

Alysiinae from Iran (Insecta: Hymenoptera: Braconidae: Alysiinae)

M. Fischer*, A. Lashkari Bod**, E. Rakhshani** & A.A. Talebi***

Abstract

Chorebus axillaris sp.n., *Chorebus longiarticulis* sp.n., *Chorebus nigridiremptus* sp.n., *Chorebus propersam* sp.n., *Chorebus zarghanensis* sp.n., and *Aspilota alfalfae* sp.n. from Iran are described as new. They are compared with the taxonomically nearest species already known. Diverse morphological characters are figured. Several more species are identified.

Key words: Alysiinae, Braconidae, Iran, new species, locality records.

Zusammenfassung

Chorebus axillaris sp.n., *Chorebus longiarticulis* sp.n., *Chorebus nigridiremptus* sp.n., *Chorebus propersam* sp.n., *Chorebus zarghanensis* sp.n., und *Aspilota alfalfae* sp.n. aus dem Iran werden neu beschrieben. Sie werden mit den bereits bekannten taxonomisch nächst stehenden Arten verglichen. Morphologische Einzelheiten werden abgebildet. Mehrere weitere Arten wurden identifiziert.

Introduction

The Alysiinae rank among the greatest subfamilies of the Braconidae with respect to the number of species. Species new to science or new to special countries can be recorded from many territories of the mainland round the globe. The present report deals with some new species collected by Parsa Lashkari, and other species found in the Iran. All specimens are deposited in the Natural History Museum in Vienna (NHMW).

Abbreviations are used according to Fischer's scheme, as follows:

Antenna:

F, F1, F2 etc. = flagellomere(s), 1st, 2nd etc. flagellomere

Fm = median flagellomere

Fp = penultima flagellomere

Fore wing:

st = pterostigma

r1, r2, r3 = the abscissae of the radial vein

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cu = cubital vein
 cu1 = 1st abscissa of cu
 cu2 = 2nd abscissa of cu
 cc1 = 1st cubital cross vein
 nr = recurrent vein
 d = discoidal vein
 nv = nervulus
 np = parallel vein
 m = medial vein
 R = radial cell
 Cu2 = 2nd cubital cell
 B = brachial cell

Hind wing:

M' = medial cell
 SM' = submedial cell
 r' = radial vein
 cu2' = cubital vein beyond M'
 nr' = recurrent vein

Metasoma:

T = metasomal tergite(s)
 T1, T2 etc. = 1st, 2nd etc. tergite of the metasoma

Tribus Dacnusi

The major identification keys of the Palearctic species of the Dacnusi have been proposed by NIXON (1937, 1943–1946, 1948, 1949, 1954) and GRIFFITHS (1964, 1966–1968, 1984) for the European fauna, TOBIAS (1966, 1986, 1995) for the European USSR, and BELOKOBYSKIY & TOBIAS (1998) for the Russian Far East. There are also keys by DOCAVO, TORMOS & FISCHER (2006). Several species have been described by Fischer in co-operation with other authors: FISCHER, TORMOS, PARDO & JIMENEZ (2002, 2004), FISCHER, TORMOS, DOCAVO & PARDO (2004), DOCAVO, TORMOS & FISCHER (2002). Some species have been redescribed in detail (e.g. see FISCHER 2001). Nixon treated most species as *Dacnusa*.

Genus *Chorebus* HALIDAY, 1833

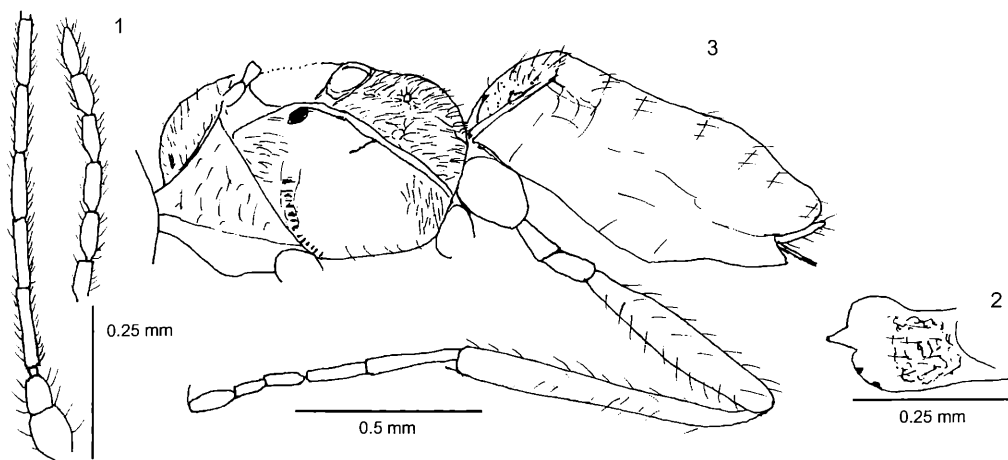
Chorebus HALIDAY, 1833: Entomological Magazine 1: 264.

***Chorebus axillaris* sp.n. (Figs. 1–3)**

Holotype, ♀: Iran: Loc: Bidzard, Dat: 30 April 2006, Host: orchard, Col: Lashkari. (second label: Alysinae, Dacnusa, Code 26) (NHMW).

Description: ♀. – Length of body: 2 mm.

Head: 1.9 times as wide as long, twice as wide as the face, 1.4 times as wide as the



Figs. 1–3: *Chorebus axillaris* sp.n.: (1) base and apex of antenna, (2) mandible, (3) mesosoma, metasoma and hind leg lateral.

mesoscutum, 3 times as wide as the T1; eyes about as long as the temples, eyes and temples rounded in a common curve, across temples very little wider than between eyes, distance of the antennal sockets from each other and from the eyes about as great as their diameter, occiput nearly straight, upper side nearly bare, ocelli small, their distance from each other greater than their diameter, distance of a lateral ocellus from an eye as great as the width of the ocellar area, epicranial suture reaching between the ocelli. Face (without clypeus) about 1.4 times as wide as high, middle elevation developed above, the middle third bare, the lateral thirds with evenly scattered white, rather long hairs, part of them bent towards the middle line, with some erect hairs near the eyes, eye margins parallel, hair points hardly discernible. Clypeus 4 times as wide as high, lower edge straight in the middle, slightly arched, with long outstanding hairs, hair points weakly discernible. Tentorial pits small. Mandible as wide as long, slightly broadened towards apex, upper edge slightly deflected upwards; tooth 2 pointed and projecting, teeth 3 and 4 knob-like, situated in a round edge, a right angle between teeth 2 and 4, tooth 1 rounded at apex, an incision between teeth 1 and 2, outer surface rugose, except near the teeth; maxillary palpi about as long as head is high. Antennae something longer than the body, 25-articulated; F1 and F2 4 times as long as wide, all F elongate, Fm about 3 times as long as wide, the F becoming gradually shorter towards the end, Fp twice as long as wide; the F clearly separated from each other at their basis, the hairs shorter than their width, sensillae not discernible in lateral view.

