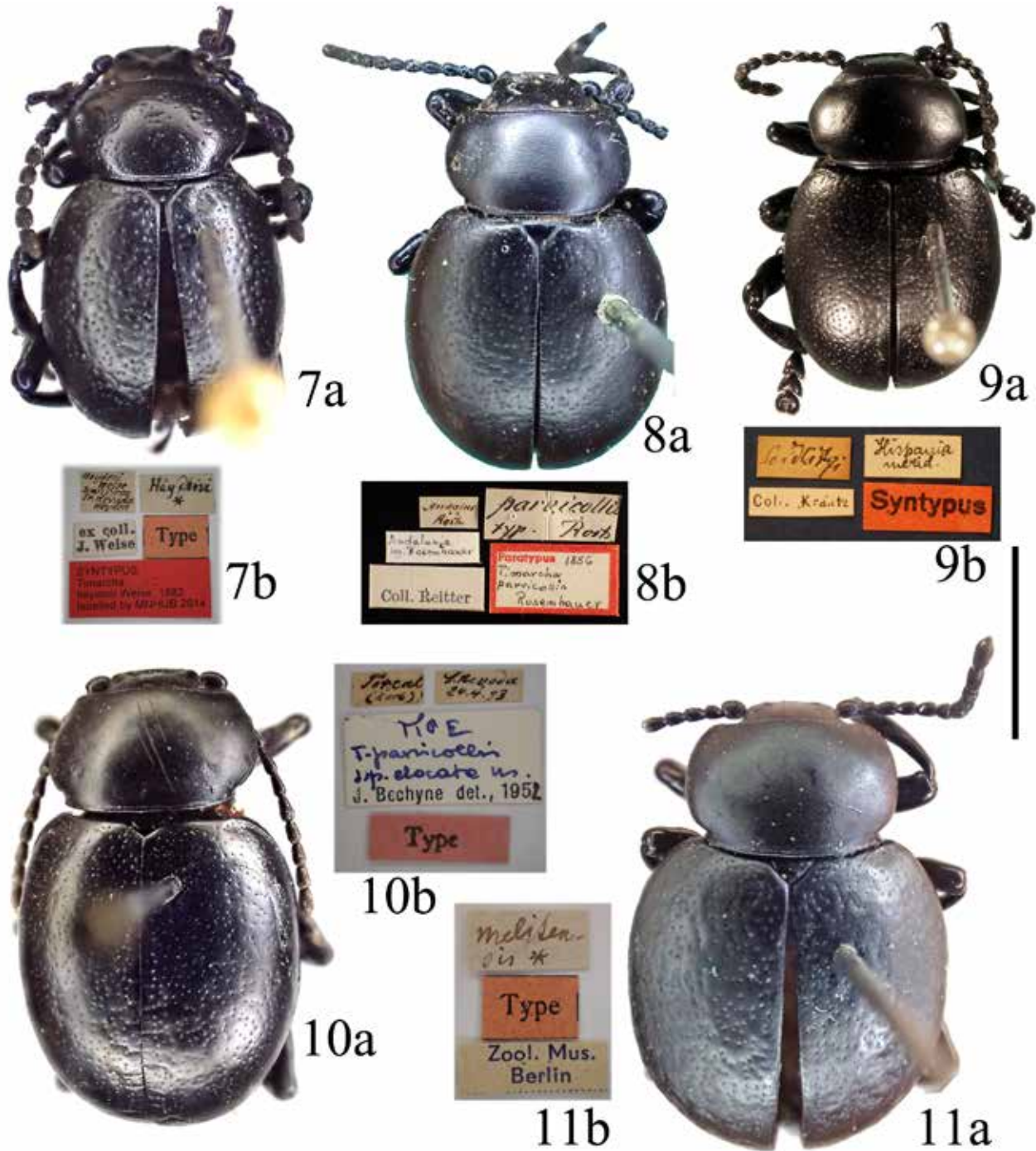
Fig. 1. Studied area.

Fig. 1. Área de estudio.



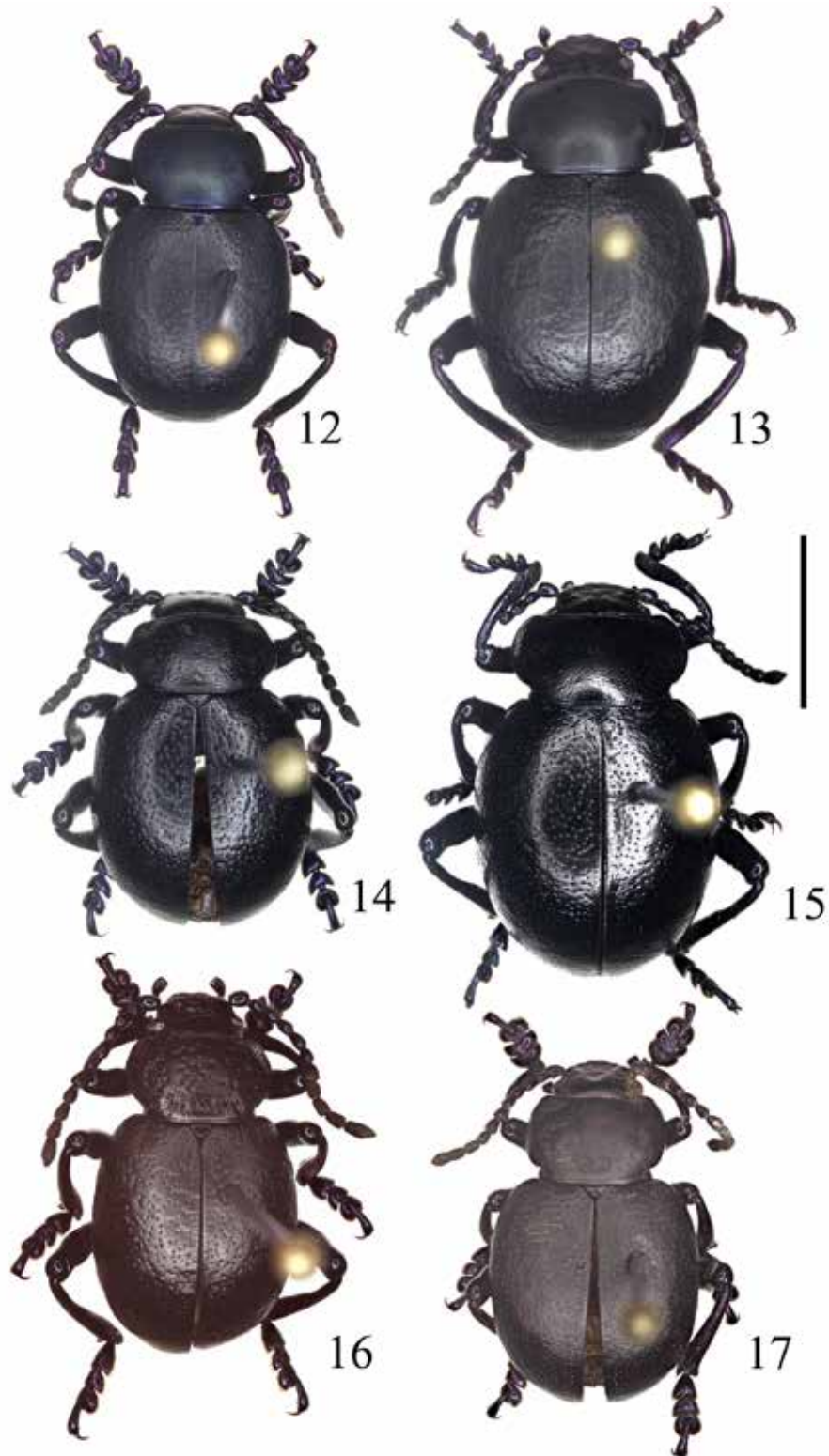
Figs. 2-6. Habitus of *T. apricaria* ssp. *apricaria*. Lectotype of *Timarcha apricaria* (2); specimen of *T. coarcticollis* identified by Fairmaire (3); historical specimen of *T. hesperica* Rambur in Dejean (4); lectotype of *T. paulinoi* (5); lectotype of *T. parvicollis* ssp. *nitentula* (6). a: habitus, b: label. Scale = 5 mm.

Figs. 2-6. Habitus de *T. apricaria* ssp. *apricaria*. Lectotipo de *Timarcha apricaria* (2); ejemplar de *T. coarcticollis* identificado por Fairmaire (3); ejemplar histórico de *T. hesperica* Rambur en Dejean (4); lectotipo de *T. paulinoi* (5); lectotipo de *T. parvicollis* ssp. *nitentula* (6). a: habitus, b: etiqueta. Escala = 5 mm.



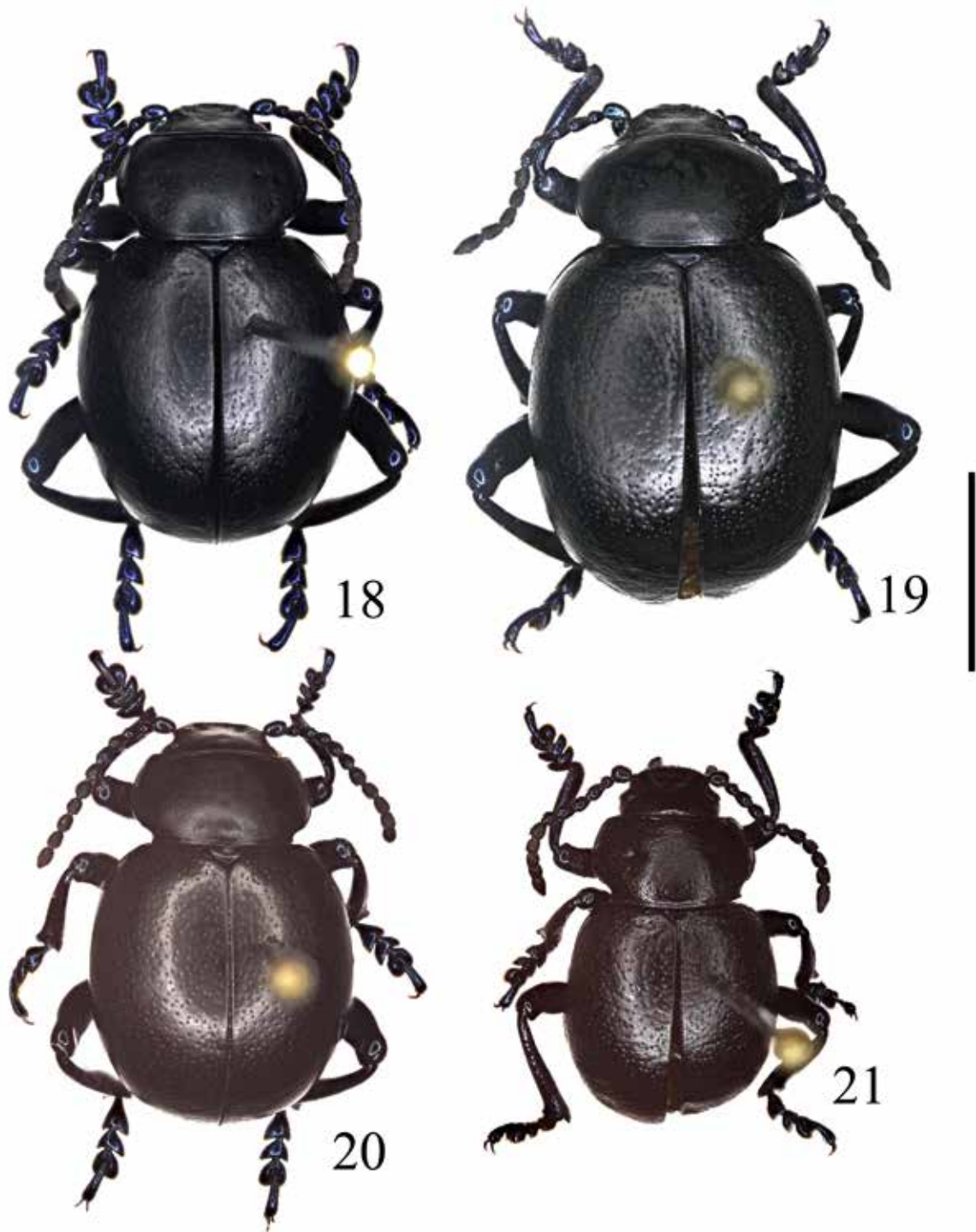
Figs. 7-11. Habitus of *T. apricaria* spp. Lectotype of *T. heydeni* (7); syntype (?) of *T. parvicollis* (8); lectotype of *T. seidlitzi* (9); lectotype of *T. parvicollis* ssp. *elocata* (10); lectotype of *T. melitensis* (11). a: habitus, b: label. Scale = 5 mm.

Figs. 7-11. Habitus de *T. apricaria* spp. Lectotipo de *T. heydeni* (7); sintipo (?) de *T. parvicollis* (8); lectotipo de *T. seidlitzi* (9); lectotipo de *T. parvicollis* ssp. *elocata* (10); lectotipo de *T. melitensis* (11). a: habitus, b: etiqueta. Escala = 5 mm.



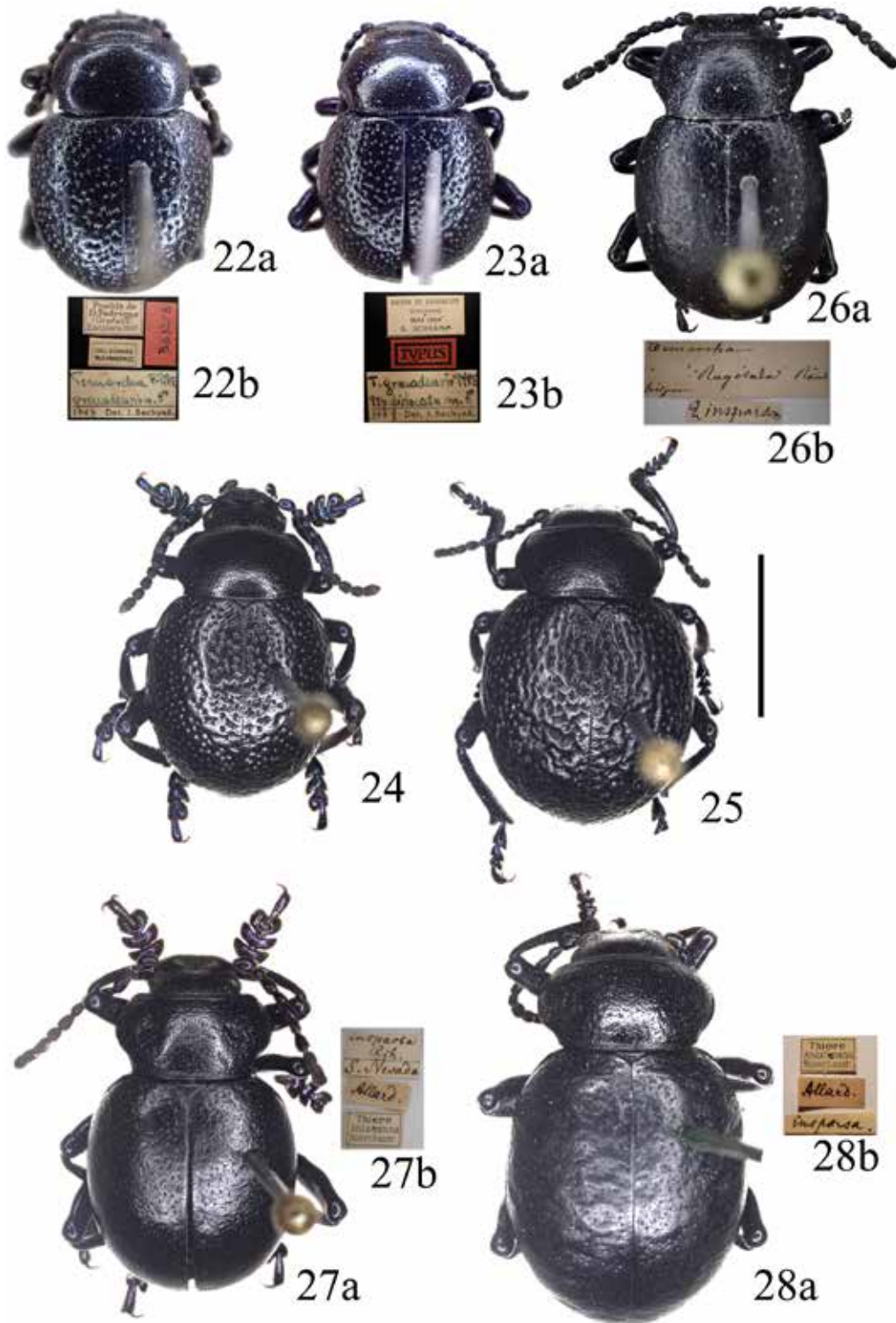
Figs 12-17. Habitus of *T. apricaria* spp. *T. apricaria* ssp. *apricaria*, male (12) and female (13): Cádiz, Puerto del Cabrito; *T. apricaria* ssp. *heydeni*, males: Granada, Puerto de la Ragua (14), Granada, Sierra de la Contraviesa (16), and female: Almería, Velefique (15); *T. melitensis*, male: Morocco, western Rif (17). Scale = 5 mm.

Figs 12-17. Habitus de *T. apricaria* spp. *T. apricaria* ssp. *apricaria*, macho (12) y hembra (13): Cádiz, Puerto del Cabrito; *T. apricaria* ssp. *heydeni*, machos: Granada, Puerto de la Ragua (14), Granada, Sierra de la Contraviesa (16), y hembra: Almería, Velefique (15); *T. melitensis*, macho: Marruecos, Rif occidental (17). Escala = 5 mm.



