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SUPPLEMENT №1, 2014

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РОССИЙСКОЙ АКАДЕМИИ НАУК

ПРИЛОЖЕНИЕ №1

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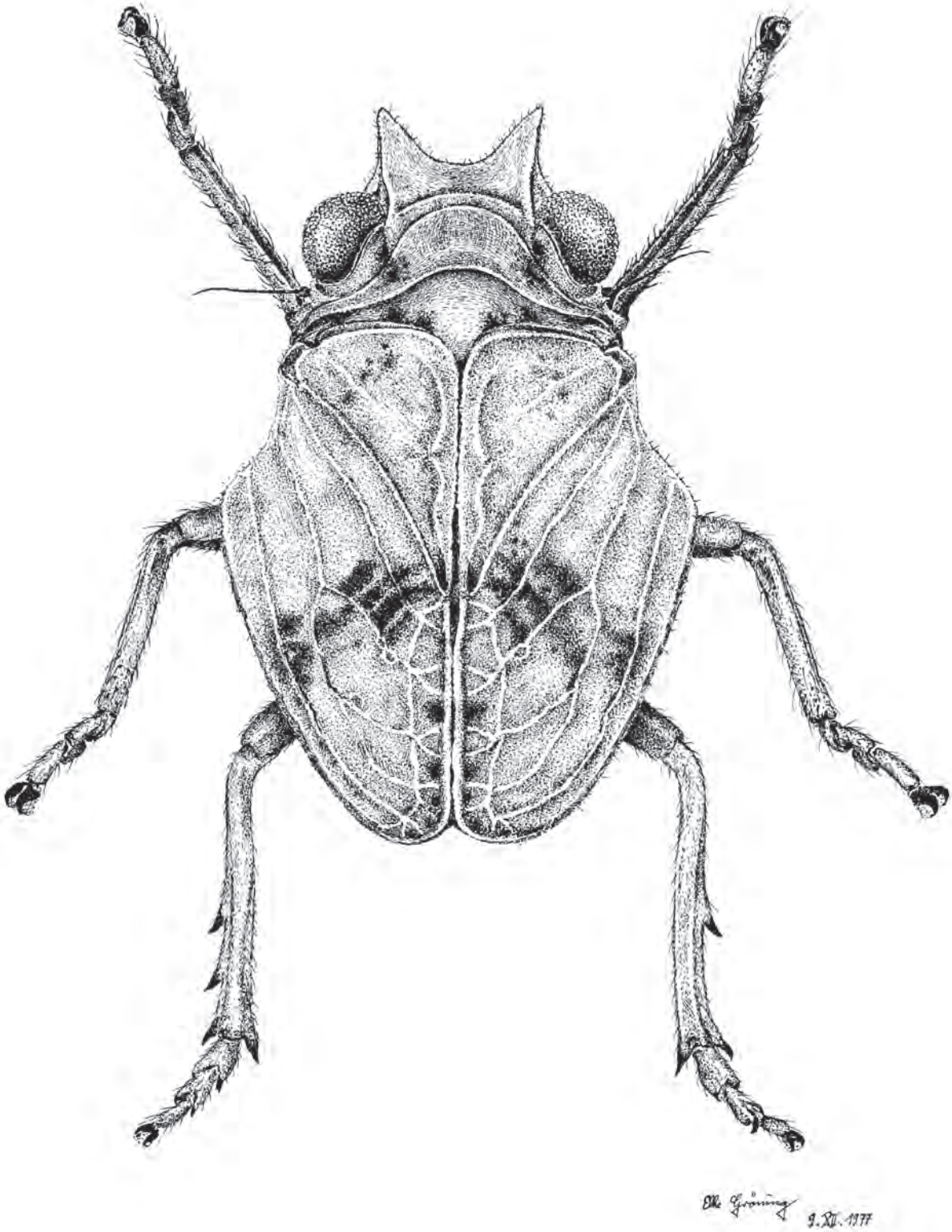

Bubastia sakisi Dlabola, 1984 (© Elke Gröning)

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THE WESTERN PALAEARCTIC ISSIDAE (HEMIPTERA, FULGOROIDEA): AN ILLUSTRATED CHECKLIST AND KEY TO GENERA AND SUBGENERA

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ABSTRACT

Issidae Spinola, 1839 is a worldwide distributed planthopper family with 404 species in 51 genera in the Western Palaearctic Region which is defined geographically as an area with the eastern limits are Yenisei River, Altai Mountains, Tarbagatai Mountains, Central Tan'-Shan' Mountains, Western Pamir Mountains, and Ind River and the southern limit is Tropic of Cancer. For the first time the check list with keys to genera and subgenera of Western Palaearctic issid fauna are given. All synonymy is included, as are references to the sources useful for species identification. Only reliable data or data confirmed by the examined material are listed as "species distribution". In the Issidae species identification mainly is based on the features of male genitalia while many genera may be recognised fisionomically. The checklist is supplied by the photos of 95 species, every genus is illustrated. Full bibliography on Western Palaearctic Issidae appeared after Metcalf (1958) and Nast (1972, 1987) is provided.

