Zootaxa 2318: 400–420 (2009)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Observations on some Tenebrionidae (Coleoptera) from Sardinia, with description of three new *Asida**

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**In*: Cerretti, P., Mason, F., Minelli, A., Nardi, G. & Whitmore, D. (Eds), *Research on the Terrestrial Arthropods of Sardinia (Italy). Zootaxa*, 2318, 1–602.

Abstract

Three new taxa, endemic of Sardinia, are described in the genus *Asida* Latreille, 1802: *Asida* (*Asida*) *dryas* **sp. nov.** (type locality: Capoterra, Gutturu Mannu), *A.* (*Asida*) *anachoreta* **sp. nov.** (type locality: Gonnosfanadiga, Punta Cammedda), and *A.* (*Asida*) *solieri caroli* **ssp. nov.** (type locality: Morgongiori, Is Benas). Additional systematic, distributional and ecological data are provided for some Tenebrionidae occurring in Sardinia. The following synonymy is established: *Stenosis angusticollis* (Reiche, 1861) = *Stenosis angusticollis* ssp. *elongatissima* Koch, 1940 **syn. nov.**; *Tentyria rugosa* Gené, 1836 is reinstated as a valid species, well differentiated from *T. ramburi* Solier, 1835. Furthermore, *Tentyria rugosa* is split into three subspecies: *T. rugosa* ssp. *rugosa* Gené, 1836, *T. rugosa* ssp. *floresii* Gené, 1836 and *T. rugosa* ssp. *cassolai* Ardoin, 1973. The latter is transferred from *T. ramburi*. *T. ramburi* is transferred from the subgenus *Tentyria s. str.* to the subgenus *Subtentyrina*.

Key words: Coleoptera, Tenebrionidae, *Asida*, *Stenosis*, *Tentyria*, nomenclature, new taxa, new synonymy, new records, Sardinia, Italy

Introduction

The aim of this work is to describe two new species and one new subspecies of *Asida* Latreille, 1802 from SW Sardinia, and to provide new data on the systematics and distribution of a few Sardinian Tenebrionidae belonging to the genera *Stenosis* Herbst, 1799 and *Tentyria* Latreille, 1802.

Material and methods

The genera are listed following the nomenclature and classification of Löbl *et al.* (2008). The terminology of the external morphology follows Watt (1974).

The drawings of the anatomical features were prepared using a drawing tube mounted on a Wild M3C stereomicroscope, while the digital images were done using a Nikon DSL1 camera mounted on a Leica MZ 12.5 stereomicroscope, and processed with Auto-Montage Pro, version 5.03.0096.

For single taxa of *Stenosis* and *Tentyria*, information is presented in the following order: current valid name, original combination, possible synonyms, citations by other authors (when of some relevance to the present work).

Label data of the examined material are reported fully only when necessary (type material or important new records); records are listed in alphabetical order by region, province (or French department), municipality and locality; literature records are listed in alphabetical order by region and province (or department) and in chronological order of publication.

 Accepted by P. Cerretti: 28 Oct. 2009; published: 22 Dec. 2009

From an administrative point of view, Sardinia was divided into four provinces until 2005: Cagliari, Nuoro, Oristano and Sassari. Since 2005, four additional provinces were instituted (Carbonia-Iglesias, Medio Campidano, Ogliastra, Olbia-Tempio), which reduced the extension of the others. For practical reasons, the collecting localities are assigned to the new administrative provinces also for specimens collected before 2005.

The following abbreviations and Italian terms are used in the text: dep. = French department; dint. = surroundings of; ex. = specimens; id. = idem; Isola = island; Isolotto = small island; Lago = lake; Monte = mount; prov. = province; Punta = peak; spiaggia = beach; stagno = pond, marsh.

Abbreviations of collections and depositories:

CAL	A. Lecis, Cagliari , Italy
CCM	C. Meloni, Cagliari, Italy
CDS	D. Sechi, Cagliari, Italy
CEM	E. Migliaccio, Rome, Italy
CFS	F. Soldati, Quillan, France
CGG	G. Gardini, Genoa, Italy
CGN	G. Nardi, Cisterna di Latina, Italy
CLB	A. Liberto, Rome, Italy
CLF	L. Fancello, Cagliari, Italy
CMA	M.G. Atzori, Cagliari, Italy
CPL	P. Leo, Cagliari, Italy
CNBFVR	Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale “Bosco Fontana”, Verona, Italy
EAUS	Istituto di Entomologia Agraria dell’Università di Sassari, Sassari, Italy
MSNG	Museo civico di Storia naturale “G: Doria”, Genoa, Italy
MSNM	Museo civico di Storia naturale, Milan, Italy
MSNV	Museo civico di Storia naturale, Verona, Italy
MZUF	Museo zoologico “La Specola”, Università di Firenze, Florence, Italy
MZUR	Museo di Zoologia, La Sapienza Università di Roma, Rome, Italy

Descriptions of three new *Asida* Latreille from Sardinia

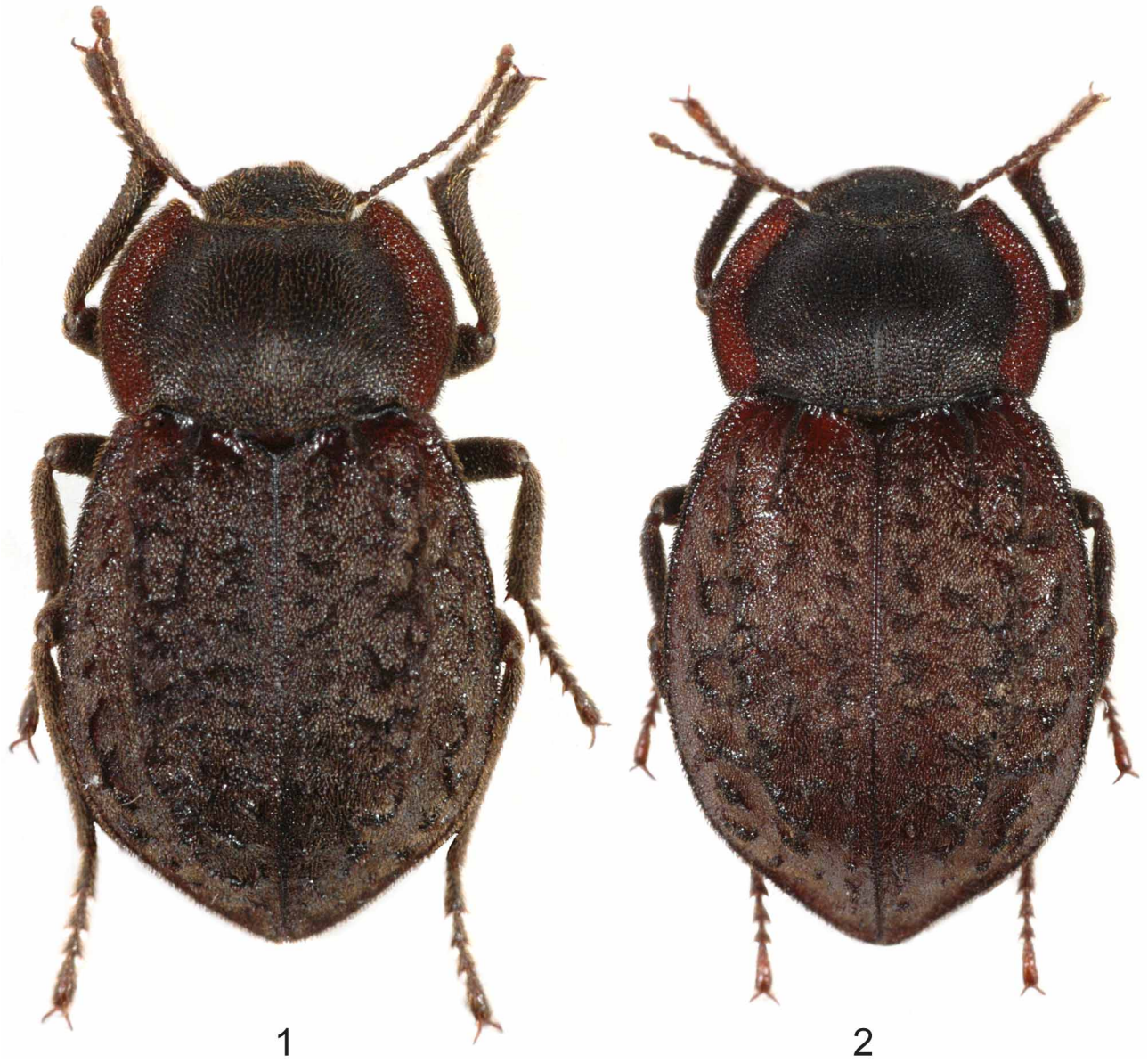
Asida (*Asida*) *dryas* sp. nov.

(Figs 1–3, 6)

Diagnosis. An *Asida* ascribable to the nominal subgenus for the obvious punctuation of the pronotum and the traces of four more or less developed elytral costae, the third being more marked than the others and the second reaching the base of the elytron. Brown colour, medium size (11.6–15.7 mm), robust body in both sexes; pronotum with flattened and relatively wide lateral margins, disc convex, median basal area clearly more protruding than posterior angles, which are approximately right; sculpture of pronotum sparse on disc, consisting of clearly ocellated punctures, shiny in contrast with the matt spaces between punctures; elytra robust, rounded at sides, strongly enlarged posteriorly; elytral costae poorly developed, basal section of second costa situated at about mid width of base of elytron.

Type locality. SW Sardinia, Cagliari prov., Capoterra, Gutturu Mannu.

Type series. Holotype ♂: SW Sardinia, Capoterra (Cagliari), Gutturu Mannu, 100 m, 2.X.2005, leg. P. Leo (MSNG).



FIGURES 1–2. Habitus of *Asida* (*Asida*) *dryas* sp. nov. **1.** Male (paratype, Gutturu Mannu). **2.** Female (paratype, Gutturu Mannu). Photos by I. Toni.

Paratypes (192 ♂♂ and ♀♀): Capoterra (Cagliari prov.), Gutturu Mannu, 100 m: 12.III.2003, leg. C. Meloni, 1 ex. (CCM); 16.III.2004, leg. C. Meloni, 16 ex. (CCM); 21.III.2004, leg. C. Meloni, 19 ex. (CCM); 7.IV.2004, leg. C. Meloni, 7 ex. (CCM); 21.IV.2004, leg. C. Meloni, 2 ex. (CCM); 26.IX.2004, leg. C. Meloni, 27 ex. (25 CCM; 2 CPL); 24.X.2004, leg. C. Meloni, 27 ex. (22 CCM; 5 CPL); 21.XI.2004, leg. C. Meloni 9 ex. (CCM); 5.XII.2004, leg. C. Meloni, 5 ex. (CCM); 4.I.2005, leg. C. Meloni, 2 ex. (CCM); 6.II.2005, leg. C. Meloni, 2 ex. (CCM); 2.X.2005, leg. P. Leo, 32 ex. (2 CFS; 2 CGG; 2 CGN; 2 CNBF; 21 CPL; 3 MSNG), leg. C. Meloni, 1 ex. (CCM); 13.X.2005, leg. M. G. Atzori, 5 ex. (CMA), leg. P. Leo, 6 ex. (CPL); 31.X.2005, leg. P. Leo, 16 ex. (CPL); 30.III.2006, leg. P. Leo, 11 ex.. (2 CDS; 2 CFS; 2 CLB; 5 CPL); 1.X.2008, leg. P. Leo 4 ex. (CPL).