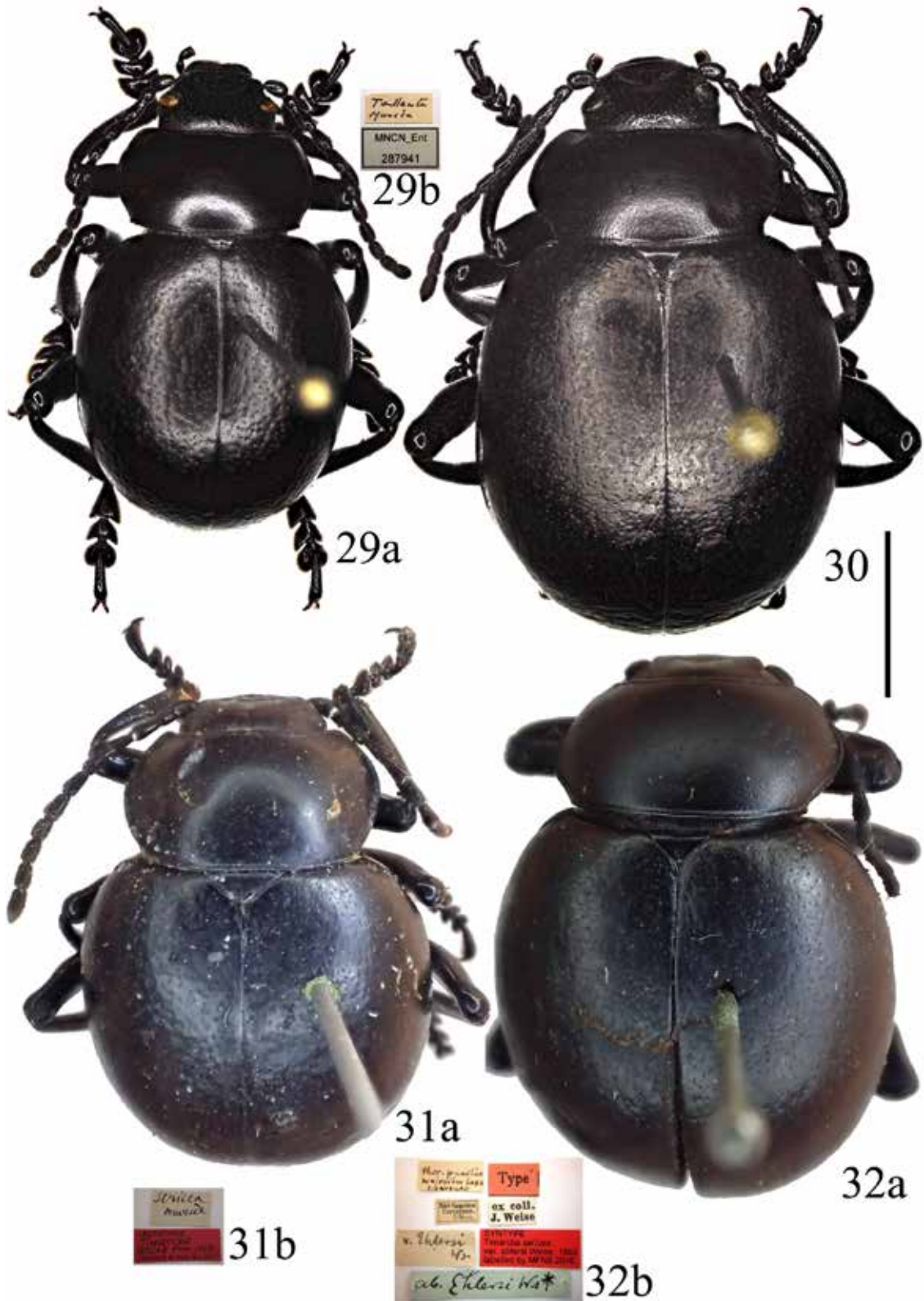
Figs. 18-21. Habitus of *T. apricaria* ssp. *parvicollis*. Male (18) and female (19) specimens: Málaga, Arroyo Toquero; male specimens: Málaga, Montes de Málaga (20) and Granada, Sierra de Baza (21). Scale = 5 mm.

Figs. 18-21. Habitus de *T. apricaria* ssp. *parvicollis*. Ejemplares macho (18) y hembra (19): Málaga, Arroyo Toquero; machos de Málaga, Montes de Málaga (20) y Granada, Sierra de Baza (21). Escala = 5 mm.



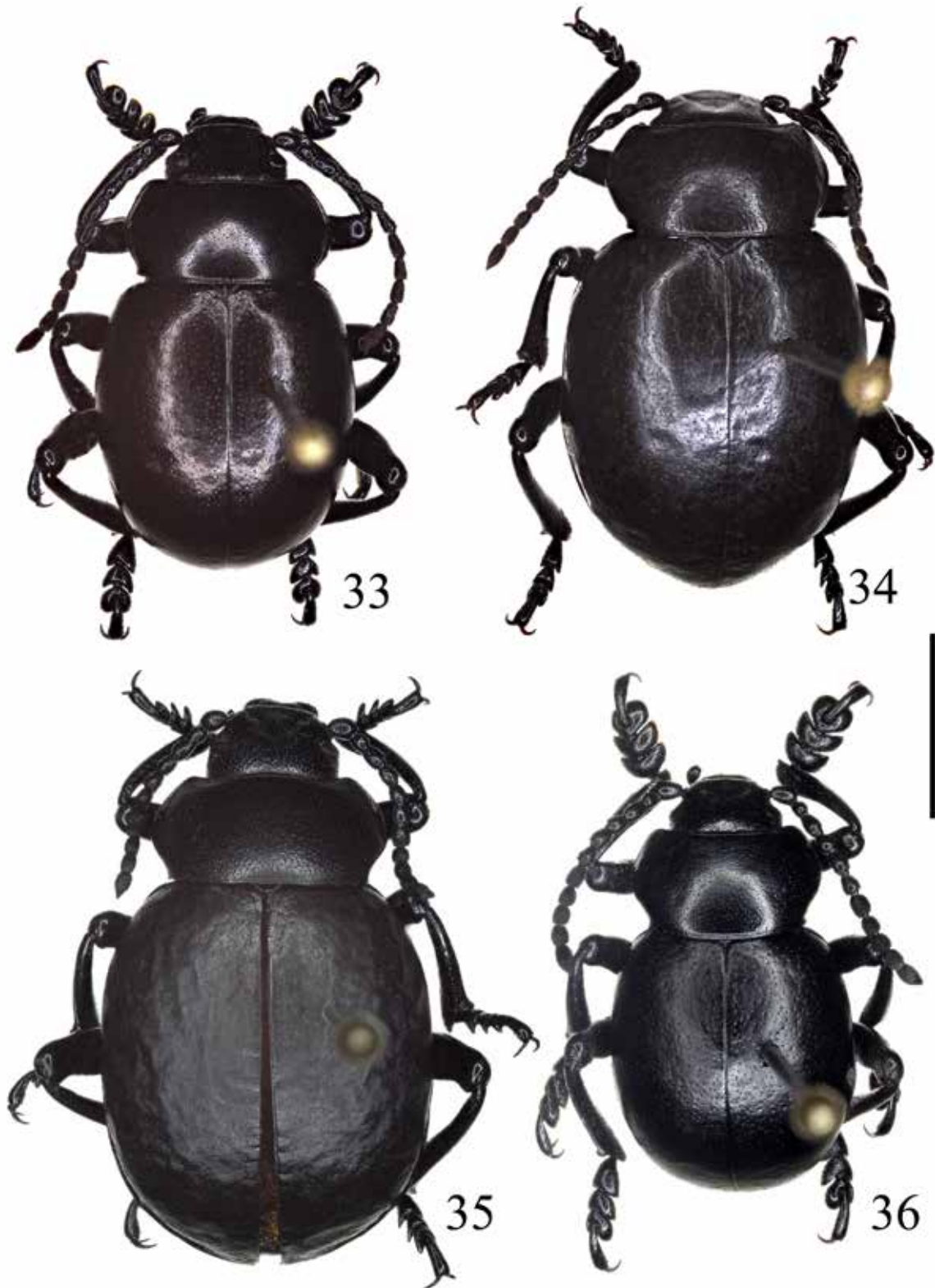
Figs. 22-28. Habitus of *T. granadensis* and *T. insparsa*. Lectotype of *T. granadensis*, male: Granada, Puebla de don Fadrique (22); syntype of *T. granadensis* ssp. *dislocata*, male: Cáceres, Sierra de Guadalupe (23); *T. granadensis*, male: Granada, Huéscar, Puerto de la Losa (24), and female: Granada, Sierra de Baza (25); historical specimen of *T. rugosula* Rambur in Dejean, female (26); lectotype of *T. insparsa*, male (27); paralectotype of *T. insparsa*, female (28). a: habitus; b: label. Scale = 5 mm.

Figs. 22-28. Habitus de *T. granadensis* y *T. insparsa*. Lectotipo de *T. granadensis*, macho: Granada, Puebla de don Fadrique (22); sintipo de *T. granadensis* ssp. *dislocata*, macho: Cáceres, Sierra de Guadalupe (23); *T. granadensis*, macho: Granada, Huéscar, Puerto de la Losa (24) y hembra: Granada, Sierra de Baza (25); ejemplar histórico de *T. rugosula* Rambur en Dejean, hembra (26); lectotipo de *T. insparsa*, macho (27); paralectotipo de *T. insparsa*, hembra (28). a: habitus, b: label. Escala = 5 mm.



Figs. 29-32. Habitus of *T. intermedia*. Neotype, male (29); female specimen: Almería, Níjar (30); lectotype of *T. sericea*, female (31); lectotype of *T. sericea* var. *ehlersi*, female (32). a: habitus; b: label. Scale = 5 mm.

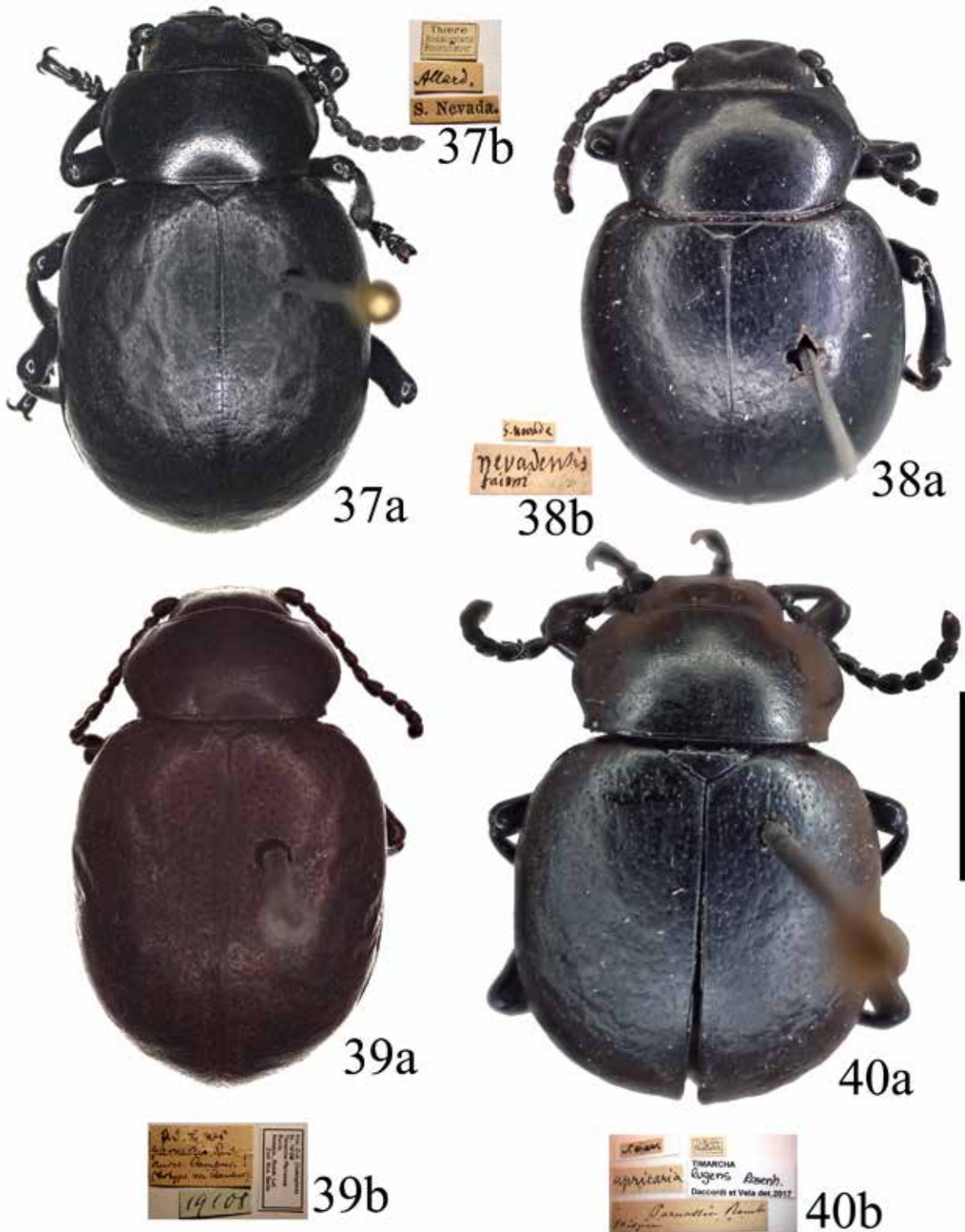
Figs. 29-32. Habitus of *T. intermedia*. Neotipo, macho (29); ejemplar hembra: Almería, Níjar (30); lectotipo de *T. sericea*, hembra (31); lectotipo de *T. sericea* var. *ehlersi*, hembra (32). a: habitus, b: label. Escala = 5 mm.



Figs. 33-36. Habitus of *T. intermedia* spp. *T. intermedia* ssp. *intermedia*, male (33) and female (34): Almería, Sierra de Gádor; *T. intermedia* ssp. *lugens*, female (35) and male (36): Granada, Sierra Nevada. Scale = 5 mm.

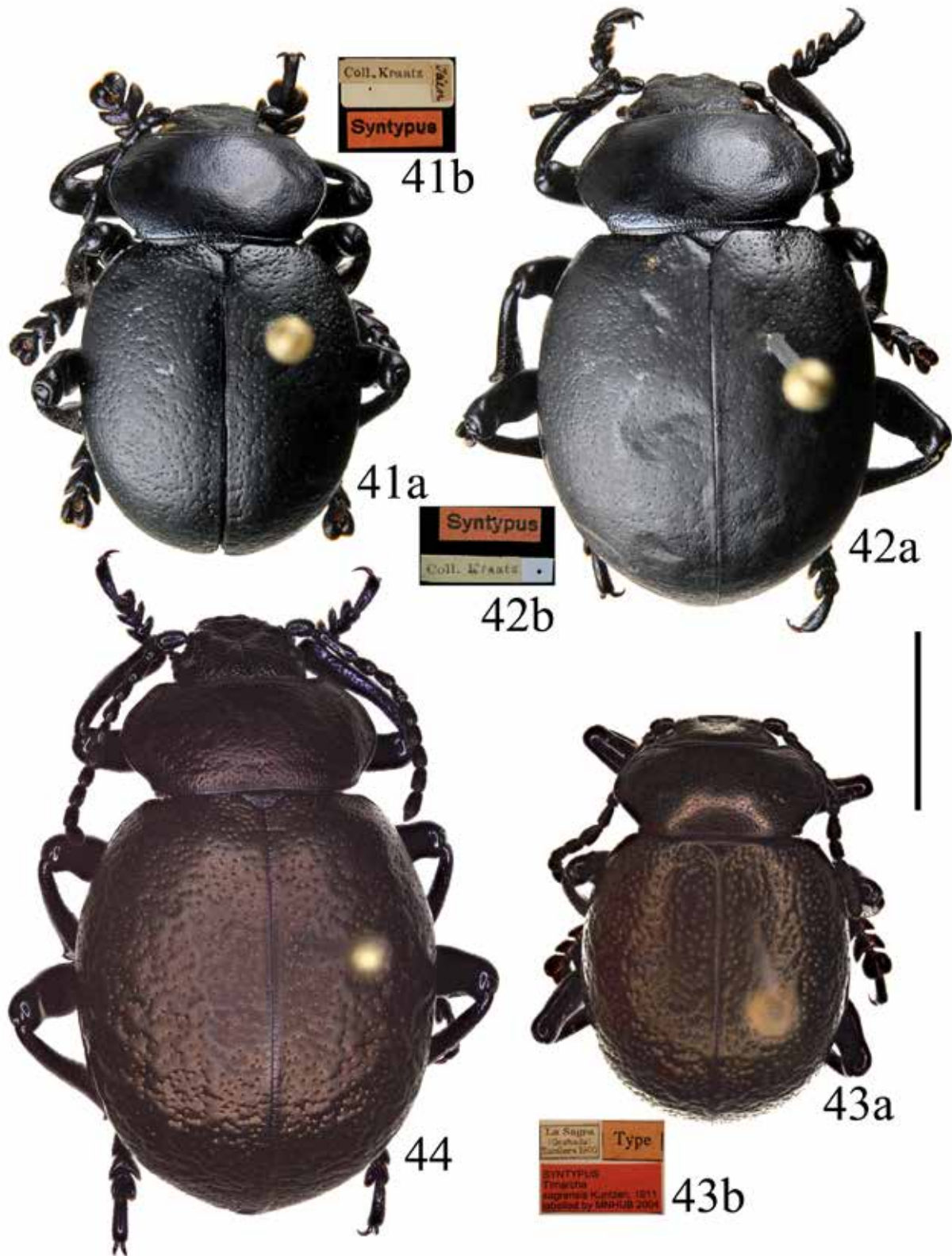
Figs. 33-36. Habitus de *T. intermedia* spp. *T. intermedia* ssp. *intermedia*, macho (33) y hembra (34): Almería, Sierra de Gádor; *T. intermedia* ssp. *lugens*, hembra (35) y macho (36): Granada, Sierra Nevada. Escala = 5 mm.