Mesosoma: 1.5 times as long as high, upper side (lateral view) very slightly curved, nearly flat. Mesoscutum about 1.3 times wider than long, evenly rounded in front, anterior face of the three lobes with numerous hairs, dorsal fovea narrow and elongated, notauli nearly absent, lateral furrows smooth. Prescutellar furrow with some folds, at sides as well as the axillae with numerous white hairs obscuring the surface. Postaxillae without sculpture. Lateral areas of the metascutum smooth. Propodeum with white-filthy hairs covering the surface, with a rosette of hairs around the lateral spiracles. Side

of pronotum with scattered hairs, which do not hide the smooth surface. Sternaulus absent, lower part of mesopleuron evenly convex, presternal furrow and lower half of the anterior edge of the mesopleuron narrow crenulated, anterior mesopleural furrow crenulated below, subalar area with many, contrasting curved white hairs, hind corner also with white hairs, posterior mesopleural furrow smooth. Mesosternum with scattered white hairs. Metapleuron densely covered with long white hairs which completely hide the surface, a separation from the propodeum not visible. Hind coxae without a tuft of hairs, hind femora 5 times as long as broad, hind tarsi as long as the hind tibia.

Wings: st narrow, distally wedge shaped, metacarp shorter than the st, r arising from the base of the st by a distance equal to the length of r1, r1 forming a blunt angle with r2, r2 bisinuate, R ending near the apex of the wing, but not reaching it, ccl little longer than r1, nr greatly antefurcal, d about as long as nr, nv postfurcal, B open on lower distal corner, d passing in a curve into np, cu2 a piece normally developed, m decolored in greater part; r' indicated as a fold, cu2' the same, SM' half as long as M', hairs of basal third of hind edge as long as the width of the hind wing here.

Metasoma: T1 1.5 times as long as broad, slightly narrowed towards base, evenly arched, with evenly distributed hairs and hair points not covering the surface, dorsal carinae visible only at extreme base, spiracles small, situated on small tubercles. T2 laterally at the down bent area with some long, outstanding hairs. Ovipositor not at all projecting beyond the apex of the metasoma.

Coloration: Black. Yellow: base of antennae as far as F2, mouth parts, legs, tegulae and wing venation. Distal half of hind femora, distal third of hind tibiae and in part hind tarsi infuscated. Wing membrane hyaline.

♂: unknown.

Distribution: Iran.

Host: Unidentified species on orchard.

Etymology: The name draws the attention to the axillae, which are covered by white hairs.

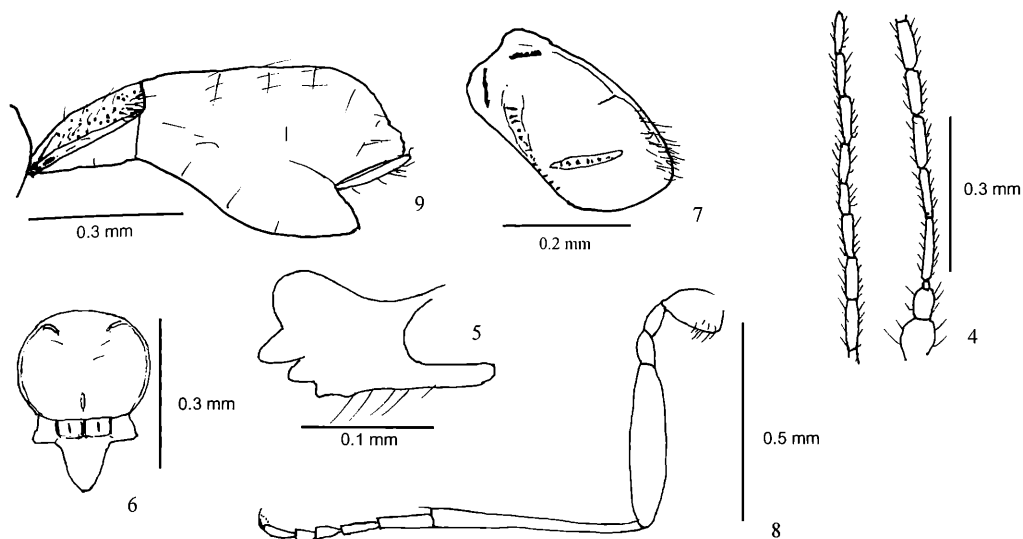
Taxonomic position: The species seems to be nearest to *C. albipes* (HALIDAY) and *C. zarghanensis* sp.n., from which it can be separated as follows.

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|---|--|------------------------------------|
| 1 | Sternaulus absent. Mesosoma 1.5 times as long as high. (over axillae and part of the prescutellar furrow white hairs obscuring the surface). 2 mm. Iran: | <i>axillaris</i> sp.n., ♀ |
| | Sternaulus present and crenulated. Mesosoma 1.25–1.4 times as long as high |2 |
| 2 | T1 completely bare. Europe | <i>albipes</i> (HALIDAY), ♀, ♂ |
| | T1 predominantly pubescent over the greatest part of its surface. 1.5 mm. Iran: | <i>zarghanensis</i> sp.n., ♀ |

Chorebus longiarticulis sp.n. (Figs. 4–9)

Holotype, ♀: Iran: Loc: Zarghan, Dat: 27 April 2008, Host: alfalfa, Col: Lashkari (NHMW).

Description: ♀. – Length of body: 1.5 mm.



Figs. 4–9: *Chorebus longiarticulis* sp.n.: (4) base and apex of an antenna, (5) mandible, (6) mesoscutum to scutellum dorsal, (7) mesopleuron, (8) hind leg, (9) metasoma lateral.

Head: Twice as wide as long, 1.4 times as wide as the mesoscutum, 1.8 times as wide as the face, 1.3 times as wide as T1; eyes 1.2 times as long as the temples, across eyes as wide as across the temples, antennal sockets as wide as their distance from each other or from eyes, occiput hardly excavated, nearly straight; upper side nearly without hairs, distance between ocelli greater than their diameter, distance of an ocellus from an eye as great as the width of the ocellar area. Face nearly flat, about 1.5 times as wide as high, middle elevation hardly developed, with fine, scattered hairs, with longer hairs near eyes, hair points hardly visible, eye margins parallel. Clypeus 3 times as wide as high, rounded below, with inconspicuous hairs. Tentorial pits small. Mandible as broad as long, tooth 1 broad, rounded, deflected sideways, tooth 2 pointed, surpassing tooth 1 only a little, an incision between teeth 1 and 2, teeth 2, 3 and 4 in a straight row and clearly separated from each other, outer surface smooth; maxillary palpi not visible in the present specimen. Antennae only little longer than the body, 21-articulated, little narrowing towards apex, the F weakly separated from each other; F2, 3 and 4 3.5–4 times as long as wide, the following becoming little shorter, Fm 3 times, F of the apical third at least twice as long as wide; hairs at most as long as the width of F, sensilla practically not visible.

Mesosoma: 1.33 times as long as high, upper side (lateral view) very weakly rounded, truncate in front, sloping behind. Mesoscutum 1.2 times as wide as long, evenly rounded in front of the tegulae, nearly completely bare, notauli weak, only on the declivity and passing into the marginal furrows, dorsal fovea forming a short, narrow, smooth cleft. Prescutellar furrow rectangular, divided, lateral fields as long as wide and with one fold in the middle. Postaxillae prevailing smooth. Metascutum with white hairs over the lateral fields. Propodeum densely covered with white-filthy hairs hiding the surface, the

hairs tending to radiate round the lateral spiracles. Side of the pronotum covered with white-filthy hairs over the broad, anterior furrow, the rest with sparse hairs, cross folds in the furrow hardly visible. Sternaulus crenulated, reaching neither the anterior edge nor the middle coxa, prepectal furrow crenulated, passing into the below crenulated anterior mesopleural furrow, posterior mesopleural furrow smooth, hind corner with white-filthy hairs, the subalar region with longer, sparse hairs. Metapleuron densely covered with white-filthy hairs hiding the surface, a rosette of radiating hairs around a central swelling. Hind coxa with a few longer white hairs basally on upper side (it is doubtful if these hairs can be taken as a dense crest of hairs as in many other species), hind femora 5 times as long as broad, with some long, scattered hairs, hind tarsi nearly as long as the tibiae.