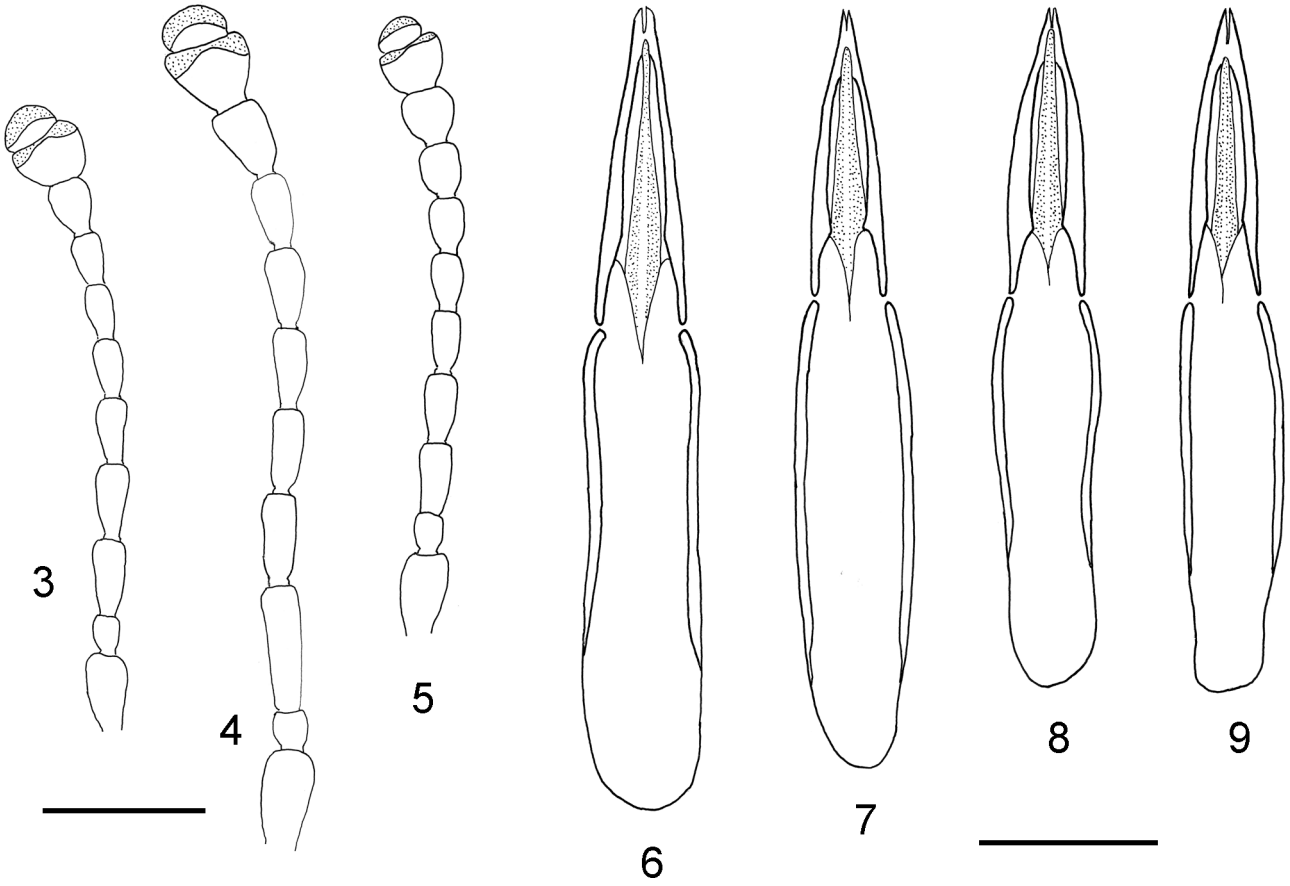
Additional material examined. Pula (Cagliari), Pixina Manna, 700 m: 24.VI.1993, leg. C. Meloni, 1 ex. (CCM); 17.I.2002, leg. L. Fancello, 2 ex. (CCM, CPL); 9.X.2002, leg. L. Fancello, 2 ex. (CPL), leg. C. Meloni, 1 ex. (CCM); 9.VI.2003, leg. L. Fancello, 3 ex. (CLF); 23.XI.2003, leg. L. Fancello, 1 ex. (CLF). Sarroch (Cagliari), dint., X.1998, leg. L. Fancello, 1 ex. (CPL). Sarroch (Cagliari), Flumini Binu, 400 m,

9.XII.2007, leg. D. Sanna, 2 ex. (CPL). Sarroch (Cagliari), Rio Monte Nieddu, 120 m, 21.X.1985, leg. P. Leo, 1 ex. (CPL); 30.XI.2000, leg. M. G. Atzori 5 ex. (CMA). Teulada (Cagliari), Ponte de Is Fogaias, 150 m, 22.X.1990, leg. L. Fancello, 4 ex. (CPL).

Description. Total length 11.6–15.7 mm (♂♂: 11.6–14.3 mm, average 13.1 mm; ♀♀: 13.0–15.7 mm, average 14.6 mm), body robust in both sexes, colour from red-brown to dark brown, integuments matt.

Head with irregular, very robust punctuation, thicker on frons, sparse on clypeus; bottom of punctures smooth, very shiny, strongly contrasting with spaces between punctures; to each puncture corresponds a half-appressed seta: those on the clypeus are directed forwards, those on the frons are directed backwards.

Antennae relatively robust, slightly slenderer in ♂ (Fig. 3): in this sex the 6th and 7th antennomeres are approximately twice as long as wide, the 8th and 9th respectively 1.6 and 1.3 times as long as wide; in the female the 6th and 7th antennomeres are about 1.6 times as long as wide, the 8th and 9th respectively 1.4 and 1.2 times as long as wide.



FIGURES 3–9. *Asida* spp. **3–5.** Right antenna, scale bar: 1 mm. **3.** *Asida* (*Asida*) *dryas* sp. nov., (♂, paratype, Gutturu Mannu). **4.** *Asida* (*A.*) *corsica genei* Solier (♂, Punta Cammedda). **5.** *Asida* (*A.*) *anachoreta* sp. nov. (♂, paratype, Punta Cammedda). **6–9.** Male copulatory organs, scale bar: 1 mm. **6.** *Asida* (*A.*) *dryas* sp. nov.(holotype). **7.** *Asida* (*A.*) *anachoreta* sp. nov. (holotype). **8.** *Asida* (*A.*) *dorgaliensis* Leoni (Sardinia, Dorgali). **9.** *Asida* (*A.*) *solieri caroli* ssp. nov. (holotype).

Pronotum transverse, about 1.4 times as wide as long with wide, flattened lateral margins and a very convex disc. Sides of pronotum rounded; maximum width posterior to middle; anterior angles acute, posterior ones approximately right. Base of pronotum with lateral sinuosities wide and shallow, median area more protruding backwards compared to posterior angles. Disc of pronotum with robust punctuation, sparser in median area; punctures clearly ocellated, with obvious central tuberculum; bottom of punctures shiny, contrasting with space between punctures which is matt with obvious reticulate microsculpture. Setae of

pronotum brown, variable in shape: those of the lateral edge and the median area almost pointed and relatively long, those on the sides of the disc shorter, mostly truncate and at least partly dilated apically.

Elytra short, 1.18–1.32 times as long as wide, with maximum width situated posterior to middle, rounded at sides and rather narrowed at humera, generally slightly more convex in the female sex; basal margin of elytra slightly concave, about as wide as base of pronotum, with a few tubercules between the basal carena of the second dorsal costa and the scutellum. First dorsal costa poorly visible, marked only by groups of small setigerous tubercules, slightly larger and more tightly set than those in the intervals; second costa with rather short basal carena-like section, originating at about the middle of the elytral base, marked on disc and posteriorly by irregular groups of small tubercules, with a tendency to converge towards the vestiges of the first costa and the ramifications of the third; third costa more developed, slightly flexuous, elevated into a continuous carena from just behind the base of the elytron to the apical declivity, usually with a few irregular ramifications towards the second and fourth costae; fourth costa formed by short, irregular carena-like sections and groups of small tubercules; intervals between costae with fine setigerous tubercules, uniformly distributed on elytral disc, sparse near base. Setae brown, those of elytral intervals short, fine, truncate or subtruncate at apex; setae of costae and costa vestiges longer, mostly truncate and, at least in part, clearly dilated at apex. Epipleurae with robust, sparse tubercolation.

Legs robust, with brown setulation; fore tibiae clearly tuberculate on external edge, with relatively robust apical tooth.

Male copulatory organ as in Fig. 6; parameric capsule 3.1–3.4 times as long as wide, shorter than tegmen (length of tegmen/ length of paramere = 1.35–1.45).

Sexual dimorphism: females usually with slightly wider and more convex elytra, but in many cases it is impossible to distinguish the two sexes without extracting the genitalia.

Remarks. *Asida dryas* sp. nov. seems to be restricted to the south-western extremity of Sardinia (Fig. 15), precisely in the subregions (*cf*. Mori 1975) of Caputerra and southern Sulcis. The new species is well differentiated from its numerous Sardinian congeners by the combination of characters listed in the diagnosis; it only slightly resembles *A. corsica genei* Solier, 1836, a subspecies of the Corso-Sardinian endemic species widespread in the southern half of Sardinia (Soldati & Leo 2005); differences between the two are in fact numerous: *A. corsica genei* is of larger size (13–18 mm) and with a less stocky body; the antennae are longer, with more slender antennomeres (Fig. 4); the pronotum is more shiny, with the median area of the base not or only slightly more protruding backwards compared to the posterior angles, which are acute; punctuation of disc simple, not ocellated, elytra narrower, subparallel in male; elytral costae even less developed, the basal section of the second costa being closer to the external margin of the elytron than to the suture. *Asida dryas* is probably more closely related to *A. anachoreta* **sp. nov.**, described below.

