*Arthropoda Selecta 18(1–2):* 21–33 

# A survey of *Lathys* Simon, 1884, from Crimea with resurrection of *Scotolathys* Simon, 1884 (Aranei: Dictynidae)

# Обзор пауков рода *Lathys* Simon, 1884 из Крыма с восстановлением рода *Scotolathys* Simon, 1884 (Aranei: Dictynidae)

**Yuri M. Marusik[1,2], Mykola M. Kovblyuk[3], Anton A. Nadolny[3]**
**Ю.М. Марусик[1,2], М.М. Ковблюк[3], А.А. Надольный[3]**

[1]Institute of Biological Problems of the North, RAS, Portovaya Str. 18, Magadan 685000 Russia. E-mail: yurmar@mail.ru
[1]Институт биологически проблем Севера ДВО РАН, Портовая 18, Магадан 685000 Росиия.
[2]Zoological Museum, University of Turku, FI-20014 Turku, Finland.
[3]Zoology Department, V.I. Vernadsky Taurida National University, Yaltinskaya Str. 4, Simferopol 95007 Ukraine. E-mail: kovblyuk@mail.ru
[3]Кафедра зоологии, Таврический национальный университет им. В.И. Вернадского, ул. Ялтинская 4, Симферополь 95007 Украина.

KEY WORDS: spiders, *Lathys, Scotolathys*, Ukraine, Mediterranean, Crimea, revalidation.
КЛЮЧЕВЫЕ СЛОВА: пауки, *Lathys, Scotolathys*, Украина, Средиземноморье, Крым, ревалидизация.

ABSTRACT. Four species of *Lathys* have been found on the Crimean Peninsula: *L. humilis* (Blackwall, 1855); *L. stigmatisata* (Menge, 1869), *L. simplex* (Simon, 1884) and *Lathys* sp. (♀ only) belonging to the *L. stigmatisata*-group. All species are illustrated. The male of *L. simplex* (Simon, 1884) is described for the first time. The discovery of the male of the latter species permitted revalidation of *Scotolathys* Simon, 1884 (type species *S. simplex* Simon, 1884), earlier thought to be a synonym of *Lathys*. New diagnoses for *Lathys* and *Scotolathys* are provided.

РЕЗЮМЕ. Установлено, что фауна Крыма включает 4 вида рода *Lathys*: *L. himilis* (Blackwall, 1855); *L. stigmatisata* (Menge, 1869), *L. simplex* (Simon, 1884) и *Lathys* sp. (♀ только) относящийся к группе видов *L. stigmatisata*. Приведены рисунки для всех видов. Впервые описаны самцы *L. simplex* (Simon, 1884). Обнаружение последних позволило восстановить валидность рода *Scotolathys* Simon, 1884 (типовой вид *S. simplex* Simon, 1884), ранее считавшегося младшим синонимом *Lathys*. Даны новые диагнозы родов *Lathys* and *Scotolathys*.

## Introduction

*Lathys* is relatively large genus of dictynids spiders with 38 species known exclusively from the Holarctic [Platnick, 2009]. Three species of this genus were reported from the Crimea: *Lathys humilis* (Blackwall, 1855), *L. stigmatisata* (Menge, 1869) and *L. simplex* (Simon, 1884) [Kovblyuk, 2004; Kovblyuk et al., 2008a,b]. The first two species are relatively well studied, while the latter, *L. simplex*, was previously known by females only. Its epigyne was illustrated only once [Wiehle, 1960]. During our study of Crimean Dictynidae we found two males of *L. simplex.* Investigation of the male palp of this species reveals significant differences with that in *L. humilis,* type species of the genus. The goals of our paper are to provide the first description of the male of *L. simplex,* present a detailed study of the copulatory organs of all Crimean *Lathys* species, and to resurrect the genus name *Scotolathys*.

## Material and methods

Specimens were photographed using an Olympus SZX12 stereomicroscope and Olympus Camedia C-5050 camera. The images have been montaged using "CombineZM" image stacking software. SEM-microphotographs were made with a JEOL JSM-5200 in the Zoological Museum, University of Turku. Scales in some figures are missing because of lack of special equipment and computer programs. All measurements are given in millimeters.

Material treated herein will be deposited in the Zoology Department, Taurida National University, Simferopol (TNU), Zoological Museum of Moscow State University (ZMMU) and Zoological Museum of University of Turku (ZMUT).

The following abbreviations have been used for morphological terms: *Ca* — apical part of conductor; *Cb* — base of conductor; *Cp* — coiled portion of insemination duct; *Cs* — spine of *Ct*; *Ct* — terminal part of conductor; *Ctt* — tip of *Ct*; *Dt* — dorsal tibial apophysis; *Eo* — epigynal opening; *Fo* — fovea; *Pa* — patellar apophysis; *Po* — patellar outgrowth; *Re* — receptaculum; *Rt* — retrolateral (intermediate) tibial apophysis; *Sc* — spine-like outgrowth of cymbium; *Sl* — loop of seminal duct; *Sp* — leg spine; *Te* — tegulum; *Tl* — terminal loop; *Vp* — vertical portion of insemination duct; *Vt* — ventral tibial apophysis.

Taxonomic survey

*Lathys* Simon, 1884

*Lethia* Menge, 1869: 249.

*Lathys* Simon, 1884: 321, nomen novum pro *Lethia* Menge, 1869, preoccupied by *Lethia* Hubner, 1816 in Lepidoptera.

Type species: *Lethia varia* Menge, 1869 (from Prussia) considered as a junior synonym of *Ciniflo humilis* Blackwall, 1855 (from England). Type specimens of *L. varia* seem lost. It is not certain whether *L. varia* and *L. humilis* are synonyms. *L. varia* could be a senior synonym of *L. nielseni* (Schenkel, 1932).

*Lathys* is a replacement name for the preoccupied *Lethia. Lathys* and *Scotolathys* were described in the same publication and on the same page. *Scotolathys* was diagnosed only by the presence of 6 eyes and their sizes.

Six generic names have been, at one time or another, considered as junior synonyms of *Lathys*: *Analtella* Denis, 1947, *Auximus* Simon, 1892, *Dictyolathys* Banks, 1900, *Neophanes* Marx, 1891, *Prodalia* Marx, 1891 and *Scotolathys* Simon, 1884.

*Lathys humilis* (Blackwall, 1855)
Figs 5–6, 11–17, 21–24, 38, 43, 45–47, 54–61, 65.

*L. h.* Thaler, 1981: 127, f. 77–79, 85–86 (♂♀).
*L. h.* Roberts, 1985: 52, f. 15d (♂♀).
*L. h.* Roberts, 1987: 170, f. 88b (♂♀).
*L. h.* Roberts, 1995: 87, f. (♂♀).
*L. h.* Roberts, 1998: 89, f. (♂♀).
*L. h.* Almquist, 2006: 319, f. 280a–h (♂♀).

For a complete list of taxonomic references see Platnick [2009], although some of these refer to the sibling species *L. nielseni*.

FAUNISTIC RECORDS FROM CRIMEA. Charitonov, 1936; Charitonov, 1937; Bukowski, 1936, 1940; Tyshchenko, 1971; Mikhailov, 1997, 1998; Kovblyuk, 2004a; Kovblyuk et al., 2008a.

MATERIAL. UKRAINE, CRIMEA. Simferopol Distr.: 1 ♀ (TNU–2180/5), Chatyr-Dagh Mt., 23.04.2000 (D.S. Letova); Feodosya Distr.: 6 ♂♂, 14 ♀♀ (TNU–2603/6; 2605/6; 2607/2), Karadagh Nature Reserve, Kara-Agach Mt., *Juniperus excelsa,* sweeping, 14–16.05.2008 (A.A. Nadolny); Yalta Distr.: 4 ♂♂, 6 ♀ (TNU–2340/14; 2343/18; 2349/26), Martyan Cape Reserve, 30.04.–13.05.2007 (M.M. Kovblyuk); 3 ♂♂, 3 ♀♀ (YMM), same locality, sweeping on juniper, 10.04.1999 (V.P. Kornilov & M.M. Kovblyuk).

COMPARATIVE MATERIAL. IRAN: 2 ♀♀ (ZMMU), Mazandaran Prov., Nashtarood-Khoshkadaran, 51.033°E 36.750°N, 9–10.06.2000 (Yu.M. Marusik). AZERBAIJAN: 2 ♂♂ 31 ♀♀ (ZMMU), SE Azerbaijan, Lenkoran Dist., env. of Aurora Vill., 38°40”N 48°52”E, 23–28.04.2001 (Yu.M. Marusik); 1 ♂ (ZMMU), same locality, 21–29.05.2003 (Yu.M. Marusik); 2 ♀♀ (ZMMU), SE Azerbaijan, Lenkoran Dist., Hyrcan Reserve, env. of Apo Vill., 38?38”N 48?47”E, 28.05.2003 (Yu.M. Marusik); 1 ♂ (ZMMU), SE Azerbaijan, ca 10 km W of Astara Vil, Isti-Su, 38°27”N 48°47”E, on the border with Iran, 25.04.2001 (Yu.M. Marusik).

