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NEW AND LITTLE KNOWN SPECIES OF CASEBAERER MOTHS OF THE GENUS *CASIGNETELLA* STRAND, 1928 (LEPIDOPTERA: COLEOPHORIDAE) FROM THE BLACK AND AZOV SEA BASIN AND SOUTH-EASTERN KAZAKHSTAN

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Summary. Two new species are described: *Casignetella spirobassiaphaga* **sp. n.** from South-Eastern Crimea and Azov Sea Region and *Casignetella kariella* **sp. n.** from South-Eastern Crimea and South-Eastern Kazakhstan. *Casignetella goluensis* (Baldizzone, 1994), **comb. n.** is recorded from Russia (Crimea) and Ukraine (Odessa Region) for the first time. Adult and the genitalia of these species are illustrated. Moreover, four species are transferred to the genus *Casignetella* and the following new combinations are proposed: *C. decoratella* (Toll, 1959), **comb. n.**, *C. afrosarda* (Baldizzone et Kaltenbach, 1983), **comb. n.**, *C. kalidii* (Falkovitsh, 1989), **comb. n.**, and *C. immersa* (Falkovitsh, 1989), **comb. n.**

Key words: Lepidoptera, Coleophoridae, *Casignetella*, taxonomy, new species, new combinations, fauna, new record, Russia, Ukraine, Kazakhstan.

Ю. И. Будашкин. Новые и малоизвестные виды молей-чехлоносок рода *Casignetella* Strand, 1928 (Lepidoptera: Coleophoridae) из бассейна Черного и Азовского морей и Юго-Восточного Казахстана // Дальневосточный энтомолог. 2025. N 520. С. 8-16.

Резюме. Из Юго-Восточного Крыма и Приазовья описан новый вид *Casignetella spirobasiaphaga* **sp. n.**, а из Юго-Восточного Крыма и Юго-Восточного Казахстана – *Casignetella kariella* **sp. n.** Впервые для фауны России (Крым) и Украины (Одесская область) указан *Casignetella goluensis* (Baldizzone, 1994), **comb. n.** Приведены иллюстрации имаго и гениталий всех трех видов. Кроме того, четыре вида перенесены в род *Casignetella* и предложены следующие новые комбинации: *C. decoratella* (Toll, 1959), **comb. n.**, *C. afrosarda* (Baldizzone et Kaltenbach, 1983), **comb. n.**, *C. kalidii* (Falkovitsh, 1989) **comb. n.** и *C. immersa* (Falkovitsh, 1989) **comb. n.**

INTRODUCTION

The fauna of the casebaerer moth (Lepidoptera: Coleophoridae) of Crimea and adjacent regions has been intensively studied (Budashkin, 2004, 2006, 2011, 2013, 2016; Budashkin

& Falkovitsh, 2007; Budashkin & Giderashko, 2009; Budashkin & Puzanov, 2011, 2014, 2017, Budashkin & Kvetkov, 2017; Budashkin & Bidzilya, 2018, 2020, 2021). As a result of our ongoing inventories of biodiversity and bionomy of Coleophoridae the new and little known species of the genus *Casignetella* Strand, 1928 are found in the Black and Azov Sea basin, as well as in Kazakhstan.

MATERIAL AND METHODS

The adults were collected on light trap, by evening netting or bread from larvae in laboratory. Male and female genitalia were dissected and prepared using standard methods. Pinned specimens were photographed with an Olympus E-410 dihital camera attached to microscope Olympus SZX12. Slide-mounted genitalia were photographed with a Canon EOS 600D digital camera mounted on Olympus U-CTR30-2 combined with Carl Zeiss microscope. Sets of 10-20 images were taken for each specimen and assembled into deep-focused images using Helicon Focus 6 and edited Adobe Photoshop CS5.

Type and other material examined is deposited in the collection of Zoological Institute of the Russian Academy of Sciences, Sankt-Petersburg, Russia (ZIN), in the collection of Zoological Museum of Kyiv Taras Shevchenko Nacional University, Kyiv, Ukraine, (ZMKU), in the Lepidoptera funds of T.I. Vyazemsky Karadag Scientific Station, Karadag, Feodosia, Crimea, Russia (KSS), and in Research collection of Timo and Kari Nupponen, Espoo, Finland (KN).