Ecological notes. *Asida dryas* sp. nov. was found under stones and dry foliage, exclusively in forest biotopes dominated by *Quercus ilex* or at the edges of these in shrubby-arboreal Mediterranean maquis, at altitudes comprised between 100 and 700m. It seems to be the only species of the genus occurring in these habitats, even though in some localities (Capoterra-Gutturu Mannu, Pula-Pixina Manna) also *Asida corsica genei* was found, but restricted to more xeric areas (garrigue and degraded maquis). Probably active all year round, but it seems to be more frequent in autumn and spring.

Etymology. From the Latin name, in apposition, Dryas (meaning nymph of the woods), in reference to its ecological characteristics as a forest-dweller, a rare feature in species of the genus *Asida*.

***Asida* (*Asida*) *anachoreta* sp. nov.**
(Figs 5, 7, 10–11)

Diagnosis. An *Asida* ascribable to the nominal subgenus for the obvious punctuation of the pronotum and the traces of four more or less developed dorsal costae on the elytra, the third being more marked than the others and the second reaching the base of the elytron. Brown-black colour, medium size (11.6–14.6 mm); pronotum

with lateral margins rather raised and not very wide, disc convex, basal area slightly more protruding than posterior angles; sculpture of pronotum thick, formed by clearly ocellated punctures; elytra feebly rounded at sides, slightly enlarged posteriorly; elytral costae very reduced except for the third; basal section of second costa situated at about half the width of the base of the elytron.

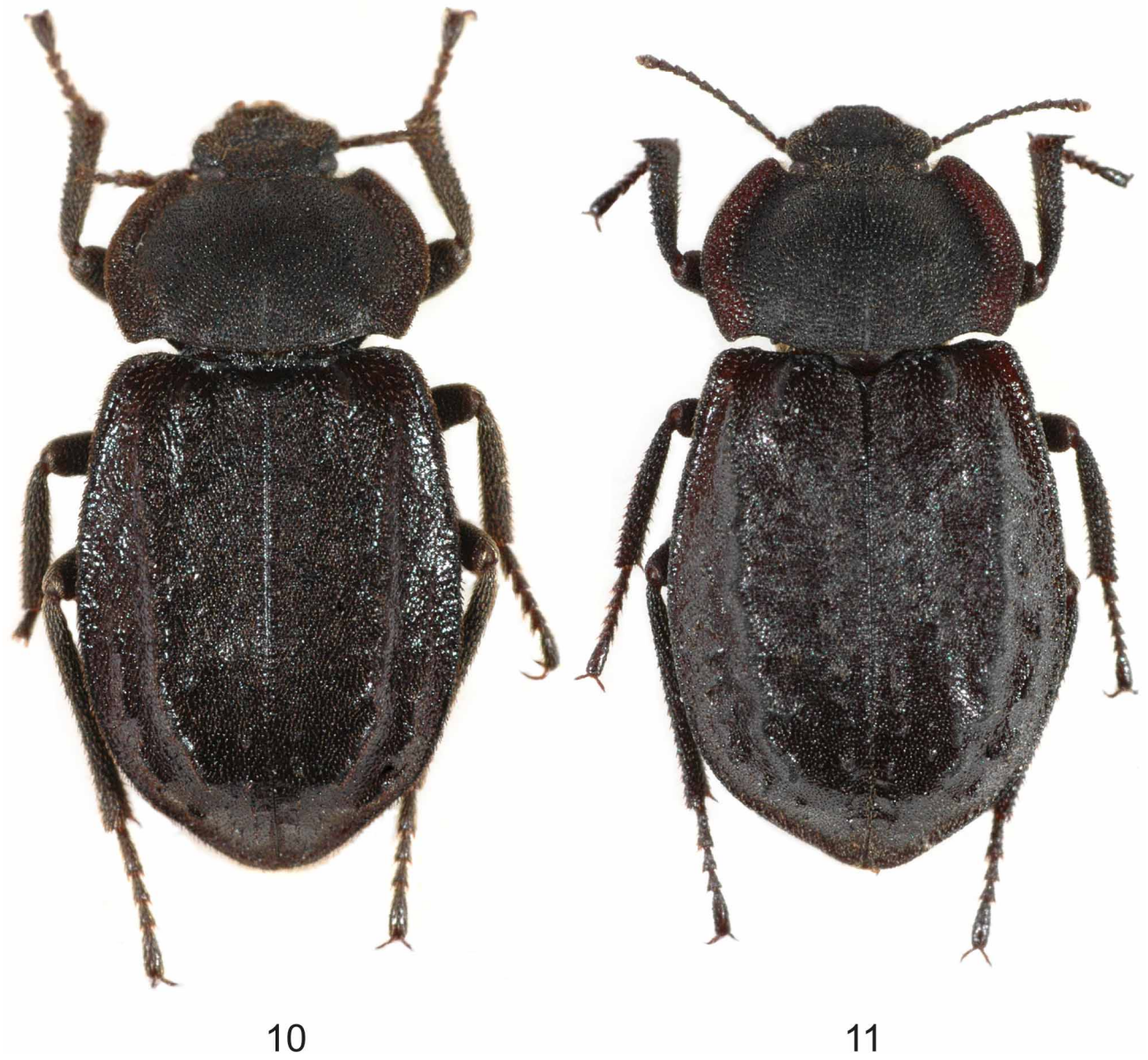
Type locality. SW Sardinia, Medio Campidano prov., Gonnosfanadiga, Monte Linas, Punta Cammedda.

Type series. Holotype ♂: SW Sardinia, Gonnosfanadiga (Medio Campidano), Monte Linas, Punta Cammedda, 1100-1200 m, 1.VI.2007, leg. P. Leo (MSNG).

Paratypes (37 ♂♂ and ♀♀): SW Sardinia, Gonnosfanadiga (Medio Campidano prov.), Monte Linas, Punta Cammedda, 1100–1200 m: 8.V.1994, leg. P. Leo, 14 ex. (1 CLB; 12 CPL; 1 MSNG); 4.VI.1995, leg. P. Leo, 6 ex. (CPL), leg. C. Meloni, 7 ex. (CCM), leg. D. Sechi, 3 ex. (CDS); 15.XII.2001, leg. L. Fancello, 1 ex. (CLF); 1.VI.2007, leg. P. Leo, 3 ex. (CPL), leg. D. Sechi, 4 ex. (CDS).

Description. Total length 11.6–14.6 mm (♂♂: 11.6–12.7 mm, average 12.1 mm; ♀♀: 12.4–14.6 mm, average 13.7 mm), body quite robust in both sexes, colour from dark brown to black, integuments matt.

Head with thick and robust punctuation; punctures with corresponding yellowish setae directed forwards on clypeus, laterally on genae and backwards on frons.



FIGURES 10–11. Habitus of *Asida* (*Asida*) *anachoreta* sp. nov. **10.** Male (paratype, Punta Cammedda). **11.** Female (paratype, Punta Cammedda). Photos by I. Toni.

Antennae very robust, more slender in the ♂ (Fig. 5): in specimens of this sex the 6th and 7th antennomeres are about 1.6 times as long as wide, the 8th is 1.2 times as long as wide, the 9th approximately as long as wide; in the female the 6th and 7th antennomeres are about 1.3 times as long as wide, the 8th about as long as wide and the 9th slightly transverse (1.1 times as wide as long).

Pronotum transverse, about 1.3 times as wide as long, with lateral margins rather raised and a convex disc. Sides of pronotum rounded, with maximum width posterior to middle; anterior angles slightly acute, posterior ones approximately right, with widely rounded vertexes. Base of pronotum with moderately wide and not very deep lateral sinuosities, median area slightly more protruding backwards compared to posterior angles. Disc of pronotum with robust punctuation, thick and uniform; punctures clearly ocellated, with an obvious central tubercule; intervals between punctures with reticulate microsculpture. Setae of pronotum relatively short, of brown-yellowish colour: those of the lateral edge more or less pointed, those of the disc at least partly truncate and slightly dilated at apex.

Elytra 1.35–1.40 times as long as wide, slightly widening posteriorly and slightly narrowing at humera, more convex in the female sex; basal margin of elytra slightly concave, about as wide as base of pronotum. Elytral costae reduced: first dorsal costa completely missing, only slightly marked in the elytral declivity by groups of small setigerous tubercules; second costa very short, reduced to a small, basal carena-like section, situated at about half the width of the elytral base; third costa much more developed, consisting of a continuous, almost straight carena from just behind the humera to the apical declivity, sometimes with signs of a ramification towards the elytral disc; fourth costa reduced, formed by groups of small tubercules; intervals between costae with a very fine setigerous tuberculation, uniformly distributed on the elytral disc, sparse close to base and humera. Setae yellowish-brown, those of the elytral intervals short, very fine, subtruncate at apex; setae of costae and of their vestiges only slightly longer, mostly truncate at apex. Epipleurae with robust, sparse tuberculation.

Legs robust, with yellowish-brown setulation; fore tibiae clearly tuberculate on external edge, with a relatively robust apical tooth.

Male copulatory organ as in Fig. 7; parameric capsule 3.6–3.9 times as long as wide, much shorter than tegmen (length of tegmen/ length of parameres = 1.6–1.7).

Sexual dimorphism: females more robust, with more convex elytra, a lower third costa and more stocky antennae.

Remarks. *Asida anachoreta* sp. nov. is so far known only from the type locality, one of the peaks of the Monte Linas massif (SW Sardinia; *cf.* Fig. 15). The most closely related species would seem to be *Asida dryas* sp. nov., described above, which shows the same characteristic ocellated punctuation of the pronotum; however, in the latter species the first two elytral costae are well visible, albeit fragmented, also on the disc, and the third costa is more ramified; *A. dryas* is also generally of lighter colour and stronger build with a wider pronotum and elytra; also, the antennae are more slender in *A. dryas* (Figs 3, 5), the lateral margins of the pronotum are wider and less raised, the punctuation of the disc of pronotum is sparser, and the setae of the dorsal integuments are slighlty darker; differences can be found also in the male copulatory organ (*cf.* Figs 6–7). *Asida anachoreta* sp. nov. is well differentiated also from *A. dorgaliensis* Leoni, 1911, endemic of a small area in the Nuoro province (E Sardinia; *cf.* Gridelli 1972; Ardoin 1973), which shares with the new species a clearly ocellated punctuation on the pronotum; *A. dorgaliensis* is of smaller size (9.9–13.3 mm), with more stocky antennae and a median area of the base of pronotum which is not or hardly protrudung backwards compared to the posterior angles, which are acute; the elytra in *A. dorgaliensis* are short, strongly widening posteriorly and strongly narrowed at humera; the third elytral costa is strongly raised, much more so than in *A. anachoreta* sp. nov.; the setigerous tuberculation of the elytral intervals is finer and much sparser, so that the elytra appear much shinier; the male copulatory organ is also different (*cf.* Figs 7–8), with very robust parameres.