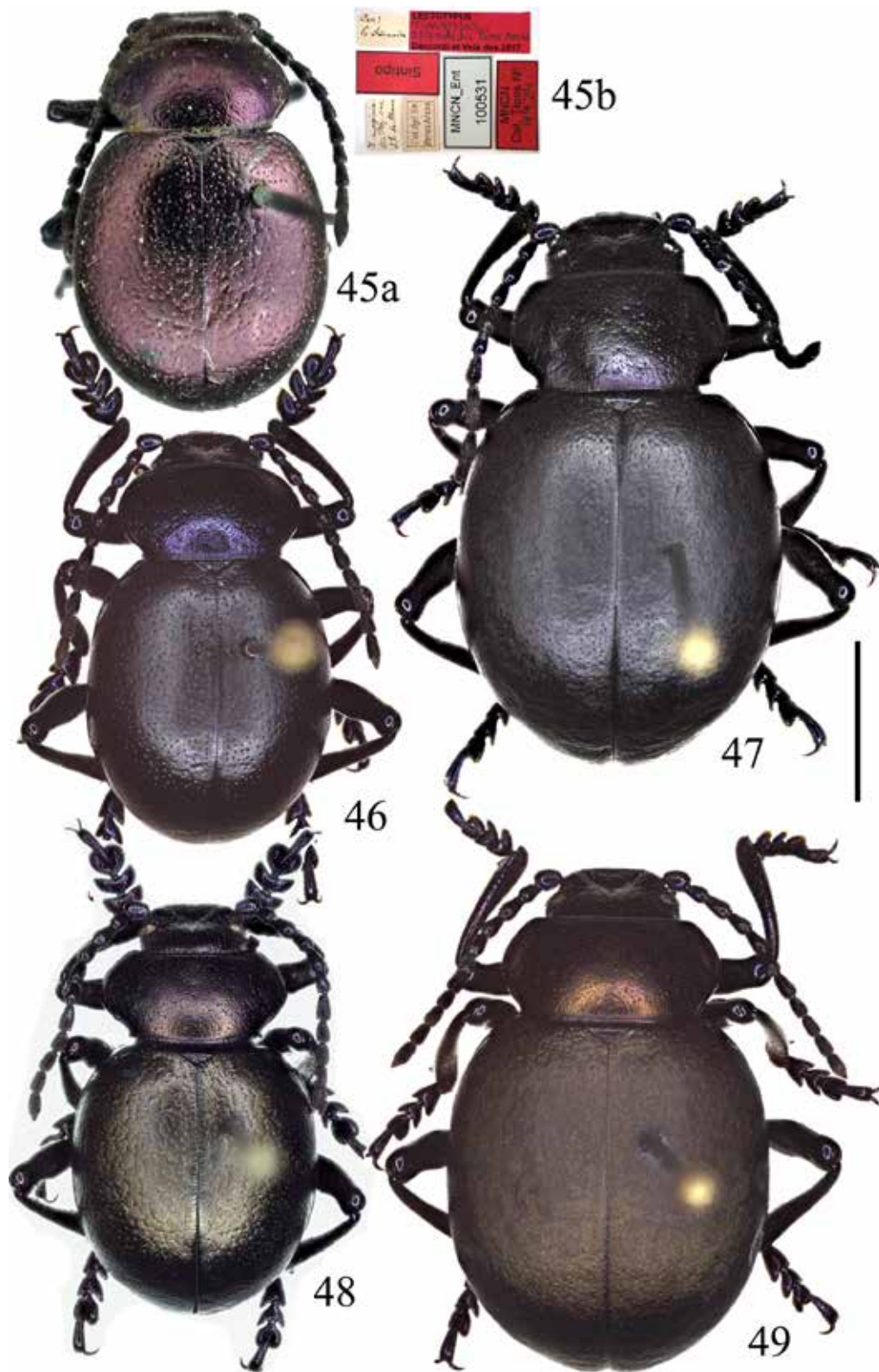
Figs. 37-40. Habitus of *T. intermedia* ssp. *lugens*. Lectotype of *T. lugens*, female (37); lectotype of *T. nevadensis*, female (38); lectotype of *T. parnassia* Weise, female (39); historical specimen of *T. parnassia* Rambur in Dejean, female (40); a: habitus, b: label. Scale = 5 mm.

Figs. 37-40. Habitus de *T. intermedia* ssp. *lugens*. Lectotipo de *T. lugens*, hembra (37); lectotipo de *T. nevadensis*, hembra (38); lectotipo de *T. parnassia* Weise, hembra (39); ejemplar histórico de *T. parnassia* Rambur en Dejean, hembra (40). a: habitus, b: etiqueta. Escala = 5 mm.



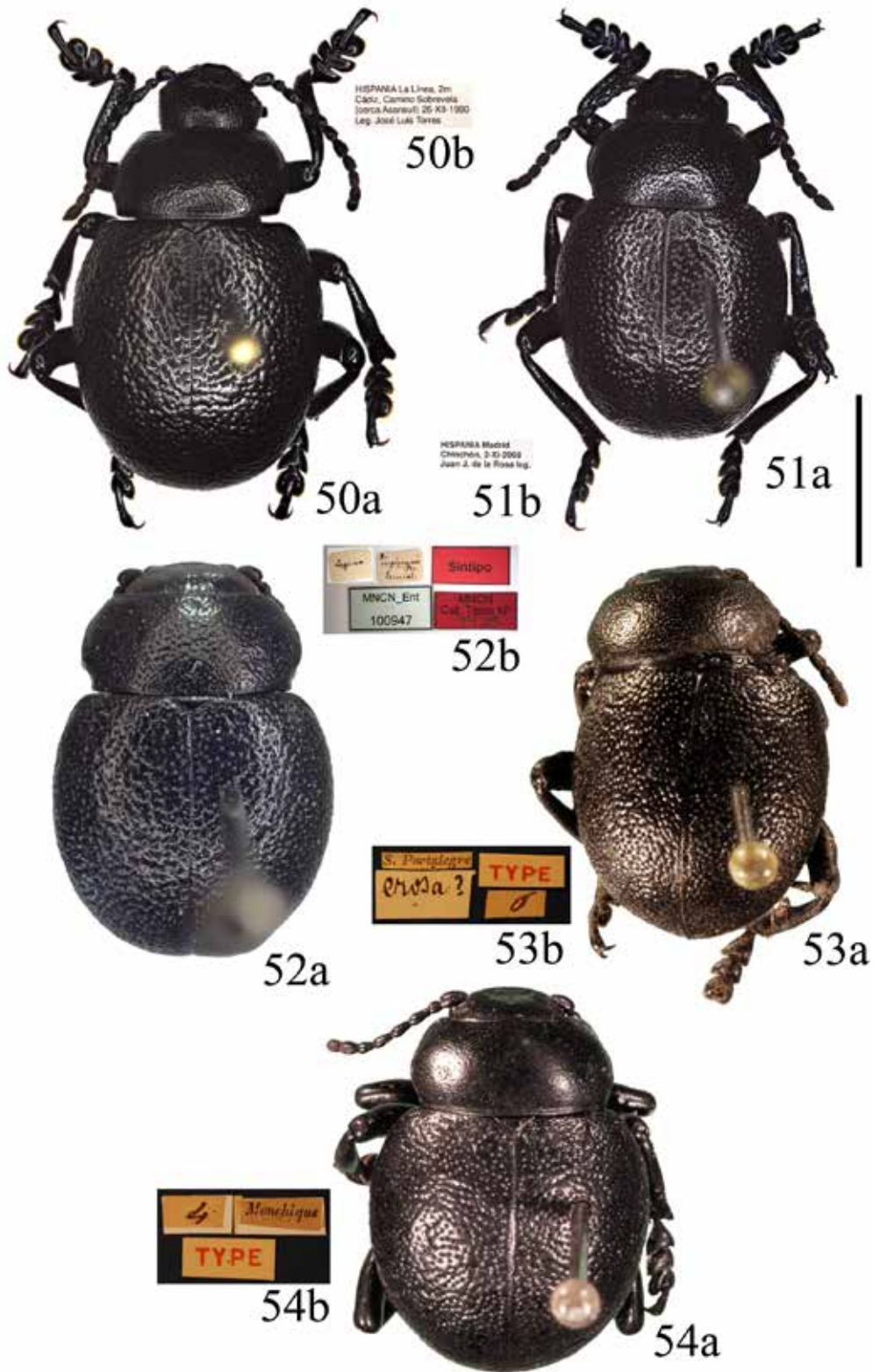
Figs. 41-44. Habitus of *T. kiesenwetteri* spp. Lectotype of *T. kiesenwetteri*, male (41); paralectotype of *T. kiesenwetteri*, female (42); lectotype of *T. sagrensis*, male (43); *T. sagrensis*, female: Granada, Sierra Guillemona (44). a: habitus, b: label. Scale = 5 mm

Figs. 41-44. Habitus de *T. kiesenwetteri* spp. Lectotipo de *T. kiesenwetteri*, macho (41); paralectotipo de *T. kiesenwetteri*, hembra (42); lectotipo de *T. sagrensis*, macho (43); *T. sagrensis*, hembra: Granada, Sierra Guillemona (44). a: habitus, b: etiqueta. Escala = 5 mm.



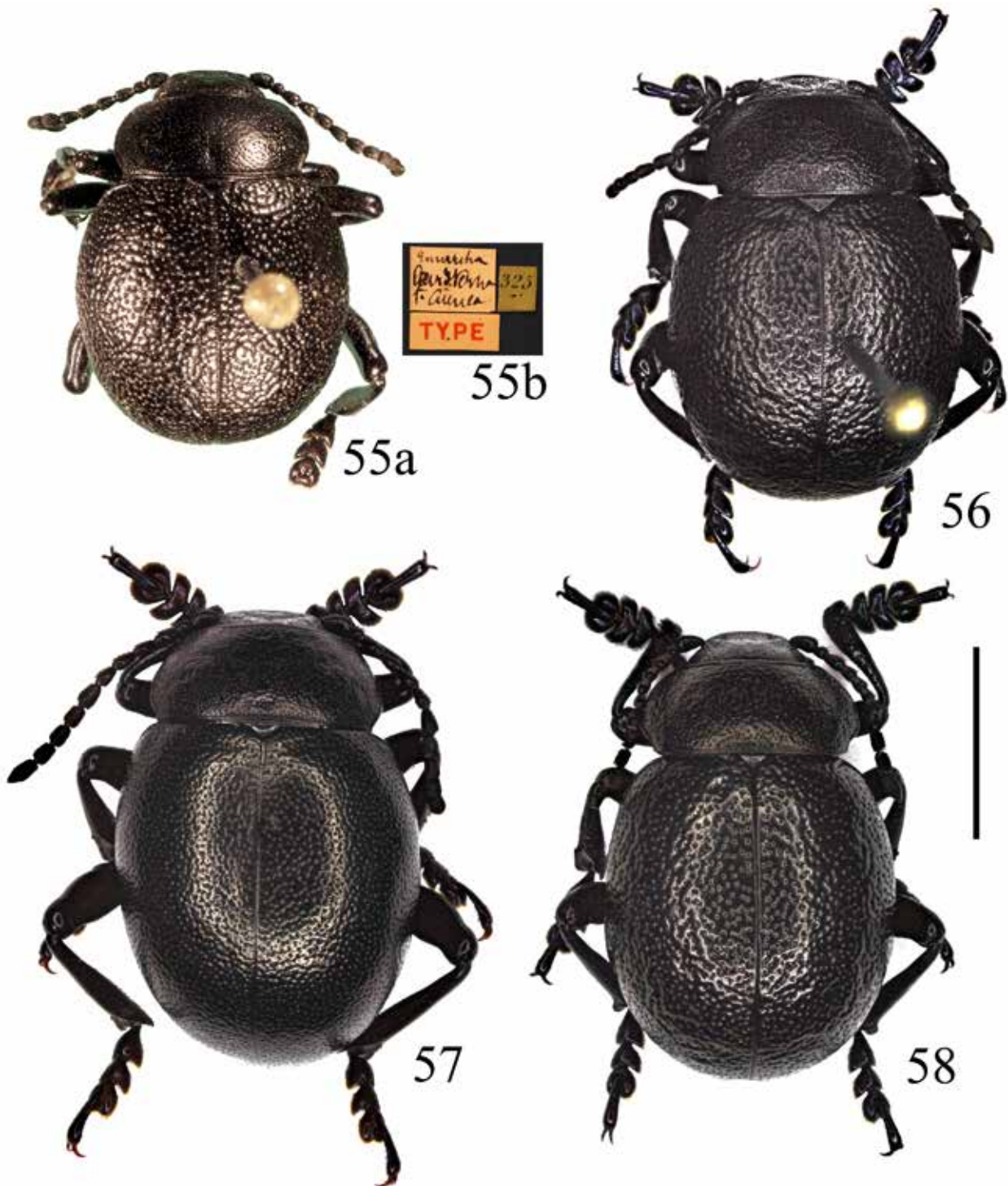
Figs. 45-49. Habitus of *T. marginicollis*. Lectotype of *T. splendida*, male (45, a: habitus, b: label); *T. marginicollis*, males: Granada, Sierra Nevada, Peñones de San Francisco (46) and Jaén, Siles (48), and females: Granada, Sierra de la Sagra, Toscanillos (47) and Albacete, Riópar (49). Scale = 5 mm.

Figs. 45-49. Habitus de *T. marginicollis*. Lectotipo de *T. splendida*, macho (45, a: habitus, b: etiqueta); *T. marginicollis*, machos: Granada, Sierra Nevada, Peñones de San Francisco (46) y Jaén, Siles (48), y hembras: Granada, La Sagra, Toscanillos (47) y Albacete, Riópar (49). Escala = 5 mm.



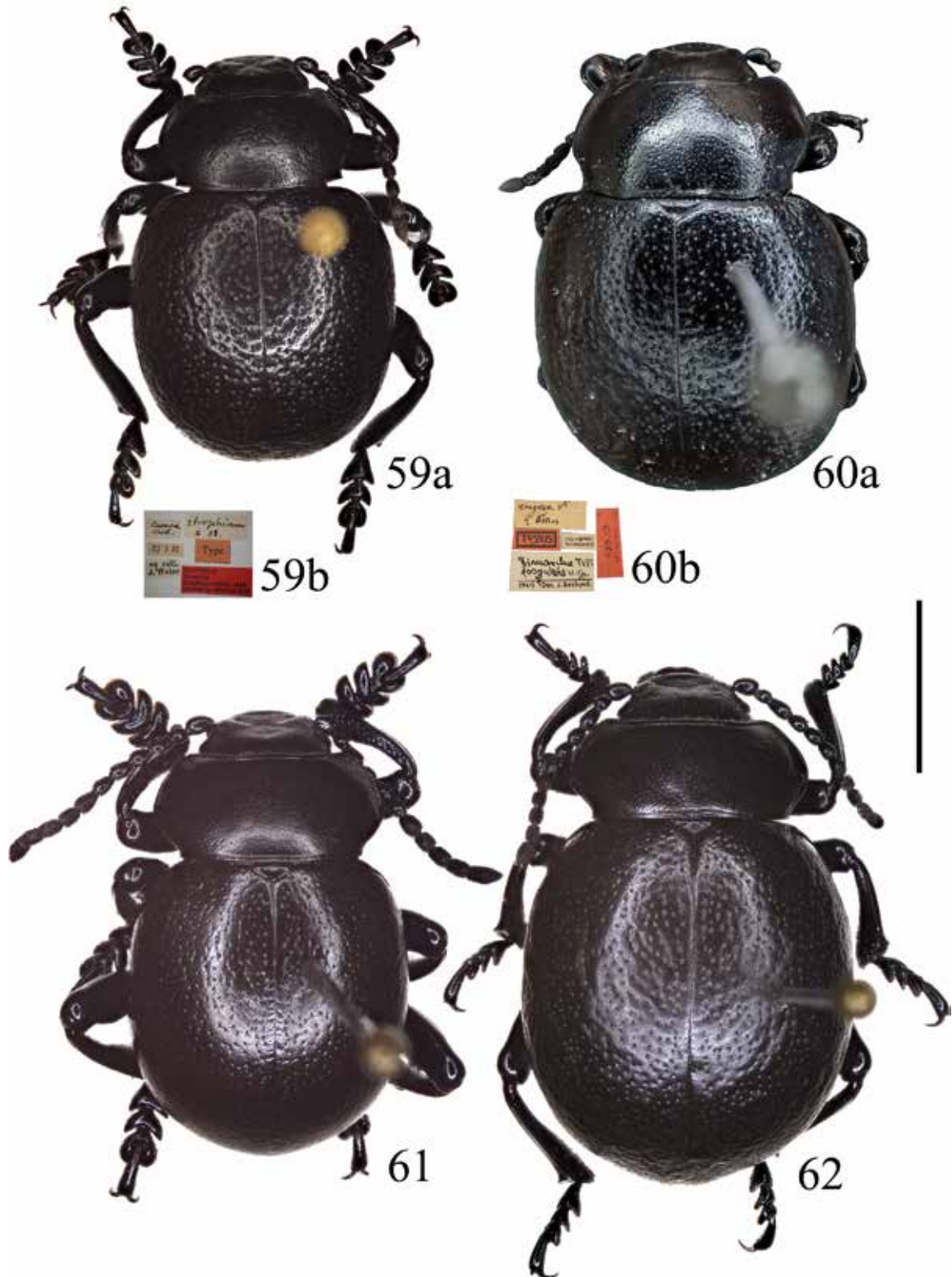
Figs. 50-54. Habitus of *T. scutellaris*. Neotype of *T. scutellaris*, male (50); neotype of *T. hispanica*, male (51); lectotype of *T. rugipennis*, male (52); lectotype of *T. erosa*, male (53); lectotype of *T. vermiculata*, male (54). a = habitus; b = label. Scale = 5 mm.

Figs. 50-54. Habitus de *T. scutellaris*. Neotipo de *T. scutellaris*, macho (50); neotipo de *T. hispanica*, macho (51); lectotipo de *T. rugipennis*, macho (52); lectotipo de *T. erosa*, macho (53); lectotipo de *T. vermiculata*, macho (54). a = habitus; b = etiqueta. Escala = 5 mm.