Key words: Issini, morphology, systematics, distribution

ISSIDAE ЗАПАДНОЙ ПАЛЕАРКТИКИ (HEMIPTERA, FULGOROIDEA): ИЛЛЮСТРИРОВАННЫЙ АННОТИРОВАННЫЙ СПИСОК С ОПРЕДЕЛИТЕЛЬНЫМИ ТАБЛИЦАМИ РОДОВ И ПОДРОДОВ

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РЕЗЮМЕ

Issidae Spinola, 1839 — всесветно распространенное семейство цикадовых, насчитывающее в Западной Палеарктике 51 род с 404 видами. При этом, Западная Палеарктика географически определяется, как регион, ограниченный с востока реками Инд и Енисей, а также горными системами Алтай, Тарбагатай, Центральный Тяньшань и Западный Памир, а с юга — тропиком Рака. Впервые составлен аннотированный список цикадовых семейства Issidae фауны Западной Палеарктики с определительными таблицами родов и подродов. Учтены все синонимы, даны ссылки на публикации, которые могут использоваться для определения видов.

В разделе распространения видов приведены только достоверные литературные сведения или данные, подтвержденные изученным нами материалом. В семействе Issidae определение видов, в основном, осуществляется по признакам гениталий самцов, в то время, как многие роды могут быть определены по внешнеморфологическим признакам, то есть физиономически, в связи с чем аннотированный список снабжен фотографиями 95 видов, иллюстрирующими каждый род. Приведен полный список работ по семейству Issidae Западной Палеарктики, опубликованных после выхода в свет каталогов Меткафа (Metcalf, 1958) и Наста (Nast, 1972, 1987).

Ключевые слова: Issini, морфология, систематика, распространение

INTRODUCTION

Issidae Spinola, 1839 is a worldwide distributed family with the world fauna comprising currently 993 species and subspecies in 158 genera (Gnezdilov 2013a).

During the last fifteen years the treatment of the family Issidae was revised. The Caliscelidae Amyot & Serville, 1843 and Acanaloniidae Amyot & Serville, 1843 treated by Fennah (1954) as subfamilies of the Issidae were upgraded again to the family rank, the subfamily Trienopinae Fennah, 1954 was transferred to the family Tropiduchidae Stål, 1866 and the subfamily Tonginae Kirkaldy, 1907 — to the family Nogodinidae Melichar, 1898 both as tribes (Emeljanov 1999; Gnezdilov 2003a, 2007). The tribe Adenissini Dlabola, 1980 erected in the family Issidae (Dlabola, 1980) was transferred to the Caliscelidae (Gnezdilov 2003a; Gnezdilov & Wilson 2006) and the tribe Colpopterini Gnezdilov, 2003 — to the Nogodinidae (Gnezdilov 2012). These taxonomic changes are mainly based on the features of male and female genitalia. The key to all families of Fulgoromorpha Evans, 1946 recorded from the area of Western Palaearctic was recently published by Wilson & Turner (2010). Currently the family Issidae *sensu stricto* includes nominative subfamily with 3 tribes: Issini Spinola, 1839 (= Thioniini Melichar, 1906), Hemisphaeriini Melichar, 1906, Parahiraciini Cheng & Yang, 1991 (Gnezdilov 2003b, 2009, 2012).

The largest tribe Issini is worldwide distributed. It comprises 3 subtribes (Gnezdilov 2002c), all of them are present in the Western Palaearctic: Issina Spinola, 1839, Hysteropterina Melichar, 1906, Agalmatiina Gnezdilov, 2002. The tribes Parahiraciini and Hemisphaeriini are endemics to the Oriental Region.