DESCRIPTION. Measurements. Male: total length 1.7; carapace 0.9 long, 0.7 wide, 0.4 high; chelicerae 0.5 long.

Length of leg segments in ♂:

| | femur | patella | tibia | metatarsus | tarsus | total |
|---|---|---|---|---|---|---|
| I | 0.8 | 0.3 | 0.7 | 0.6 | 0.4 | 2.8 |
| II | 0.6 | 0.3 | 0.5 | 0.5 | 0.3 | 2.2 |
| III | 0.5 | 0.2 | 0.4 | 0.4 | 0.2 | 1.7 |
| IV | 0.6 | 0.2 | 0.5 | 0.5 | 0.2 | 2.0 |

VARIATION. Male (n=2) total length 1.6–1.7; carapace 0.8–0.9 long, 0.6–0.7 wide; 0.4 high.

Female: total length 1.9; carapace 0.8 long, 0.6 wide, 0.4 high; chelicerae 0.4 long.

Length of leg segments in ♀:

| | femur | patella | tibia | metatarsus | tarsus | total |
|---|---|---|---|---|---|---|
| I | 0.7 | 0.2 | 0.6 | 0.5 | 0.3 | 2.3 |
| II | 0.6 | 0.2 | 0.4 | 0.4 | 0.2 | 1.8 |
| III | 0.5 | 0.2 | 0.3 | 0.4 | 0.2 | 1.6 |
| IV | 0.6 | 0.2 | 0.4 | 0.5 | 0.2 | 1.9 |

VARIATION. Female (n=3) total length 1.9; carapace 0.8–0.9 long; 0.6 wide, 0.4 high.

COPULATORY ORGANS. Male palp as in Figs 21–24, 38, 43, 45–47, with patellar apophysis, tibia with three apophyses (retrolateral dorsal (*Dt*), retroventral (*Vt*) and retrolateral (or intermediate) (*Rt*) that grip (lock) the terminal part of conductor. Conductor very long with two arms, the upper arm coiled, and the lower part spine like slightly twisted.

Epigyne as in Figs 54–57, 65, with one shallow fovea, and copulatory opening in anteriolateral part. Receptacula droplet-shaped. Insemination ducts short, making one loop.

DIAGNOSIS. Differs from other Crimean species notably by the abdominal pattern (of white guanine spots) (Figs 5–6), lack of spiraled tip of conductor and presence of patellar apophysis in male palp, and large shallow epigynal fovea. This species is most closely related to *L. nielseni* (Schenkel, 1932) known from middle and northern Europe. Differences between these two sibling species were well demonstrated by Thaler [1981].

COMMENTS. This species belongs to the *Lathys humilis*-species group which encompasses six species: *L. humilis*; *L. alticola* (Denis, 1954); *L. annulata* Bosenberg & Strand, 1906; *L. brevitibialis* Denis, 1956; *L. nielseni* (Schenkel, 1932); and *L. sexpustulata* (Simon, 1878) [Lehtinen, 1967; Thaler, 1981; Ono, 2003].

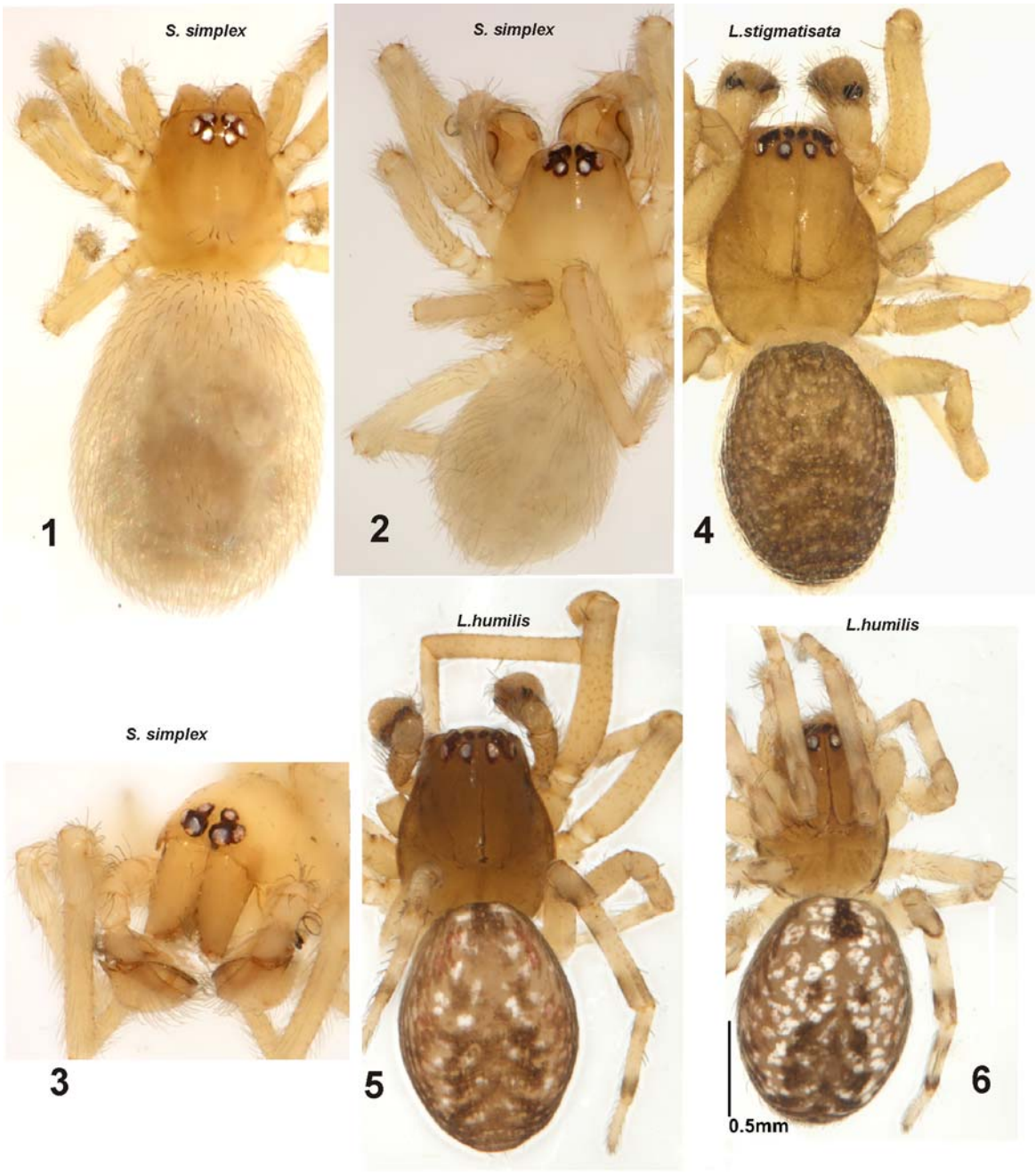
DISTRIBUTION. According to Platnick’s catalogue [2009] this species has a Palaearctic (=trans-Palaearctic) distribution with several records from China (Taiwan, Anhui, Shanxi and Gansu). However, judging from the figures of the Chinese specimens, all records of *L. humilis* refer to another species. According to our studies of Palaearctic *Lathys, L. humilis* seems distributed from western Europe to Caucasus and Mazandaran, northern Iran (see “Comparative material”).

HABITATS. Sub-mediterranean vegetation on south coast and mountainous parts of Crimea: *Arbutus andrachne, Juniperus excelsa, J. oxycedrus, Quercus pubescens, Pistacia mutica, Coronilla emeroides, Cistus taurica, Ruscus ponticus*.

PHENOLOGY. ♂♀ — IV–V.

*Lathys stigmatisata* (Menge, 1869)
Figs 4, 29–32, 44, 51–53.

*L. s.* Wiehle, 1953: 105, f. 228–229b (♂♀).




Figs 1–6. Habitus and pattern of *Scotolathys simplex* (1–3), *Lathys stigmatisata* (4) and *L. humilis* (5–6). 1–2, 4–6 — dorsal; 3 — fronto-lateral; 1, 6 — female; 2–5 — male.