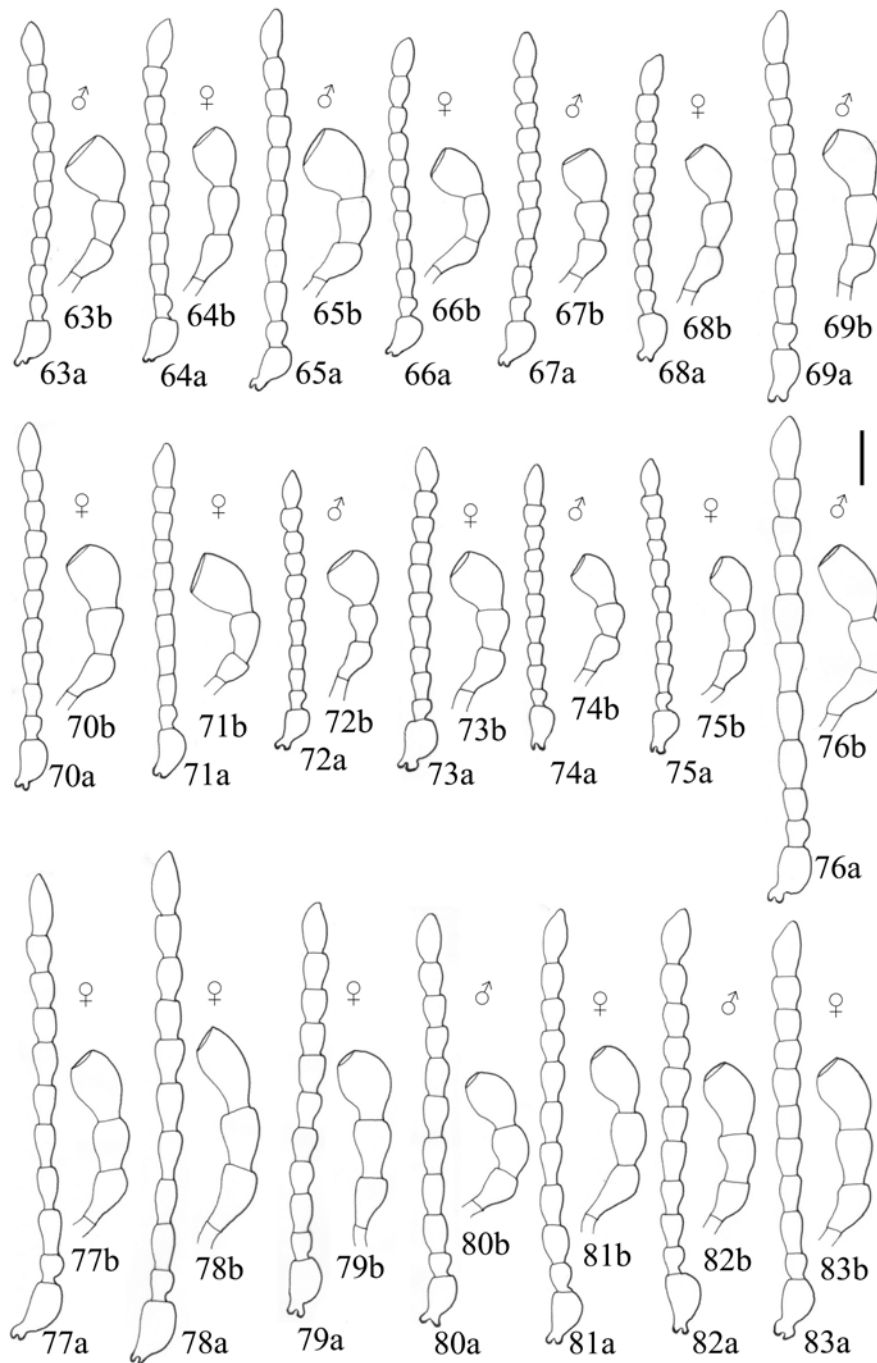
Figs. 55-58. Habitus of *T. scutellaris*. Lectotype of *T. laevisterna*, male (55) (a: habitus, b: label); *T. scutellaris*, males: Huelva, Moguer (56), Algarve, Cabo São Vicente (57), and Murcia, Yecla (58). Scale = 5 mm.

Figs. 55-58. Habitus de *T. scutellaris*. Lectotipo de *T. laevisterna*, macho (55) (a: habitus, b: etiqueta); *T. scutellaris*, machos: Huelva, Moguer (56), Algarve, Cabo São Vicente (57) y Murcia, Yecla (58). Escala = 5 mm.



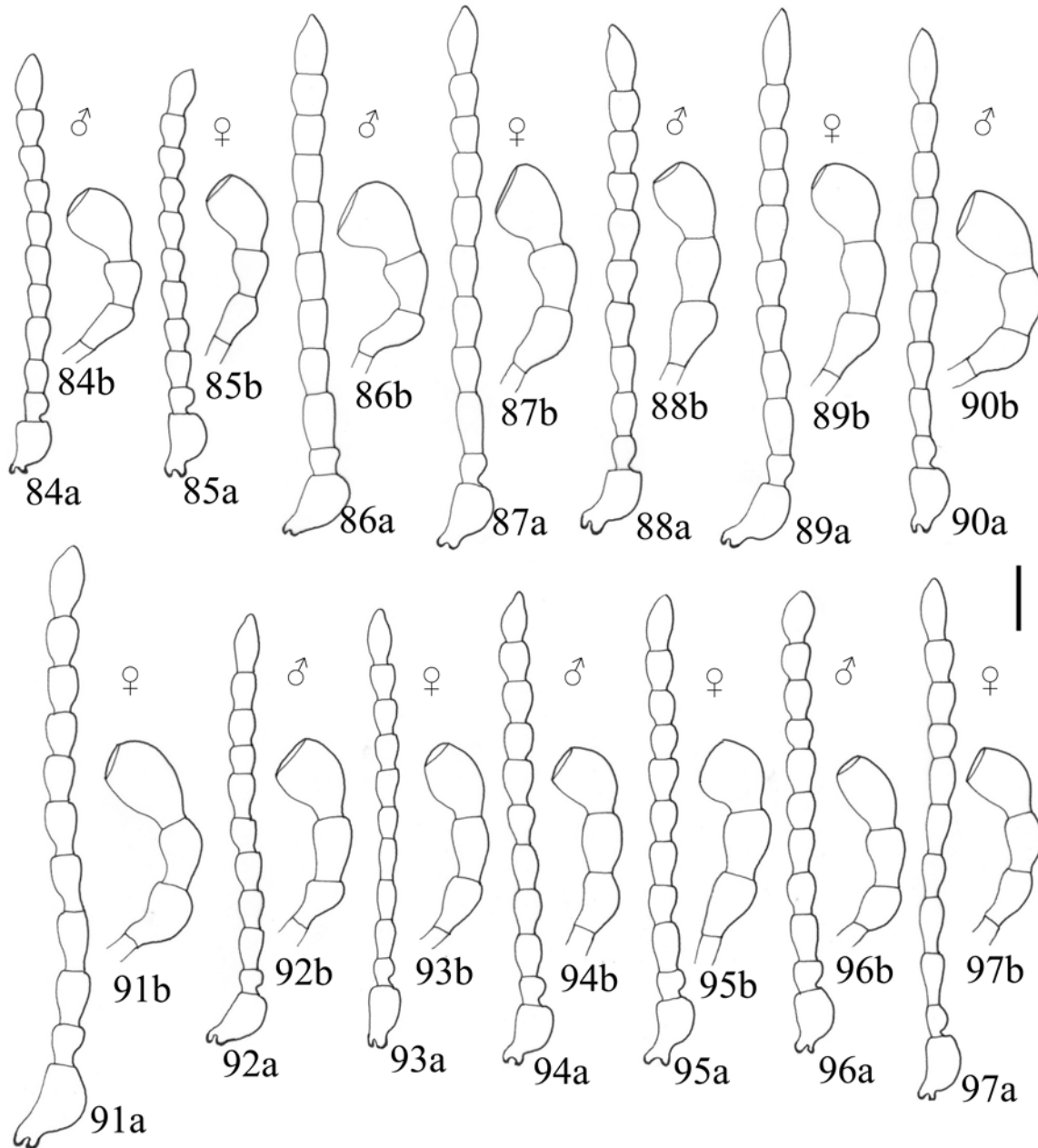
Figs. 59-62. Habitus of *T. strophium* spp. Lectotype of *T. strophium*, male: Cuenca (59); holotype of *T. fossulata* (60); paratypes of *T. carmelenae*, male: Granada, Huéscar, Puerto de la Losa (61), and female: Granada, Peñón del Toro (62). a: habitus, b: label. Scale = 5 mm.

Figs. 59-62. Habitus de *T. strophium* spp. Lectotipo macho de *T. strophium*: Cuenca (59); holotipo de *T. fossulata* (60); paratipos de *T. carmelenae*, macho: Granada, Huéscar, Puerto de la Losa (61), y hembra: Granada, Peñón del Toro (62). a: habitus, b: etiqueta Escala = 5 mm.



Figs. 63-83. Antennae (a) and palpi (b). *T. apricaria* ssp. *apricaria*, male: Cádiz, La Línea (63), female: Cádiz (64), male: Lusitania (65), and female: ídem (66); *T. apricaria* ssp. *heydeni*, male: Granada, Pico Veleta (67), female: Granada, Puerto de la Ragua (68), male: Granada, Sierra de la Contraviesa (69) and female, ídem (70); lectotype of *T. melitensis*, female (71); syntype of *T. seidlitzii*, male (72); *T. apricaria* ssp. *parvicollis*, female: Granada, Sierra de la Sagra (73); *T. granadensis*, male: Granada, Sierra de Guillemona (74), and female: Granada, Huéscar, Puerto de la Losa (75); *T. intermedia* ssp. *intermedia*, male: Almería (76), and females: Almería, Sierra de los Filabres (77), Almería (78), Almería, Aguadulce (79), and male (80) and female (81); Almería, Sierra de Gádor; *T. intermedia* ssp. *lugens*, male (82) and female (83): Granada, Sierra Nevada. Scale = 0.5 mm (palpi), 1 mm (antennae).

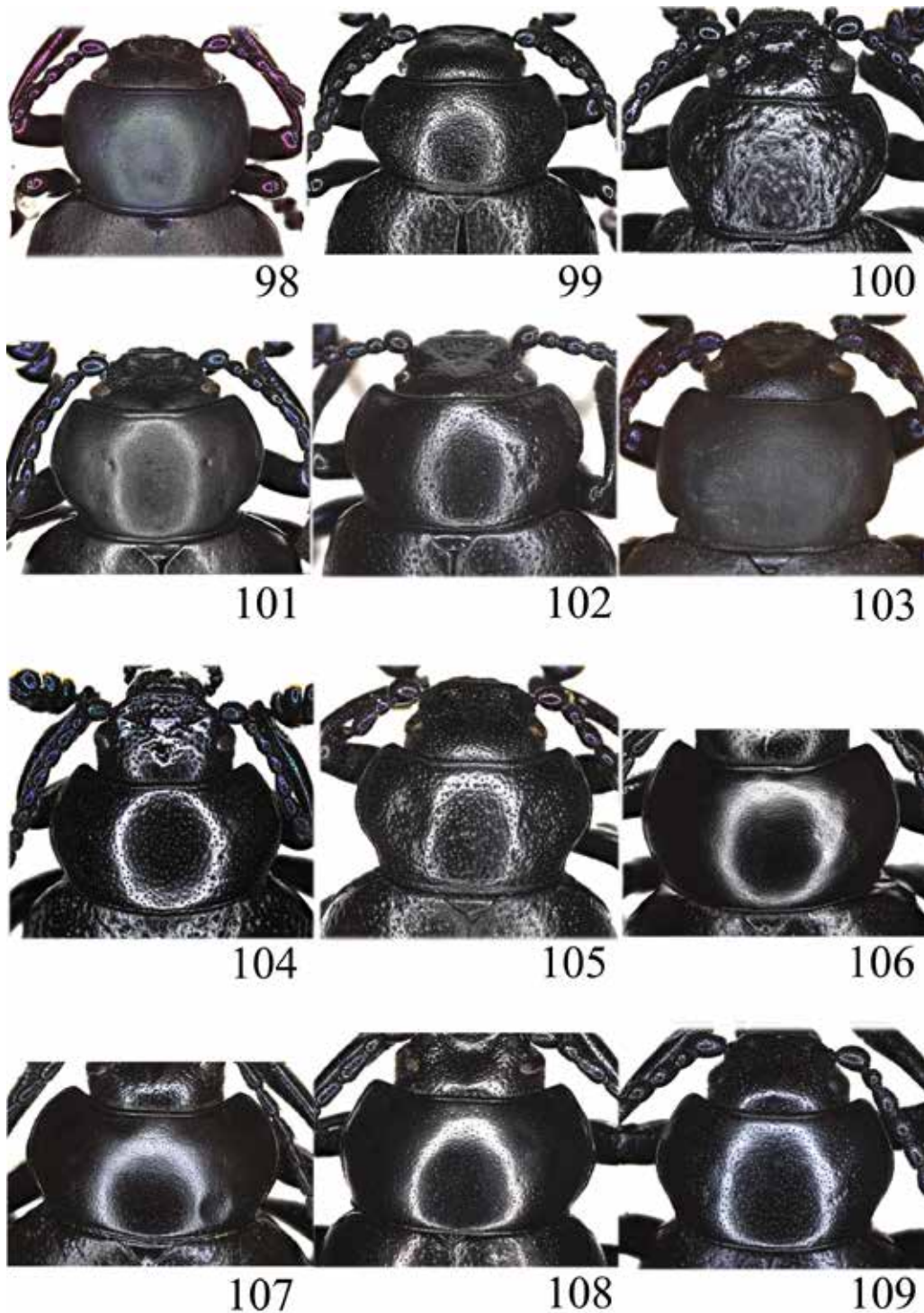
Figs. 63-83. Antenas (a) y palpos (b). *T. apricaria* ssp. *apricaria*, macho: Cádiz, La Línea (63), hembra: Cádiz (64), macho: Lusitania (65) y hembra: ídem (66); *T. apricaria* ssp. *heydeni*, macho: Granada, Pico Veleta (67), y hembra: Granada, Puerto de la Ragua (68), macho: Granada, Sierra de la Contraviesa (69) and hembra, ídem (70); lectotipo de *T. melitensis*, hembra (71); sintipo de *T. seidlitzii*, macho (72); *T. apricaria* ssp. *parvicollis*, hembra: Granada, Sierra de la Sagra (73); *T. granadensis*, macho: Granada, Sierra de Guillemona (74), y hembra: Granada, Huéscar, Puerto de la Losa (75); *T. intermedia* ssp. *intermedia*, macho: Almería (76), y hembras: Almería, Sierra de los Filabres (77), Almería (78), Almería, Aguadulce (79), y macho (80) y hembra (81): Almería, Sierra de Gádor; *T. intermedia* ssp. *lugens*, macho (82) y hembra (83): Granada, Sierra Nevada. Escala = 0.5 mm (palpos), 1 mm (antenas).



Figs. 84-97. Antennae (a) and palpi (b). *T. insparsa*: Granada, Pico Veleta, male (84) and female (85); lectotype of *T. kiesenwetteri*, male: Jaén (86); paralectotype of *T. kiesenwetteri*, female: Jaén (87); *T. kiesenwetteri* ssp. *sagrensis*, male (88) and female (89): Granada, Sierra de la Sagra; *T. marginicollis*, male (90) and female (91): Albacete, Riópar; *T. scutellaris*, male (92) and female (93): Murcia, Yecla; *T. strophium* ssp. *strophium*, male (94) and female (95): Cuenca; *T. strophium* ssp. *carmelena*, male (96) and female (97): Granada, Huéscar, Puerto de la Losa. Scale = 0.5 mm (palpi), 1mm (antennae).

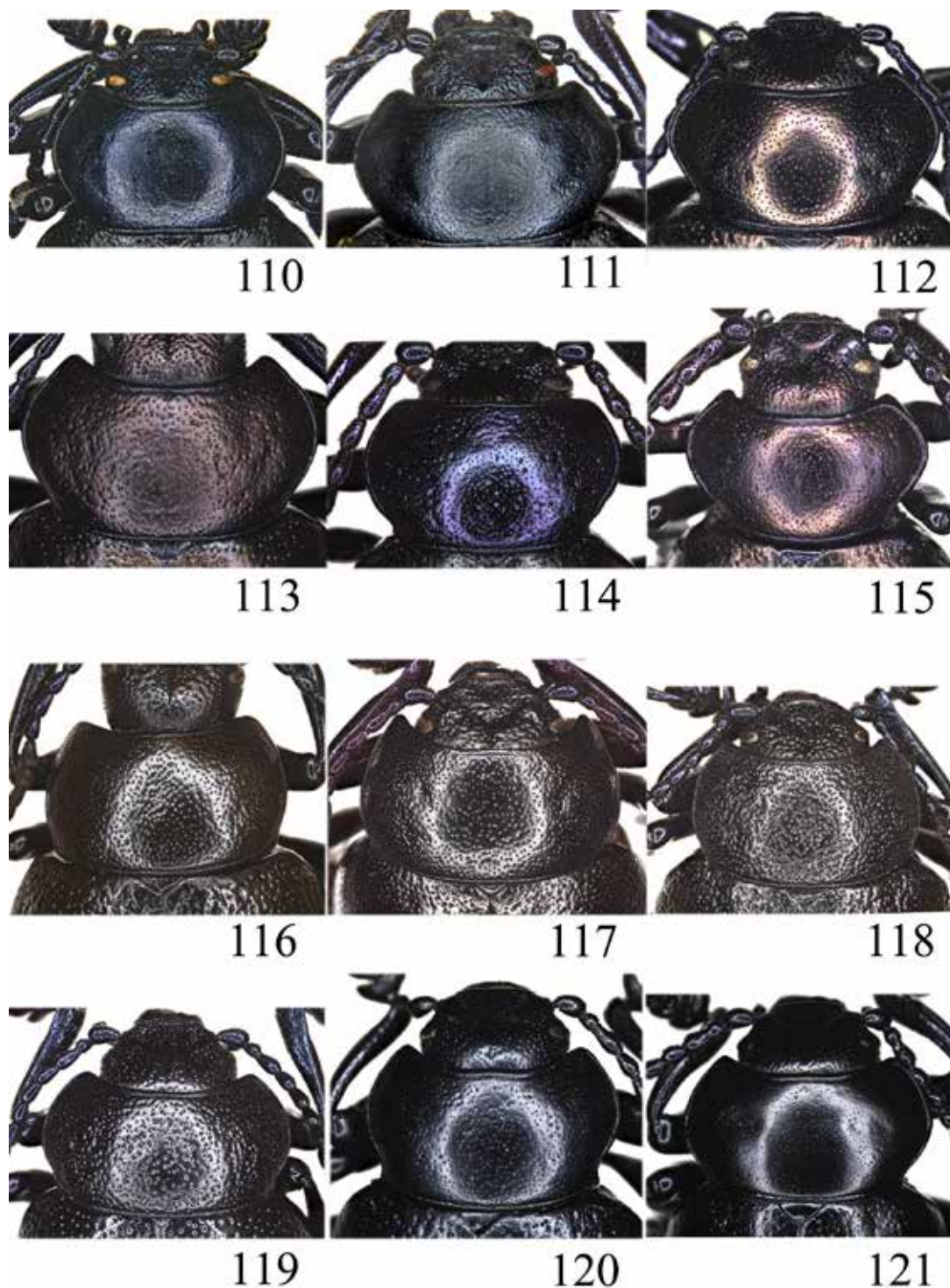
Figs. 84-97. Antenas (a) y palpos (b). *T. insparsa*, macho (84) y hembra (85): Granada, Pico Veleta; lectotipo de *T. kiesenwetteri*, macho: Jaén (86); paralectotipo de *T. kiesenwetteri*, hembra: Jaén (87); *T. kiesenwetteri* ssp. *sagrensis*, macho (88) y hembra (89): Granada, Sierra de la Sagra; *T. marginicollis*, macho (90) y hembra (91): Albacete, Riópar; *T. scutellaris*, macho (92) y hembra (93): Murcia, Yecla; *T. strophium* ssp. *strophium*: macho (94) y hembra (95): Cuenca; *T. strophium* ssp. *carmelena*, macho (96) y hembra (97): Granada, Huéscar, Puerto de la Losa. Escala = 0.5 mm (palpos), 1 mm (antenas).