Wings: st nearly parallel-sided in the basal two third, then tapering and gradually passing into the metacarp, metacarp half as long as the st, r arising from the basal fourth of the st, r1 clearly longer than the width of the st, forming an obtuse angle with r2; r2 bisinuate, R ending before the apex of the wing, nr antefurcal, cu2 normally developed a short distance, then indicated as a fold, m prevailing decolored, d hardly longer than nr, nv postfurcal, B closed, np only a fold and arising from the middle of the outer side of B; r' and cu2' absent.

Metasoma: T1 1.6 times as long as apically wide, slightly narrowing towards base, dorsal carinae developed only near base, slightly granulated and covered with sparse hairs, dense white hairs at hind corners, some long outstanding hairs laterally arising from below T1. Ovipositor sheaths narrow, shorter than T1, not projecting beyond apex of the metasoma.

Coloration: Black. Yellow: bases of antennae as far as F2, mouth parts, all legs (only apical half of the tibiae rather brown), tegulae and wing venation. Wing membrane hyaline.

♂: unknown.

Distribution: Iran.

Host: Unidentified species on alfalfa.

Etymology: The name refers to the long flagellar segment by which the species is (among others) distinguished from similar ones. (*longiarticulis* [lat., ablativ pluralis] = with long articles.)

Taxonomic position: With respect to taxonomic characters near to *Chorebus thusa* (NIXON) or to *C. andizhanicus* (TOBIAS). *Chorebus thusa* was described by Nixon as *Dacnusa thusa* 1937, and *C. andizhanicus* was described as *Dacnusa andizhanica* TOBIAS, 1966. The first author could compare the specimen with a specimen of *C. thusa* in the Natural History Museum Vienna identified by Nixon.

Distinction from *C. thusa*:

- | | | |
|---|--|--------------------------------|
| 1 | Antennal segments of the apical third 1.5 times as long as broad. Mesoscutum prevailing densely covered with hairs, only areas on the lateral lobes can be bare. Coxae and trochanters black. 2.6 mm. England: | <i>thusa</i> , ♀ |
| | Antennal segments of the apical third twice as long as broad. Mesoscutum entirely bare. Legs entirely yellow. 1.5 mm. Iran: | <i>longiarticulis</i> sp.n., ♀ |

Distinction from *C. andizhanicus*:

- 1 Dorsal fovea of the mesoscutum developed as a long, crenulated furrow. Middle lobe of the mesoscutum hairy. 2.3 mm. Turkmenia: *andizhanicus*, ♀
 Dorsal fovea of the mesoscutum somewhat elongated, but narrow and without any sculpture. Mesoscutum entirely bare. 1.5 mm. Iran: *longiarticulis* sp.n., ♀

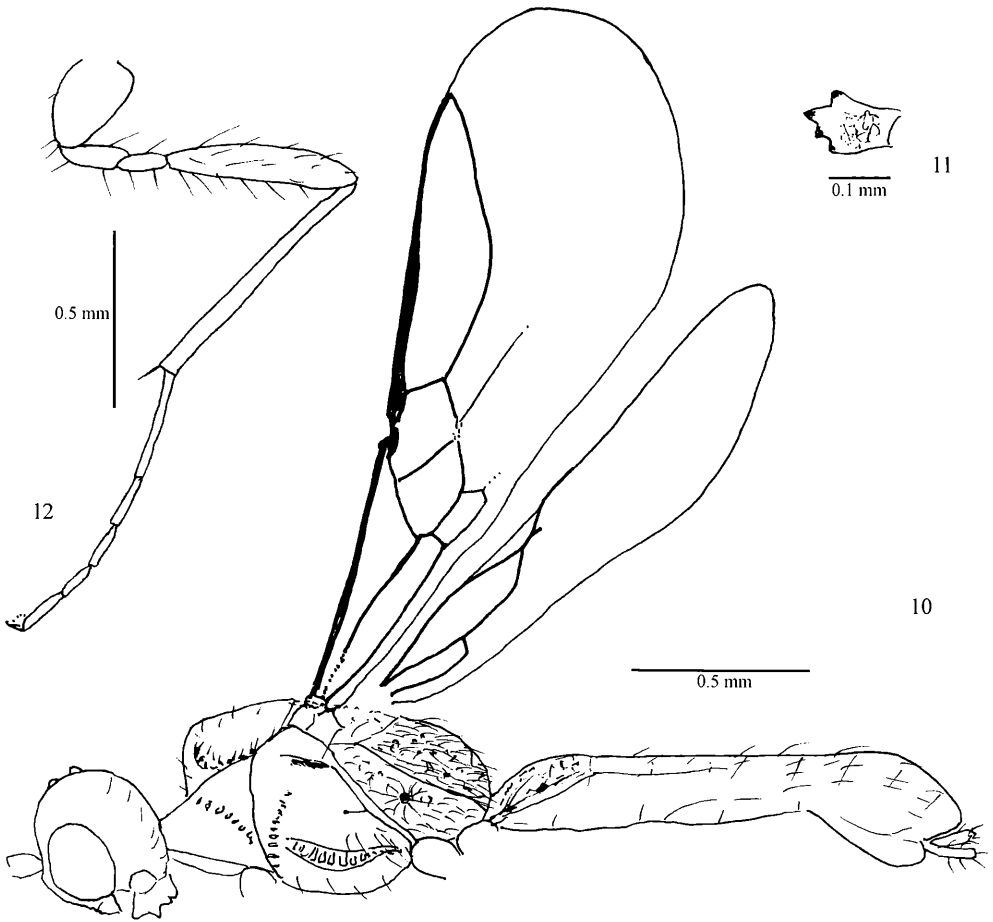
Chorebus nigridiremptus sp.n. (Figs. 10–12)

Holotype, ♀: Iran: Loc: Zarghan, Dat: 20 May 2008, Host: Alfalfa, Col: Lashkari. (NHMW). **Further material examined**: 1 ♀: same data, 22 June 2008 (NHMW).

Description: ♀. – Length of body: 2.5 mm.

Head: 1.75 times as wide as long, twice as wide as the face, 1.33 times as wide as the mesoscutum, 3 times as wide as T1; temples longer than the eyes, across temples as wide as across eyes, the distance of the antennal sockets from each other and from the eyes as great as their diameter, occiput clearly excavated, upper side only with a few hairs without recognizable hair points. Ocelli small, the distance between them little greater than their diameter, the distance of a lateral ocellus from an eye little greater than the width of the ocellar area, epicranial suture absent. Face (without clypeus) 1.5 times as wide as high, relatively flat, shining, middle elevation very weak, with extremely fine scattered hairs, eye margins nearly parallel. Clypeus twice as broad as high, slightly convex, epistomal suture semicircular, lower edge more or less straight, with some outstanding hairs. Tentorial pits small. Mandible about as broad as long, widened towards apex, dorsal edge directed obliquely upwards, tooth 2 pointed and protruding, tooth 1 blunt and retracted, teeth 3 and 4 small and retracted in a row, outer surface with some rugosity, smooth near base and near teeth; maxillary palpi shorter than the head is high. Antennae rather shorter than the body, 25-articulated; F1 3.5 times, F2 3 times as long as wide, the following becoming gradually shorter, Fm 2.5 times as long as wide, F of the apical half twice as long as wide, all F tube-like and recognizably separated from each other; most hairs shorter than the width of F, in lateral view 3 sensilla discernible.