TAXONOMY

Casignetella spirobassiaphaga **Budashkin, sp. n.**

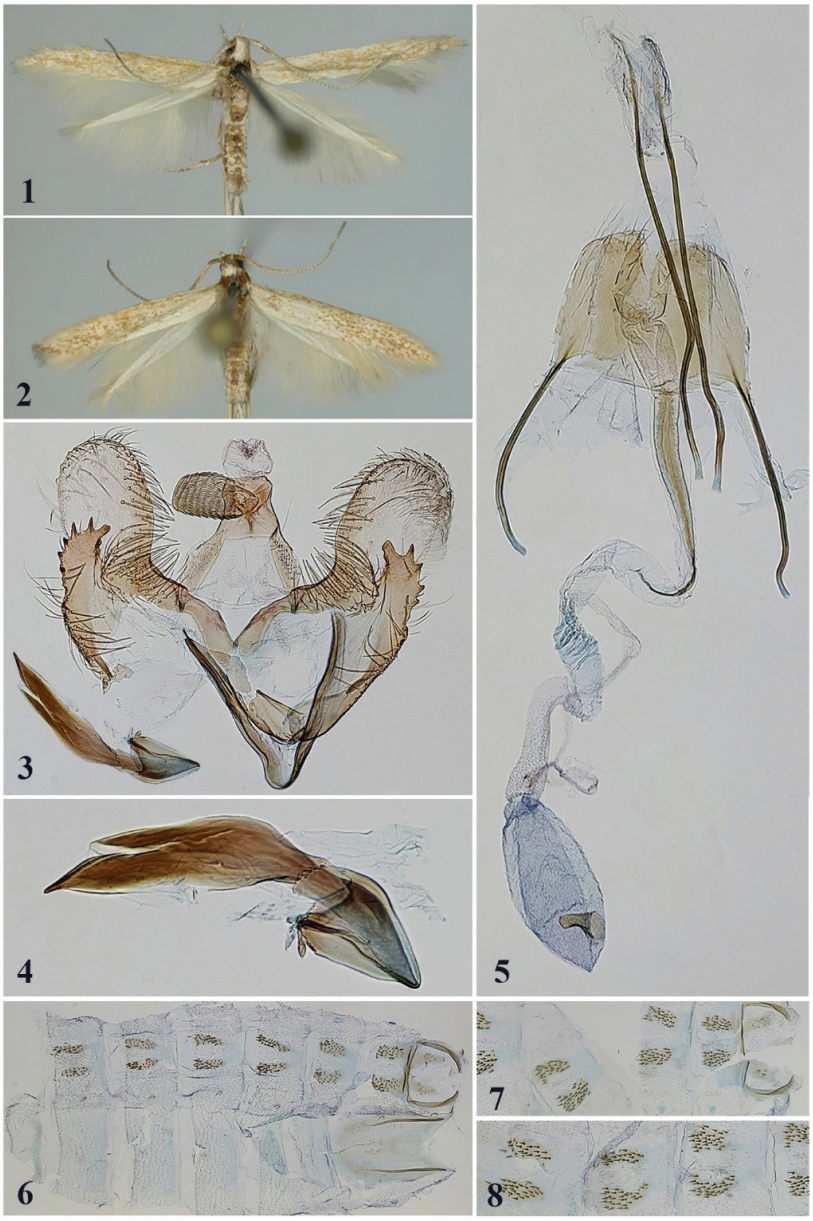
https://zoobank.org/NomenclaturalActs/88A1E939-4ED4-4E0F-A19A-77C56328E68D