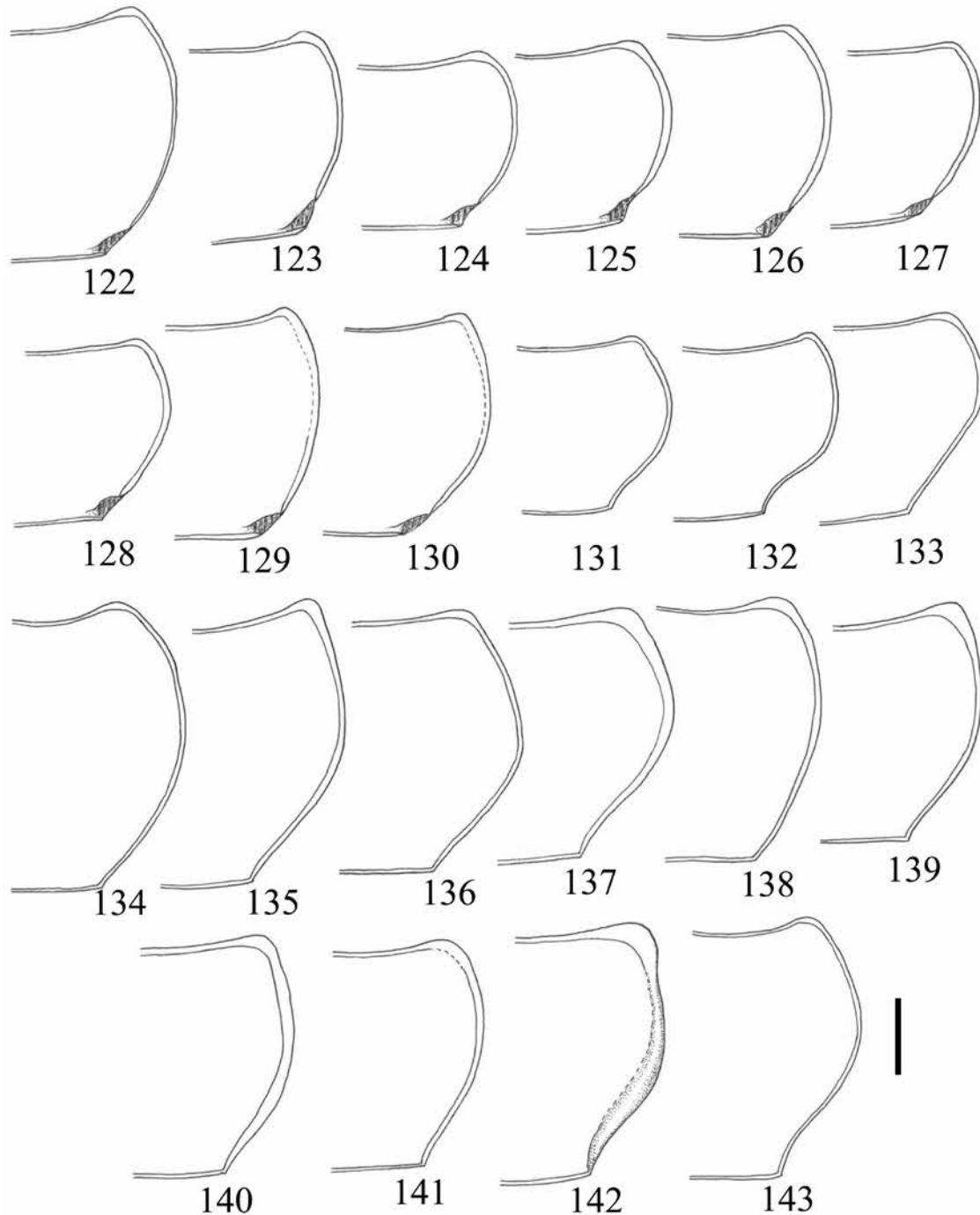
Figs 98-109. Pronota. *T. apricaria* ssp. *apricaria*, male: Cádiz, Puerto del Cabrito (98); *T. apricaria* ssp. *heydeni*, male: Granada, Puerto de la Ragua (99); *T. apricaria* ssp. *heydeni*, male: Granada, Sierra de la Contraviesa (100); *T. apricaria* ssp. *parvicollis*, males: Málaga, Arroyo Toquero (101), Granada, Sierra de Baza (102); *T. apricaria* ssp. *melitensis*, male: Morocco, Tetouan (103); *T. granadensis*, male: Granada, Huéscar, Puerto de la Losa (104); lectotype of *T. insparsa*, male (105); neotype of *T. intermedia*, male (106); *T. intermedia* ssp. *intermedia*, female: Almería, Níjar (107), and male: Almería, Sierra de Gádor (108); *T. intermedia* ssp. *lugens*, male: Granada, Sierra Nevada, Siete Lagunas (109). Not at the same scale.

Figs. 98-109. Pronotos. *T. apricaria* ssp. *apricaria*, macho: Cádiz, Puerto del Cabrito, (98); *T. apricaria* ssp. *heydeni*, macho: Granada, Puerto de la Ragua (99); *T. apricaria* ssp. *heydeni*, macho: Granada, Sierra de la Contraviesa (100); *T. apricaria* ssp. *parvicollis*, machos: Málaga, Arroyo Toquero (101), y Granada, Sierra de Baza (102); *T. apricaria* ssp. *melitensis*, macho: Morocco, Tetouan (103); *T. granadensis*, macho: Granada, Huéscar, Puerto de la Losa (104); lectotipo de *T. insparsa*, macho (105); neotipo de *T. intermedia*, macho (106); *T. intermedia* ssp. *intermedia*, hembra: Almería, Níjar (107), y macho: Almería, Sierra de Gádor (108); *T. intermedia* ssp. *lugens*, macho: Granada, Sierra Nevada, Siete Lagunas (109). A diferentes escalas.



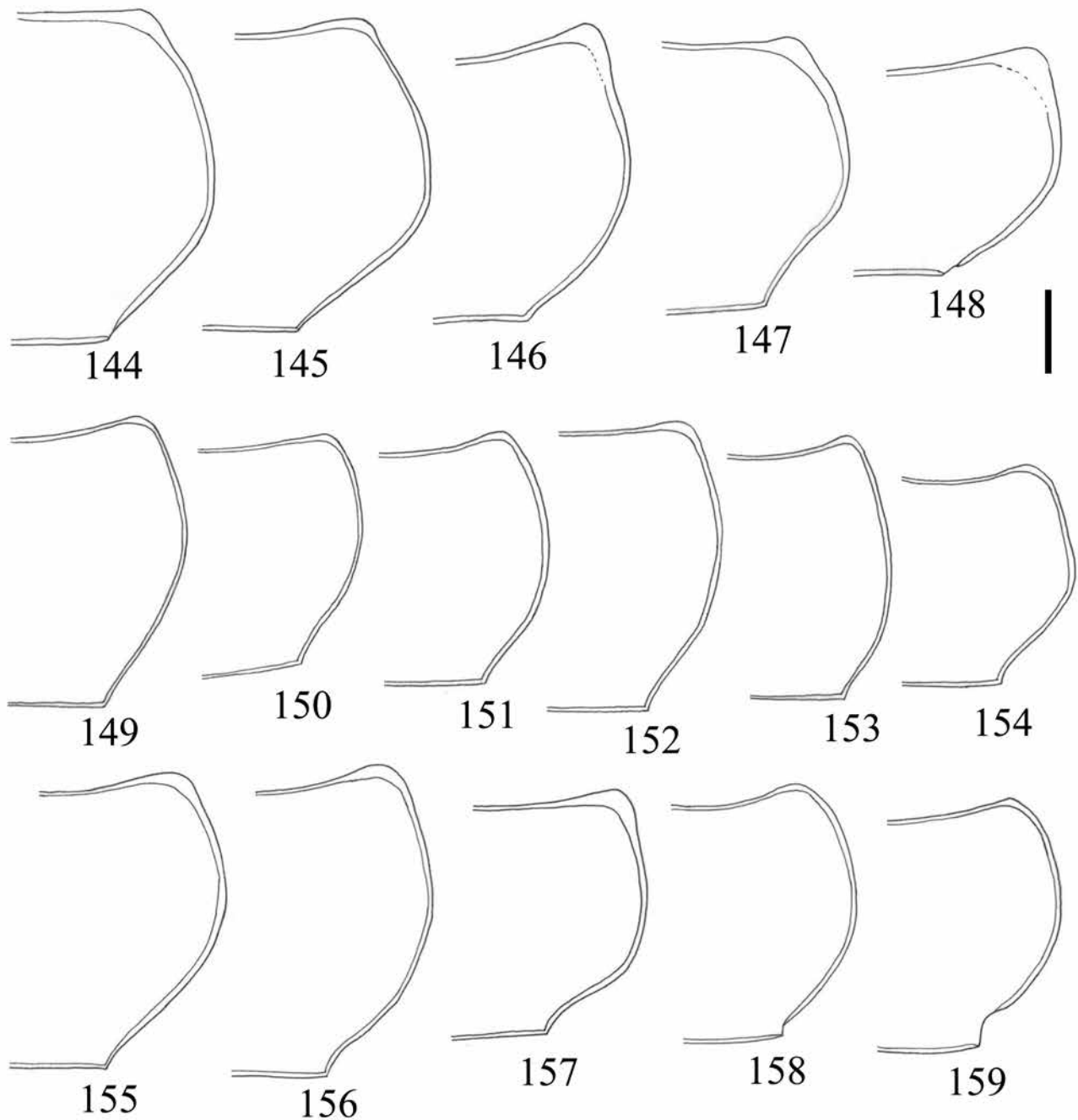
Figs. 110-121. Pronota. Lectotype of *T. kiesenwetteri*, male (110); paralectotype of *T. kiesenwetteri*, female (111); lectotype of *T. sagrensis*, male (112); *T. kiesenwetteri* ssp. *sagrensis*, female: Granada, Sierra de Guillemona (113); *T. marginicollis*, males: Granada, Sierra Nevada, Peñones de San Francisco (114), and Jaén, Siles (115); neotype of *T. scutellaris*, male (116); *T. scutellaris*, males: Algarve, Sagres (117), Huelva, Moguer (118), Murcia, Yecla (119); *T. strophium* ssp. *strophium*, male: Cuenca (120); *T. strophium* ssp. *carmelena*, male: Granada, Sierra de la Sagra (121). Not at the same scale.

Figs. 110-121. Pronotos. Lectotipo de *T. kiesenwetteri*, macho (110); paralectotipo de *T. kiesenwetteri*, hembra (111); lectotipo de *T. sagrensis*, macho (112); *T. kiesenwetteri* ssp. *sagrensis*, hembra: Granada, Sierra de Guillemona (113); *T. marginicollis*, machos: Granada, Sierra Nevada, Peñones de San Francisco (114), Jaén, Siles (115); neotipo de *T. scutellaris*, macho (116); *T. scutellaris*, machos: Algarve, Sagres (117), Huelva, Moguer (118), Murcia, Yecla (119); *T. strophium* ssp. *strophium*, macho: Cuenca (120); *T. strophium* ssp. *carmelena*, macho: Granada, Sierra de la Sagra (121). A diferentes escalas.



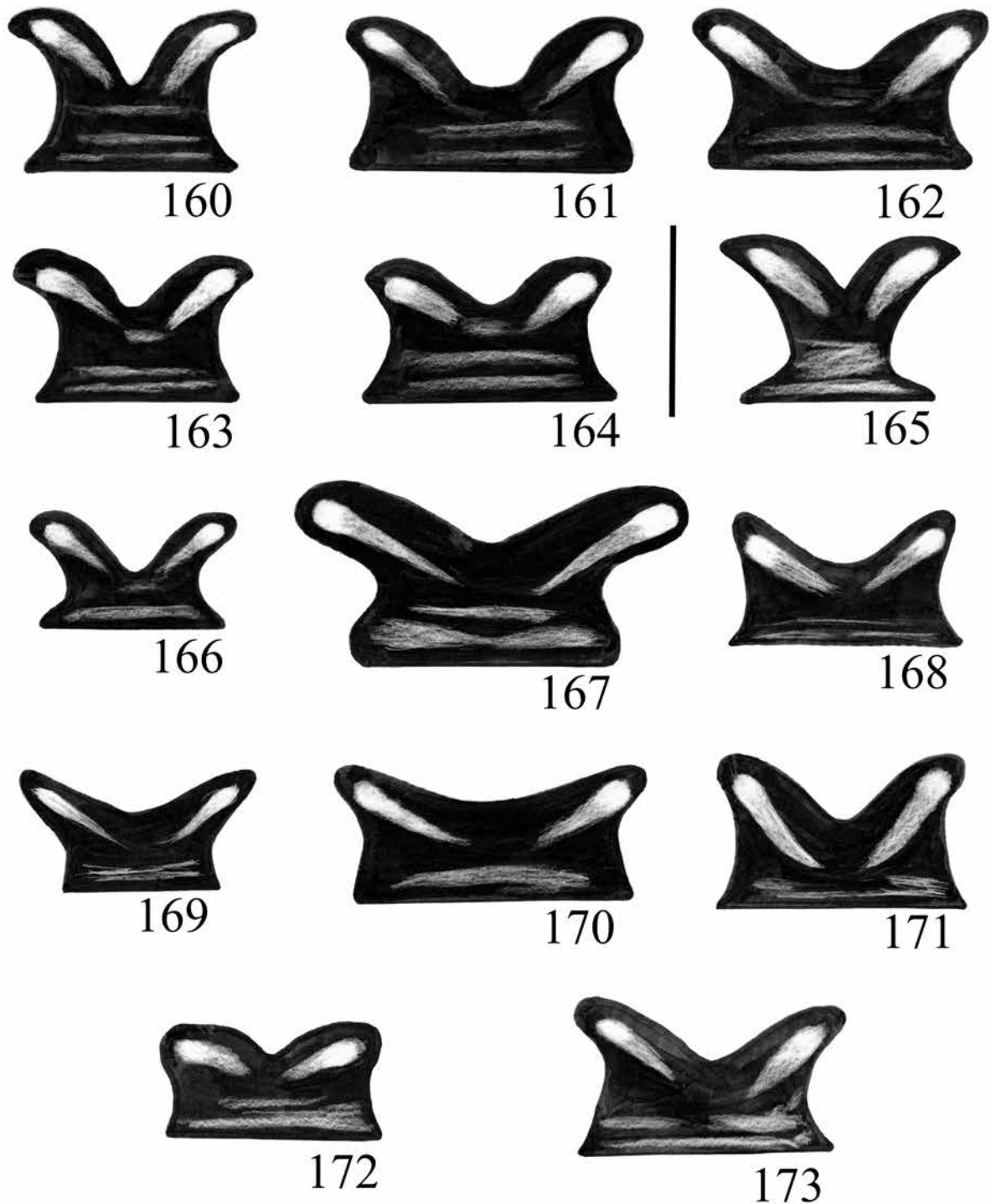
Figs. 122-143. Pronotum outlines. *T. apricaria* ssp. *apricaria*, male: Algarve (122), and female: Cádiz (123); *T. apricaria* ssp. *parvicollis*, male: Granada, Sierra de la Sagra (124), and female: Granada, Sierra Nevada (125); *T. apricaria* ssp. *heydeni*, male: Granada, Lanjarón (126), and females: Granada, Sierra Nevada (127), Granada, Sierra de la Contraviesa (128); lectotype of *T. melitensis*, female (129); *T. melitensis*, female: Morocco, Tetouan (130); *T. granadensis*, female: Granada, Sierra de la Sagra (131); *T. insparsa*, male (132) and female (133): Granada, Sierra Nevada, Pico Veleta; *T. intermedia* ssp. *intermedia*, females: Alicante, Santa Pola (134), Almería, Cabo de Gata (135), Granada, Lugros (136), Almería, El Palmer (137), Almería, Aguadulce (138), Almería, Sierra de Gádor (139, 140, 141, 142); *T. intermedia* ssp. *lugens*, female: Granada, Sierra Nevada (143). Scale = 1 mm.