Mesosoma: 1.5 times as long as high, upper side very little curved, nearly straight, with the lower side parallel. Mesoscutum, 1.25 times wider than long, rounded at lateral lobes, nearly straight in front, notauli deeply impressed on declivity and straight, delimited by a keel in front, crenulated, passing into the crenulated lateral furrows, developed a small piece on the disc, then absent, indicated only by several hairs; dorsal fovea deep and elongated, a faint longitudinal suture elongated as far as anterior edge, faint hairs near sides. Prescutellar furrow with longitudinal folds, lateral areas as long as wide, rounded at sides. Scutellum triangular. Postaxillae crenulated behind. Lateral areas of the metascutum smooth. Propodeum granulated, with numerous evenly distributed white hairs, which, however, do not hide the surface, spiracles small. Anterior furrow of the side of the pronotum crenulated. Sternaulus curved, densely crenulated, complete, reaching from the middle coxa as far as anterior edge, the crenulated presternal furrow passing into the crenulated anterior mesopleural furrow, posterior mesopleural furrow smooth, several whitish hairs above the middle coxa, metasternum with scattered hairs. Metapleuron with numerous white hairs covering the surface more or less, the latter prevailing smooth, with a swelling in the middle and radiating hairs around it, a deep



Figs. 10–12: *Chorebus nigridiremptus* sp.n.: (10) body (without legs) lateral, (11) mandible, (12) hind leg.

stigma near the front edge. Hind femur 5 times as long as broad, long hairs on lower side of hind coxa and trochanter.

Wings: st narrow, merging into the metacarp, the latter shorter than st, r arising near the base of the st, r1 longer than the width of st, r2 bisinuate, R not reaching tip of wing, cc1 about as long as r1, cu2 a piece normally developed, nv postfurcal, nr antefurcal, d 1.25 times as long as nr, B closed, its outer side broken in the middle, basal half of m more or less desclerotized; r' and cu2' nearly absent (at most indicated as folds), SM' half as long as M'

Metasoma: T1 twice as long as apically wide, nearly parallel-sided, densely granulated and not hairy, dorsal carinae developed only near base, spiracles visible and situated near middle of lateral edges. Ovipositor sheaths projecting, but shorter than T1 is long.

Coloration: Black. Yellow: anellus, mouth parts, tegulae and wing venation. Coxae,

trochanters, hind femora and apical portion of hind tibiae black to dark, the rest of the legs yellow to brown. Wing membrane hyaline.

♂: unknown.

Distribution: Iran.

Host: Unidentified species on alfalfa.

Etymology: The name indicates that the species looks like a black *Chorebus diremptus*.

Taxonomic position: The taxonomically nearest species seems to be *Chorebus diremptus* (NEES) from which it can be distinguished as follows.

- 1 Palpi yellow. Basal antennal segments contrasting yellow as far as F2. Legs uniformly yellow or reddish yellow (at most tarsal segment 5 slightly infuscated). T2 and the following largely reddish yellow, becoming darker towards apex. Mandible not widened towards apex, tooth 2 long and pointed, much better developed than the others. Western Europe, Azerbaidzhan: *diremptus*, ♀ ♂
 Palpi black. Antennae entirely black, safe anellus. Coxae and trochanters black, the rest of the legs dark brown, hind femora, distal third of hind tibiae and hind tarsi infuscated. Metasoma black. Mandible widened towards apex, tooth 2 pointed, but hardly greater than tooth 1 and not much projecting. 2.5 mm. Iran: *nigridiremptus* sp.n., ♀

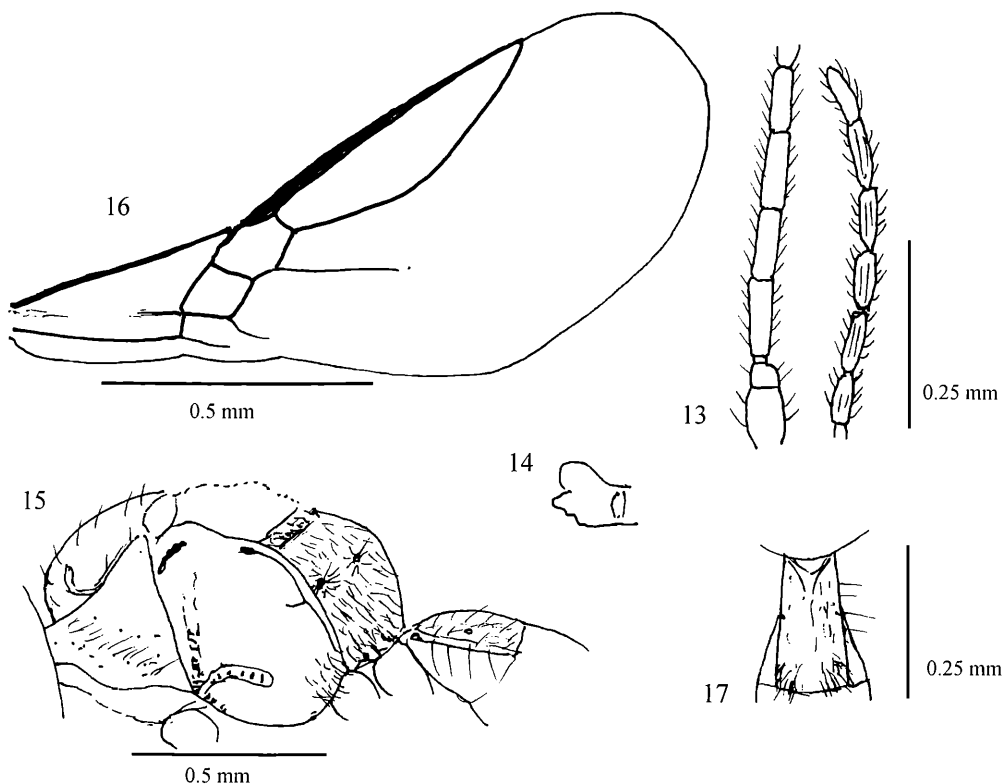
Chorebus properesam sp.n. (Figs. 13–17)

Holotype, ♂: Iran: Loc: Zarghan, Dat: 14 July 2008, Host: weed, Col: Lashkari (NHMW). **Further material examined:** 1 ♂: Loc: Zarghan, Dat: 9 May 2008, Host: alfalfa, Col: Lashkari (NHMW).

Description: ♂ – Length of body: 1.2 mm.