Despite of long history of Auchenorrhyncha study in Europe the issid fauna of Western Palaearctic was never in a focus of a monographic study except of the Metcalf's catalogue of world Issidae (Metcalf 1958) and Nast's catalogue of Palaearctic Auchenorrhyncha Duméril, 1806 (Nast 1972). However since that time the treatment of the family Issidae was changed and many new taxa and faunistic records were added. Thus the present work is a first attempt to accumulate and revise taxonomic and faunistic data of the family Issidae from the Western Palaearctic.

Generic revision of Western Palaearctic Issidae was started by Emeljanov (1971) and continued by Dlabola (1979a, 1980a, 1982, 1984 etc.) and Gnezdilov (2003a). Recently Gnezdilov (2002c) proposed subtribal division of the tribe Issini based on the structure of ovipositor and reviewed European fauna of the family (Gnezdilov 2003a).

The total Western Palaearctic issid fauna comprises 51 genera with 404 species (3 of them with 2 subspecies each). The main subtribe Hysteropterina Melichar includes 44 genera with 350 species, the subtribes Agalmatiina Gnezdilov and Issina Spinola — 5 genera with 19 species and 2 genera with 33 species accordingly. Six genera: *Mycterodus* Spinola, *Tshurtshurnella* Kusnezov, *Issus* Fabricius, *Celyphoma* Emeljanov, *Kervillea* Bergevin, and *Bubastia* Emeljanov, include from 20 to 79 species each and totalling 216 species, which is more than half of known Western Palaearctic species. The largest genus is *Mycterodus* with 79 species. Thirteen genera are monotypic and 30 genera (except *Eusarima* Yang and *Kovacsiana* Synave) include from 2 to 12 species in the Western Palaearctic.

Main part of Western Palaearctic species inhabit arid or semiarid biotopes, many of them are members of mediterranean and steppe communities (Pl. 1). Still now the ecological and biological characters of the Issidae are poorly known. Sacchi (1930) and Silvestri (1934) were pioneers in biological study of the family. They described oviposition of *Agalmatium flavescens* (Olivier). Some data were published by Emeljanov

(1969), Logvinenko (1975a), Kaplin (1986), Remane (1985), Nickel (2003), and Whitehead & Key (2010). Mitjaev (2002) during many years studied the ecology and host plants of issids in Kazakhstan.

The species mostly appear restricted in their distribution and are endemic at different levels, very few species are widespread. Thus, *Scorlupella montana* (Becker) is distributed across Middle Asia, Turkey and Caucasus up to Eastern Europe, *Agalmatium bilobum* (Fieber) was introduced to California in USA (Gnezdilov & O'Brien 2006) and *Issus coleoptratus* (Fabricius) is known from St. Helene Island and Hong Kong (Synave 1976; Gnezdilov et al. 2004). Apparently *Pseudohemisphaerius piceus* (Puton) is one of the rearest species — it was described from Parnassos Mt. in Greece (Puton 1884) and was repeatedly collected only once during 100 years (Gnezdilov 2011).

Issidae records are present from 58 countries (about 75 countries are in the area of Western Palaearctic). Thirty three countries host no more than 10 species. The richest issid fauna is in Turkey (102 species + 4 dubious records) followed by Greece (61+2), Spain (49+2), Iran (44), Italy (28+1), Morocco (27+2), Algeria (25+1), Russia (21), Kazakhstan (21) and France (17+1) (Pl. 1). However the study of issid fauna in some countries is in infancy.

In the Issidae species identification mainly is based on the features of male genitalia while many genera may be recognised fisionomically. The check list below is supplied by the photos of 95 species, every genus is illustrated.

MATERIAL AND METHODS

Limits of the Western Palaearctic

We have defined the area of the Western Palaearctic Region following Emeljanov (1974). The eastern limits of the Western Palaearctic are Yenisei River, Altai Mountains, Tarbagatai Mountains, Central Tan'-Shan' Mountains, Western Pamir Mountains, Ind River. Southern limit of Western Palaearctic is Tropic of Cancer (map — Pl. 1).

Photographs

Photographs of the specimens mainly were made using Leica MZ8 with JVC video camera KY F7OB, also with Nikon video camera SMZ 1500 and Olympus SZH with Dinolite digital camera ver. 2.7.0.0. Images are produced using the software Synoptics Automontage, ACT-2U Combine Z5, and Adobe Photoshop. The drawings to illustrate the key to genera were reproduced from various sources mentioned in the legends to the plates.