Figs 1–8

TYPE MATERIAL. Holotype: ♂, **Russia**: Crimea, Yuzhnoie Prisivashie, Lenino distr., 2.5 km N Lvovo vill., ustie Arabatskoi Strelki, Sivash coast, 45°17′35″ N, 35 °28′,11″ E, sandy beach, ex larvae on *Spirobassia hirsuta* (L.) Frietag & G. Kadereit, 8.VIII 2014 coll. Yu. Budashkin (gen. slide 70/18, O. Bidzilya) (ZIN). Paratypes: same licality, but 11.VIII 2014, 1♂; 13.VIII 2014, 2 ♂; 14.VIII 2014, 3 ♂, 1♀; 15.VIII 2014, 2 ♂, 1♀; 16.VIII 2014, 1♀; 17.VIII 2014, 1♂, 1♀; 18.VIII 2014, 2 ♂, 2 ♀; 19.VIII 2014, 1♀; 21.VIII 2014, 1♂, 1♀; 23.VIII 2014, 4 ♂, 2 ♀ (gen. slide 71/18♀, O. Bidzilya); 25.VIII 2014, 2 ♀; 28.VIII 2014, 2 ♀; 2.IX 2014, 2 ♀ (ZIN, ZMKU, KSS); Khersonskaia oblast, Genichesk distr., Arabatskaia Strelka, vicinity of Shchastlivtsevo vill., 46°01′56″ N, 34°50′08″ E, 7–11.VIII 2014, 1♂, coll. O. Bidzilya (ZMKU).

DESCRIPTION. Imago. Wingspan 11.5–13.1 mm (Figs 1, 2). Sexual dimorphism poorly expressed. Labial palpus middle length nearly straight, upper surface buffy, greish-brown laterally. Segment 3 about 1.2 times as short as segment 2. Scape dirty-white or buffy, without erected scales. Flagellum buffy with indistinct dark rings. Head dirty-white or buffy, tegulae covered mainly with buffy scales. Thorax buffy without median longiductinal stripe. Forewing covered mixed up buffy and dirty-white scales. Cilia yellowish-grey/. Hindwing light grey with a yellowish-grey cilia. Spinous plates on abdominal tergites medium long and wide (Figs 6–8).

Male genitalia (Figs 3, 4). Gnathos of medium width, sub-rectangular with rounded corners. Tegumen rather narrow, medium heigth. Transtilla branches connected medially, relatively wide, band-shaped, slightly broadened apically. Saccus relativelly broad and short,



Figs 1–8. *Casignetella spirobassiaphaga* **sp. n.** 1 – imago, male, holotype, dorsal view; 2 – same, paratype, female; 3 – male genitalia with phallotheca separated, holotype (gen. slide 70/18, O. Bidzilya); 4 – same, phallotheca enlarged; 5 – female genitalia (gen. slide 71/18, O. Bidzilya); 6 – abdomen, male; 7 – female tergites I–IV; 8 – female tergites IV–VII.

apex rounded. Base of valva relatively narrow. Cucullus of medium length and width. Sacculus strongly sclerotized, in the form of a rather wide upwardly curved blade with large tooth processes along a distal and upper edges. Phallotheca rods short and thick, strongly fused each other except for distal half. The left rod is approximately 1/6 length of phallotheca, longer than the right rod and apically with coracoid outgrowth. Cornuti absent.

Female genitalia (Fig. 5). Ovipositor relatively short. Papillae analis short, without bristles, rounded apically, membranous. Both pair of apophyses of medium length and width, apophyses posteriors twice as long as apophyses anteriores. Sternum VIII relatively small, its lateral parts rounded, posterior lobes short and relatively broad, covered with relatively rare and long bristles. Ostium of medium size, cup-shaped, opens in the center of the sternum VIII. Antrum weakly sclerotized, more or less cylindrical, slightly curved and narrowed towards ductus bursae. Ductus bursa of moderate length and width, with rather short spinous patch with central bent that is nearly three times shorter than spinous patch and slightly extends beyond its top. Bursa copulatrix of medium in size, membranous, narrowly egg-shaped. Signa small, basal plate narrow, terminal process short, relatively broad.