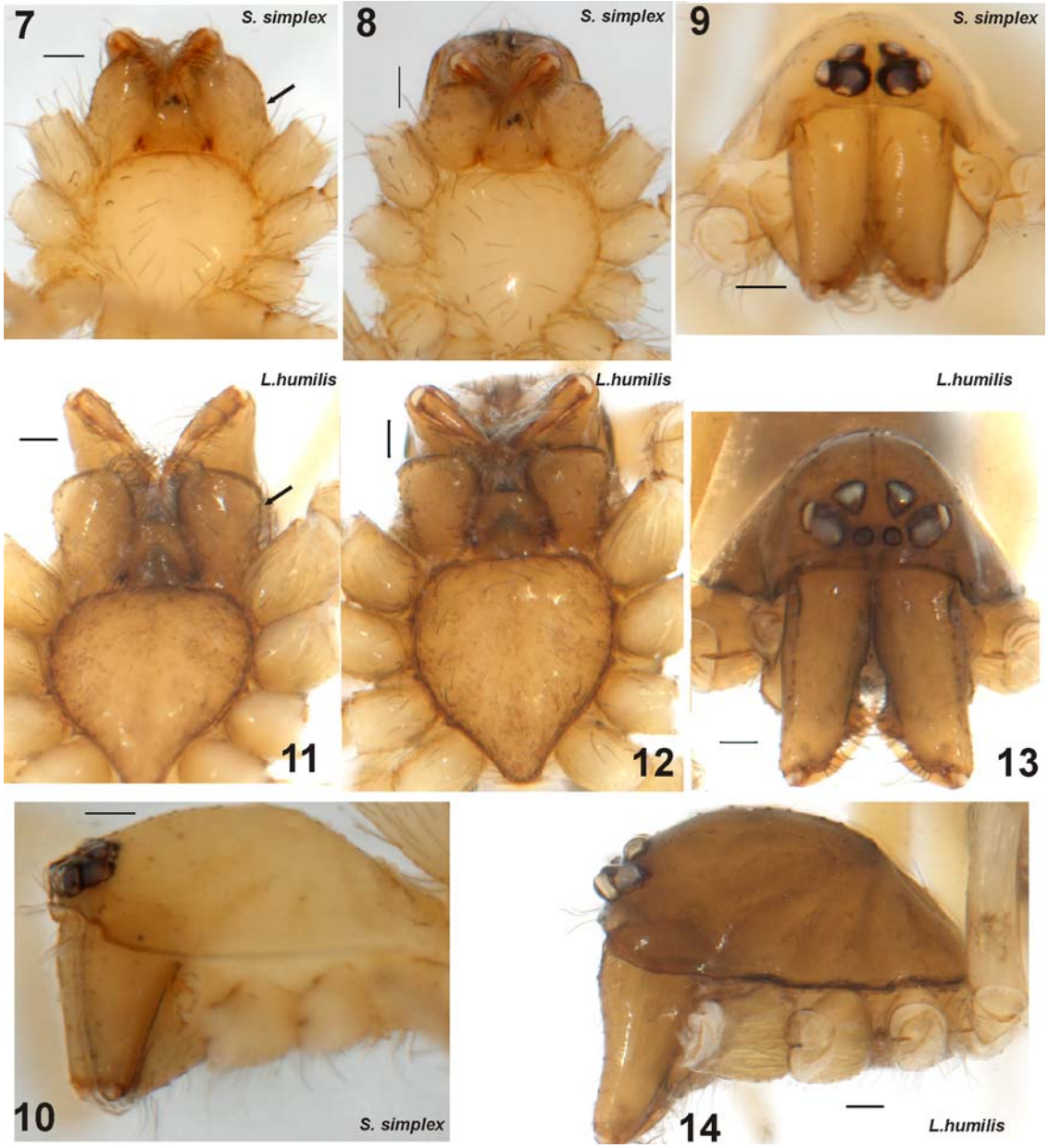
Рис. 1–6. Габитус и рисунок *Scotolathys simplex* (1–3), *Lathys stigmatisata* (4) и *L. humilis* (5–6). 1–2, 4–6 — сверху; 3 — спереди-сбоку; 1, 6 — самка; 2–5 — самец.

*L. s.* Roberts, 1985: 52, f. 15e (♂♀).
*L. puta* Roberts, 1995: 88, f. (♂♀).
*L. puta* Roberts, 1998: 90, f. (♂♀)

For a complete list of taxonomic references see Platnick (2009), although many of them refer to sibling species.

FAUNISTIC RECORDS FROM CRIMEA. Kovblyuk, 2004a — as *Argenna subnigra* (O. Pickard-Cambridge, 1861); Kovblyuk, 2004b — as *Lathys puta* (O. Pickard-Cambridge, 1863); Kovblyuk et al., 2008b.

MATERIAL EXAMINED. UKRAINE, CRIMEA. Saky Distr.: 35 ♂♂, 2 ♀♀ (YMM–1592/6, 1593/5, 1594/6, 1601/9, 1615/12, 1616/4, 1617/2, 1618/12, 1625, 1652/13, 1653/3, 1676/10, 1677/12, 1699/7, 1700/3), Pribrezhnaya railway station, pitfalls, 6.04.–9.08.2000 (M.M. Kovblyuk); Simferopol Distr.: 1 ♂ (YMM-x/20), Bayrakly Mt. (519 m a.s.l.), steppe, pitfalls, 1–14.05.2000 (M.M. Kovblyuk); 6 ♂♂ (YMM–961/15, 962/20, 963/22), Fersmanovo Vil., steppe, pitfalls, 4.04.–14.05.2000 (M.M. Kovblyuk); 14 ♂♂, 1 ♀ (TNU–1833/18, YMM–1834/19, 1843/10, 1844/6, 1845/7, 1846/15, 1854/5), Skvortsovo Vil., pitfalls, 12.04.–




Figs 7–14. Cephalothorax of *Scotolathys simplex* (7–10) and *Lathys humilis* (11–14). 7, 11 — ventro-caudal; 8, 12 — ventral; 9, 13 — frontal; 10, 14 — lateral. Scale = 0.1 mm.

Рис. 7–14. Головогрудь of *Scotolathys simplex* (7–10) и *Lathys humilis* (11–14). 7, 11 — сзади-снизу; 8, 12 — снизу; 9, 13 — спереди; 10, 14 — сбоку. Масштаб 0,1 мм.

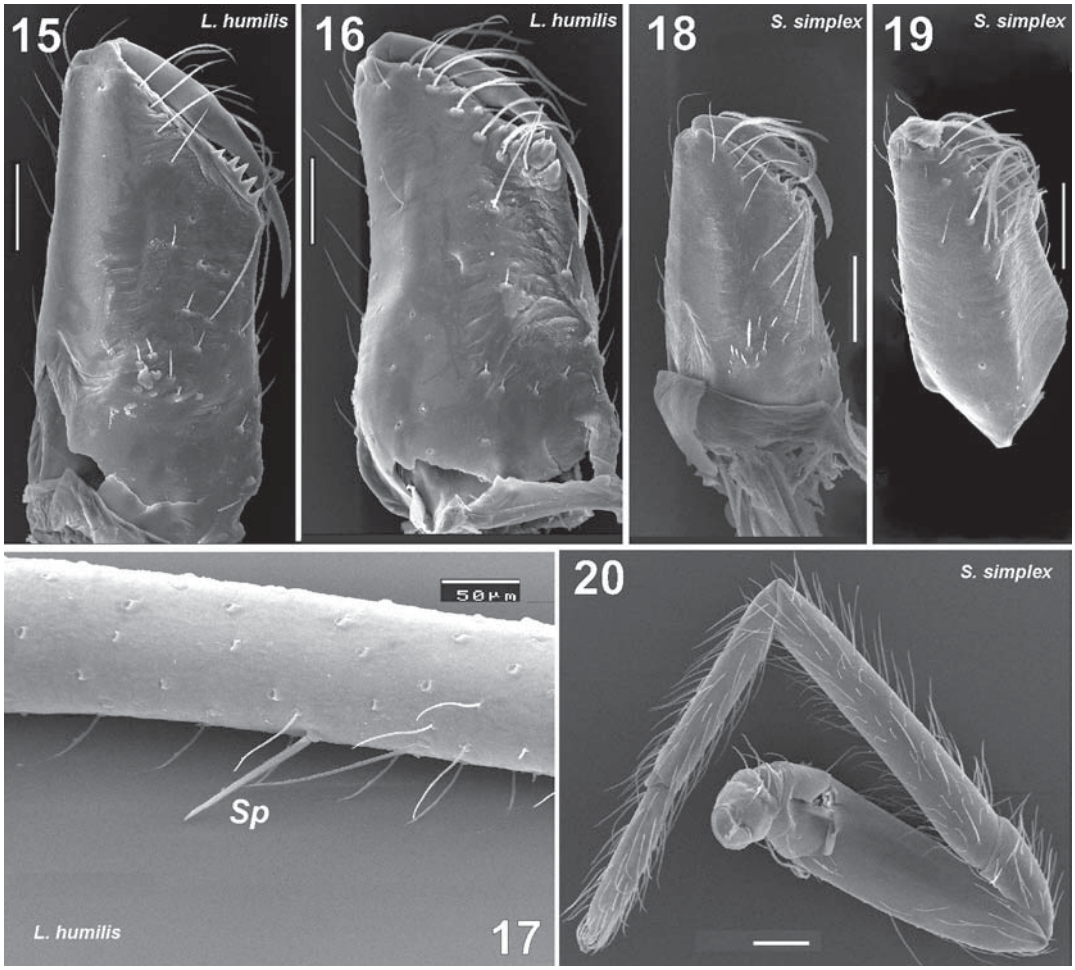
1.06.2002 (M.M. Kovblyuk); Yalta Distr.: 1 ♀ (TNU–1311/3), Nikita Vil., steppe, pitfalls, 2–9.07.2000 (M.M. Kovblyuk); 1 ♂ (TNU–2473/5) Yalta Mountain-Forest Nature Reserve, 13–28.04.2002 (A.A. Khaustov); 3 ♂♂ (TNU–2476/7), same locality, Nikita Vill., meadow, 28.04–12.05.2002 (A.A. Khaustov) (specimens with 2.5 coils of conductor); 1 ♂ (YMM–1504/3), Crimean State Nature Reserve, Nikitskaya Yaila Mt., pitfalls, 22.04.–4.05.2001 (M.M. Kovblyuk).