Format

All data published until January 2014 ara included in the checklist, where the genera are grouped in the subtribes and listed in alphabetical order. In "species distribution" only reliable data or data confirmed by the examined material are listed. In some dubious cases the records are marked by "?" and the literature source is given. Some species are still known from the territory of the former Yugoslavia without further information as to which country. The species on the plates are illustrated in 3 aspects — dorsal, lateral, and frontal views. All publications on Western Palaearctic Issidae appeared after Metcalf (1958) and Nast (1972, 1987) including those not cited in the text are mentioned in the references.

Abbreviations for Museums

BMNH — the Natural History Museum, London, United Kingdom;

CAH — Dr M. Asche & Prof. H. Hoch collection, Berlin, Germany;

HMIM — Hayk Mirzayans Insect Museum, Iranian Research Institute of Plant Protection, Tehran, Iran;

IRSNB — Institut royal des Sciences naturelles de Belgique, Brussels, Belgium;

KDB — Dr K. den Bieman collection, Ulvenhout, The Netherlands;

MNHN — Muséum national d`Histoire naturelle, Paris, France;

NMWC — National Museum of Wales, Cardiff, United Kingdom;

NMPC — Museum of Natural History, Prague, Czech Republic;

SDC — Prof. S. Drosopoulos collection, Athens, Greece;

ZIN — Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia;

ZMAN — Universiteit van Amsterdam, Zoölogisch Museum, Amsterdam, The Netherlands;

ZMH — Zoologisches Museum Hamburg, Germany;

ZSM — Zoologische Staatssammlung München, Germany.

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We thank Prof. Dr Alexandr Emeljanov (St. Petersburg, Russia) for his comments on the limits of Western Palaearctic area, Dr Elke Gröning (Clausthal-Zellerfeld, Germany) for her excellent drawing of *Bubastia sakisi* Dlabola and permission to publish it, Dr James Turner (Cardiff, United Kingdom) for his advise on taking images of the species, Mr Gernot Kunz (Graz, Austria) for his permission to use his photos of living issids, Mr Laurent Fauvre (Paris, France) and Dr Fariba Mozaffarian (Tehran, Iran) for providing some photos, Mr Philipp Zimmermann (Graz, Austria) for providing a map for the plate 1, Dr Igor Malenovský (Brno, Czech Republic) for providing a translation of J. Dlabola's biography from Czech to English, Dr Dominique Pluot-Sigwalt (Paris, France) for providing E. de Bergevin's biographic data and Mrs Jocelyne Guglielmi (Paris, France) — for his portrait, Prof. Dr Vera A. Richter (St. Petersburg, Russia) and Dr Anatoly G. Kotenko (Kiev, Ukraine) for providing V.N. Logvinenko's biographic data and her photo, Dr Roman Jashchenko (Alma-Ata, Kazakhstan) for providing I.D. Mitjaev's biographic data and his photo, and Dr Ljiljana Protić (Belgrad, Serbia) for her information on some publications cited.