DIAGNOSIS. The new species is very similar to the recently described also from Crimea *Casignetella suaediphaga* Budashkin, 2016 (Budashkin, 2016). Externally a new species well differs from *C. suaediphaga* by the presence ocher tones in the forewing. In the male genitalia *C. spirobassiaphaga* sp. n. unlike *C. suaediphaga*, has narrower transtilla branches, completely different phallotheca rods and, especially, has no cornuti. The female genitalia *C. spirobassiaphaga* sp. n. differ from those of *C. suaediphaga* in the thicker and longer apophyses posteriors, the much shorter sternum VIII (with rounded rather than straight lateral edges), the smaller ostium, the presence a cylindrical antrum, the presence of spinous patch and central bent of the ductus bursa and in much longer signa.

CASE OF MATURE LARVA. Length 8–9 mm, broad, silky, tubular, trivalved, grey or, occasionally, grayish-brown, almost entirely covered with small seashell particles, longitudinal stripes poorly expressed; the mouth of the cap is at an angle of 25–45 degrees.

BIONOMY. *C. spirobassiaphaga* sp. n. is a univoltine species with adult flying during the late-summer period (August – early September). The larvae host plant of the new species is *Spirobassia hirsuta* (L.) Frietag & G. Kadereit. The larva feeds on the fruits of the host plant until September – November inclusive. A mature larva overwinters burrowing into soil. The habitats of the new species are seashell beaches of Sivash literally in a few meters from the edge of the water. There is no total plant cover in these very peculiar biotopes. The sparsely vegetation is represented by separately growing individuals of *Spirobassia hirsuta*, *Suaeda prostrata* (Pall.), *S. acuminata* (C. A. Mey) Moq., *Salsola tragus* L. and some other plants.

DISTRIBUTION. The new species is known from the type localities in the South-Eastern Crimea and Azov Sea Region.

ETYMOLOGY. The new species is named by the generic name of its larvae host plant.

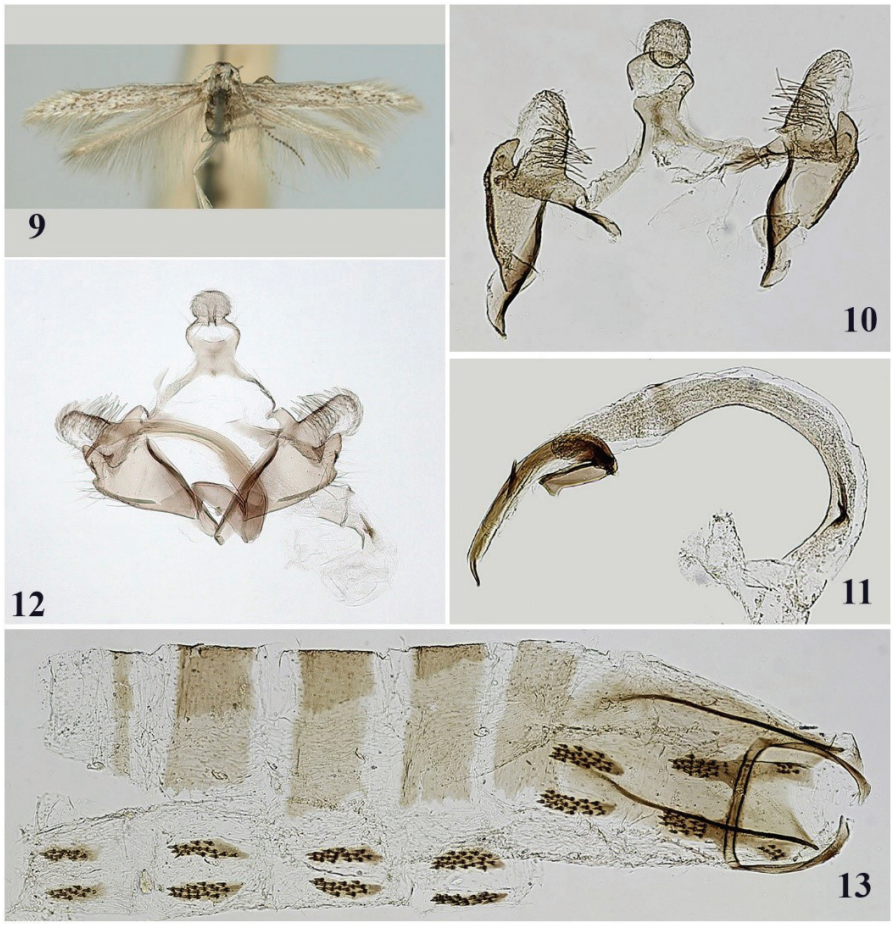
***Casignetella kariella* Budashkin, sp. n.**