Specimens with 3 coils of conductor: Simferopol Distr.: 2 ♂♂ (TNU–1833/18) Skvortsovo Vil., pitfalls, 12–27.04.2002 (M.M. Kovblyuk).

DESCRIPTION. Measurements. Male: total length 2.0; carapace 1.0 long, 0.8 wide, 0.4 high; chelicerae 0.7 long.

Length of leg segments:

| | femur | patella | tibia | metatarsus | tarsus | total length |
|---|---|---|---|---|---|---|
| I | 0.9 | 0.4 | 0.8 | 0.7 | 0.4 | 3.2 |
| II | 0.7 | 0.3 | 0.5 | 0.6 | 0.4 | 2.5 |
| III | 0.6 | 0.3 | 0.4 | 0.5 | 0.3 | 2.1 |
| IV | 0.8 | 0.3 | 0.6 | 0.6 | 0.3 | 2.6 |




Figs 15–20. Chelicera and legs of *Lathys humilis* (15–17) and *Scotolathys simplex* (18–20). 15, 18 — male chelicera, inner; 16, 19 — male chelicera, frontal; 17, 20 — tibia I, showing ventral spine (17) and absence of spines (20). Scale = 0.1 mm if not otherwise indicated.

Рис. 15–20. Хелицеры и ноги *Lathys humilis* (15–17) и *Scotolathys simplex* (18–20). 15, 18 — хелицера самца, изнутри; 16, 19 — хелицера самца, спереди; 17, 20 — голень I, показан вентральный шип. Масштаб 0,1 мм, если не указано иначе.

VARIATION. Male (n=5) total length 1.8–2.2; carapace 1.0 long; 0.8–0.9 wide; 0.4–0.5 high.

NOTE. One sample (TNU–1833/18) contains three males. Two of which have a conductor with 3 coils as shown in Marusik et al. [2006: 355, f. 2], and with 2.5 coils.

COPULATORY ORGANS. Male palp as in Figs 29–30, with conical extension of patella. Tibia with three apophyses (retrolateral dorsal, retroventral and retrolateral (or intermediate) that grip (lock) the terminal part of conductor. Conductor very long with two arms, the upper arm coiled, and the lower part appearing like a cork-screw.

Epigyne as in Figs 31–32, with two large round fovea separated by thin septum. Receptacula round, insemination duct long and coiled in two plains (vertical – over receptacula, and horizontal over openings).

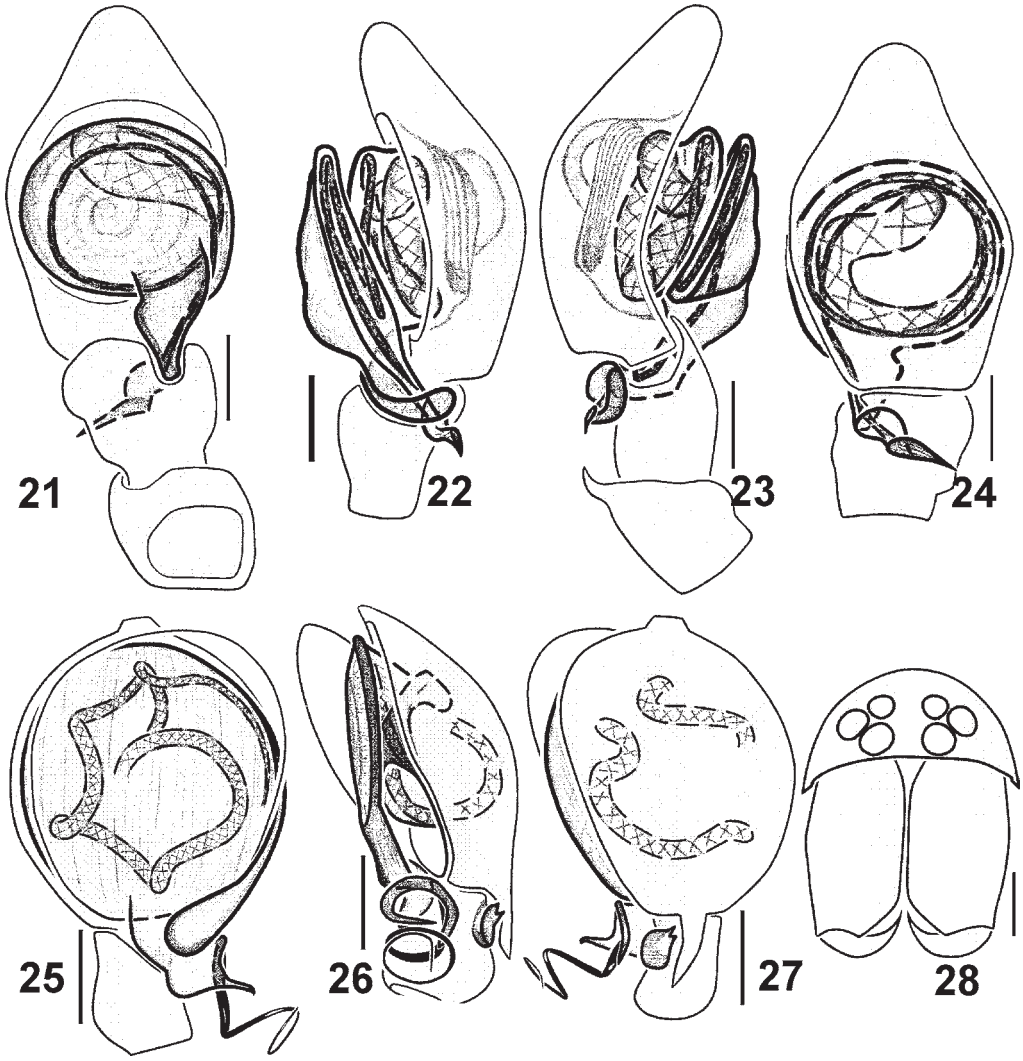
DIAGNOSIS. This species can be easily distinguished from other Crimean species by the larger size and lack of distinct pattern, coiled conductor of the male palp, and two separate epigynal openings. This species belongs to the *L. stigmatisata*-group that contains many sibling species. The male of this species can be distinguished from all congroupers by the dorsal conical extension of the palpal patella.

COMMENTS. This species belongs to the *L. stigmatisata* species group, one of eight groups created by Lehtinen [1967]. The exact number of species in this group is unclear because many species from East Palaearctic have been erroneously synonymised with *L. stigmatisata.*

DISTRIBUTION. According to Platnick's catalog [2009], this species has a Palaearctic (=trans-Palaearctic) range. According to our studies of Palaearctic *Lathys, L. stigmatisata* has a European range and is distributed from western Europe to the Ural River.

HABITATS. Some kinds of steppes and meadows.

PHENOLOGY: ♂♂ — IV–V; ♀♀ — VII–VIII.




Figs 21–28. Male palp and prosoma of *Lathys humilis* (21–24) and *Scotolathys simplex* (25–28). 21, 25 — palp, ventral; 22, 26 — palp, retrolateral; 23 — palp, prolateral; 24, 27 — dorsal; 28 — prosoma, frontal. Scale = 0.1 mm.

Рис. 21–28. Пальпа самца и головогрудь *Lathys humilis* (21–24) и *Scotolathys simplex* (25–28). 21, 25 — пальпа, снизу; 22, 26 — пальпа, ретролатерально; 23 — пальпа, пролатерально; 24, 27 — сверху; 28 — головогрудь, спереди. Масштаб 0,1 мм.

*Lathys* sp.

Figs 66–69.

MATERIAL EXAMINED. UKRAINE, CRIMEA. Feodosya Distr.: 1 ♀ (TNU–2035/14), Karadagh Nature Reserve, Kara-Agach Mt., *Juniperus excelsa,* 24.04.2004 (O.V. Kukushkin).

COMMENTS. When the final draft of this paper was almost ready, we recognized that a single female from the Karadag Nature Reserve, earlier identified as *L. stigmatisata,* actually belongs to another species of the *L. stigmatisata*-group. This species can be easily distinguished from *L. stigmatisata* by the smaller copulatory openings being spaced by about one radius (openings touching in *L. stigmatisata*), and its insemination ducts joining receptacula at an apical point (subapical in *L. stigmatisata*). The diameter of the receptacula and copulatory openings are almost equal in *L. stigmatisata* while the diameter of the copulatory openings in *Lathys* sp. is significantly smaller that those of receptacula.