Head: Twice as wide as long, 1.8 times as wide as the face, 1.33 times as wide as the mesoscutum, 3 times as wide as the T1; eyes not protruding, 1.2 times as long as the temples, across temples as broad as between eyes, upper side predominantly bare, only a few inconspicuous hairs at sides, ocelli small, their distance from each other little greater than their diameter, the distance from the eyes only little greater than the width of the ocellar area, epicranial suture hardly developed. Face (without clypeus) about 1.5 times as wide as high, middle elevation practically absent, smooth, with fine scattered hairs without remarkable hair points, eye margins nearly parallel. Clypeus 3 times as wide as high, smooth. Epistomal furrow smooth. Tentorial pits small. Mandible as broad as long, tooth 2 pointed and little protruding, the other teeth less pointed, tooth 1 slightly deflected upwards, teeth 2, 3 and 4 situated in a row, tooth 1 little retracted, a sharp incision between tooth 1 and 2, incisions between the other teeth not sharp, outer surface smooth. Antennae little longer than the body, 23-articulated; F1–F3 3 times as long as broad, most Fm 2.5 times as long as broad, the F clearly separated from each other at their basis; hairs not longer than F broad, 2 sensilla visible in lateral view.

Mesosoma: 1.33 times as long as high, upper side arched. Mesoscutum 1.3 times wider than long, rounded in front, notauli developed only on declivity, passing in a bow into the marginal furrows, absent on disc, dorsal fovea small and oval, only very few hairs along the imaginary course of the notauli and at sides. Prescutellar furrow crenulated,



Figs. 13–17: *Chorebus properesam* sp.n.: (13) base and apex of an antenna, (14) mandible, (15) mesosoma and base of metasoma lateral, (16) fore wing, (17) T1 dorsal.

the lateral areas wider than long. White hairs over the lateral areas of the metascutum. Propodeum strongly sloping down, with dense punctures, but these are hidden by dense white-filthy hairs, radiating hairs around the lateral spiracles. Side of pronotum with recognizable points, some white hairs across the anterior furrow, which do not hide the surface. Sternaulus crenulated, shortened behind, reaching anterior margin, presternal furrow crenulated, passing into the anterior mesopleural furrow, the lower half of which is also crenulated, hind mesopleural furrow smooth, above middle coxa with white hairs. Metapleuron with numerous white hairs covering the surface, with radiating hairs around a swelling, hind femora 5 times as long as broad, hind coxa only with very few bent hairs above at base.

Wings: st narrow, a part nearly parallel-sided, then tapering distally, metacarp shorter than st, r arising from the base of the st by a distance nearly as great as the length of r1, r2 slightly bisinuate, R not reaching apex of wing, cc1 hardly longer than r1, cu1 present, but decolored, cu2 developed some distance, nr antefurcal, d as long as nr, nv post-furcal, B open on lower outer corner, lower vein decolored, np arising from lower half of outer side, np and m predominantly decolored; r', cu2' and nr' absent, SM' half as long as M', hairs on basal third of posterior edge as long as the width of the hind wing here.

Metasoma: T1 twice as long as wide, slightly narrowing towards base, with some longi-

tudinal rugosity, with short, scattered hairs, some long, outstanding hairs at sides, a few white-filthy hairs at hind corners.

Coloration: Black. Yellow: Mouth parts, scape, pedicel, legs, tegulae, and wing venation. Wing membrane hyaline.

Variability: Paratype with bases of antennae as far as F2 yellow. T2 with some outstanding hairs laterally. (Probably originally also present in the holotype and somehow lost.)

♀: unknown.

Distribution: Iran.

Hosts: Unidentified species from weed and alfalfa.

Etymology: properesam (prope [lat.] preposition + acc. = near) means taxonomically near to *Chorebus resa* (NIXON).

Taxonomic position: The species keys out with *Chorebus resa* (NIXON) in TOBIAS' key (1986, 1995). The species can be distinguished as follows.

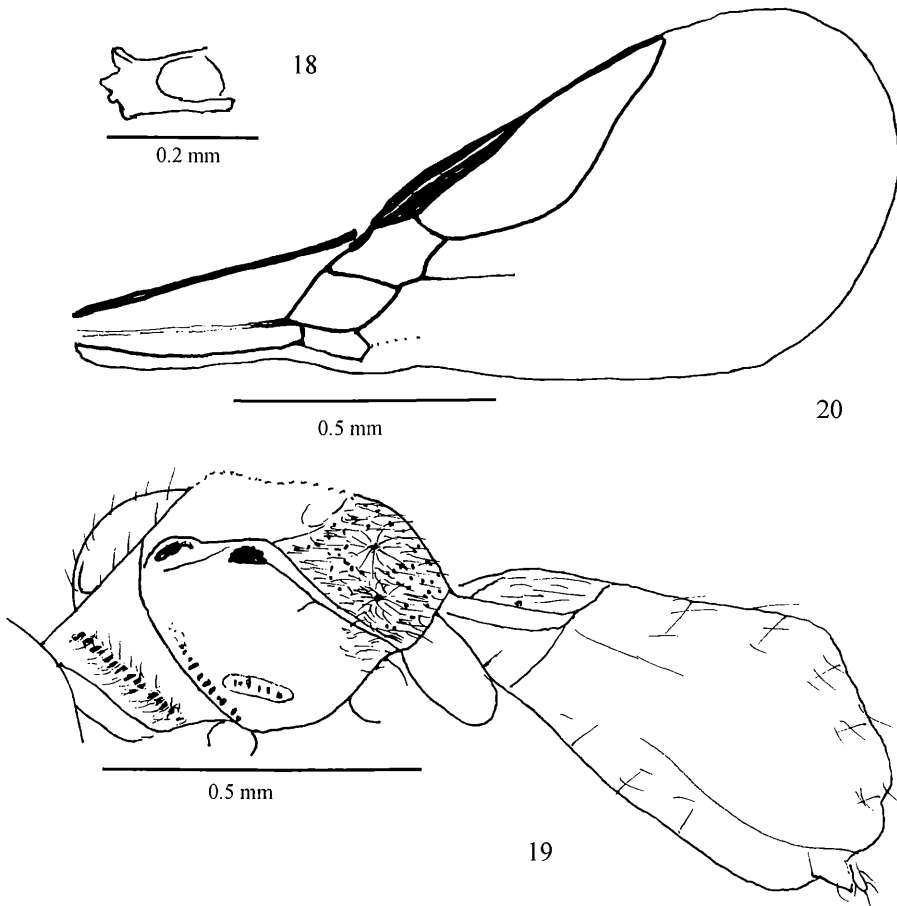
- 1 Antennae 42-articulated. T1 extraordinary narrow, about 3 times as long as broad, parallel-sided, its surface largely bare and shining. Legs largely golden yellow, but hind tibiae and tarsi infuscated. T2 and the following golden-yellow. 2.4 mm. United Kingdom, Russian Far East: *resa*, ♀ ♂
Antennae 23-articulated. T1 about twice as long as broad, with some sculpture. Legs entirely yellow. Metasoma prevailing dark. 1.2 mm. Iran: *properesam* sp.n., ♂

Chorebus zarghanensis sp.n. (Figs. 18–20)

Holotype ♀: Iran: Loc: Zarghan, Dat: 9 May 2008, Host: Alfalfa, Col: Lashkari. (NHMW). **Further material examined:** 2 ♀ ♀, same data as holotype (NHMW).

Description: ♀. – Length of body: 1.5 mm.