Figs. 122-143. Contornos de los pronotos. *T. apricaria* ssp. *apricaria*, macho: Algarve (122), y hembra: Cádiz (123); *T. apricaria* ssp. *parvicollis*, macho: Granada, Sierra de la Sagra (124), y hembra: Granada, Sierra Nevada (125); *T. apricaria* ssp. *heydeni*, macho: Granada, Lanjarón (126), y hembras: Granada, Sierra Nevada (127), Granada, Sierra de la Contraviesa (128); lectotipo de *T. melitensis*, hembra (129); *T. melitensis*, hembra: Marruecos, Tetouan (130); *T. granadensis*, hembra: Granada, Sierra de la Sagra (131); *T. insparsa*, macho (132) y hembra (133): Granada, Sierra Nevada, Pico Veleta; *T. intermedia* ssp. *intermedia*, hembras: Alicante, Santa Pola (134); Almería, Cabo de Gata (135); Granada, Lugros (136), Almería, El Palmer (137), Almería, Aguadulce (138), Almería, Sierra de Gádor (139, 140, 141, 142); *T. intermedia* ssp. *lugens*, hembra: Granada, Sierra Nevada (143). Escala = 1 mm.



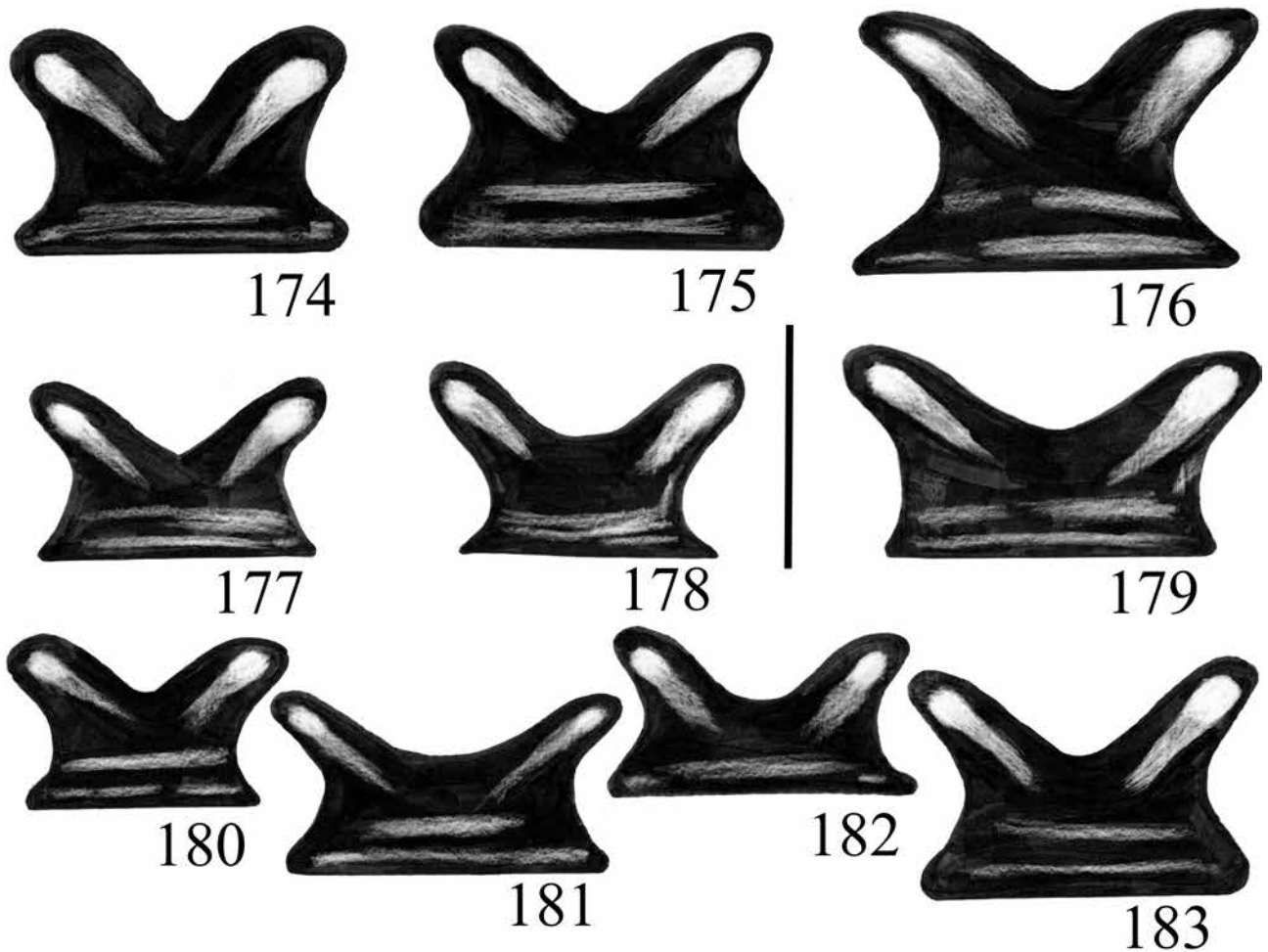
Figs. 144-159. Pronotum outlines. Paralectotype of *T. kiesenwetteri*, female (144); *T. kiesenwetteri* ssp. *sagrensis*, females: Granada, Sierra de la Sagra (145, 146); *T. marginicollis*, female: Albacete, Riópar (147), and male: Jaén, Sierra de Segura (148); *T. scutellaris*, females: Madrid (149), Cuenca (150), male: Murcia, Yecla (151), females: Portugal, Lagos (152), Portugal, Monchique (153), male: Córdoba (154); *T. strophium* ssp. *strophium*, female: Cuenca (155); paratype of *T. strophium* ssp. *carmelena*, female: Granada, Huéscar, Puerto de la Losa (156); *T. strophium* ssp. *carmelena*, females: Jaén, Sierra de Cazorla (157), Jaén, Sierra de Valdepeñas (158) and Jaén, Sierra Mágina (159). Scale = 1 mm.

Figs. 144-159. Contornos de los pronotos. Paralectotipo de *T. kiesenwetteri*, hembra (144); *T. kiesenwetteri* ssp. *sagrensis*, hembras: Granada, Sierra de la Sagra (145, 146); *T. marginicollis*, hembra: Albacete, Riópar (147), y macho: Jaén, Sierra de Segura, macho (148); *T. scutellaris*, hembras: Madrid (149), Cuenca (150), macho: Murcia, Yecla (151), hembras: Portugal, Lagos (152), Portugal, Monchique (153), macho: Córdoba (154); *T. strophium* ssp. *strophium*, hembra: Cuenca (155); paratipo de *T. strophium* ssp. *carmelena*, hembra: Granada, Huéscar, Puerto de la Losa (156); *T. strophium* ssp. *carmelena*, hembras: Jaén, Sierra de Cazorla (157), Jaén, Sierra de Valdepeñas (158) y Jaén, Sierra Mágina (159). Escala = 1 mm.



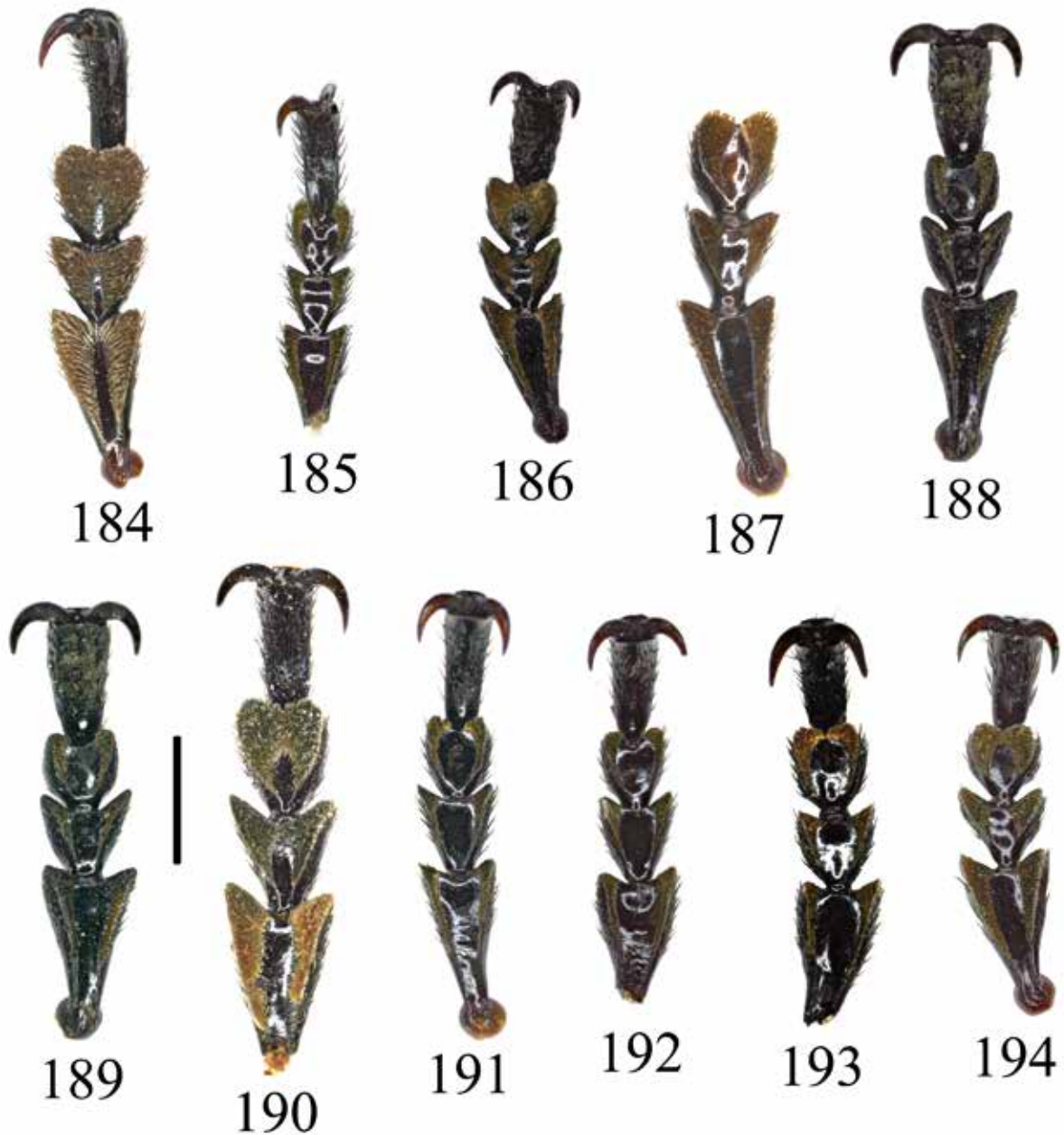
Figs. 160-173. Mesoventrites. *T. apricaria* ssp. *apricaria*, female: Sevilla (160); *T. apricaria* ssp. *heydeni*, females: Almería, Aguadulce (161), Almería, El Palmer (162), Granada, Sierra de la Contraviesa (163); *T. melitensis*, female: Marruecos, Tetouan (164); *T. granadensis*, female: Granada, Puebla de don Fadrique (165); *T. insparsa*, female: Granada, Sierra Nevada (166); *T. intermedia* ssp. *intermedia*, female: Almería, Carboneras (167), males: Almería, Sierra de Gádor (168, 169) and females: ídem (170, 171). *T. intermedia* ssp. *lugens*, female: Granada, Sierra Nevada (172); *T. marginicollis*, female: Albacete, Riópar (173). Scale = 0.5 mm.

Figs. 160-173. Mesoventritos. *T. apricaria* ssp. *apricaria*, hembra: Sevilla (160); *T. apricaria* ssp. *heydeni*, hembras: Almería, Aguadulce (161), Almería, El Palmer (162), Granada, Sierra de la Contraviesa (163); *T. melitensis*, hembra: Marruecos, Tetouan (164); *T. granadensis*, hembra: Granada, Puebla de don Fadrique (165); *T. insparsa*, hembra: Granada, Sierra Nevada (166); *T. intermedia* ssp. *intermedia*, hembra: Almería, Carboneras (167), machos: Almería, Sierra de Gádor (168, 169) y hembras: ídem (170, 171); *T. intermedia* ssp. *lugens*, hembra: Granada, Sierra Nevada (172); *T. marginicollis*, hembra: Albacete, Riópar (173). Escala = 0.5 mm.



Figs. 174-183. Mesoventrites. Paralectotipo de *T. kiesenwetteri*, female (174); *T. kiesenwetteri* ssp. *sagrensis*, female: Granada, Sierra de la Sagra (175); *T. scutellaris*, female: Madrid (176); paralectotipos de *T. strophium*, male: Cuenca (177), and females: ídem (178, 179); *T. strophium* ssp. *carmelena*, male: Jaén, Sierra de Cazorla (180), and females: Jaén, Sierra de Valdepeñas (181), Jaén, Sierra Mágina (182) and Granada, Sierra de la Sagra (183). Scale = 0.5 mm.

Fig. 174-183. Mesoventritos. Paralectotipo de *T. kiesenwetteri*, hembra (174); *T. kiesenwetteri* ssp. *sagrensis*, hembra: Granada, Sierra de la Sagra (175); *T. scutellaris*, hembra: Madrid (176); paralectotipos de *T. strophium*, macho: Cuenca (177), y hembras: ídem (178, 179); *T. strophium* ssp. *carmelena*, macho: Jaén, Sierra de Cazorla (180), y hembras: Jaén, Sierra de Valdepeñas (181), Jaén, Sierra Mágina (182) y Granada, Sierra de la Sagra (183). Escala = 0.5 mm.



Figs. 184-194. Metatarsi of females. *T. apricaria* ssp. *apricaria*: Cádiz, Conil (184); *T. granadensis*: Jaén, Campos de Hernán-Perea (185); *T. insparsa*: Granada, Sierra Nevada, Pico Veleta (186); *T. intermedia* ssp. *intermedia*: Granada, Motril (187); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Pico Veleta (188); *T. kiesenwetteri* ssp. *sagrensis*: Murcia, Revolcadores, Puerto Alto (189); *T. marginicollis*: Granada, Sierra de Alfacar (190); *T. scutellaris*: Huelva, El Rompido (191), Murcia, Yecla (192), Portugal, Sagres (193); *T. strophium* ssp. *carmelena*: Granada, Huéscar, Puerto de la Losa (194). Scale = 1 mm.

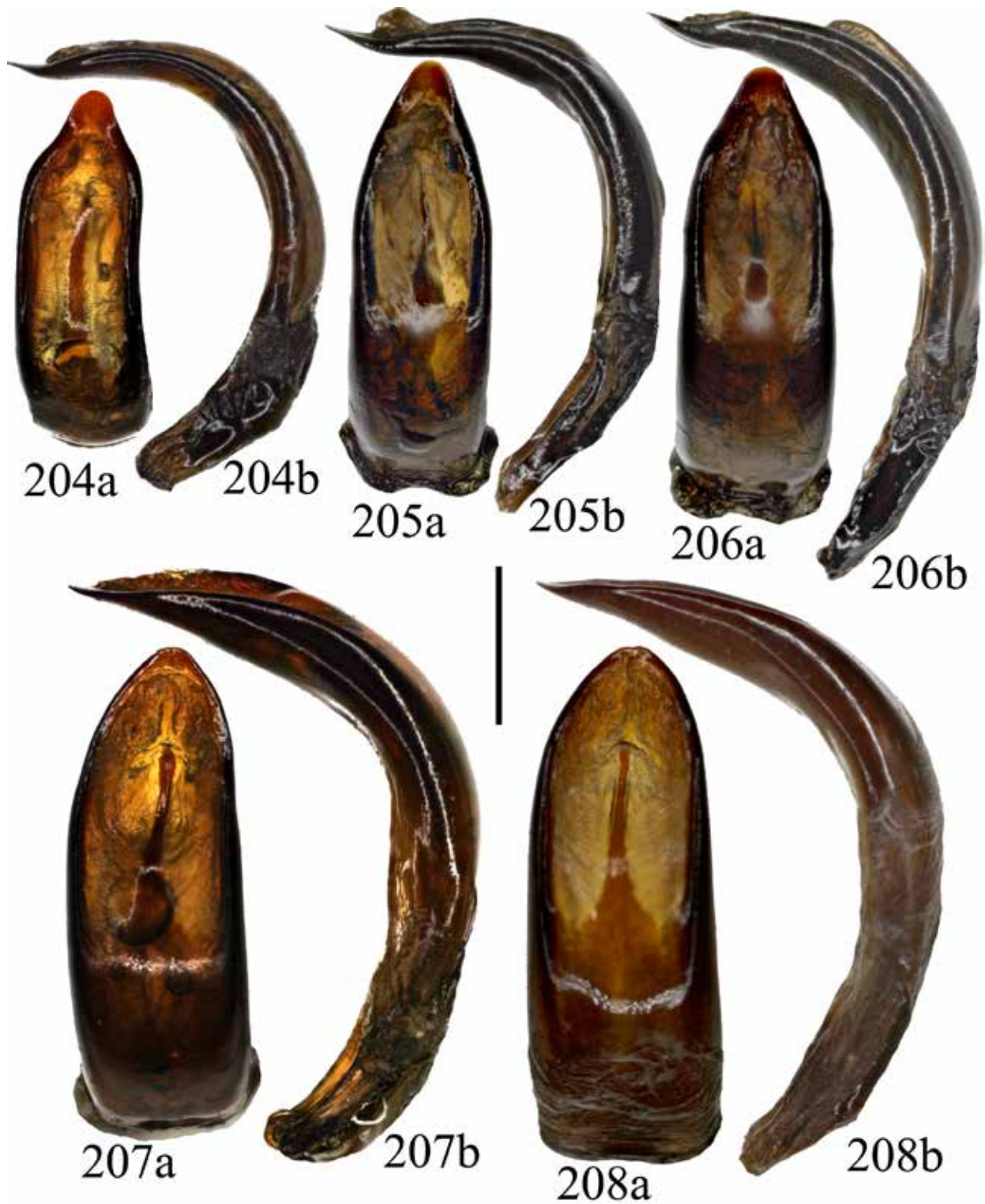
Figs. 184-194. Metatarsos de hembras. *T. apricaria* ssp. *apricaria*: Cádiz, Conil (184); *T. granadensis*: Jaén, Campos de Hernán-Perea (185); *T. insparsa*: Granada, Sierra Nevada, Pico Veleta (186); *T. intermedia* ssp. *intermedia*: Granada, Motril (187); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Pico Veleta (188); *T. kiesenwetteri* ssp. *sagrensis*: Murcia, Revolcadores, Puerto Alto (189); *T. marginicollis*: Granada, Sierra de Alfacar (190); *T. scutellaris*: Huelva, El Rompido (191), Murcia, Yecla (192), Algarve, Sagres (193); *T. strophium* ssp. *carmelena*: Granada, Huéscar, Puerto de la Losa (194). Escala = 1 mm.