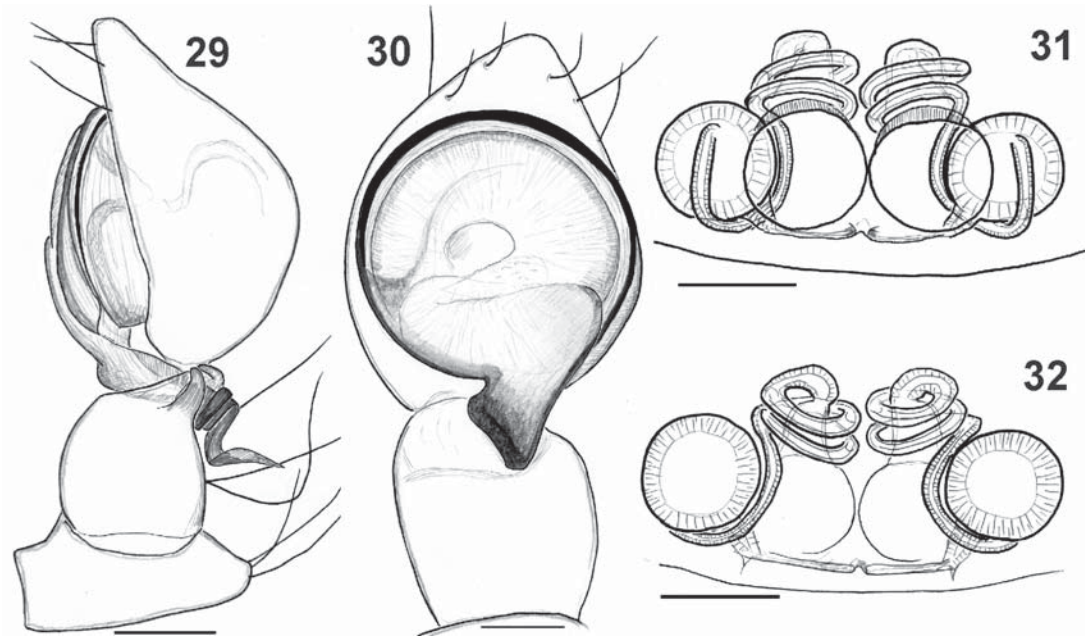
The lack of a revision of this species group does not permit an identification of this species. A preliminary study of the Palaearctic *Lathys* conducted by the late S.V. Ovtchinnikov and YM (unfinished), reveals that there are about a dozen new species or wrongly synonymised names. However, none of the species studied from Caucasus, Middle East or Central Asia, has an epigyne similar to the one from Crimea. Most probably this specimen belongs to an undescribed species.

*Scotolathys* Simon, 1884

*Scotolathys* Simon, 1884: 321.

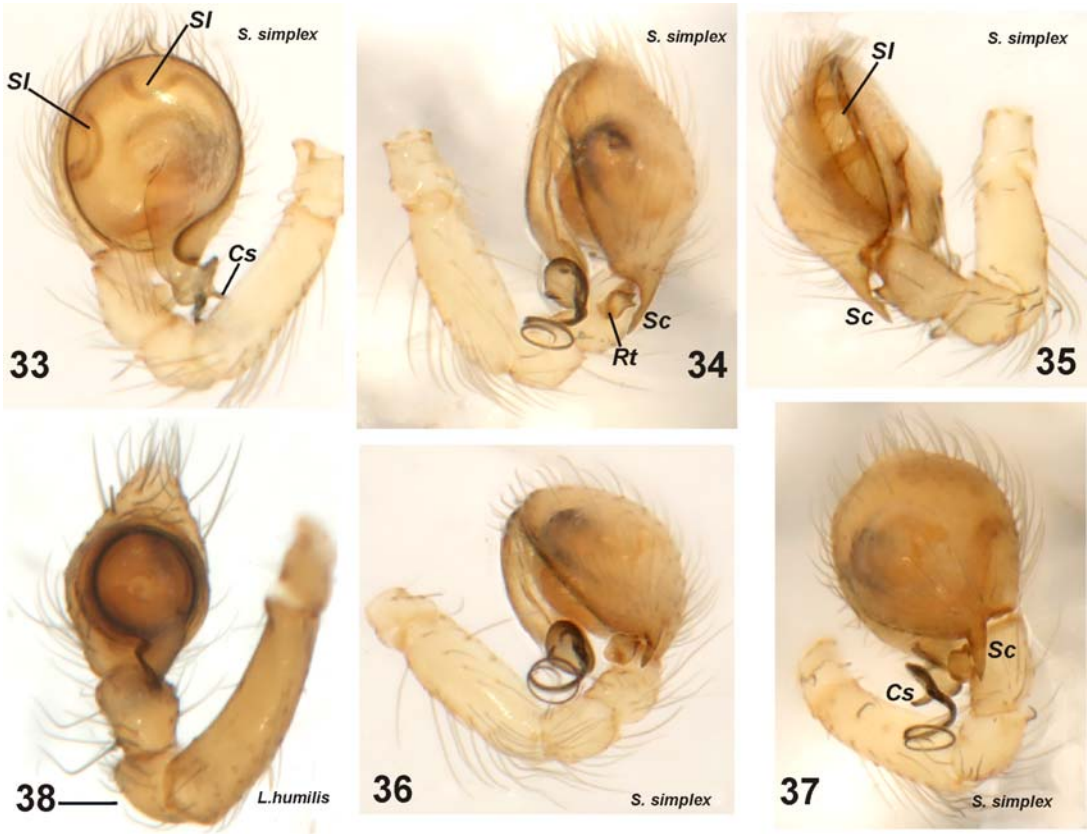
Type species: *Scotolathys simplex* Simon, 1884 by monotypy.

DIAGNOSIS. *Scotolathys* is closely related to *Lathys,* but can be easily recognized by six eyes (Figs



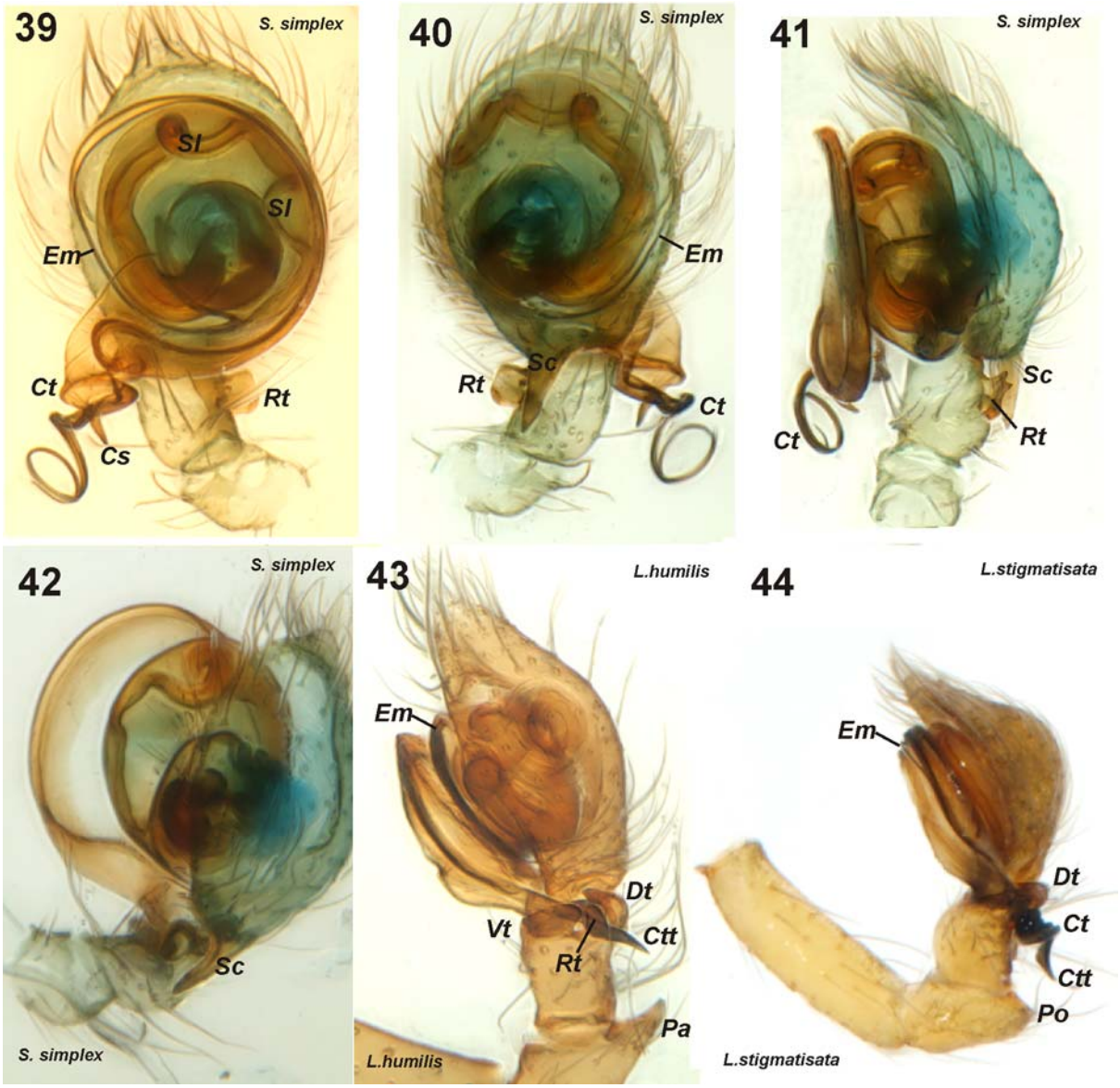

Figs 29–32. Male palp and macerated epigyne of *Lathys stigmatisata.* 29 — palp, retrolateral; 30 — palp, ventral; 31 — epigyne, ventral; 32 — epigyne, dorsal. 31–32 — from Azerbaijan. Scale = 0.1 mm.