Head: Twice as wide as long, 1.75 times as wide as the face, 1.33 times as wide as the mesoscutum, 3 times as wide as T1; eyes not protruding, only slightly longer than the temples, across temples as wide as between eyes, diameter of antennal sockets as great as the distance from the eyes, slightly shorter than the distance between them, occiput hardly excavated, nearly straight. Upper side only with very few hairs near occiput, eyes and ocellar area; ocelli small, the distance from each other greater than the diameter of an ocellus, the distance of an ocellus from an eye about as great as the width of the ocellar area, epicranial furrow reaching between the ocelli. Face about 1.4 times as wide as high, evenly convex, without median elevation, with some scattered hairs, hair points hardly visible, eye margins parallel. Clypeus about twice as wide as high, slightly convex, with a few hairs. Tentorial pits small. Labrum protruding and with forward directed hairs. Mandible as wide as long, all teeth small, a short carina arising from tooth 1, tooth 2 is the longest, teeth 2, 3 and 4 placed in a straight row, outer surface shining; maxillary palpi about as long as the head is high. Antennae as long as the body, 23-articulated; F1 4 times as long as wide, F2 as long as F1, the following becoming only slightly shorter, but of equal width, F of the distal half twice as long as wide or slightly more, F slightly separated from each other, most hairs shorter than the width of F, 2 or 3 sensilla noticeable in lateral view.



Figs. 18–20: *Chorebus zarghanensis* sp.n.: (18) mandible, (19) mesosoma and metasoma lateral, (20) fore wing.

Mesosoma: 1.4 times as long as high, upper side only slightly rounded. Mesoscutum 1.4 times as wide as long, rounded in front, notauli complete, V-shaped, smooth, reaching as far as the dorsal fovea, with a relatively strong edge on declivity, dorsal fovea little elongated, central lobe with a longitudinal furrow reaching as far as front margin; only a few inconspicuous hairs along the notauli, the edges, and around the dorsal fovea. Prescutellar fovea rectangular, crenulated, lateral areas wider than long. Scutellum parallel-sided, rounded behind, with a weak carina around. Postaxillae deep, smooth. Metascutum with a blunt tooth in the middle, lateral areas covered with hairs. Propodeum and metapleuron granulated, densely covered with white-filthy hairs, the separation between propodeum and metapleuron hardly discernible, the latter with a swelling and radiating hairs around it, and also around the propodeal spiracle with radiating hairs. Anterior furrow of a side of the pronotum with some cross folds and some hairs. Mesopleuron with dense hairs above the middle coxa, sternaulus crenulated, reaching near front margin, presternal furrow narrowly crenulated, passing into the anterior mesopleural furrow, halfway crenulated, posterior mesopleural furrow smooth. Hind femur 5 times as long as

broad, hind coxa with only a few hairs above.

Wings: st wedge-shaped distally, about as long as the metacarp, r arising from basal forth, r1 longer than the width of st and as long as cc1, r2 weakly bisinuated, R short, ending about middle between st and tip of wing, nr antefurcal, cu2 a small piece normally developed, d about as long as nr, nv postfurcal, B closed, with outer side broken in the middle, np absent; greater part of m desclerotized; r' and cu2' absent, SM' half as long as M', m' curved distally and not angled.

Metasoma: T1 nearly twice as long as apically broad, nearly parallel-sided, granulated, dorsal carinae developed only in front, distal third covered with dense, white-filthy hairs, the rest less hairy. Ovipositor sheaths not reaching beyond tip of metasoma.

Coloration: Black. Yellow: base of antennae as far as F2, mouth parts, all legs, tegulae and the wing venation. Wing membrane hyaline.

Variability: Sternaulus in one example shorter. Antennae 21-23-articulated.

♂: unknown.

Distribution: Iran.

Host: Unidentified species on alfalfa.

Etymology: Named after the typical location.

Taxonomic position: See the distinction from the taxonomically nearest species in the description of *Chorebus axillaris* sp.n.

Further identified material

Genus *Chorebus*

Chorebus HALIDAY, 1833: Entomological Magazine 1: 264.

Chorebus affinis

Bassus affinis NEES (1812) 1814, Mag. Ges. nat. Fr. Berlin 6: 209.

Loc: Mahardu, Dat: 31 March 2008, Host: weed, Col: Lashkari, 1 ♀.

Distributed from entire Europe and Madeira to Russian Far East. New to Iran.

Chorebus groschkei

Chorebus groschkei GRIFFITHS (1966) 1967: Beitr. Ent. 16: 570.

Loc: Shiraz, Dat: 1 May 2007, Host: weed, Col: Lashkari, 1 ♂. – Loc: Takht-Rost, Dat: 3 June 2008, Host: weed, Col: Lashkari, 1 ♂. – Loc: Neyriz, Dat: 13 March 2009, Host: wheat, Col: Lashkari, 1 ♂. – Loc: Bidzard, Dat: 30 April 2006, Host: orchard, Col: Lashkari, 1 ♂.

Distributed from Germany to Russia. New to Iran.

Chorebus stilifer

Chorebus stilifer GRIFFITHS 1968: Beitr. Ent. 18: 101.

Loc: Marvdasht, Dat: 9 May 2008, Host: alfalfa, Col: Lashkari, 1 ♂.

Distribution: Germany. New to Iran.

Chorebus tamsi

Dacnusa tamsi NIXON 1944: Entomologist's mon. Mag. 80: 90, 93.

Loc: Abade, Dat: 19 April 2007, Host: weed, Col: Lashkari, 1 ♀.

Distributed from Western Europe (United Kingdom) to Russian Far East. New to Iran.

Genus *Dacnusa*

Dacnusa HALIDAY, 1833. Ent Mag. 1: 264.

Dacnusa hospita

Aphanta hospita FOERSTER 1862: Verh. Naturh. Ver. preuß. Rheinlande 19: 273.

Loc: Neyriz, Dat: 13 March 2009, Host: wheat, Col: Lashkari, 1 ♀.

Distributed from Western Europe to China. New to Iran.

Genus *Lepton*

Lepton ZETTERSTEDT, 1838: Insecta Lapponica 1: 403.

Lepton gracilis

Alysia gracilis CURTIS 1829: Brit. Ent. 6: 289.

Loc: Abade, Dat: 19 April 2007, Host: weed, Col: Lashkari, 3 ♂♂

Distributed from Western Europe to Russian Far East and Korea. New to Iran.