Figs. 195-203. Aedeagi. *T. apricaria* ssp. *apricaria*: Sevilla, Dos Hermanas (195, 196), Algarve, Monchique, Foia (197); *T. apricaria* ssp. *heydeni*: Granada, Puerto de la Ragua (198); *T. apricaria* ssp. *melitensis*: Marruecos, Tetouan (199); *T. apricaria* ssp. *parvicollis*: Málaga, Yunquera (200), Málaga, Churriana (201), Córdoba, Sierra Horconera (202), Granada, Sierra de Baza (203). a: dorsal view, b: lateral view. Scale = 1 mm.

Figs. 195-203. Edeagos. *T. apricaria* ssp. *apricaria*: Sevilla, Dos Hermanas (195, 196), Algarve, Monchique, Foia (197); *T. apricaria* ssp. *heydeni*: Granada, Puerto de la Ragua (198); *T. apricaria* ssp. *melitensis*: Marruecos, Tetouan (199); *T. apricaria* ssp. *parvicollis*: Málaga, Yunquera (200), Málaga, Churriana (201), Córdoba, Sierra Horconera (202), Granada, Sierra de Baza (203). a: vista dorsal, b: vista lateral. Escala = 1 mm.





Figs. 204-208. Aedeagi. *T. granadensis*: Granada, Huéscar, Puerto de la Losa (204); *T. insparsa*: Granada, Sierra Nevada, Pico Veleta (205), and Granada, Sierra Nevada, Siete Lagunas (206); *T. intermedia* ssp. *intermedia*: Alicante, Crevillente (207), and Almería, Tabernas (208). a: dorsal view, b: lateral view. Scale = 1 mm.

Figs. 204-208. Edeagos. *T. granadensis*: Granada, Huéscar, Puerto de la Losa (204); *T. insparsa*: Granada, Sierra Nevada, Pico Veleta (205), y Granada, Sierra Nevada, Siete Lagunas (206); *T. intermedia* ssp. *intermedia*: Alicante, Crevillente (207), y Almería, Tabernas (208). a: vista dorsal, b: vista lateral. Escala = 1 mm.



Figs. 209-212. Aedeagi. *T. intermedia* ssp. *intermedia*: Murcia, Los Belones (209), and Almería, Velefique (210); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Siete Lagunas (211), and Granada, Sierra Nevada, Albergue Universitario (212). a: dorsal view, b: lateral view. Scale = 1 mm.

Figs. 209-212. Edeagos. *T. intermedia* ssp. *intermedia*: Murcia, Los Belones (209), y Almería, Velefique (210); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Siete Lagunas (211), y Granada, Sierra Nevada, Albergue Universitario (212). a: vista dorsal, b: vista lateral. Escala = 1 mm.



Figs. 213-216. Aedeagi. *T. marginicollis*: Granada, Sierra de la Sagra (213), and Granada, Sierra Nevada, Albergue Universitario (214, deformed); lectotype of *T. kiesenwetteri* (215); lectotype of *T. sagrensis* (216). a: dorsal view, b: lateral view. Scale = 1 mm.

Figs. 213-216. Edeagos. *T. marginicollis*: Granada, Sierra de la Sagra (213), y Granada, Sierra Nevada, Albergue Universitario (214, anómalo); lectotipo de *T. kiesenwetteri* (215); lectotipo de *T. sagrensis* (216). a: vista dorsal, b: vista lateral. Escala = 1 mm.



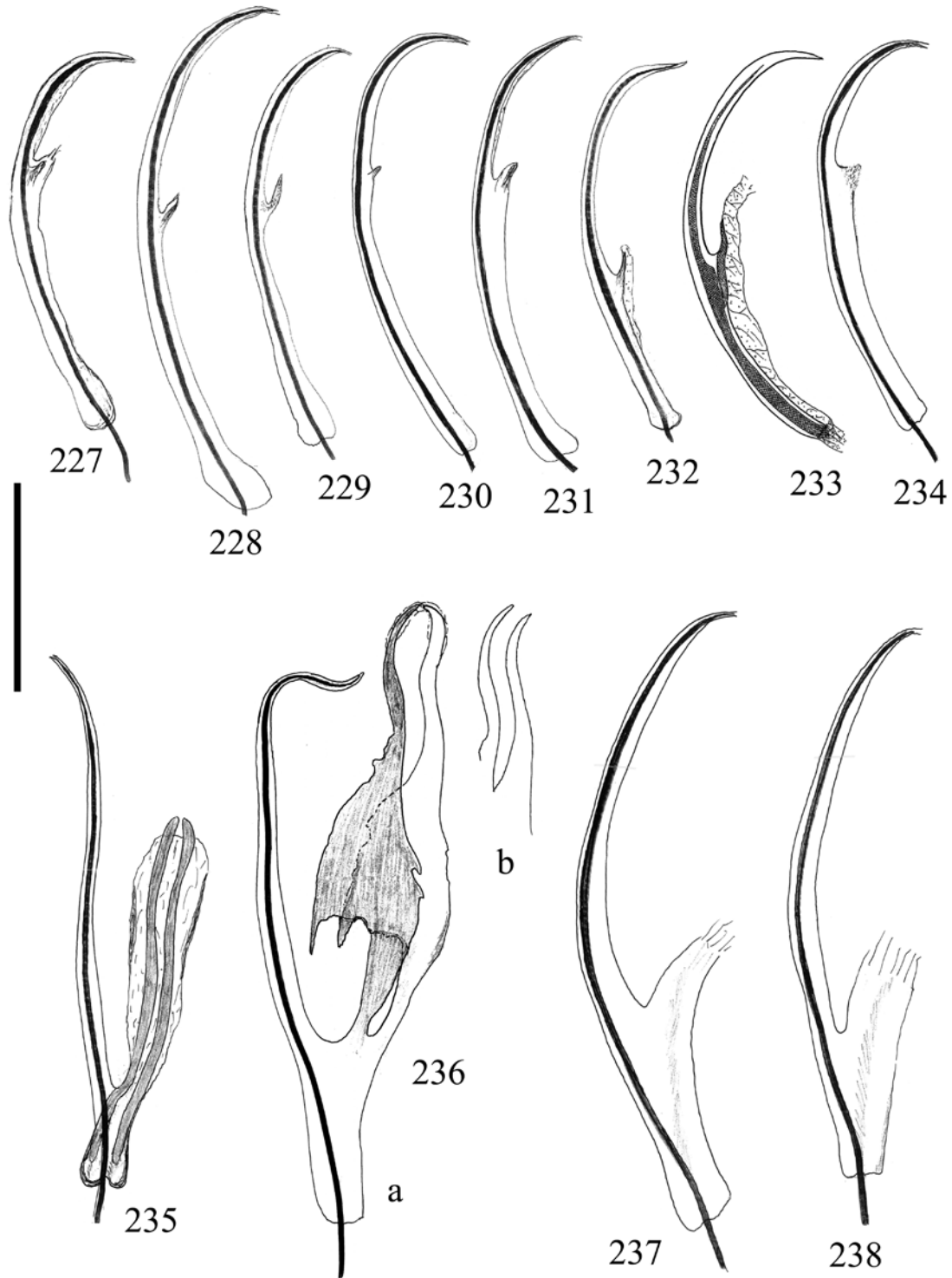
Figs. 217-221. Aedeagi. Neotype of *T. scutellaris* (217); *T. scutellaris*: Huelva, Cartaya (218), Madrid, Chinchón (219), Algarve, Monchique (220), and Murcia, Yecla (221). a: dorsal view, b: lateral view. Scale = 1 mm.

Figs. 217-221. Edeagos. Neotipo de *T. scutellaris*: (217); *T. scutellaris*: Huelva, Cartaya (218), Madrid, Chinchón (219), Algarve, Monchique (220), Murcia, Yecla (221). a: vista dorsal, b: vista lateral. Escala = 1 mm.



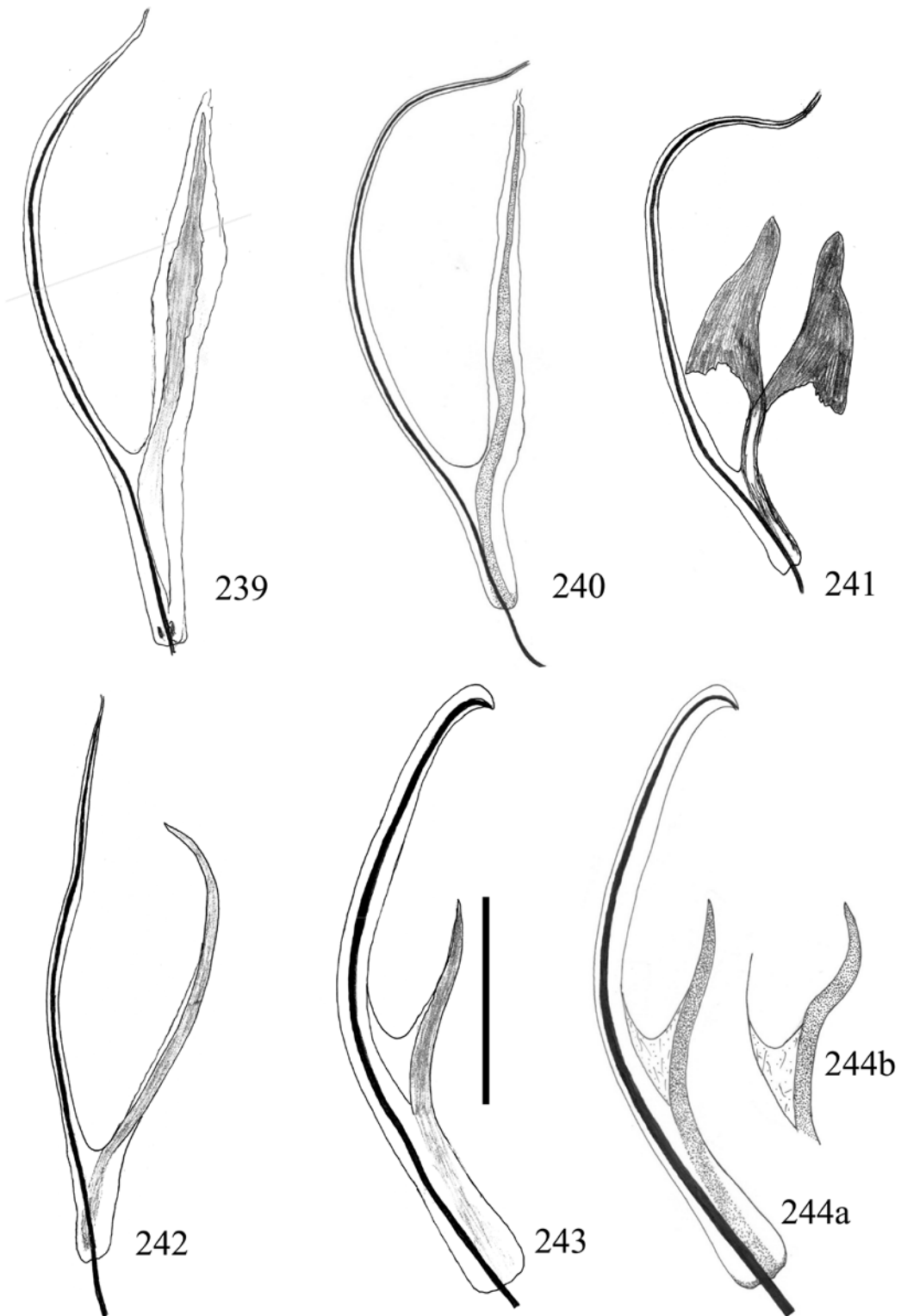
Figs. 222-226. Aedeagi. *T. strophium* ssp. *strophium*: Cuenca (222); paratype of *T. strophium* ssp. *carmelena*: Granada, Sierra de la Sagra (223); *T. strophium* ssp. *carmelena*: Granada, Sierra Arana (224), Jaén, Almadén (225), and Granada, Sierra Tejada (226). a: vista dorsal, b: vista lateral. Escala = 1 mm.

Figs. 222-226. Edeagos. *T. strophium* ssp. *strophium*: Cuenca (222); paratipo de *T. strophium* ssp. *carmelena*: Granada, Sierra de la Sagra (223); *T. strophium* ssp. *carmelena*: Granada, Sierra Arana (224), Jaén, Almadén (225), y Granada, Sierra Tejada (226). a: vista dorsal, b: vista lateral. Escala = 1 mm.



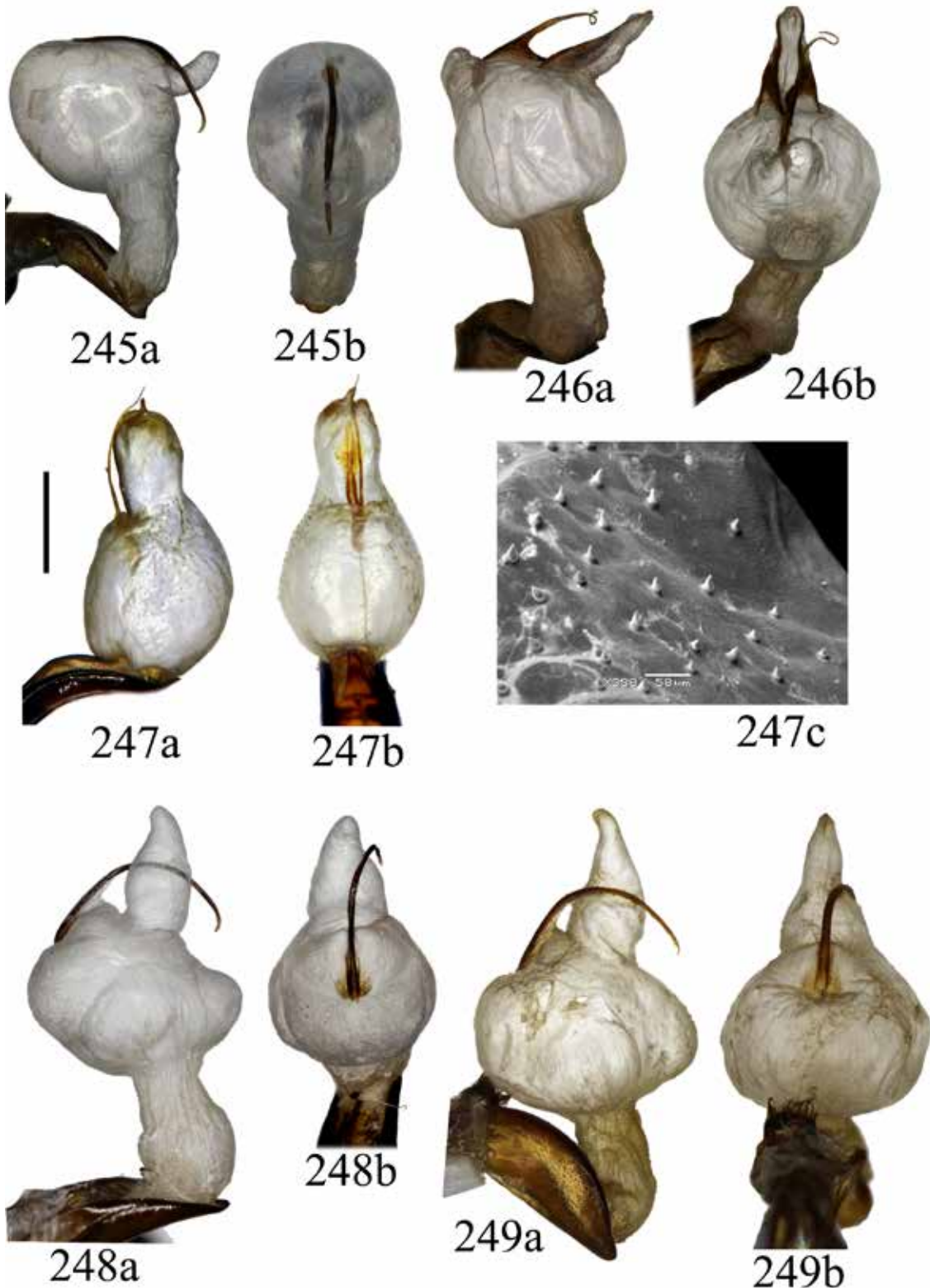
Figs. 227-238. Sclerites of the endophallus. *T. apricaria* ssp. *apricaria*: Sevilla (227), Algarve, Monchique (228, 229); *T. apricaria* ssp. *parvicollis*: Málaga, Sierra de las Nieves (230), Málaga, Ronda (231), and Granada, Sierra de la Sagra (232); Syntype of *T. seidlitzii* (233); *T. apricaria* ssp. *melitensis*: Marruecos, Tetuán (234); *T. granadensis*: Granada, Huéscar, Puerto de la Losa (235); *T. insparsa*: Granada, Sierra Nevada (236a, 236b); *T. intermedia* ssp. *intermedia*: Almería (237); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada (238). Scale = 0.5 mm.

Figs. 227-238. Escleritos del endofalo. *T. apricaria* ssp. *apricaria*: Sevilla (227), Algarve, Monchique (228, 229); *T. apricaria* ssp. *parvicollis*: Málaga, Sierra de las Nieves (230), Málaga, Ronda (231), y Granada, Sierra de la Sagra (232); sintipo de *T. seidlitzii* (233); *T. apricaria* ssp. *melitensis*: Marruecos, Tetuán (234); *T. granadensis*: Granada, Huéscar, Puerto de la Losa (235); *T. insparsa*: Granada, Sierra Nevada (236a, 236b); *T. intermedia* ssp. *intermedia*: Almería (237); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada (238). Escala = 0.5 mm.