Ecological notes. *Asida anachoreta* sp. nov. was found under small stones in a very small area on rocky, very arid terrain at an altitude varying between 1,100 and 1,200 m. In this habitat it occurs together with *Asida*

corsica ssp. *genei* that is very common in the whole Monte Linas massif, also at lower altitudes. The new species is probably active from autumn to late spring.

Etymology. The name of this species derives from the Latin word “anachoreta”, meaning hermit, which refers to the isolation of the type locality.

***Asida* (*Asida*) *solieri caroli* ssp. nov.**
(Figs 9, 14)

Diagnosis. Subspecies ascribable to *Asida* (*Asida*) *solieri* Gené, 1836a for the punctuation of the pronotum, which consists of very large punctures – irregularly arranged and with a very shiny bottom – and for the basal section of the second elytral costa more or less fused with the third, characters which clearly differentiate this species from all other Sardinian congeners. The new subspecies differs from the other subspecies of *A. solieri* for the lateral margins of pronotum on average wider and less convex disc, with slightly finer and shallower punctuation; the fusion of the second and third costae is less obvious and the surface of the elytra is thickly covered by a dense setigerous granulation, appearing much more opaque.

Type locality. Central Sardinia, Oristano prov., Morgongiori, Monte Arci, Is Benas.

Type series. Holotype ♂: Central Sardinia, Morgongiori (Oristano), Monte Arci, Is Benas, 600 m, 23.X.2003, leg. P. Leo (MSNG).

Paratypes (193 ♂♂ and ♀♀): central Sardinia, Morgongiori (Oristano prov.), Monte Arci, Is Benas, 600 m: 20.I.2002, leg. C. Meloni, 16 ex. (11 CCM; 5 CPL), leg. D. Sechi, 17 ex. (8 CDS; 2 CLB; 5 CPL; 2 MZUR); 25.I.2002, leg. L. Fancello, 3 ex. (1 CLF; 2 CPL); 28.I.2002, leg. C. Meloni, 1 ex. (CCM); 29.IV.2002, leg. D. Sechi, 5 ex. (CDS); 27.X.2002, leg. C. Meloni, 25 ex. (18 CCM; 2 CGN; 2 CNBF; 3 CPL); 11.III.2003, leg. C. Meloni, 37 ex. (33 CCM; 4 CPL); 23.X.2003, leg. P. Leo, 21 ex. (2 CFS; 2 CGG; 2 CLB; 12 CPL; 3 MSNG), leg. C. Meloni, 2 ex. (CCM); 16.IX.2005, leg. C. Meloni, 21 ex. (17 CCM; 4 CPL); 20.I.2008, leg. C. Meloni, 12 ex. (10 CCM, 2 CPL); 19.IX.2008, leg. P. Leo, 10 ex. (CPL), leg. C. Meloni, 3 ex. (CCM). Morgongiori (Oristano prov.), Monte Arci, Trebina Lada, 760 m: 7.I.2005, leg. M.G. Atzori, 10 ex. (4 CAL; 6 CMA); 2.X.2005, leg. M.G. Atzori, 5 ex. (CMA); 9.X.2005, leg. M.G. Atzori, 1 ex. (CMA); 23.X.2005, leg. M.G. Atzori, 2 ex. (CMA); 24.IX.2006, leg. M.G. Atzori, 2 ex. (CMA).

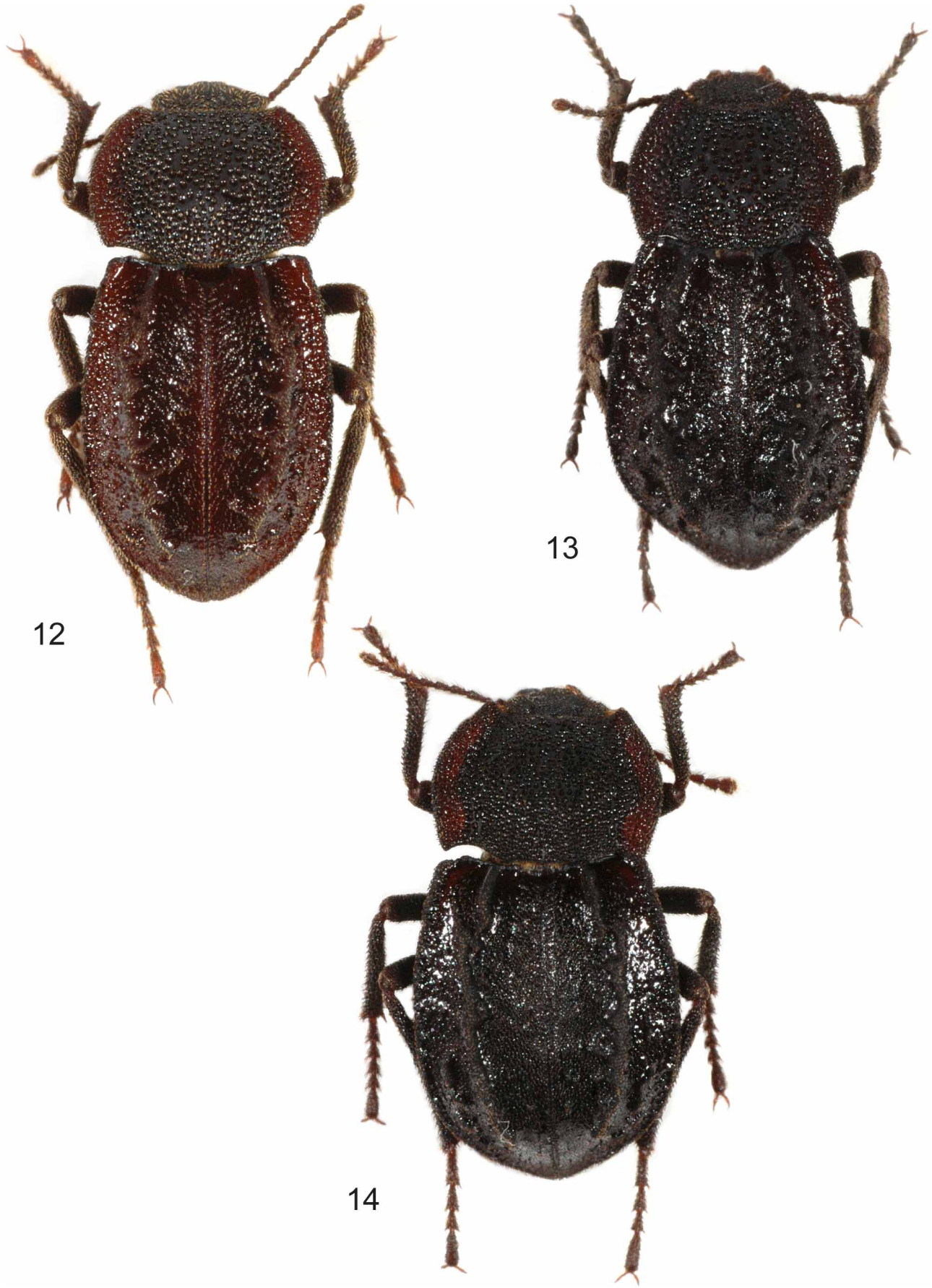
Description. Total length 9.7–13.5 mm (♂♂: 9.7–11.4 mm, average 10.7 mm; ♀♀: 10.6–13.5 mm, average 11.8 mm); robust body, with pronotum and elytra strongly narrowing at base; colour of integuments varying from brown to black.

Head with very robust punctuation; bottom of punctures very shiny, spaces between punctures matt; punctures with corresponding short, yellowish setae, directed forwards on clypeus, laterally on genae and backwards on frons.

Antennae quite robust, slightly slenderer in ♂.

Pronotum transverse (about 1.4 times as wide as long), with maximum width just behind middle, strongly rounded at sides; lateral margins wide and only slightly raised, disc relatively non-convex in comparison to the other subspecies; anterior angles acute, posterior angles almost right or slightly acute, with vertex widely rounded. Base of pronotum with wide and shallow lateral sinuosities, median area slightly protruding backwards compared to posterior angles. Disc of pronotum with very robust punctuation, coarse and irregular; bottom of punctures very shiny, strongly contrasting with space between punctures, very opaque and microreticulate. Setae of pronotum short and fine, of brown colour: those of the lateral margin can be almost pointed or subtruncate, those of the disc are mostly truncate, some also slightly dilated apically.

Elytra 1.26–1.30 times as long as wide, rather dilated posteriorly and strongly narrowed at humera, more convex in females. Elytral costulation characterized by the fusion of second and third costae: the second costa originates at the base of the elytron and is directed outwards for a very short distance until it merges with the third which is high, robust and more or less ramified laterally; the fusion of the second and third costae is generally well visible, as it is marked either by an inflexion point, a bifurcation or a brief interruption; the



FIGURES 12–14. Habitus of the subspecies of *Asida* (*Asida*) *solieri* Gené. **12.** *Asida* (*A.*) *solieri solieri* (♂, Isola Tuerredda). **13.** *Asida* (*A.*) *solieri fancelloi* Leo (♂, paratype, Cala Sapone). **14.** *Asida* (*A.*) *solieri caroli* ssp. nov. (♂, paratype, Is Benas). Photos by I. Toni.

first costa is missing or slightly marked by small groups of small tubercules on apical declivity; fourth costa reduced, formed by groups of tubercules or short crests, sometimes connected by lateral ramifications of the third costa. Intervals between costae with a very fine setigerous tuberculation, densely distributed on elytral disc, more sparse close to humera. Setae of costae and intervals brown, short, fine and subtruncate. Epipleurae robustly tuberculate.

Legs thin, with brown setosity; fore tibiae tuberculate on external edge, with acute apical tooth.

Male copulatory organ as in Fig. 9, indistinguishable from that of other subspecies of *A. solieri*.

Remarks. *Asida solieri* (*sensu lato*) is endemic of the south-western part of Sardinia (Fig. 15).