Tribus Alysini

Genus *Aspilota* FOERSTER, 1862

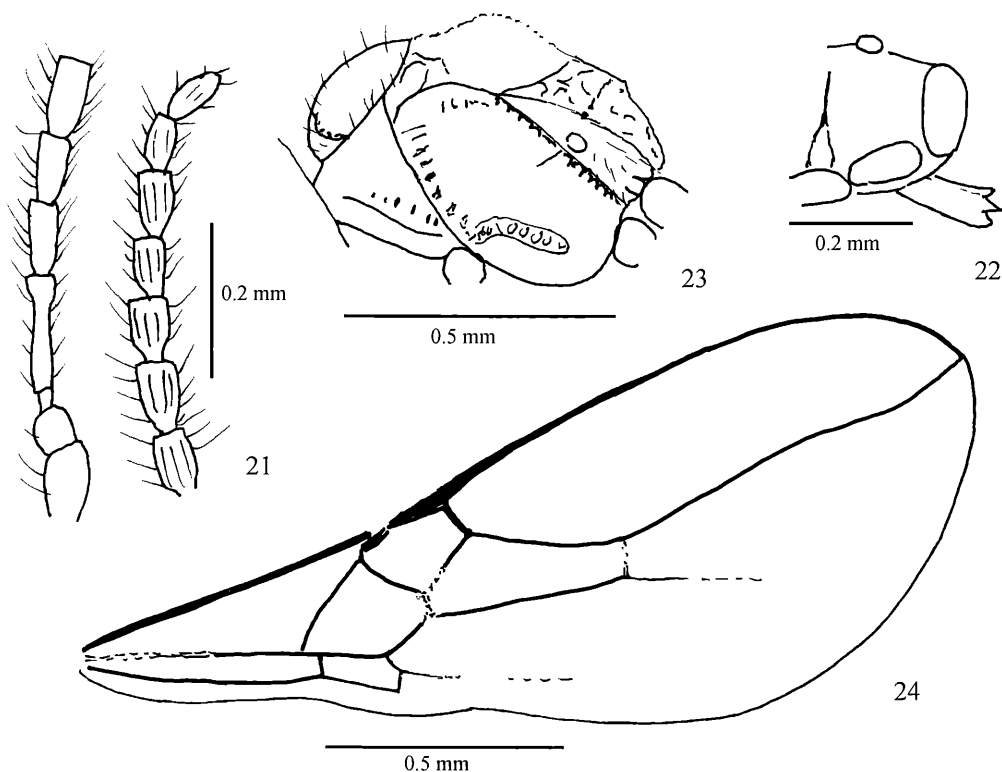
Aspilota FOERSTER, 1862: Verhandlungen des Naturhistorischen Vereins der preußischen Rheinlande und Westphalens 19: 268.

***Aspilota alfalfae* sp.n. (Figs. 21–24)**

Holotype, ♀: Loc: Zarghan, Dat.: 20 May 2008, Host: alfalfa. Col: Lashkari (NHMW).

Description: ♀. – Length of body: 1.8 mm.

Head: 1.8 times as wide as long, 1.75 times as wide as the face, 1.33 times as wide as the mesoscutum, 2.7 times as wide as the T1; eyes about as long as temples, rounded behind eyes and wider behind eyes than across eyes, diameter of antennal sockets as great as the distance from each other, the distance from an eye little greater, occiput slightly excavated, nearly straight. Upper side glabrous and nearly bare, ocelli small, the distance between them greater as the diameter of an ocellus, the fine epicranial suture reaching between the ocelli. Face about a third wider than high, arched, above with a median elevation, which is broadened and flattened below, forming here a triangular area, with long scattered hairs along a central stripe, a few hairs near the eyes, eye points hardly recognizable, eye margins rounded. Clypeus about three times as wide as high, slightly projecting from the face and arched, above with a median elevation, which is broadened and flattened below, forming below a triangular area. Epiclypeal furrow smooth. Paraclypeal area clearly delimited, twice as wide as high, reaching as far as eyes. Mandibles only a little longer than wide, parallel-sided, distal margins of tooth 1 and 2 rounded and of equal width, tooth 2 pointed and little projecting, small incisions between the teeth, outer surface smooth; maxillary palpi not longer than the head is high. Antennae shorter



Figs. 21–24: *Aspilota alfalvae* sp.n.: (21) base and apex of antenna, (22) part of face with mandible, (23) mesosoma, (24) fore wing.

than the body, 16-articulated; F1 nearly 4 times as long as wide, apically wider than the rest, in general smaller than the rest of the antennae, most F about 1.5 times as long as wide, clearly separated from each other, apical hairs longer than the F wide, in lateral view 3 sensilla visible.

Mesosoma: 1.33 times as long as high, upper side curved. Mesoscutum 1.25 times broader than long, equally rounded in front, notauli developed only on the declivity and with traces of crenulation, absent on disc, indicated only by a few hairs without noticeable points, a few hairs on the sides, dorsal fovea absent. Praescutellar fovea divided, smooth, lateral areas as long as broad and rounded behind. Postaxillae striated in medial half. Lateral areas of metascutum relatively wide, smooth, crenulated behind. Propodeum with a short, bifurcated basal carina and an irregular cross carina in anterior half, behind with irregular folds, in front weakly rugose, spiracles small. Anterior furrow of a side of the pronotum with narrow crenulation. Sternaulus crenulated, reaching as far as anterior margin, not reaching as far as middle coxa, entire posterior mesopleural furrow crenulated, presternal furrow and anterior mesopleural furrow crenulated, the latter smooth above. Dorsal furrow of metascutum with notches, ventral furrow smooth and with a small depression, behind a collar with some cross folds. Hind femora 5 times as long as wide.

Wings: st very narrow and not differentiated from the metacarp as in all *Aspilota*, r1 longer than st wide, r arising from base of st by a distance equal to the length of r1, r1 forming a blunt angle with r2, r2 twice as long as cc1, r3 2.5 times as long as r2, only very slightly curved, R reaching tip of wing, Cu2 slightly narrowing distally, nr postfurcal, d 1.25 times as long as nr, nv postfurcal, B closed, np arising from middle of distal side, m prevailing desclerotized, cu3 a short part developed, np developed prevailing only as a fold; r' and cu2' nearly absent, nr' absent.

Metasoma: T1 twice as long as broad, sides slightly converging towards base, smooth, basal carinae reaching nearly hind margin. The T of the apical third folded above. Ovipositor sheaths as long as T1.

Coloration: Head and mesosoma brown, black only upper side of the head, and the lateral lobes of the mesoscutum. T1 brown, the rest of the metasoma dark. Yellow: base of antennae as far as F3 (the rest dark), clypeus, mouth parts, tegulae and the wing venation. Wing membrane hyaline.

♂: unknown.

Distribution: Iran.

Host: Unidentified species on alfalfa.

Etymology: Named after the host plant of the host.

Taxonomic position: The species is a member of the *lobidens*-group according to the proposal of species-groups by FISCHER & SAMIYUDDIN ([2009] 2008). *Aspilota alfalfae* sp.n. is taxonomically nearest to *A. iocosipectus* FISCHER, from which it can be distinguished by several characters.

- 1 Face evenly convex, without a trace of a longitudinal central elevation. Antennae 20-articulated. Fm at least twice as long as wide. Posterior mesopleural furrow crenulated only above. r2 2.5 times as long as cc1. F1 5.5 times as long as wide and of equal width all over. 2.1 mm. Austria: *iocosipectus*, ♀
Face above with a median elevation, which is broadened and flattened below, forming here a triangular area. Antennae with 16 articles, most of the F 1.5 times as long as wide. Entire posterior mesopleural furrow crenulated. r2 twice as long as cc1. F1 4 times as long as wide, on top wider than at base. 1.8 mm. Iran: *alfalfae* sp.n., ♀

Further identified material

Genus *Orthostigma*

Orthostigma RATZEBURG, 1844: Ichneumonon der Forstins. 1: 53.

Orthostigma beyarslani

Orthostigma (Orthostigma) beyarslani FISCHER 1995, Linzer biol. Beitr. 27/2: 681.

Loc: Marvdasht, Dat: 9 May 2008, Host: alfalfa, Col: Lashkari, 2 ♀ ♀.

Distributed in Turkey. New to Iran.

Genus *Synaldis*

Synaldis FOERSTER, 1862: Verh. naturh. Ver. preuß. Rheinlande 19: 273.