Рис. 29–32. Пальпа самца и мацерированная эпигина of *Lathys stigmatisata.* 29 — пальпа, ретролатерально; 30 — пальпа, снизу; 31 — эпигина, снизу; 32 — эпигина, сверху. 31–32 — из Азербайджана. Масштаб 0,1 мм.




Figs 33–38. Male palp of *Scotolathys simplex* (31–37) and *Lathys humilis* (38). 33, 38 — ventral; 34 — retrolateral; 35 — prolateral; 36 — caudal-retrolateral; 37 — dorsal. Scale = 0.1 mm.

Рис. 33–38. Пальпа самца *Scotolathys simplex* (31–37) и *Lathys humilis* (38). 33, 38 — снизу; 34 — ретролатерально; 35 — пролатерально; 36 — сзади-ретролатерально; 37 — сверху. Масштаб 0,1 мм.



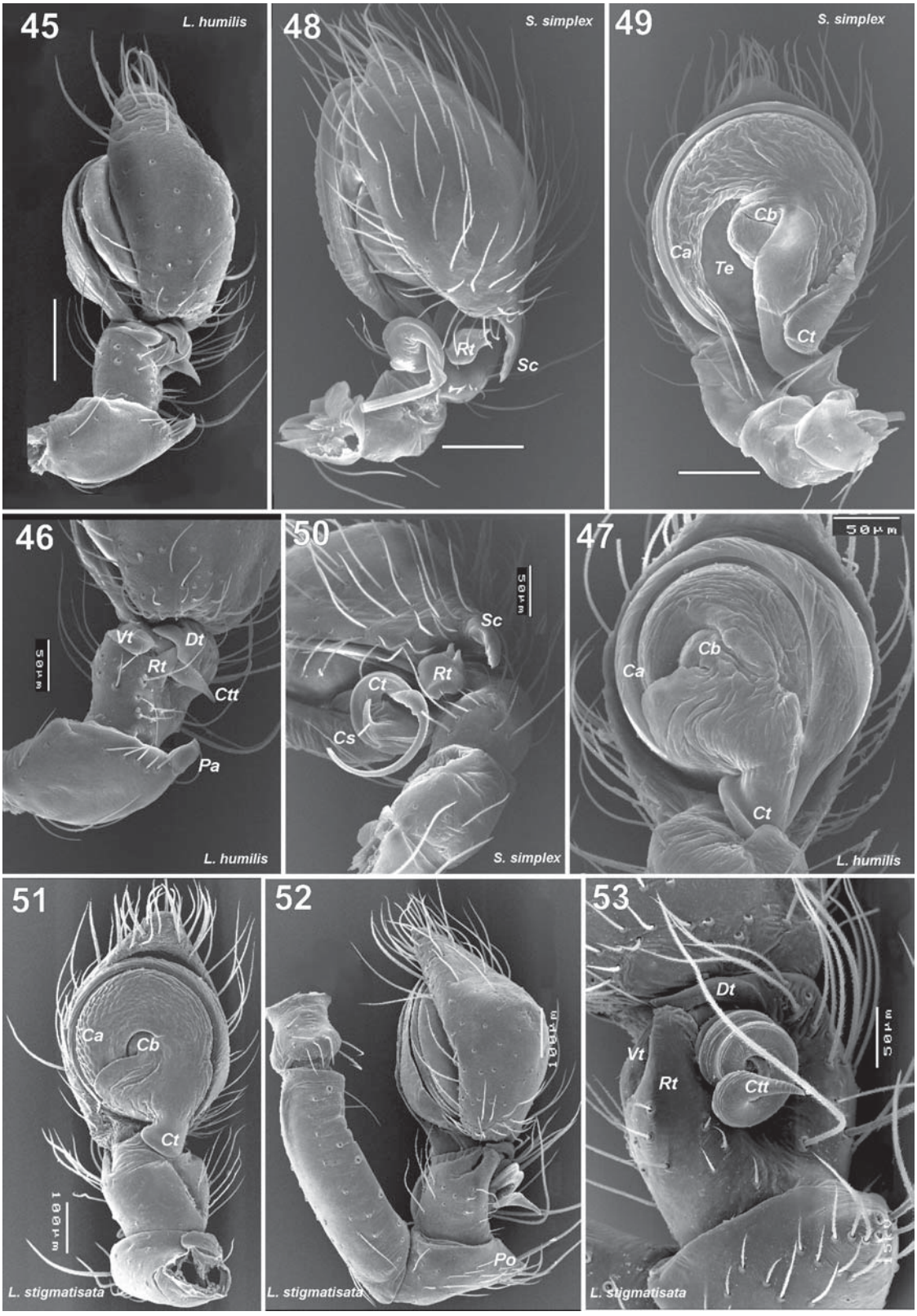

Figs 39–44. Left male palp of *Scotolathys simplex* (39–42), *Lathys humilis* (43) and *L. stigmatisata* (44). 39 — ventral; 40 — dorsal; 41, 43–44 — retrolateral; 42 — retro-dorsal; 39–43 — partly expanded palp.

Рис. 39–44. Левая пальпа самца *Scotolathys simplex* (39–42), *Lathys humilis* (43) и *L. stigmatisata* (44). 39 — снизу; 40 — сверху; 41, 43–44 — ретролатерально; 42 — ретролатерально-сверху; 39–43 — слегка вздутая пальпа.

1–3, 9, 28), smaller clypeus (cf. Figs 9–10 and 13–14), a spine-like cymbial process (Fig. 37, etc.), free terminal part of conductor, and by the shape of the epigyne and vulva. Unlike in *Lathys*, *Scotolathys* has an epigynal opening (not fovea) posterior to the receptacula.

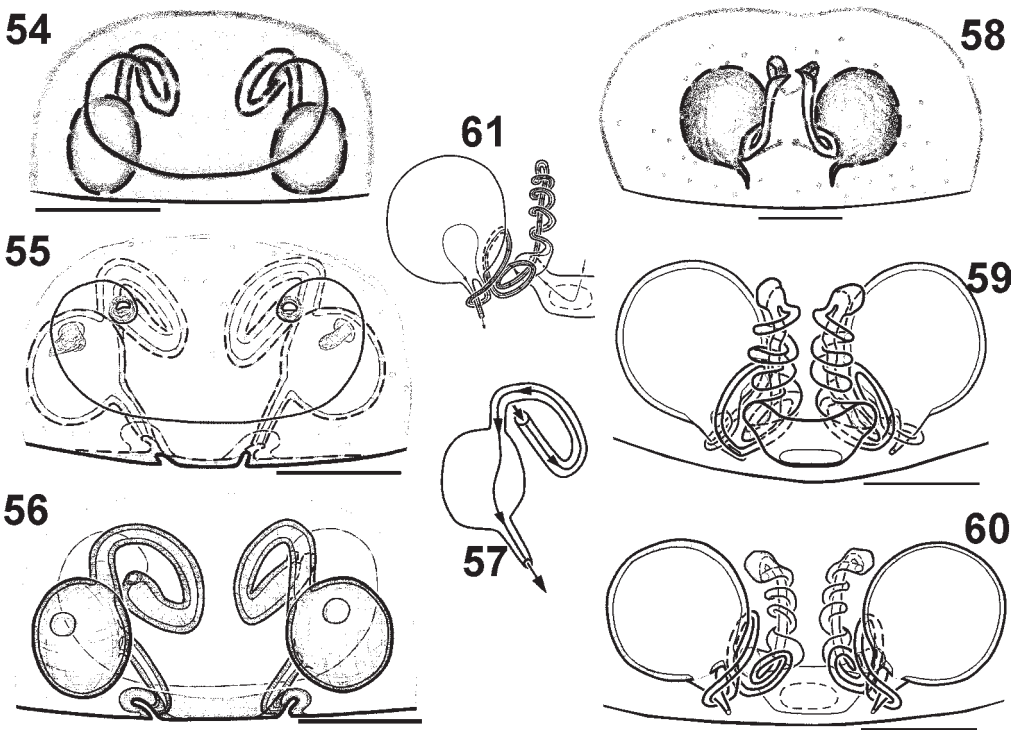
COMMENTS. *Lathys* and *Scotolathys* were described in the same publication and on the same page. *Scotolathys* was diagnosed by Simon [1892] by the presence of 6 eyes and their sizes. That is the reason all species from West Palaearctic and Nearctic with a *Lathys* habitus and 6 eyes were previously placed in *Scotolathys* (*S. alba* Chamberlin & Ivie, 1944; *S. delicatulus* Gertsch & Mulaik, 1936; *S. heterophthalmus* (Kulczyński, 1891); *S. maculata immaculata* Chamberlin & Ivie, 1944; *S. pallida* (Marx, 1891); *S. alticola* Denis, 1954; and *S. simplicior* Dalmas, 1916). Gertsch [1946] synonymised the generic name *Scotolathys* under *Lathys*. He found that Nearctic species assigned in *Lathys* (with 8 eyes) and *Scotolathys* (with 6 eyes) have basically the same type of copulatory organs. Gertsch had not studied types or specimens of *S. simplex*, and the male of the generotype was unknown until now.