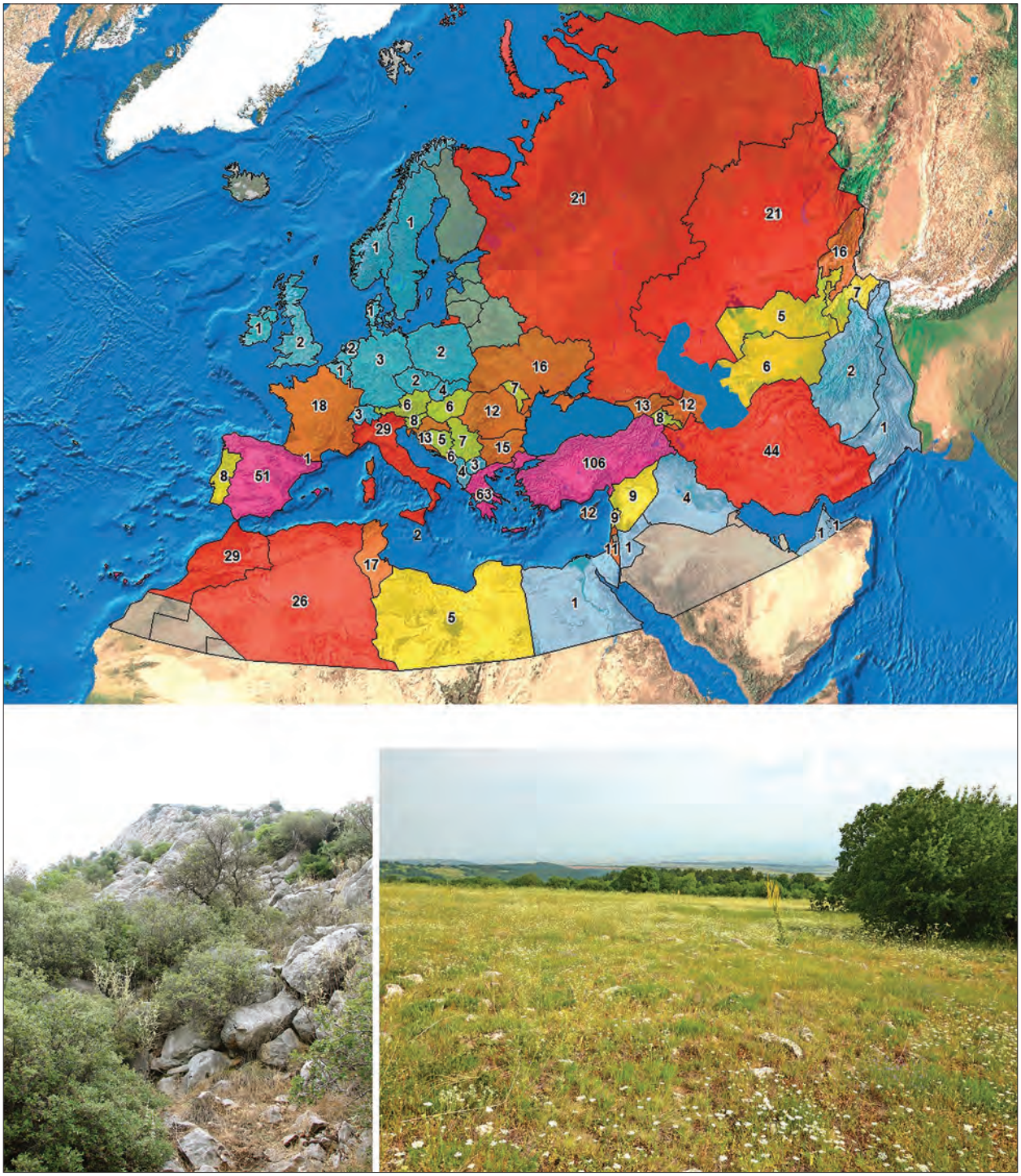


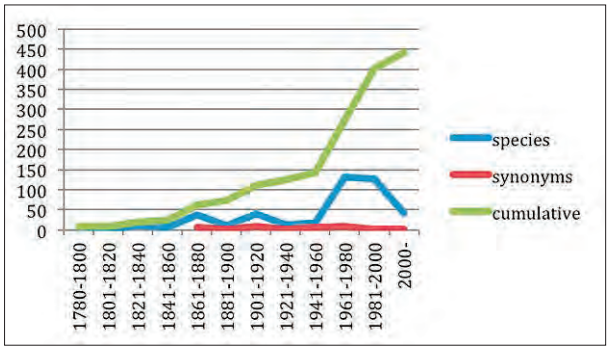
Plate 1. Map of Western Palaearctic area with a number of species known for every country, top (by P. Zimmermann); Mediterranean community in Greece (photo by V. Gnezdilov), bottom left; Steppe-like community in Bulgaria (photo by W. Holzinger), bottom right.

WHO HAS DESCRIBED THE ISSID SPECIES?

Over 50 authors have described a total of over 400 species of Palaearctic Issidae, starting from early workers such as Fabricius. Interestingly, Linnaeus did not describe any species from this region. Eleven authors are responsible for 76% of the described species, and Dlabola is responsible for 164 species (36%).

The accumulation curve by each 20-year period shows a typical gradual accumulation of species until the late 19th century. Forty species were described between 1900 and 1920. The large majority of the species (around 50%) was described when Dlabola and other modern workers were active. The recent work by Gnezdilov and co-authors has added further species.

Dates	Species	Synonyms	Cumulative
1780–1800	8	1	8
1801–1820	1		9
1821–1840	11	4	20
1841–1860	5		25
1861–1880	36	5	61
1881–1900	11	1	72
1901–1920	40	7	112
1921–1940	13	1	125
1941–1960	18	5	143
1961–1980	131	8	274
1981–2000	127	2	401
2000–	41	3	442



Biographies of Major Workers on Western Palaearctic Issidae

Bergevin, Ernest de (1859–1933) (Pl. 2)

Ernest de Bergevin lived in Algeria and is the author of many significant taxonomic works on the fauna of North Africa (Seurat 1930). He described 21 WP issid species (5 synonyms). His collection is deposited in the Museum National d'Histoire Naturelle, Paris, France.