Synaldis concolor

Bassus concolor NEES (1812) 1814: Mag. Ges. nat. Fr. Berlin 6: 213.

Loc: Neyriz, Dat: 13 March 2009, Host: wheat, Col: Lashkari, 1 ♀.

Entire Europe to Korea and Russian Sakhalin. New to Iran.

References

- BELOKOBYSKIY S.A. & TOBIAS V.I., 1998: Bestimmungsschlüssel der Insekten des Fernen Ostens von Russland, IV/3, Alysiinae: 162–411 (Russian).
- DOCAVO I., FISCHER M. & TORMOS J., 2001: New species of *Chorebus* (Hymenoptera: Braconidae) from the Iberian Peninsula. – *Entomological News*: 232–240.
- DOCAVO I., TORMOS J. & FISCHER M., 2002: Three new species of *Chorebus* from Spain (Hymenoptera: Braconidae: Alysiinae). – *Florida Entomologist* 85 (1): 208–215.
- DOCAVO ALBERTI I., TORMOS FERRANDO J. & FISCHER M., 2006: Braconidos de España (Hym., Braconidae). Síntesis general de la familia. Subfamilia Alysiinae. – Industrias Gráficas ECIR Villa de Madrid, n.º 60, 46980 Paterna (València), 366 pp.
- FISCHER M. & SAMIYUDDIN A., [2009] 2008: Tiny Indian Alysiinae (Insecta: Hymenoptera: Braconidae) collected by Ahmad Samiuddin. – *Annalen des Naturhistorischen Museums in Wien*, 109B: 131–146.
- FISCHER M., 2001: Genauere Studien an jüngst beschriebenen *Dacnusiini* aus dem Fernen Osten Russlands und weiteren Formen aus der Paläarktis (Mit einem Anhang über Alysiini) (Hymenoptera, Braconidae, Alysiinae). – *Linzer biologische Beiträge* 33/1: 35–82.
- FISCHER M., TORMOS J., PARDO X. & JIMÉNEZ R., 2002: New *Dacnusiini* from the Iberian Peninsula and the Canary Islands (Hymenoptera, Braconidae, Alysiinae). – *Revue Suisse de Zoologie* 109 (4): 715–723.
- FISCHER M., TORMOS J., DOCAVO I. & PARDO X., 2004: A new species of *Antrusa* and three new species of *Chorebus* (Hymenoptera: Braconidae) from the Iberian Peninsula. – *Florida Entomologist* 87 (3): 306–311.
- FISCHER M., TORMOS J., PARDO X. & JIMÉNEZ R., 2004: New species of *Chorebus* from the Canary Islands (Hymenoptera, Braconidae). – *Fragmenta entomologica*, Roma 36 (1): 85–88.
- FOERSTER A., 1862: Synopsis der Familien und Gattungen der Braconen. – *Verhandlungen des Naturhistorischen Vereins der preußischen Rheinlande und Westphalens* 19: 225–288.
- GRIFFITHS G.C.D., 1964: The Alysiinae (Hym. Braconidae) parasites of the Agromyzidae (Diptera). I. General questions of taxonomy, biology and evolution. – *Beiträge zur Entomologie* 14: 823–914.
- GRIFFITHS G.C.D., 1966: The Alysiinae (Hym. Braconidae) parasites of the Agromyzidae (Diptera). II The parasites of *Agromyza* FALLÉN. – *Beiträge zur Entomologie* 16: 551–605.
- GRIFFITHS G.C.D., 1966: The Alysiinae (Hym. Braconidae) parasites of the Agromyzidae (Diptera). III The parasites of *Paraphytomyza* ENDERLEIN, *Phytomyza* HENDEL and *Phytomyza* FALLÉN. – *Beiträge zur Entomologie* 16: 775–951.
- GRIFFITHS G.C.D., 1967: The Alysiinae (Hym. Braconidae) parasites of the Agromyzidae (Diptera). IV The parasites of *Hexomyza* ENDERLEIN, *Melanagromyza* HENDEL, *Ophiomyia* BRASHNIKOV and *Napomyza* WESTWOOD. – *Beiträge zur Entomologie* 17: 653–696.
- GRIFFITHS G.C.D., 1968: The Alysiinae (Hym. Braconidae) parasites of the Agromyzidae

- (Diptera). V. The parasites of *Liriomyza* MIK and certain genera of Phytomyzinae. – Beiträge zur Entomologie 18: 5–62.
- GRIFFITHS G.C.D., 1984: The Alysiinae (Hym. Braconidae) parasites of the Agromyzidae (Diptera). VII. Supplement. – Beiträge zur Entomologie 36: 343–362.
- HALIDAY A.H., 1833: An essay on the classification of the parasitic Hymenoptera of Britain, which correspond with the Ichneumonones minuti of Linnaeus. – Entomological Magazine 1: 259–276.
- NEES AB ESENBECK C.G., (1812) 1814: Ichneumonones adsciti, in genera et familias divisi. – Mag. Ges. Naturf. Freunde Berlin, 5: 3–37; 6: 183–221. – (1813) 1816, 7: 243–277.
- NIXON G.E.J., 1937: British species of *Dacnusa* (Braconidae). – Transactions of the Society for British Entomology 4: 1–88.
- NIXON G.E.J., 1943: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 79: 20–34, 159–168.
- NIXON G.E.J., 1944: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 80: 88–108, 140–151.
- NIXON G.E.J., 1945: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 81: 189–204, 217–229.
- NIXON G.E.J., 1946: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 82: 279–300.
- NIXON G.E.J., 1948: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 84: 207–224.
- NIXON G.E.J., 1949: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 85: 289–298.
- NIXON G.E.J., 1954: A revision of the European *Dacnusi* (Hym., Braconidae, *Dacnusiinae*). – Entomologist's monthly Magazine 90: 257–290.
- RATZBURG J.C.T., 1844: Die Ichneumononen der Forstinsekten in forstlicher und entomologischer Beziehung. – Berlin, Nicolai 1, 224 pp.
- TOBIAS V., 1966: New species of braconids (Hymenoptera, Braconidae) from Turkmenia and adjacent territories. – Akademia Nauk, Trudy Zool. Inst. 37: 111–131 (Russian).
- TOBIAS V., 1986: Keys for identification of the insects of the European USSR, Hymenoptera, Braconidae, Alysiinae. – *Opredelitel' nasekomykh Evropejskoj tshasti SSSR III, Pereg. Alysiinae* 5: 100–231 (Russian).
- TOBIAS V., 1995: Keys to the Fauna of the USSR III, Hymenoptera V – Science Publishers 10 Water St., #310, Lebanon, NH 0376, USA (translation from Russian).
- TORMOS J., PARDO X., JIMÉNEZ R., ASIS J.D. & GAYUBO S.F., 2003: Descriptions of adults, immature stages, and venom apparatus of two new species of *Dacnusi*: *Chorebus pseudoasphodeli* sp.n., parasitic on *Phytomyza chaerophili* Kaltenbach, and *C. pseudoasramenes* sp.n., parasitic on *Cerodontha phragmitophila* Hering (Hymenoptera: Braconidae: Alysiinae; Diptera: Agromyzidae). – European Journal of Entomology: 393–400.
- ZETTERSTEDT J.W., 1838 (1840): *Insecta Lapponica. Sectio secunda Hymenoptera*. Lipsiae, Voss. 1140 pp., Braconidae: 398–407.

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