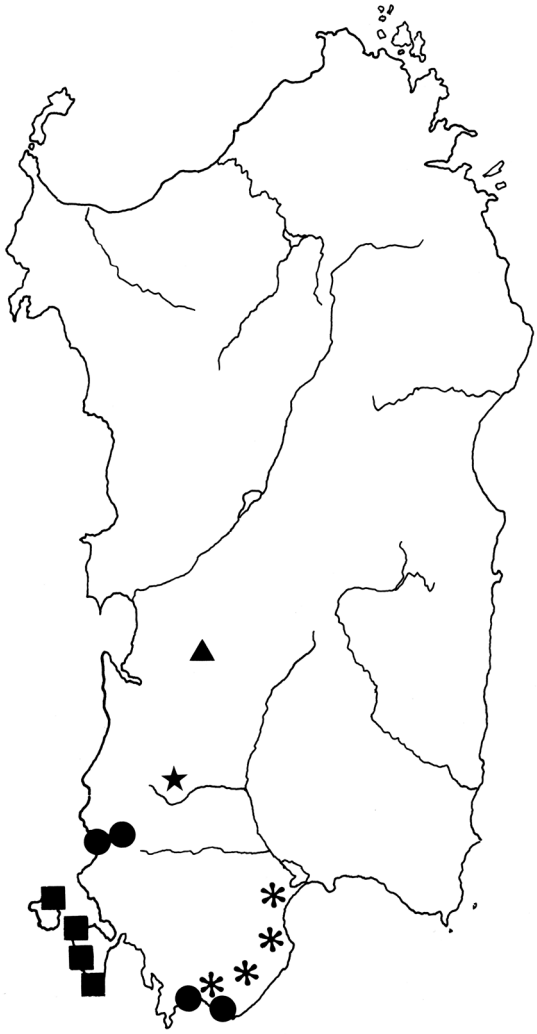


FIGURE 15. Distribution of *Asida* (*Asida*) *dryas* sp. nov. (asterisks), *Asida* (*A.*) *anachoreta* sp. nov. (star), *Asida* (*A.*) *solieri solieri* Gené (circles), *Asida* (*A.*) *solieri fancelloi* Leo (squares) and *Asida* (*A.*) *solieri caroli* ssp. nov. (triangle) (for neighbouring localities only one symbol was used).

Asida solieri solieri was described from the surroundings of Iglesias and is known to me from the following localities: Cagliari prov.: Teulada, Capo Malfatano (CAL; CCM; CPL); id., Isola Tuerredda (CAL; CCM; CDS; CGG; CLB; CMA; CPL); id., Porto Teulada (CPL). Carbonia-Iglesias prov.: Gonnesa, Fontanamare (CPL).

Asida solieri fancelloi Leo, 1984 was described from Cala Sapone on the island of S. Antioco (Carbonia-Iglesias prov.); besides from the type locality, I know it from the following places: Carbonia-Iglesias prov.: Calasetta, Sa Salina (CPL); Isola di San Pietro, Carloforte, Cala Lunga (CPL); Sant'Antioco, Capo Sperone (CLF; CPL).

Asida solieri caroli ssp. nov. is known only from two, very close localities of the Monte Arci vulcano (Oristano prov.), which are also the northernmost localities for the species. *Asida solieri caroli* ssp. nov. is easy to distinguish from the other subspecies by the finer punctuation of the pronotum, the less marked fusion of the second and third elytral costae and the denser and finer setigerous tuberculation of the intervals between costae. Compared to the new subspecies, the pronotum of *Asida solieri solieri* is more convex on the disc, with slightly obtuse posterior angles and the median area of the base much more protruding backwards. *Asida solieri fancelloi* has a less rounded pronotum at sides with strongly raised lateral margins, and a higher and more robust third elytral costa.

Ecological notes. The new subspecies was found, under stones and dry leaves, in *Quercus ilex* and *Q. pubescens*-dominated forest biotopes at medium elevations (600–760m), whereas the other subspecies have always been collected in more or less degraded Mediterranean maquis areas. Probably active all months of the year, possibly with the exception of the hottest and driest summer months.

Etymology. I am pleased to dedicate this new subspecies to my friend Carlo Meloni from Cagliari, as a sign of esteem and gratitude.

Systematic observations on *Stenosis* (*Stenosis*) *angusticollis* (Reiche, 1861)

Stenosis (*Stenosis*) *angusticollis* (Reiche, 1861)

Tagenia angusticollis Reiche, 1861: 209
Stenosis angusticollis elongatissima Koch, 1940: 702, **syn. nov.**
Stenosis angusticollis Reiche: Sainte-Claire Deville 1914: 341, 549; Reitter 1916: 149; Luigioni 1929: 706; Porta 1934: 111; Gridelli 1949: 270; Gardini 1968: 71; Canzoneri 1972: 296; Lanza 1972: 360; Ardoin 1973: 258; Gardini 1976: 645
Stenosis angusticollis angusticollis Reiche: Gardini 1995: 5; Lo Cascio *et al.* 2000: 158; Lo Cascio 2001: 220; Soldati and Coache 2004: 7; Soldati and Coache 2005: 83; Aliquò *et al*. 2006; Soldati 2007: 52
Stenosis angusticollis ssp. *elongatissima* Koch: Gardini 1995: 5; Aliquò *et al.* 2006
Stenosis (*Stenosis*) *angusticollis angusticollis* Reiche: Löbl *et al*. 2008: 178
Stenosis (*Stenosis*) *angusticollis* ssp. *elongatissima* Koch: Löbl *et al.* 2008: 178

Material examined (1408 specimens). **France**. **Corsica**. Corse-du-Sud dep.: Bonifacio, Capo Pertusato (CDS); id., Plage de Tonnara (CPL); Porto-Vecchio (CPL); Sartene, Foce F. Ortolo (MZUR); Zicavo (CPL). Haute-Corse dep.: Bastia, Pineto (MSNV); id., Serra di Pigno (CPL); L'Ile-Rousse (CPL). **Mainland France**. Var dep.: Toulon, Mont Faron, 2.V.1994, leg. C. Bellò, 4 ex. (CPL); Esterel, La Napoule, 31.III.1993, leg. C. Bellò, 2 ex. (CPL). **Italy**. **Sardinia**. Cagliari prov.: Cagliari, Cala Mosca (CCM); id., Colle Sant'Elia (CPL); Domusdemaria (CPL); Esterzili, Monte Santa Vittoria (CPL); Maracalagonis, Torre delle Stelle (CCM); Nurri, Taccu de Nurri (CCM); Pula (CPL); id., Santa Margherita (CPL); Quartu Sant'Elena, Cala Regina (CCM); id., Geremeas (CCM); id., Is Mortorius (CCM); Sarroch (CCM, CPL); Serri, Sa Giara (CCM); Sinnai, Monti dei Sette Fratelli (CCM, CPL); Villaputzu, Quirra (CPL); Villasimius (CPL). Carbonia-Iglesias prov.: Buggerru, spiaggia di Portixeddu (CPL); Carloforte, Capo Sandalo (CPL); Gonnesa, Fontanamare (CPL); id., Monte Coremò (CCM); id., Porto Paglia (CCM); Portoscuso, Isola dei Meli (CPL; MZUF); Sant'Antioco, Cala Sapone (CPL); id., Coaquaddus (CPL); id., Isola il Toro (CPL; MSNG); id., Isola la Vacca (CPL, MSNG). Medio Campidano prov.: Arbus, Flumentorgiu (CPL; MSNM); Gonnosfanadiga, Genna Mirrata (CCM; CPL); id., Punta Cammedda (CCM; CPL); id., Punta Nuraxi de Togoro (CCM). Nuoro prov.: Aritzo (MSNG); Bolotana, Badde Salighes (CPL); Borore (CPL); Desulo (CPL); Fonni, Monte Spada (CCM, CPL); Irgoli, Monte Senes (CCM); Lula, Monte Albo (MSNG); Macomer, Bara (CCM; CDS; CPL); id., Sa Serra (CCM; CPL); Orgosolo, Fiume Cedrino (MSNG); id., Monte Novo San Giovanni (CPL; MSNG); Orune (MSNG); Sindia (CPL); Siniscola, Capo Comino (CPL); Sorgono (MSNV). Ogliastra prov.: Arzana, Ruinas (CPL); Seui, Foresta Mont'Arbu (CCM); id., Monte Tonneri (CCM; CPL); Urzulei, Genna Silana (CCM); id., Planu Oddeu (CCM). Olbia-Tempio prov.: Arzachena, Isolotto settentrionale dei Poveri (CPL;

MSNG); Golfo Aranci (CPL; MSNG); La Maddalena, Isola Barrettini (MSNG); id., Isola Budelli (MSNG); id., Isola Caprera (CPL); id., Isola Orientale delle Camere (MSNG); id., Isolotto dell'Aglio (CPL); id., Isolotto Pecora (CPL); id., Isolotto Stramanaro Orientale (MZUF); Olbia (MZUR); id., Golfo di Marinella (CPL); id., Lido di Pittulongu (MSNG); id., Isola Molara (MSNG); id., Isola Molarotto (MSNG); id., Isola Tavolara (MSNG; MSNM); Santa Teresa di Gallura, Capo Testa (CCM; CPL); San Teodoro (CPL). Oristano prov.: Cabras, Is Arutas (CCM); id., San Giovanni di Sinis (CCM; CDS; CPL); id., Tharros (MSNG); Cuglieri, Monte Ferru (CCM); id., Santa Caterina di Pittinuri (CPL); Magomadas, Santa Maria del Mare (CPL); Morgongiori, Monte Arci (CCM; CPL). Sassari prov.: Alghero (CPL; MSNG); Portotorres, Isola Asinara (MSNG); Sassari, Stagno di Pilo (CDS); Semestene (CPL); Sorso, Platamona (CDS); Torralba (CPL). **Tuscany**. Grosseto prov.: Alberese, Parco dell'Uccellina (CPL); Isola del Giglio (MSNG); Grosseto, Marina di Grosseto (CPL). Livorno prov.: Isola d'Eba, Seccheto (CPL).

Remarks. The distribution and systematics of this highly variable species are still poorly known. Described from Corsica (type locality Bastia), it was later recorded also from Sardinia by Baudi di Selve (1875) and Sainte-Claire Deville (1914); Reitter (1916) mentioned it from Sicily, Sardinia, Corsica, SW mainland Italy and Crimea; Luigioni (1929) and Porta (1934) mentioned it from Corsica, Sardinia and Sicily. Koch (1940), on the basis of specimens from Alghero (NW Sardinia) collected by A. Dodero, described the subspecies *Stenosis angusticollis elongatissima* and mentioned the nominal subspecies from Corsica, Sardinia and the French department of Var (St. Raphael); he also excluded its presence in Crimea and considered its occurrence in mainland Italy and Sicily as doubtful. Gridelli (1949) again reported the species from Corsica, Sardinia, Giglio Island (Tuscan Archipelago) and St. Raphael, as well as specimens from Alghero corresponding to the description of *S. angusticollis elongatissima*. Marcuzzi (1965) recorded the species from the "Etna region" (E Sicily), Gardini (1968) from Elba Island (Tuscan Archipelago) and Canzoneri (1972) from Tavolara Island (NE Sardinia). Ardoin (1973) recorded *Stenosis angusticollis* from Alghero without referring to *S. a.* ssp. *elongatissima*, described from the same locality. Gardini (1976) discussed the distribution of *Stenosis angusticollis*, provided a map of known localities for the species (from previously unpublished data and data from the literature) and recorded it for the first time from a precise locality in peninsular Italy (Tuscany, Grosseto prov., Lago dell'Accesa) and from the island of Montecristo (Tuscan Archipelago); the same author highlighted the great morphological variability of the species, drawing the copulatory organs of specimens from various localities, and considering the validity of *S. a.* ssp. *elongatissima* as doubtful. Later however, Gardini (1995) still considered the two taxa as distinct. Lo Cascio *et al.* (2000) recorded *Stenosis angusticollis angusticollis* from the small island of La Scola, near Pianosa Island (Tuscan Archipelago), and considered its presence in Sicily as doubtful. Lo Cascio (2001), dismissing the old, never re-confirmed record for Var, considered the species as endemic of Sardinia, Corsica, Tuscany and the Tuscan Archipelago. Aliquò *et al.* (2006) also doubted the records from Var and Sicily and suggested that the occurrence of the species in localities of continental Tuscany could be due to passive transport; the same authors recorded *S. angusticollis elongatissima* from a new locality in W Sardinia, even though they considered the validity of this taxon as doubtful. Soldati (2007) cited *Stenosis angusticollis angusticollis* from various localities in Corsica and published a new locality for the species in Var (Sainte-Maxime, leg. G. Tempère, pre-1960 record), stating that the present-day occurrence of the species in the French department needs confirming. Finally, Löbl *et al.* (2008) cited *S. angusticollis angusticollis* from France (Var and Corsica) and Italy, and *S. angusticollis elongatissima* from Sardinia.