https://zoobank.org/NomenclaturalActs/D7431716-17B0-4CA8-BCD7-DF1545A3CDB8

Figs 9–13

TYPE MATERIAL. Holotype: ♂, **Russia**: Crimea, vicinity of Ordzhonikidze, Dvuyakornaya Bay, 44º58'48"N, 35º22'12"E, saline area, 10.V 2006, coll. Yu. Budashkin (gen slide 76/18, O. Bidzilya) (ZIN). Paratype: ♂, **Kazakhstan**: Ketmen Mts, Rahat Kuduk, 43º37'52"N, 79º55'50"E, h=650 m, 2.VI 2014, coll. K. Nupponen & R. Haverinen (gen slide GP 7358 J. Tabell) (KN).

DESCRIPTION. Imago. Wingspan 7.9 mm (Fig. 9). Labial palpus short and thick, nealy straight, weakly up-curved, light grey on upper surface, grey mixed brown laterally. Segment 2 without terminal brush, sub-equal in length with segment 3. Scape light grey, covered with smooth scales including the anterior side. Flagellum dirty-white with well developed dark grey rings. Head light grey. Tegulae light grey. Forewing light grey with grey areas in the proximal part of the wing and with numerous dark grey scales. Cilia grey with numerous dirty-white separate scales. Hindwing grey. Cilia grey with separate dirty-white scales. Spinous plates on abdominal tergites relatively narrow (Fig. 13).



Figs 9–13. *Casignetella kariella* **sp. n.**, male. 9 – imago, holotype, dorsal view; 10 – genitalia, holotype, phallotheca separated; 11 – holotype, phallotheca; 12 – genitalia, paratype; 13 – holotype, abdomen.

Male genitalia (Figs 10–12). Gnathos rounded. Tegumen short, broadly triangular at base, constricted medially. Transtilla branches medially connected, broadened in middle, band-shaped. Valva relatively narrow, cucullus short and narrow, rounded apically. Sacculus short,

well sclerotized, in the form of short distally narrowed, but not pointed lobe with small rounded outgrowth in the middle at the base of its tapering part. Pfallotheca rods moderately short, narrow, fused all over. Apex of phallotheca with a rather long downward curved more or less coracoid process. Rather thick and long, straight spine-shaped apically rounded process on the mid length of the phallotheca on its left side. Cornutus in form of the rather tick spike of medium length on relatively large basal plate.

Female unknown.

DIAGNOSIS. New species belongs to *decoratella* species group of the genus *Casignetella,* which also includes four other species: *C. decoratella* (Toll, 1959), **comb. n.** (Iran), *C. afrosarda* (Baldizzone et Kaltenbach, 1983), **comb. n.** (Spain, France, Sardinia, North Africa), *C. kalidii* (Falkovitsh, 1989), **comb. n.** (Turkmenistan) and *C. immersa* (Falkovitsh, 1989), **comb. n.** (Turkmenistan). New species differs from *C. decoratella* by the considerably smaller size and from other species of this group by the structure of the male genitalia. Unlike *C. afrosarda*, *C. kalidii* and *C. immersa* in the male genitalia of the new species the phallotheca rods fused all over and have completely different weapon of spike and tooth-like outgrowth. The new species has the narrowest among all three related species sacculus. In addition the new species differs from *C. afrosarda* and from *C. kalidii* by much more shorter cornutus.

BIONOMY. Holotype was collected by netting over the vegetation in the evening in the saline marshes.

DISTRIBUTION. South-Eastern Crimea, South-Eastern Kazakhstan.