Lehtinen [1967] considered that *Scotolathys* has priority over *Lathys* (although they were described on the same page) and planned to apply to ICZN to fix Gertsch's decision.



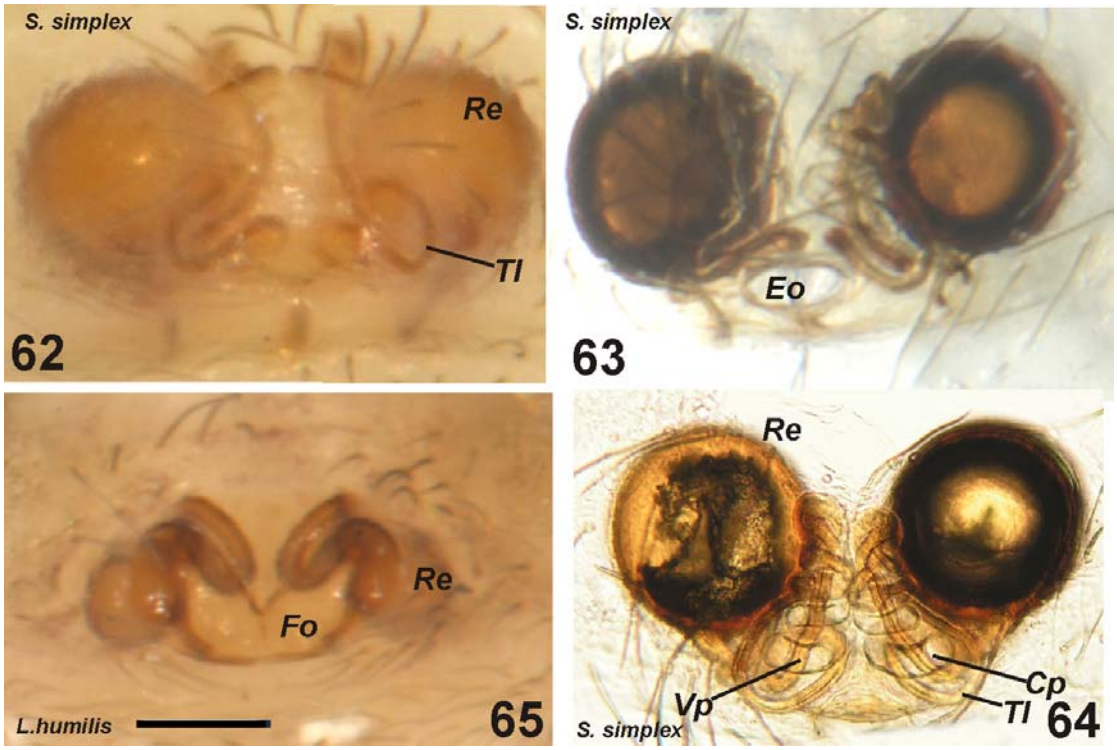

Figs 45–53. Left male palp of *Lathys humilis* (45–47), *Scotolathys simplex* (48–50) and *Lathys stigmatisata* (51–53). 45–46, 48, 52 — retrolateral; 47, 49, 51 — ventral; 50 — caudal-retrolateral; 53 — retro-dorsal. Scale = 0.1 mm if not otherwise indicated.

Рис. 45–53. Левая пальпа самца *Lathys humilis* (45–47), *Scotolathys simplex* (48–50) и *Lathys stigmatisata* (51–53). 45–46, 48, 52 — ретролатерально; 47, 49, 51— снизу; 50 — каудо-ретролатерально; 53 — ретролатерально-сверху. Масштаб 0,1 мм, если не указано иное.



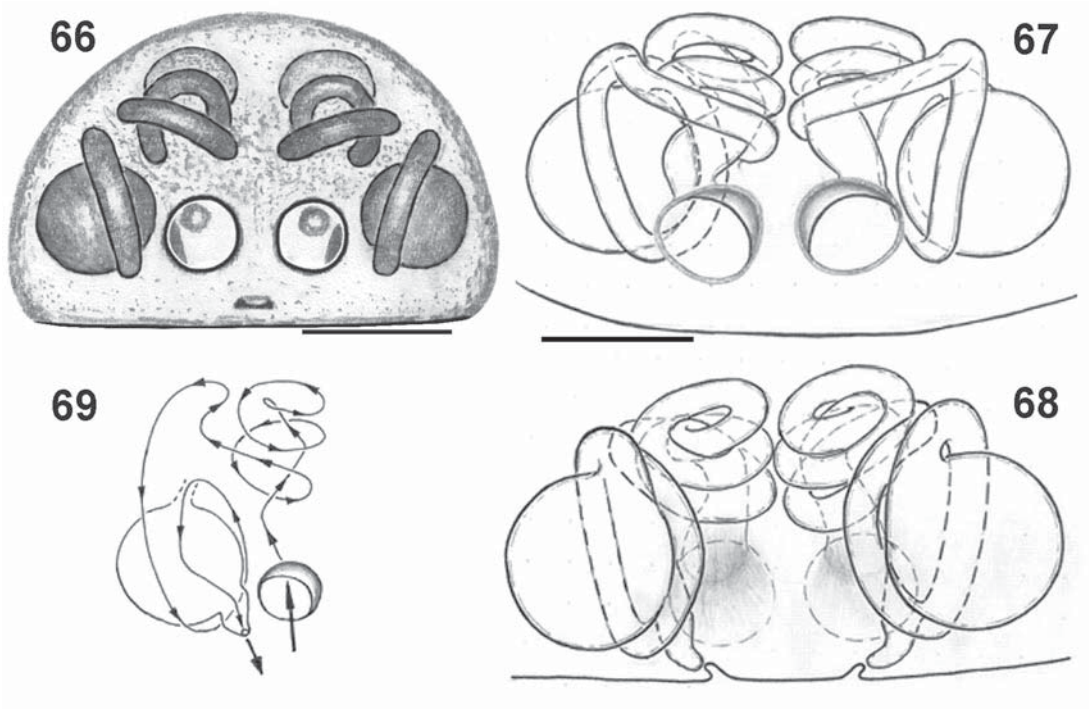

Figs 54–61. Epigyne of *Lathys humilis* (54–57) and *Scotolathys simplex* (58–61). 54, 58 — ventral; 55, 59 — ventral, after maceration; 56, 60 — dorsal, after maceration; 67, 61 — scheme, course of insemination and fertilization duct. Scale = 0.1 mm.

Рис. 54–61. Эпигина *Lathys humilis* (54–57) и *Scotolathys simplex* (58–61). 54, 58 — снизу; 55, 59 — снизу, после мацерации; 56, 60 — сверху, после мацерации; 67, 61 — схема расположения каналов эпигины. Масштаб 0,1 мм.




Figs. 62–65. Epigyne of *Scotolathys simplex* (62–64) and *Lathys humilis* (65). 62–63, 65 — ventral; 64 — dorsal; 63–64 — after maceration in lactic acid. Scale = 0.1 mm.

Figs. 62–65. Эпигина of *Scotolathys simplex* (62–64) и *Lathys humilis* (65). 62–63, 65 — снизу; 64 — сверху; 63–64 — после мацерации в молочной кислоте. Масштаб 0,1 мм.




Figs. 66–69. Epigyne of *Lathys* sp. 66–67 — ventral; 68 — dorsal; 69 — schematic course of insemination and fertilisation ducts; 67–68 — after maceration. Scale = 0.1 mm.

Figs. 66–69. Эпигина of *Lathys* sp. 66–67 — снизу; 68 — сверху; 69 — схема расположения каналов эпигины; 67–68 — после мацерации. Масштаб 0,1 мм.

The epigyne of *S. simplex* was first illustrated by Wiehle [1960]. The epigyne and vulva of this species are considerably different from those of all European and Nearctic *Lathys*. When the male of *S. simplex* was found, it became possible to compare structures of the copulatory organs and somatic characters in the generotypes of the two taxa.

Although *S. simplex* and *L. humilis* are similar in certain respects, they express significant differences in the shape of the male palp and the female epigyne and in a few somatic characters.

*L. humilis* has three tibial apophyses (Figs 45–46) and lacks cymbial apophysis, while *S. simplex* has only one tibial apophysis (Figs 34, 36–37, 39–42, 48, 50) and a strong spine like a cymbial outgrowth (*Sc*, Figs 26–27, 34–37, 40–42, 48, 50). The terminal part of the conductor in all *Lathys* species is totally fixed between the tibial apophyses and the cymbium, while in *S. simplex* it is free (cf. Figs 39–41). The terminal part of the conductor in *L. humilis* is slightly screwed along its axis (like in screw) and lacks any outgrowths, while in *S. simplex* the conductor makes several coils (like in corkscrew) and has spine-like outgrowth (*Cs*) near the basis of the coils. Other differences lie in the shape of the upper arm of the conductor. In *L. humilis* the apical arm of the conductor is very long, broad, totally covering the tegulum and turns below the base of the conductor. In *S. simplex* the apical arm is long, thin and translucent, covering only a part of the tegulum (Fig. 49). In *Lathys* the seminal duct inside the tegulum forms only one small loop, while in *Scotolathys* there are two loops (Figs 25, 33, 39).