Figs. 239-244. Sclerites of the endophallus. Lectotype of *T. kiesenwetteri* (239); lectotype of *T. sagrensis* (240); *T. marginicollis*: Granada, Sierra Nevada (241); *T. scutellaris*: Madrid (242); paralectotype of *T. strophium*: Cuenca (243); *T. strophium* ssp. *carmelena*: Granada, Sierra de la Sagra (244a), and Granada, Sierra Arana (244b). Scale = 0.5 mm.

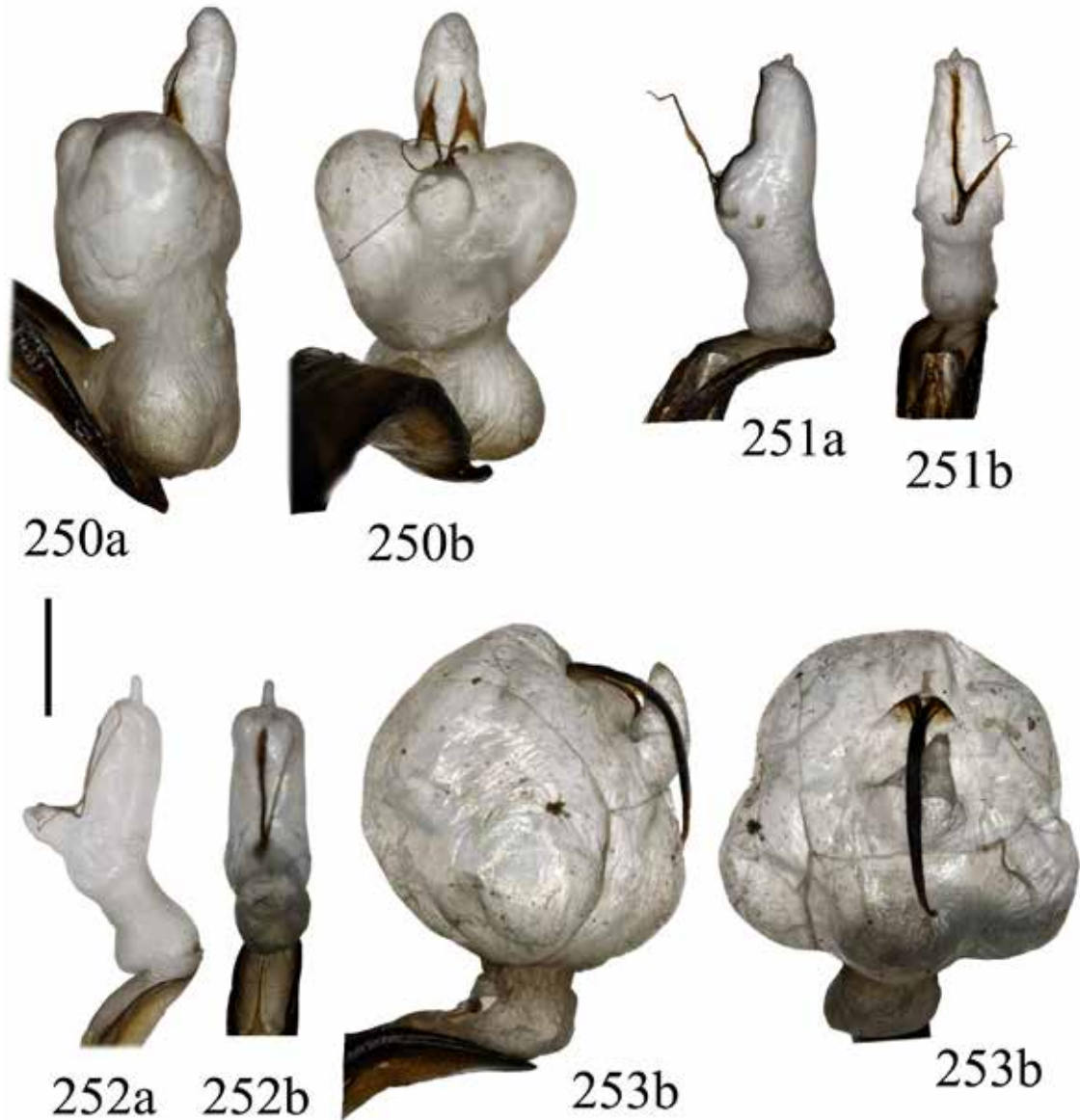
Figs. 239-244. Escleritos del endofalo. Lectotipo de *T. kiesenwetteri* (239); lectotipo de *T. sagrensis* (240); *T. marginicollis*: Granada, Sierra Nevada (241); *T. scutellaris*: Madrid (242); paralectotipo de *T. strophium*: Cuenca (243); *T. strophium* ssp. *carmelena*: Granada, Sierra de la Sagra (244a), y Granada, Sierra Arana (244b). Escala = 0.5 mm.



Figs. 245-249. Endophalli. *T. apricaria* ssp. *apricaria*: Cádiz, Sierra de Grazalema (245); *T. insparsa*: Granada, Sierra Nevada (246); *T. granadensis*: Granada, Sierra de Guillemona (247); neotype of *T. intermedia* (248); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Puerto de la Ragua (249). a: lateral view, b: dorsal view, c: SEM detail of *T. granadensis*. Scale = 1 mm.

Figs. 245-249. Endofallos. *T. apricaria* ssp. *apricaria*: Cádiz, Sierra de Grazalema (245); *T. insparsa*: Granada, Sierra Nevada (246); *T. granadensis*: Granada, Sierra de Guillemona (247); neotipo de *T. intermedia* (248); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Puerto de la Ragua (249). a: vista lateral, b: vista dorsal, c: detalle a MEB de *T. granadensis*. Escala = 1 mm.





Figs. 250-253. Endophalli. *T. marginicollis*: Granada, Sierra de la Sagra (250); neotype of *T. scutellaris* (251); neotype of *T. hispanica* (252); *T. strophium* ssp. *carmelena*: Granada, Sierra Arana (253). Scale = 1 mm.

Figs. 250-253. Endofallos. *T. marginicollis*: Granada, Sierra de la Sagra (250); neotipo de *T. scutellaris* (251); neotipo de *T. hispanica* (252); *T. strophium* ssp. *carmelena*: Granada, Sierra Arana (253). Escala = 1 mm.



Figs. 254-260. Spermathecae. *T. apricaria* ssp. *apricaria*: Cádiz, San Fernando (254); *T. apricaria* ssp. *heydeni*: Almería, Velefique (255); *T. apricaria* ssp. *melitensis*: Tetouan (256); *T. apricaria* ssp. *parvicollis*: Granada, Sierra Arana (257), Málaga, Arroyo de la Miel (258), Jaén, Pico Grajales (259), and Granada, Játar (260). Scale = 1 mm.

Figs. 254-260. Espermatecas. *T. apricaria* ssp. *apricaria*: Cádiz, San Fernando (254); *T. apricaria* ssp. *heydeni*: Almería, Velefique (255); *T. apricaria* ssp. *melitensis*: Tetouan (256); *T. apricaria* ssp. *parvicollis*: Granada, Sierra Arana (257), Málaga, Arroyo de la Miel (258), Jaén, Pico Grajales (259), y Granada, Játar (260). Escala = 1 mm.



Figs. 261-270. Spermathecae. *T. granadensis*: Jaén, Llanos de Hernán-Perea (261), and Granada, Huéscar, Puerto de la Losa (262); *T. insparsa*: Granada, Sierra Nevada, Pico Veleta (263), and Granada, Sierra Nevada, Laguna de la Caldera (264); *T. intermedia* ssp. *intermedia*: Almería, Sierra de María (265), Almería, Castell del Rey (266), Almería, Velefique (267), and Almería, Sierra de Gádor (268); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Albergue Universitario (269), and Granada, Sierra Nevada, Pico Veleta (270). Scale = 1 mm.

Figs. 261-270. Espermatecas. *T. granadensis*: Jaén, Llanos de Hernán-Perea (261), y Granada, Huéscar, Puerto de la Losa (262); *T. insparsa*: Granada, Sierra Nevada, Pico Veleta (263), y Granada, Sierra Nevada, Laguna de la Caldera (264); *T. intermedia* ssp. *intermedia*: Almería, Sierra de María (265), Almería, Castell del Rey (266), Almería, Velefique (267), y Almería, Sierra de Gádor (268); *T. intermedia* ssp. *lugens*: Granada, Sierra Nevada, Albergue Universitario (269), y Granada, Sierra Nevada, Pico Veleta (270). Escala = 1 mm.



Figs. 271-280. Spermathecae. *T. kiesenwetteri* ssp. *kiesenwetteri*: Granada (271); *T. kiesenwetteri* ssp. *sagrensis*: Murcia, Revolcadores, Puerto Alto (272); *T. marginicollis*: Murcia, Zaén (273); *T. scutellaris*: Sagres (274), Huelva, El Rompido (275), and Murcia, Yecla (276); *T. strophium* ssp. *carmelena*: Jaén, Pico Almadén (277), Granada, Sierra Arana (278), Jaén, Sierra de Cazorla, Rambla Seca (279), and Granada, Huéscar, Puerto de la Losa (280). Scale = 1 mm.

Figs. 271-280. Espermatecas. *T. kiesenwetteri* ssp. *kiesenwetteri*: Granada (271); *T. kiesenwetteri* ssp. *sagrensis*: Murcia, Revolcadores, Puerto Alto (272); *T. marginicollis*: Murcia, Zaén (273); *T. scutellaris*: Sagres (274), Huelva, El Rompido (275), y Murcia, Yecla (276); *T. strophium* ssp. *carmelena*: Jaén, Pico Almadén (277), Granada, Sierra Arana (278), Jaén, Sierra de Cazorla, Rambla Seca (279), y Granada, Huéscar, Puerto de la Losa (280). Escala = 1 mm.

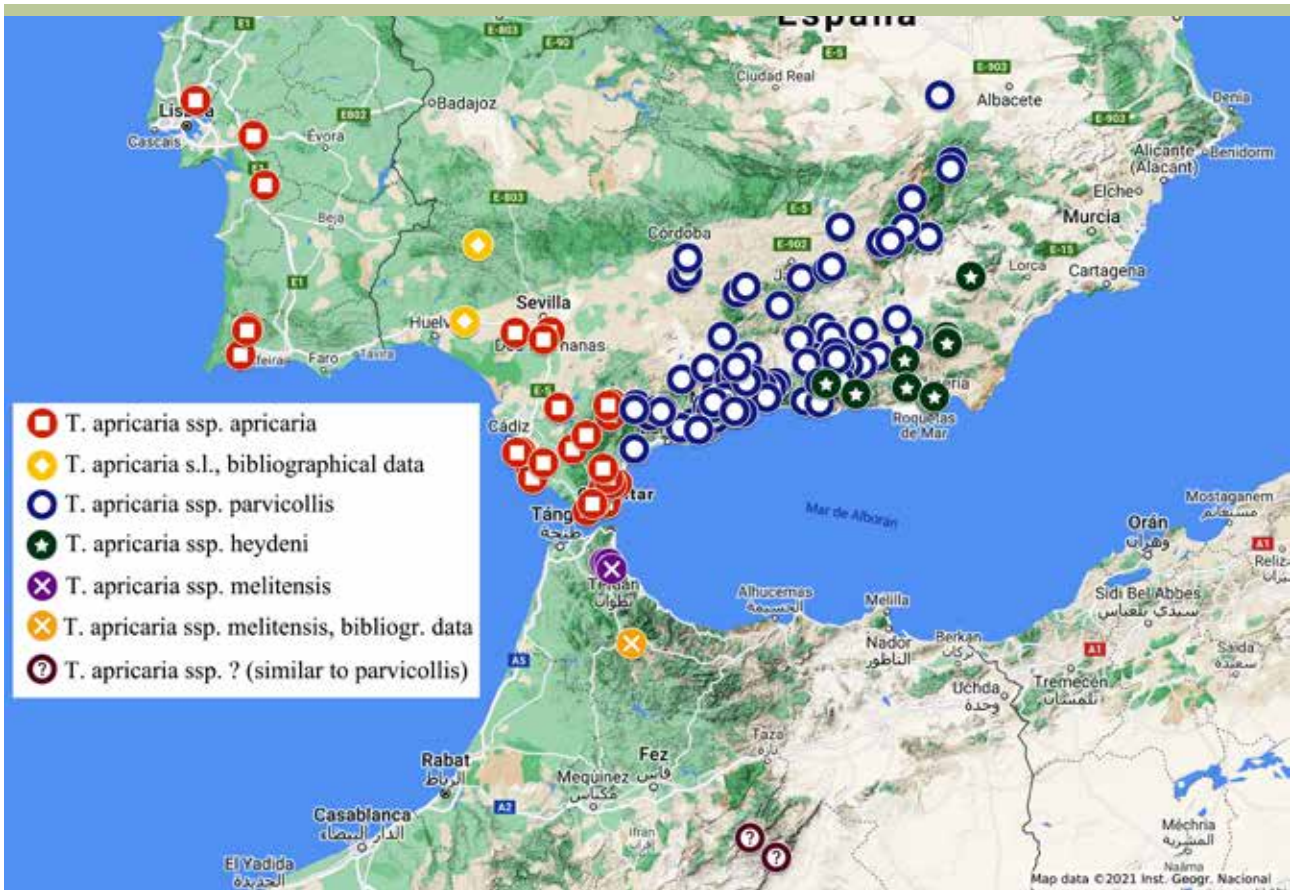


Fig. 281. Distributional map of *Timarcha apricaria*. / Fig. 281. Mapa de distribución de *Timarcha apricaria*.



Fig. 282. Distributional map of *Timarcha granadensis*. / Fig. 282. Mapa de distribución de *Timarcha granadensis*.



Fig. 283. Distributional map of *Timarcha insarsa*. / Fig. 283. Mapa de distribución de *Timarcha insarsa*.



Fig. 284. Distributional map of *Timarcha intermedia*. / Fig. 284. Mapa de distribución de *Timarcha intermedia*.

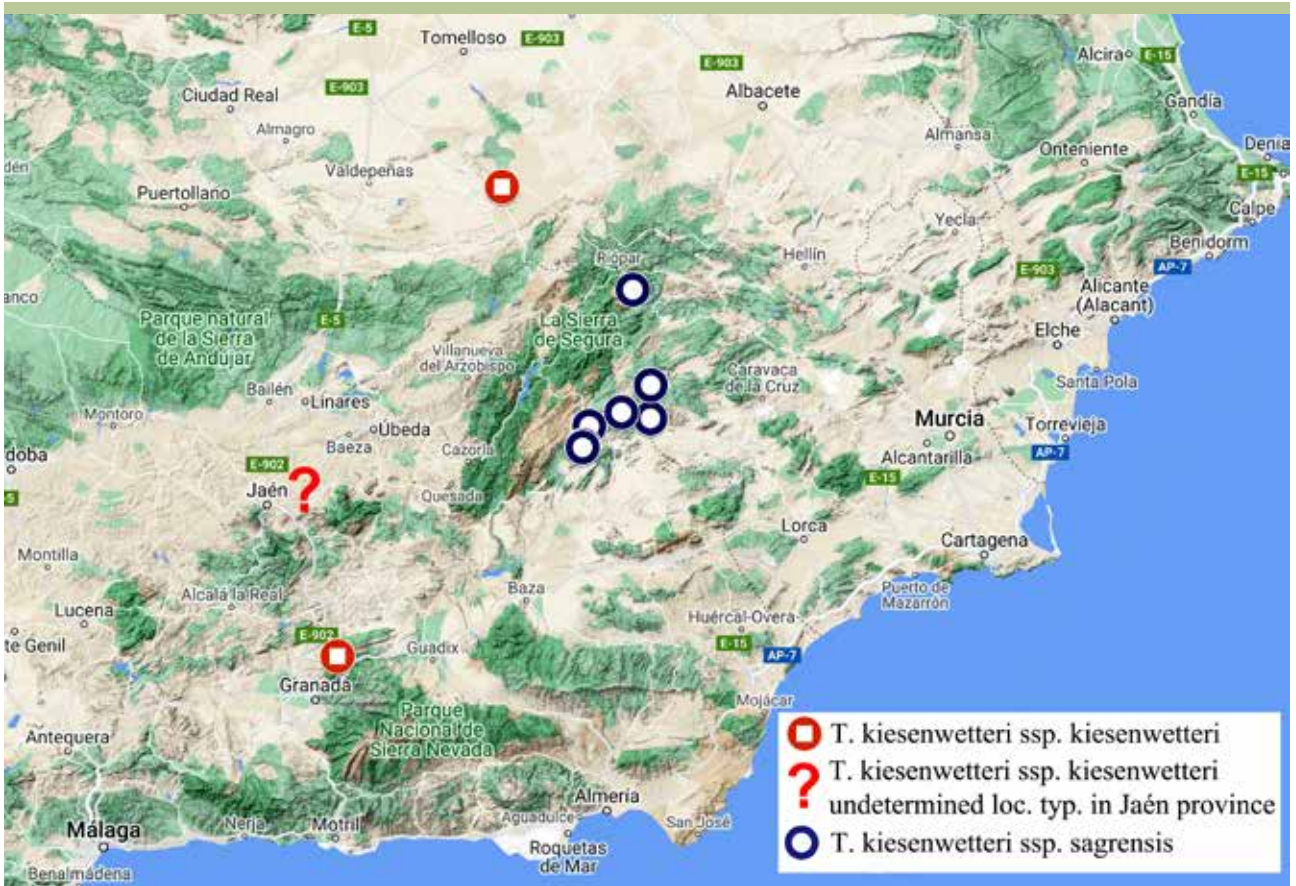


Fig. 285. Distributional map of *Timarcha kiesenwetteri*. / Fig. 285. Mapa de distribución de *Timarcha kiesenwetteri*.



Fig. 286. Distributional map of *Timarcha marginicollis*. / Fig. 286. Mapa de distribución de *Timarcha marginicollis*.



Fig. 287. Distributional map of *Timarcha scutellaris*. / Fig. 287. Mapa de distribución de *Timarcha scutellaris*.



Fig. 288. Distributional map of *Timarcha strophium*. / Fig. 288. Mapa de distribución de *Timarcha strophium*.





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