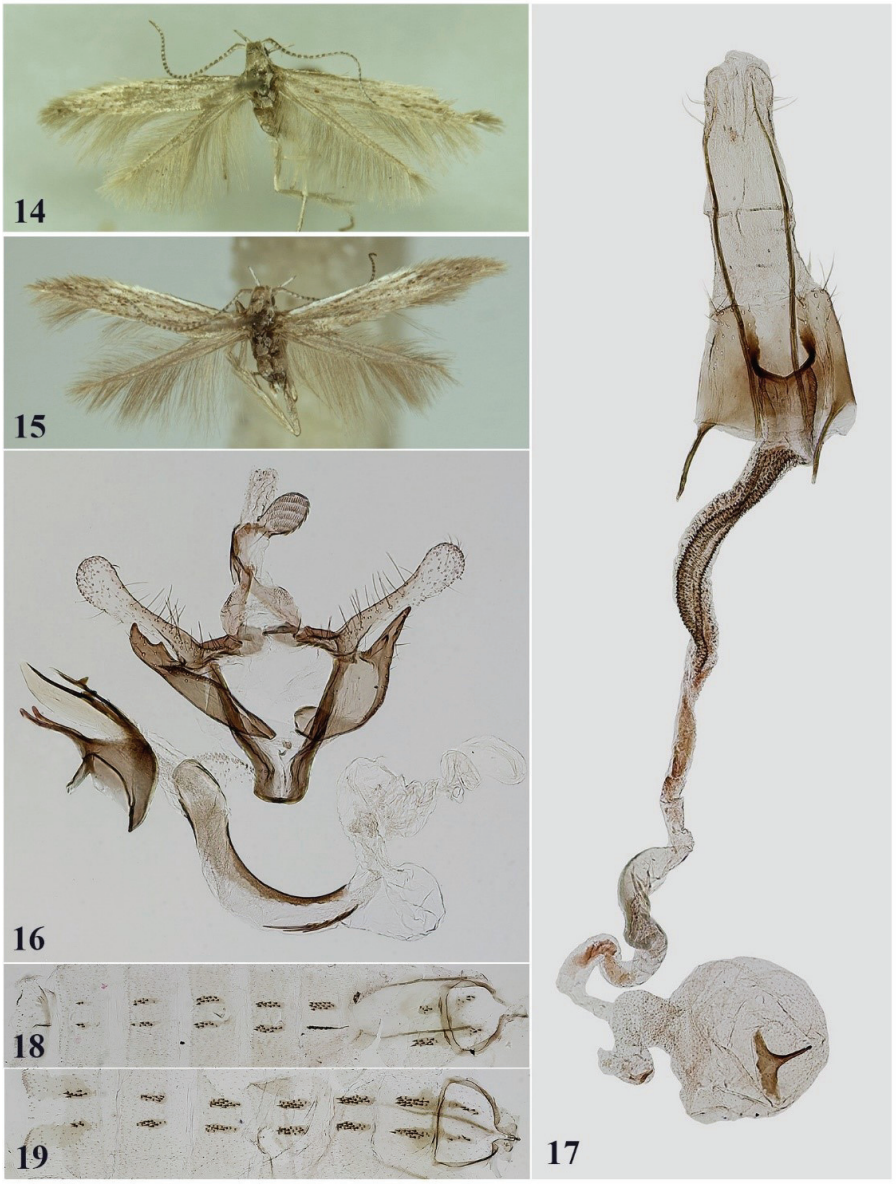
ETYMOLOGY. The new species is named in the honor of Kari Nupponen, wich collected this species in South-Eastern Kazakhstan.

***Casignetella goluensis* (Baldizzone, 1994), comb. n.**
Figs14–19

MATERIAL EXAMINED. **Russia**: Crimea, Karadag, 21.VI 1980, 1 ♀, coll. S. Reznik (ZIN); Karadag, biostancia, on light, 25.V 1985, 11.VI 1986, 1.VIII 1988, 18.IX 1988, 22–29.VIII 1989, 5 ♂, 3 ♀, coll. Yu. Budashkin (gen. slides 42/20♂, 43/20♀, 45/20♂, O. Bidzilya) (ZIN, ZMKU, KSS). **Ukraine**: Odessa Region, Ivanovskii District, 5 km NW Severinovka, on light, 08.VI 2015, 1 ♂, coll. O. Bidzilya (gen. slide 14/16 O. Bidzilya) (ZMKU).