The epigyne in the two genera are also quite different. The insemination ducts in *Lathys* never have straight parts as in *S. simplex*. They are always coiled around the receptaculum or/and around the entrance cone. The epigynal openings? (starting points of the insemination duct) are placed in *Lathys* always in the anterior half of the epigyne. Compare the figures of the epigyne of *Lathys stigmatisata* (Figs 31–32) with those of *Scotolathys simplex* (Figs 58–60).

The males of the two generotypes differ in the shape of the maxillae. The maxillae are widest in the terminal part in *L. humilis*, while in *S. simplex* the sides are slightly rounded and subparallel (Figs 7–8, 11–12). The carapace in *Lathys* is higher (length/height ratio = 2.15) than in *Scolotathys* (ratio 2.5) (cf Figs 10 & 14). There are some spines on the legs of *L. humilis* (Figs 5–6, 17), which are totally absent in *S. simplex* (1–3, 20). There are also differences in the chelicerae. They are longer in *Lathys*, and generally *Lathys* has fewer (three) teeth on the promarginal side (Fig. 16) and 5 teeth (Fig. 15) on the retromarginal side. *Scotolathys*, on the other hand, has 4 teeth on the pro- and retromarginal sides (Figs 18–19). The promarginal teeth in *Scotolathys* are of the same size and shape as the retromarginal ones. In *Lathys* the promarginal teeth are thick, larger than the retromarginal teeth, and they are contiguous.

The cheliceral teeth are variable in number and shape within the *Lathys s.s*. and can not be used for

separation of genera. Some species in the *L. stigmatisata*-group have 4+4 teeth.

Members of the *L. stigmatisata*-group have the same conformation of the male palp, the same dentation of the chelicera, and have leg spines as in *L. humilis*. The conformation of the male palp and the epigyne of the *L. stigmatisata*-group were described in detail by Marusik et al. [2006]. The only differences between the *L. humilis*-group (*humilis* & *nielseni*) and the *L. stigmatisata*-group are the number of screws on the upper part of the conductor and the length of the insemination ducts.

*Scotolathys simplex* Simon, 1884
Figs 1–3, 7–10, 18–20, 25–28, 33–37, 39–42, 48–50, 58–61, 62–64.

*S. s.* Simon, 1884: 321 (D♀).
*S. s.*: Simon, 1892: 243, f. 184.
*S. s.*: Wiehle, 1960: 469, f. 13 (♀).
*Lathys s.*: Gertsch, 1946: 1 (synonymised two genera).
*Lathys s.*: Lehtinen, 1967: 242.

FAUNISTIC RECORDS FROM CRIMEA. Kovblyuk et al., 2008a,b.

MATERIAL. UKRAINE, CRIMEA. Feodosiya Distr.: 3 ♀♀ (TNU–1743/10; 1746/4), Karadag Nature Reserve, Tumanova ravine, NW slope of Beregovoy Mt. Range, 24–25.04.2003 (M.M. Kovblyuk); 4 ♀♀ (YMM–1779/6), same locality, ecological trail near turn to Shapka Monomakha Mt., 2.06.2003 (M.M. Kovblyuk); 3 ♀♀ (TNU–1791/4; 1802/13), same locality, N slope of Svyataya Mt., 10–13.10.2003 (M.M. Kovblyuk); 1 ♂ (YMM–1811/7), same locality, Lobovoy Mt. Range, Chornyi Yar ravine, 16.10.2003 (M.M. Kovblyuk); 3 ♀♀ (TNU–2030/6; 2282/3; 2397/6), same locality, 3–9.07.2004 (M.M. Kovblyuk); 3 ♀♀ (TNU–2595/20), same locality, Lobovoy Mt.-range, 28.05.2008 (A.A. Nadolny); Yalta Distr.: 4 ♀♀ (TNU–2322/7; 2333/11), Martyan Cape Reserve, 8.03.–8.04.2007 (M.M. Kovblyuk); 1 ♂, 2 ♀♀ (TNU–2415/10), same locality, 20.10.2007 (M.M. Kovblyuk); 1 ♀ (TNU–2419/5), same locality, 20.10.2007 (A.A. Nadolny); 3 ♀♀ (TNU–2417/5), same locality, 24.11.2007 (M.M. Kovblyuk).

Our identification of this species is based on the eye arrangements shown by Simon [1892], the epigyne illustrated by Wiehle [1960] and the unpublished figures provided by R. Bosmans.

DESCRIPTION. Measurements. Male (n=1): total length 1.6; carapace 0.7 long, 0.5 wide, 0.3 high; chelicerae 0.3 long.

Length of leg segments in ♂:

| | femur | patella | tibia | metatarsus | tarsus | total |
|---|---|---|---|---|---|---|
| I | 0.6 | 0.2 | 0.5 | 0.4 | 0.3 | 2.0 |
| II | 0.4 | 0.2 | 0.3 | 0.3 | 0.2 | 1.4 |
| III | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 1.1 |
| IV | 0.5 | 0.2 | 0.4 | 0.3 | 0.2 | 1.6 |

Female: total length 1.5; cephalothorax 0.6 long, 0.5 wide, 0.4 high; basal segment of chelicerae 0.3 long.

Length of leg segments in ♀:

| | femur | patella | tibia | metatarsus | tarsus | total |
|---|---|---|---|---|---|---|
| I | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 1.3 |
| II | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 1.2 |
| III | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 1.0 |
| IV | 0.4 | 0.2 | 0.3 | 0.3 | 0.1 | 1.3 |

VARIATION. Female total length (n=17) 1.4–1.9; carapace (n=19) 0.6–0.8 long; 0.5–0.6 wide; 0.3 high.

COPULATORY ORGANS. Palp as in Figs 25–27, 33–37, 39–42, 48–50, femur shorter than cymbium, patella and tibia about as long as wide; patella unmodified; tibia with retrolateral apophysis (*Rt*) stretched perpendicular to axis of patella, tibial apophysis bifurcate on the tip; cymbium large, rounded on the top, almost not extending tegulum; basal part of cymbium with spine-like outgrowth (*Sc*); tegulum oval, with two translucent seminal loops (*Sl* on Fig. 39), upper arm of conductor thin. It is membranous, translucent, visible in SEM figures only (Fig. 49); it covers only part of tegulum, terminal part cork-screw-like with small spine (*Cs*) at the base of cork-screw (Fig. 50).

Epigyne as in Figs 58–61, 62–64, with small oval copulatory opening (*Eo*) placed close to epigastric furrow and below large round translucent receptacula; opening well (depression) visible only after dissection of epigyne; insemination ducts long; first going anteriorly and coiling (*Cp*) around vertical straight portion (*Vp*) that goes posteriorly, vertical portion terminates in two loops (*Tl*).

DIAGNOSIS. Same as for the genus.

DISTRIBUTION. So far this species is known from Algeria (type locality) [Simon, 1884], Spain [Wiehle, 1960] and Crimea.

HABITATS. South coast of Crimea: sub-mediterranean (*Pistacia mutica, Arbutus andrachne, Juniperus excelsa, J. oxycedrus, Quercus pubescens, Carpinus orientalis*, *Cistus taurica*) and nemoral (*Pinus pallasiana, Quercus petraea, Cornus mas*, *Fraxinus, Mercurialis perennis, Dentaria*) vegetation.

PHENOLOGY: ♂♂ — X; ♀♀ — III–XI.

## Discussion

A preliminary study of the Palaearctic species of *Lathys* reveals that this genus requires a thorough revision. For a long time the palp of this genus was misinterpreted. The real conformation of the bulbus was described only recently [Marusik et al., 2006]. It became clear that all Asian *Lathys* species have been erroneously synonymised with *L. stigmatisata,* which has a European distribution. The reason for such a synonymisation was that earlier authors never compared Asian and European specimens in details, but paid more attention to non-species-specific characters.

Judging from the shape of the male palp figured by Chamberlin & Gertsch [1958] most of the Nearctic *Lathys* may belong to separate genera: *L. pallida* Marx, 1891 (type species of *Neophanes* Marx, 1891 has a different locking mechanism of conductor (tibial retromesal apophysis + dorsal apophysis), *L. immaculata* (Chamberlin & Ivie, 1944), *L. albida* Gertsch, 1946, *L. foxi* Marx, 1891 (type species of *Prodalia* Marx, 1891), *L. delicatula* (Gertsch & Mulaik, 1936) and *L. coralynae* Gertsch & Davis, 1942 (have no locking mechanism at all or it may be that all the species are improp-

erly illustrated). Females of the above mentioned species have an epigyna typical for the *Lathys stigmatisata*–group.

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