I personally examined a large material of *Stenosis angusticollis* from various places (about 1,400 specimens from approximately 100 localities), which allowed me to study its morphological variability and geographical distribution. The species is morphologically very variable both in the external characters (size, shape of head, pronotum and elytra, sculpture of dorsal integuments and punctuation of metasternum and abdominal sternites) and in the shape and size of the male copulatory organ (*cf.* Gardini 1976, fig. 3a–h); this variability seems not to be particularly driven by geographical factors: generally, single populations are morphologically quite stable, although specimens of neighbouring areas can be quite different and specimens from disjunct areas can be morphologically indistinct.

Specimens from some coastal localities of western Sardinia (Alghero, type locality of *Stenosis angusticollis elongatissima*, and Cabras-San Giovanni di Sinis) are characteristic in possessing an elongated and more parallel head, pronotum and elytra, compared to most other populations, coinciding with Koch's (1940) description of ssp. *elongatissima*; these specimens also show a particularly robust punctuation of the abdominal sternites and a male copulatory organ larger in proportion, with a ventrally very concave parameric capsule (*cf*. Gardini 1976, fig. 3g–h). However, specimens from intermediate coastal areas (Cuglieri-Santa Caterina di Pittinuri and Magomadas-Santa Maria del Mare) do not possess such features, while other populations from different areas of Sardinia, but also from Corsica and Tuscany, possess – more or less evidently – at least some of the above-listed characters. For these reasons, given the wide morphological instability and the difficulty of assigning a precise geographic distribution to the various phenotypes, I consider *S. angusticollis elongatissima* merely a synonym of *S. angusticollis*, which is to be considered monotypic.

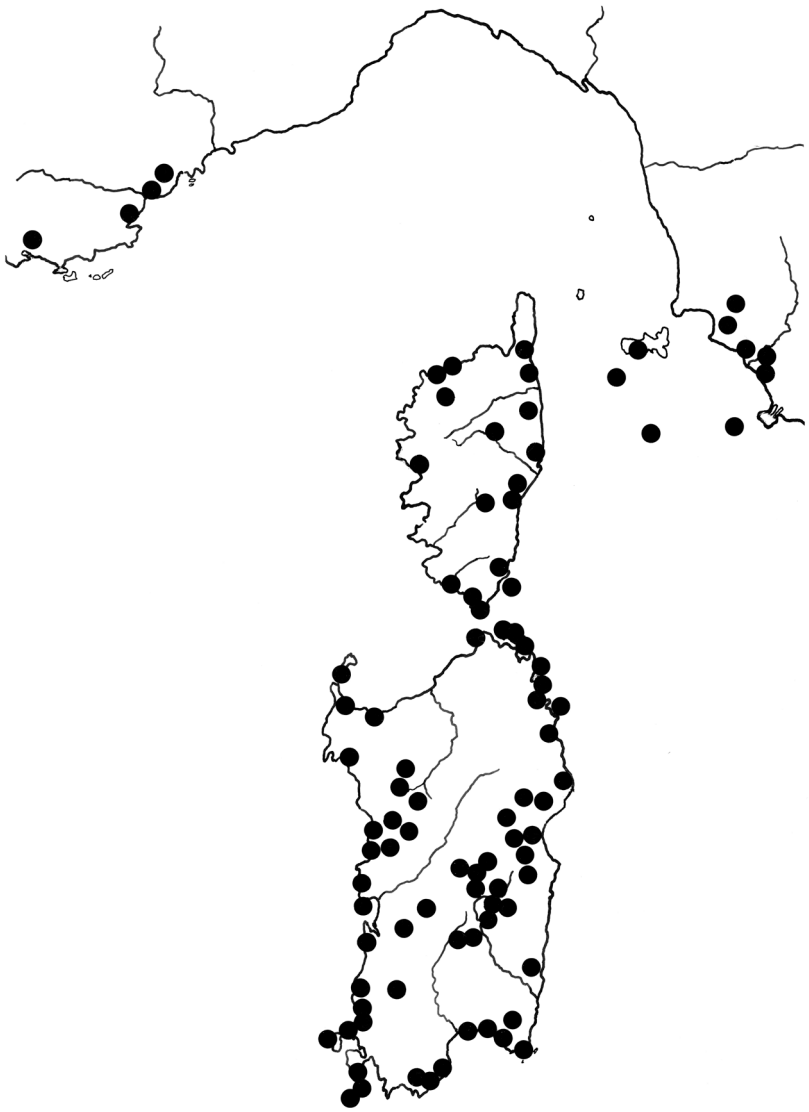


FIGURE 16. Distribution of *Stenosis* (*Stenosis*) *angusticollis* (Reiche) (for neighbouring localities only one symbol was used).

Distribution and ecology. According to the data in my possession and those taken from reliable literature sources, the species shows a typically Tyrrhenian distribution (Fig. 16). It is widespread in the whole of Sardinia (including many satellite islands) and Corsica, known from the islands of Elba, Giglio, Montecristo

and the small island of La Scola in the Tuscan Archipelago (*cf.* Gardini 1976; Lo Cascio *et al.* 2000), and from the Grosseto province (Tuscany) in mainland Italy with some populations which are not, in my opinion, the result of passive transport; I can also confirm its presence in the French department of Var (Koch 1940), with recent records from two localities (see above); on the other hand, I consider erroneous the record from Sicily (Marcuzzi 1965), which probably arose from confusion with another species. The following literature records are known besides the previously unpublished ones listed above: **France**. **Corsica**. Corse-du-Sud dep.: Porto-Vecchio, Isole Cerbicali, Scoglio Secondo del Toro Piccolo (Lanza 1972); Bonifacio, faro di Pertusato; Sartene, Roccapina (Soldati & Coache 2004); Bonifacio, Isole Lavezzi; Sagone (Soldati 2007). Haute Corse dep.: Bastia (Reiche 1861); Corte; Folelli (Sainte-Claire Deville 1914); Bastia, Pineto; id., stagno di Biguglia (Gardini 1976); Lumio, Punta Spano (Soldati & Coache 2005); Aleria, Caterragio; Calenzana, col de Marsulinu; Castellare-di-Casinca; Ghisonaccia; Linguizzetta, Marina di Bravone; Penta-di-Casinca, San Pellegrinu; Serra-di-Fiumorbo, stagno di Palo (Soldati 2007). **Mainland France**. Var dep.: St. Raphael (Koch 1940); Sainte-Maxime (Soldati 2007). **Italy**. **Sardinia**. Carbonia-Iglesias prov.: Isola la Vacca (Gardini 1976). Nuoro prov.: Aritzo (Gardini 1976). Ogliastra prov.: Passo Arquerì; Talana (Gardini 1976). Olbia-Tempio prov.: Isola Tavolara (Canzoneri 1972); Golfo Aranci (Gardini 1976). Oristano prov.: Asuni (Koch 1940); San Giovanni di Sinis (Aliquò *et al.* 2006, as *S. angusticollis elongatissima*). Sassari prov.: Alghero (Koch 1940, as *S. angusticollis elongatissima*; Ardoin 1973). **Tuscany**. Grosseto prov.: Isola del Giglio (Gridelli 1949; Gardini 1976); Isola di Montecristo; Massa marittima, Lago dell'Accesa (Gardini 1976); Isolotto La Scola (Lo Cascio *et al.* 2000); Alberese; Scarlino (Aliquò *et al.* 2006, as *S. angusticollis angusticollis*). Livorno prov.: Isola d'Elba, Marina di Campo (Gardini 1968, 1976).

Stenosis angusticollis can be found all year round in various habitats, from sea level to at least 1,400m; it shows a clear preference for xeric habitats such as sandy backdunes, coastal and mid-elevation garrigues, dry meadows and degraded Mediterranean maquis. Despite being considered "rare and localized" by Aliquò *et al.* 2006, it is in fact rather common, often found in numbers under stones or by sieving at the base of vegetation.

Systematic observations on *Tentyria ramburi* Solier, 1835 and *T. rugosa* Gené, 1836

Tentyria rugosa was described by Gené (1836a, 1836b) on specimens from the islands of Sant'Antioco and San Pietro (SW Sardinia); immediately afterwards in the same works, Gené described *T. floresii* Gené, 1836 from the Oristano area (type locality: "in aridis circa Cabras"). A few years later, he described *T. monticola* Gené, 1839 on specimens from Monte Spada (central Sardinia Gennargentu Massif) and the surroundings of Baunei (central-eastern Sardinia), highlighting its close affinity with *T. floresii*. The status of these three Sardinian species described by Gené remained unchanged in the following decades until Baudi di Selve (1875) declassed *Tentyria monticola* to a simple variety of *T. floresii*; later, only Luigioni (1929) maintained species rank for *T. monticola*. Much more recently, Ardoin (1973) proposed a new classification, considering *Tentyria rugosa* and *T. floresii* (with its "var." *monticola*) as subspecies of *T. ramburi* Solier, 1835 and describing the new subspecies *T. ramburi cassolai* from W Sardinia.

The study of over a thousand specimens belonging to the taxa in question, coming from a large number of localities (including many topotypes of all the described taxa), caused me to modify the taxonomic arrangement of these *Tentyria*: *T. rugosa*, a Sardinian endemic, does not appear to be closely related to *T. ramburi* and should be re-assigned species rank; *T. floresii* should be considered a well-characterized subspecies of *T. rugosa*; finally, *T. ramburi cassolai* should be considered a subspecies of *T. rugosa*.