DESCRIPTION. Imago. Wingspan 8.0–10.0 mm (Figs 14, 15). Labial palpus moderately long, pale, segment 3 the same length and about same width with segment 2, straight, acute, brown, upper surface dirty-white; segment 2 straigt, gradually broadened distally, outer surface brown except for white narrow streak along lower margin, apex with short triangular brush of brown scales under base of segment 3, inner surface brown with white pattern along upper and lower margins. Scape light grey mixed light white, pecten a few short hair-like scales. Flagellum in male slightly thicker than this in female, dirty-white with distinct light brown ringlets. Head and tegulae grey to brown. Forewing dirty-white to light grey mottled with light brown along veins and in apical ¼ and randomly scattered black-tipped scales. Cilia grey with numerous dirty-white scattered scales. Hindwing and cilia grey. Spinous plates on abdominal tergites relatively narrow and short (Figs 18, 19).

Male genitalia (Fig. 16). Gnathos egg-shaped, of middle size. Tegumen moderately long and wide. Transtilla branches medially connected, in the form of more or less rhomboid broad blades. Valva relatively narrow, cucullus long and moderately wide, rounded apically. Sacculus relatively long, well sclerotized, in the form of a big ovate blade with stout curved pointed dorsocaudal process, with a large tooth on dorsal side, about half as long as sacculus. Juxta with two long and narrow dorsal processes and one wider ventral process. Phallotheca rods moderately short, narrow, with one triangular tooth approximately in the middle of length. Cornuti in the form of five fused rather long, slightly curved spines without basal plate.



Figs 14–19. *Casignetella goluensis*. 14 – imago, male from Karadag; 15 – imago, male from Severinovka ; 16 – male genitalia, Karadag (gen. slide 42/20, O. Bidzilya); 17 – female genitalia, Karadag (gen. slide 43/20, O. Bidzilya); 18 – abdominal tergites of male from Karadag (gen. slide 42/20, O. Bidzilya); 19 – same, female from Karadag (gen slide 43/20, O. Bidzilya).

Female genitalia (Fig. 19). Ovipositor relatively short. Papillae analis of medium size, covered with rare short bristles, rounded apically, membranous. Both pairs of apophyses moderately thick, apophyses posteriors relatively long, almost four and half times as long as the ltngth of apophyses anteriores. Apophyses anteriores distinctly shorter than segment VIII and approximately as long as antrum. Sternum VIII about as longer as broad, its lateral parts straight, posterior lobes moderately long and narrow, covered with relatively rare and moderately long bristles. Ostium large, U-shaped with distinct anteromedial corners, opens in the center of sternum VIII. Antrum well sclerotized, strongly edged, wide, more or less goblet, slightly curved and weakly narrowed towards ductus bursa. Ductus bursa of moderate width, long, with a rather short spinous patch which reaches nearly to half length of ductus bursae. Bursa copulatrix comparatively small, membranous, rounded. Signa moderately large, basal plate narrow, elongated, with uneven anterior margin, terminal process rather long, acute, very narrow with weakly curved top.

DIAGNOSIS. *Casignetella goluensis* is similar to *C. artemisicolella* (Bruand, [1855]), from which it well differs externally in smaller size. Unlike *C. artemisicolella* in the male genitalia of *C. goluensis* the gnathos is egg-shaped (parallel-sided in *C. artemisicolella*), transtilla branches are much wider and rounded, cucullus is distinctly longer, sacculus is shorter, extends to ½ rather than to ¾ length of cucullus, whith distinct tooth on dorsal side and cucullus terminally claw-shaped, juxta bears two long and narrow dorsal and one wider ventral processes, cornuti is noticeably longer and without basal plate. The female genitalia of new species are characterized by papillae analis which are distinctly shorter than in *C. artemisicolella*, U-shaped with distinct anterolateral corners rather than rounded anteriorely ostium, and antrum weakly narrowed towards ductus bursae (distinctly inflated in *C. artemisicolella*) and larger signa.

DISTRIBUTION. Turkey (Baldizzone, 1994). Our records are a new for Europe (Russia and Ukraine).

ACKNOWLEDGEMENTS

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