Tentyria ramburi and *T. rugosa* (*sensu lato*) can be easily distinguished by the following characters:

T. ramburi	*T. rugosa* (sensu lato)
Smaller average size (10.2–13.8 mm), slenderer build.	Larger average size (11.7–16.9 mm), more robust build.
Smaller eyes, only slightly protruding laterally.	Larger and more convex eyes, more protruding laterally.
Supraocular crest poorly developed, vanishing backwards.	Supraocular crest more robust, prolonged beyond the posterior edge of eye.
Gular groove superficial, limited to a shallow, central dimple.	Gular groove deeper and clearly transverse.
Antennae slenderer.	Antennae more robust.
Posterior edge of pronotum sinuous in median area.	Posterior edge of pronotum regularly rounded.
Male copulatory organ slenderer, with a subparallel parameric capsule, narrowing at apex (Fig. 17)	Male copulatory organ more robust, with less parallel parameric capsule, with a longer narrowed portion at apex (Fig. 18)

***Tentyria* (*Subtentyrina*) *ramburi* Solier, 1835 subgen. comb. nov.**
(Fig. 17)

Tentyria ramburi Solier, 1835: 327
Tentyria angusticollis Solier, 1835: 328
Tentyria laevicollis Solier, 1835: 329
Tentyria maillei Solier, 1835: 330
Tentyria substriata Solier, 1835: 332
Tentyria ramburi Solier var. *laevicollis* Solier: Reitter 1900: 172; Porta 1934: 96
Tentyria ramburi Solier var. *maillei* Solier: Reitter 1900: 172; Porta 1934: 96
Tentyria ramburi Solier var. *substriata* Solier: Reitter 1900: 172; Porta 1934: 96
Tentyria ramburi Solier: Reitter 1900: 172; Porta 1934: 96; Sainte-Claire Deville 1914: 340, 549; Luigioni 1929: 705
Tentyria ramburi ramburi Solier: Ardoin 1973: 265
Tentyria ramburi laevicollis Solier: Ardoin 1973: 265
Tentyria ramburi maillei Solier: Ardoin 1973: 265; Lanza and Poggesi 1986: 125; Gardini 1995: 5
Tentyria ramburi ramburi Solier: Soldati and Coache 2004: 6; Soldati and Coache 2005: 83; Aliquò *et al.* 2006
Tentyria (*Tentyria*) *ramburi ramburi* Solier: Löbl *et al.* 2008: 208

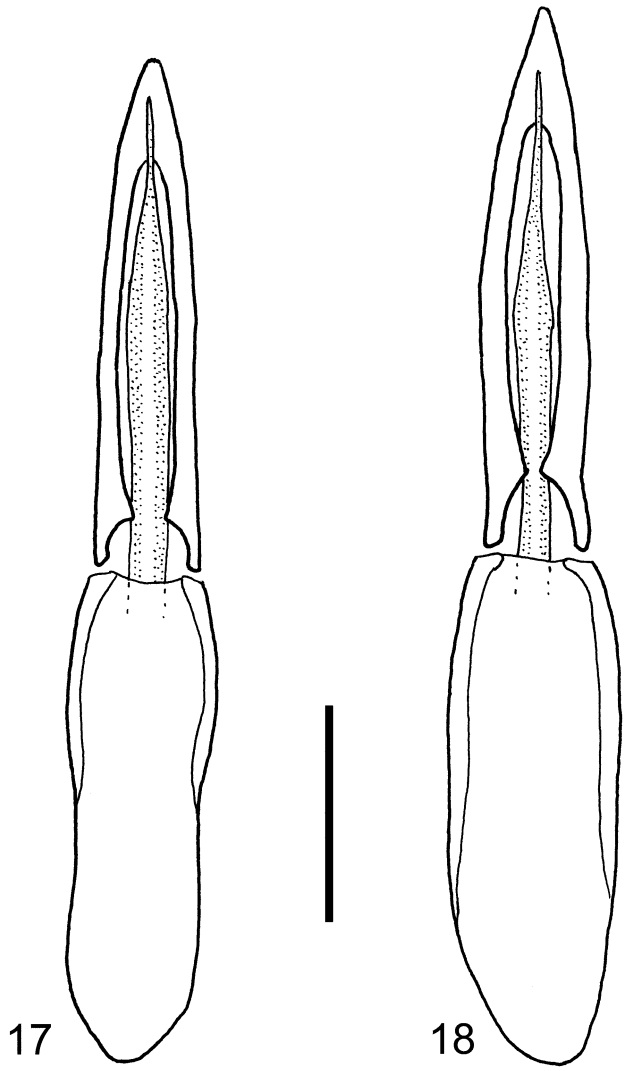
Material examined (193 specimens). **France**. **Corsica**. Corse-du-Sud dep.: Ajaccio, Tour de la Parata (CEM); Bonifacio (CPL); id., Capo di Feno (CLB; CPL); id., Plage de Tonnara (CDS; CPL); Porto-Vecchio, spiaggia di Palombaggia (MZUR); Propriano (CPL); Sagone, Port de Sagone (CCM); Solenzara (CCM); Zonza, Pinarello (MSNG). Haute-Corse dep.: Aleria, spiaggia di Padulone (CEM; CPL); Ghisonaccia, stagno d'Urbino (CEM); L'Ile-Rousse (CPL); Palasca, foce [= mouth of river] F. Ostriconi (MZUR); Penta-di-Casinca, Anghione (CPL). **Italy**. **Sardinia**. Olbia-Tempio prov.: Aglientu, Spiaggia di Vignola (CPL); Santa Teresa di Gallura (CPL); id., Capo Testa (CPL); id., La Colba (CCM; CDS; CLB; CPL).

Remarks. As stated above, this species does not show a close phyletic relationship with *Tentyria rugosa*. In my opinion, the true affinities of *Tentyria ramburi* are to be found with species belonging to the first group of Reitter (1900), i.e. the *T. mucronata* Steven, 1829 group as defined by Palmer (1998), particularly for the shape of the base of pronotum, clearly sinuous medially, and the gular groove reduced to a shallow median dimple; species of this group were included by Löbl *et al*. (2008) in subgenus *Subtentyrina* Löbl & Merkl, 2003, to which also *T. ramburi* should be assigned in my opinion.

The elytral sculpture of *Tentyria ramburi* is quite variable: almost smooth, superficially striated or with a slight transverse rugosity; however, this variability is entirely independant of geographical factors and can be found also within a same population. The various other taxa listed above, all generically described from Corsica by Solier (1835), were synonymized with *Tentyria ramburi* partly by Reitter (1900), partly by Ardoin (1973) and partly by Soldati and Soldati (2003); the species is monotypic at the current state of knowledge.

Distribution and ecology. *Tentyria ramburi* is a Corso-Sardinian endemic widespread along the coasts of the whole of Corsica and very localized in the extreme north of Sardinia (Fig. 19). Besides the material personally examined by myself, the following localities of occurrence are known in the literature: **Corsica**. Corsica [without further details] (Solier 1835, as *Tentyria ramburi*, *T. angusticollis*, *T. laevicollis*, *T. maillei*, *T. substriata*). Corse-du-Sud dep.: Ajaccio; Bonifacio (Sainte-Claire Deville 1914; Ardoin 1973, as *T. ramburi* ssp. *maillei*); Porto-Vecchio, Isolotto Cornuta; id., Isolotto Farina; Zonza, Scoglio di Pinarello (Lanza & Poggesi 1986); Bonifacio, Plage de Tonnara; Sartene, Roccapina site (Soldati & Coache 2004); Zonza, Pinarellu (Soldati & Coache 2005). Haute-Corse dep.: Asco; Bastia (Sainte-Claire Deville 1914); Ghisonaccia; L'Ile-Rousse (Sainte-Claire Deville 1914; Soldati & Coache 2004); Calenzana, Punta Cantateli; Lumio, Monte d'Ortu; Penta-di-Casinca, spiaggia di San Pellegrinu; Pioggiola, Bocca di a Battaglia; Santo-Pietro-di-Tenda, Bocca di Vezzu (Soldati & Coache 2004); Calvi, la Revellata; L'Ile-Rousse, isola di a Pietra; Lumio, Punta Spano; Monticello, Guardiola; Pioggiola, Bocca di a Battaglia; Santo-Pietro-di-Tenda, Saleccia (Soldati & Coache 2005). **Sardinia**. Olbia-Tempio prov.: Santa Teresa di Gallura, Capo Testa (Ardoin 1973, as *T. ramburi* ssp. *maillei*; Aliquò *et al.* 2006).

Based on personal observations and on known data, *T. ramburi* seems to prefer sandy littorals and, secondarily, coastal garrigues; however, it is also known from a few inland submontane areas of Corsica (Sainte-Claire Deville 1914; Soldati & Coache 2004, 2005) and from elevations up to 1000m (Soldati 2007). The species can be found all year round but seems more common during spring.



FIGURES 17–18. Male copulatory organs of *Tentyria* spp., scale bar: 1 mm. **17.** *Tentyria* (*Subtentyrina*) *ramburi* Solier (Corsica, Plage de la Tonnara). **18.** *Tentyria* (*Tentyria*) *rugosa rugosa* Gené (Sardinia, Capo Sandalo).

***Tentyria* (*Tentyria*) *rugosa rugosa* Gené, 1836 bona sp., stat. rest.**
(Fig. 18)

Tentyria rugosa Gené 1836a: III
Tentyria rugosa Gené 1836b: 193
Tentyria rugosa Gené: Reitter 1900: 172; Luigioni 1929: 705; Porta 1934: 96
Tentyria ramburi rugosa Gené: Ardoin 1973: 265; Gardini 1995: 5; Aliquò *et al*. 2006
Tentyria (*Tentyria*) *ramburi rugosa* Gené: Löbl *et al*. 2008: 208

Material examined (260 specimens). **Sardinia**. Cagliari prov.: Capoterra, is Pauceris (CPL); Castiadas (EAUS); Muravera, Capo Ferrato (CMA); id., Costa Rei (CCM; CPL); id., Stagno di Colostrai (CPL); id., Stagno Salina (CCM). Carbonia-Iglesias prov.: Carloforte (MSNG); id., Capo Sandalo (CCM; CPL; MSNG); id., Cala Lunga (CDS; CPL); id., Punta delle Oche (EAUS); Santadi (MSNG); Sant'Antioco, Cala Lunga (CPL); id., Punta Maggiore (CPL).

Remarks. This subspecies is characterized by a transversely rugose elytral sculpture; the wrinkles, tightly spaced and deep, invade the intervals between the elytral striae making the latter indistinct. In specimens from the islands of San Pietro and Sant'Antioco this character is more accentuated than in other Sardinian populations.

Distribution and ecology. The species *sensu lato* is a Sardinian endemic, whereas the nominal subspecies is restricted to the southern extremity of the island (Fig. 19). Besides the above material personally examined by myself, the following reliable literature records are known: Cagliari prov.: Cagliari (Luigioni 1929); Muravera, Stagno di Colostrai (Ardoin 1973); Muravera, Costa Rei (Aliquò *et al*. 2006). Carbonia-Iglesias prov.: Sant'Antioco and San Pietro (Gené 1836b); Isola di San Pietro, Carloforte (Luigioni 1929; Ardoin 1973); Isola San Pietro; id. Faro; Santadi (Ardoin 1973).

Tentyria rugosa rugosa is mainly found in coastal garrigues, on rocky or sandy terrain, more rarely in arid inland places, from sea level to about 300m. Occurs all year round, but seems to be more frequent in spring.

***Tentyria* (*Tentyria*) *rugosa cassolai* Ardoin, 1973 spec. comb. nov.**

Tentyria ramburi cassolai Ardoin, 1973: 266, 304
Tentyria ramburi cassolai Ardoin: Gardini 1995: 5; Aliquò *et al*. 2006
Tentyria (*Tentyria*) *ramburi cassolai* Ardoin: Löbl *et al*. 2008: 208

Material examined (277 specimens). Sardinia. Cagliari prov.: Assemini, alluvioni del [= alluvial detritus of] Flumini Mannu (CPL); Decimomannu, Rio Sesi (CCM); Guasila (MSNG); Monastir, Monte Olladri (CAL; CMA); Nuraminis (CCM; CDS; CPL); id., San Lussorio (CCM); id., Villagreca (CPL). Medio Campidano prov.: Furtei (CCM); Gonnosfanadiga, Monte Linas, Genna Eidadi, 1000 m (CCM); id., id., Punta Cammedda 1100-1200 m (CDS; CPL); Pabillonis, is Arenas (CCM, CPL); Samassi (CPL); San Gavino Monreale (CPL); Sanluri (CCM; CPL); Serrenti (CPL); id., Corte Caddeus (CCM); id., Perda Longa (CCM, CPL); id., Sa Conca Manna (CCM); Villamar (MSNG).

Remarks. Subspecies closely related to the previous one but well separable by the weaker sculpture and the more opaque surface of the elytra; in some specimens the elytra show weak longitudinal striae and a sparse and superficial transverse rugosity; the male copulatory organ is identical to that of the nominal subspecies. Populations from Monte Linas (Genna Eidadi and Punta Cammedda) show some features that are transitional towards *T. rugosa rugosa*: elytra shinier and, on average, slightly more rugose compared to lowland populations in the rest of the distributional area of the subspecies.

Distribution and ecology. This subspecies, endemic to southern Sardinia, is relatively widespread in the neighbouring subregions (*cf*. Mori 1975) Campidano and Trexenta (Fig. 19). Only two localities were known in the literature: Medio Campidano prov.: Samassi (Ardoin 1973, type locality of *Tentyria ramburi cassolai*) and Sanluri Stato (Aliquò *et al*. 2006).

Tentyria rugosa cassolai is usually found in dry meadows and on the edges of crop fields; on Monte Linas it reaches 1,200m. Observable all year round, although it is more easily found in autumn and winter, when it hibernates under stones or amongst clods of earth on the sides of ploughed fields.

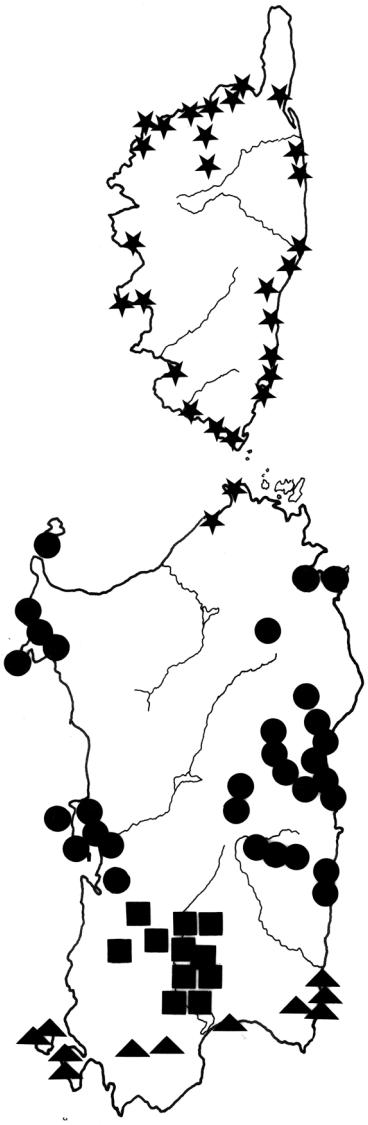


FIGURE 19. Distribution of *Tentyria* (*Subtentyrina*) *ramburi* Solier (stars), *Tentyria* (*Tentyria*) *rugosa rugosa* Gené (triangles), *Tentyria* (*T.*) *rugosa cassolai* Ardoin (squares) and *Tentyria* (*T.*) *rugosa floresii* Gené (circles) (for neighbouring localities only one symbol was used).

***Tentyria* (*Tentyria*) *rugosa floresii* Gené, 1836 spec. comb. nov.**

Tentyria floresii Gené, 1836a: III
Tentyria floresii Gené, 1836b: 194
Tentyria monticola Gené, 1839: 69
Tentyria floresi Gené: Reitter 1900: 172; Porta 1934: 96
Tentyria floresi Gené var. *monticola* Gené: Reitter 1900: 172; Porta 1934: 96
Tentyria floresi Gené: Luigioni 1929: 705
Tentyria monticola Gené: Luigioni 1929: 706
Tentyria ramburi ssp. *floresi* Gené: Ardoin 1973: 265
Tentyria ramburi ssp. *floresi* Gené var. *monticola* Gené: Ardoin 1973: 265
Tentyria ramburi floresi Gené: Gardini 1995: 5; Aliquò *et al.* 2006
Tentyria (*Tentyria*) *ramburi floresii* Gené: Löbl *et al.* 2008: 208

Material examined (312 specimens). **Sardinia**. Nuoro prov.: Desulo, Bruncu Spina (CPL; MSNG); id., Punta La Marmora (CPL); Dorgali (CPL; MSNG; MZUF); id., Cala Gonone (CPL; MSNG); Fonni, Monte Spada (CPL; MZUF); id., Punta Ninnieri (CCM; CPL); Lula, Janna Portellitos (CCM; CPL); id., Monte Albo (CPL); Oliena (MZUR); id., between Punta Corrasi and Scala 'e Pradu (MZUF); Orgosolo, Monte Fumau (EAUS); id., Monte Novo San Giovanni (MSNG). Ogliastra prov.: Baunei (CPL); id., Cala Sisine (MZUR); id., Codula di Sisine (CPL); id., Costa d'Esone (CMA); id., Murgulavò (CMA); id., Pedra Longa (CPL); id., Punta Ginnircu (CMA); Gairo, Marina di Gairo (CPL); id., Taquisara (CCM); Seui, Punta Margiani Pobusa (CAL; CDS; CMA; CPL); Tertenia, Capo Sferracavallo (CDS; CLB; CPL); Ulassai, Bruncu Pranedda (CCM); Urzulei (CPL); id., Codula di Luna (CDS; CMA; CPL); id., Genna Silana (MSNG). Olbia-Tempio prov.: Alà dei Sardi (MSNG); Olbia (MSNG); id., Isolotto Spalmatore (MSNG). Oristano prov.: Cabras (CPL; MSNG); id., Isola Mal di Ventre (CPL); id., San Giovanni di Sinis (CPL); Oristano (EAUS); San Vero Milis, is Arenas (CPL); Terralba (MSNV). Sassari prov.: Alghero (CPL; MSNG); id., Capo Caccia (CPL; MSNV); id., Tramariglio (CPL; EAUS); Portotorres, Isola Asinara (MSNG); Sassari, Argentiera (CAL; CDS); id., Lago Baratz (CCM); id., Porto Ferro (CPL).

Remarks. *Tentyria rugosa floresii* is well-differentiated from the previous subspecies, characterized by elytral striae made of very robust, foveolated punctures; these punctures, most of which are very deep, are either rounded or oblong, well separated from one another or fused in groups of two or three (in this case forming short longitudinal grooves); elytral intervals clearly convex; male copulatory organ indistinguishable from that of the other subspecies. *Tentyria monticola* was described on specimens from central Sardinia (Monte Spada and surroundings of Baunei) based upon very slight features that are absolutely inconsistent even within a same population, and should therefore be considered simply as a synonym.

Distribution and ecology. Subspecies widespread in central-southern Sardinia (Fig. 19); besides the above localities referring to material personally examined by myself, the taxon is cited from the following Sardinian localities in the literature: "Reg. mont.: Sard. cent." [= mountainous region, central Sardinia] (Luigioni 1929, as *Tentyria monticola* Gené). Nuoro prov.: Monte Spada (Gené 1839, as *T. monticola*); Gennargentu, Punta La Marmora; Monte San Giovanni (Ardoin 1973, as *T. ramburi* ssp. *floresi* var. *monticola*). Ogliastra prov.: dint. Baunei (Gené 1839, as *T. monticola*); Baunei (Ardoin 1973, as *T. ramburi* ssp. *floresi* var. *monticola*); Dorgali (Ardoin 1973, as *T. ramburi* ssp. *floresi* var. *monticola*; Aliquò *et al.* 2006). Oristano prov.: dint. Cabras (Gené 1836b, as *T. floresii*); Cabras (Luigioni 1929, as *T. floresi*). Sassari prov.: Alghero (Luigioni 1929, as *T. floresi*); Alghero, Capo Caccia (Ardoin 1973, as *T. ramburi* ssp. *floresi*). I consider the record from Corsica by Löbl *et al.* (2008) to be erroneous.

Tentyria rugosa floresii is found mainly on xeric and rocky terrains, from sea level up to 1,800m; it is most frequent in central-eastern limestone areas of the island and is more easily observed in spring and summer.

Acknowledgements

I am grateful to the following colleagues for providing material and data and for allowing me to study their personal collections or collections entrusted to them: M.G. Atzori (Cagliari, Italy), L. Bartolozzi (MZUF, Italy), L. Fancello (Cagliari, Italy), B. Lanza (Florence, Italy), A. Lecis (Cagliari, Italy), A. Liberto (Rome, Italy), C. Meloni (Cagliari, Italy), E. Migliaccio (Rome, Italy), R. Pantaleoni and T. Nuvoli (EAUS, Italy), S. Fattorini (Rome, Italy), E. Piattella (MZUR, Italy), R. Poggi (MSNG, Italy), D. Sechi (Cagliari, Italy). Thanks also to G. Nardi (CNBFVR, Italy) for help with literature, to I. Toni (CNBFVR, Italy) for the digital photographs of the habitus of *Asida* species, and to D. Whitmore (CNBFVR, Italy) for the English translation.

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