Dlabola, Jirí (born 1922) (Pl. 3)

Jirí Dlabola, worked for most of his career in the Museum of Natural History, Prague, Czech Republic (Jezek 1994). He travelled extensively in the Middle East and Iran and is one of the most important workers on the Auchenorrhyncha fauna of the Middle East. Among his many papers are those dealing with issid faunas and he has described 164 WP issid species (9 synonyms), which is 36% of the currently known Western Palaearctic fauna. His collections are deposited in the Museum of Natural History, Prague and in the Muséum national d'Histoire naturelle, Paris, France.

Emeljanov, Alexandr Fedorovich (born 1936) (Pl. 3)

Alexandr Emeljanov, based at the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg has extensively studied the taxonomy, zoogeography and phylogeny of the Auchenorrhyncha from a world perspective and especially the family Dictyopharidae. He travelled with many expeditions in the former USSR and Mongolia and has published widely on this fauna. An estimate has been given that he has spent 7 years on fieldwork! (Kozlov & Richter 2006). He described 11 WP issid species.

Fieber, Franz Xavier (1807–1872)

Franz X. Fieber was one of the most important early workers on Auchenorrhyncha and publishing extensively on the Central European fauna. Most types are in the Muséum national d'Histoire naturelle, Paris, France and in the Naturhistorische Museum Wien, Austria.

He described 17 WP issid species (2 synonyms).

Lindberg, Håkan (1898—1966)

Håkan Lindberg worked for most of his career at the University of Helsinki, Finland. He is best known for his works on the Heteroptera and Auchenorrhyncha faunas of Canary Islands, Cape Verde and Cyprus. His collection is deposited in the Zoological Museum, Helsinki. He described 17 WP issid species and subspecies (3 synonyms).

Linnavuori, Rauno (born 1927) (Pl. 2)

Based in Finland, Rauno Linnavuori has been publishing on Hemiptera since 1948 and is arguably one of the greatest Hemipterists of the last 50 years, working on both Auchenorrhyncha and Heteroptera. He has travelled and collected extensively in Africa and the Middle East and described many new species based on this fieldwork. His collections are largely deposited in the American Museum of Natural History, New York, USA and in the National Museum of Wales, Cardiff, UK. He described 18 WP issid species and subspecies (4 synonyms).

Logvinenko, Valentina Nikolaevna (1929—1983) (Pl. 2)

Valentina Logvinenko was born in Kharkov, Ukraine and studied Biology in Kharkov State University followed by post graduate work in the Institute of Zoology of Ukrainian Academy of Sciences, Kiev on the leafhoppers of the Ukraine. She continued to work at the Institute for the rest of her career, specialising in the faunistics and taxonomy of Auchenorrhyncha and published 65 papers and a monograph on Fulgoroidea of Ukraine (Anufriev & Osychnyuk 1985). She described 24 WP issid species (2 synonyms).

Melichar, Leopold (1856—1924) (Pl. 2)

Leopold Melichar was born in Brno and was for most of his career a medical doctor in Vienna. He initially published on the Central European Auchenorryncha fauna but began to produce important monographs on planthopper families, including one on Issidae (1906). He also produced a comprehensive revision of the leafhopper subfamily Cicadellinae. His collections are housed in the Moravian Museum, Brno, Czech Republic. He described 19 WP issid species (3 synonyms).

Mitjaev, Ivan Dmitrievich (born 1928) (Pl. 3)

Ivan Mitjaev was born in Leninka village, Kazakhstan and studied Biology in Kazakh State University. He started his scientific career as a PhD-student at the Institute of Zoology of the Kazakh Academy of Sciences in Alma-Ata. During the preparation of his PhD thesis ("Insects-pests of Tamarix in Balkhash-Alakol hollow") he spent almost a year in the field collecting the material along Ili and Karatal Rivers in Kazakhstan. He continued to work in the Institute of Zoology and devoted his life to the study of Auchenorrhyncha fauna of Kazakhstan. He published about 100 papers including 2 monographs on Auchenorrhyncha of Kazakhstan (1971, 2002) and described 11 WP issid species.

Remane, Reinhard (1929—2009) (Pl. 3)

Reinhard Remane inspired a generation of Central European Auchenorrhycha (and Heteroptera) specialists, while an academic teacher at University of Marburg, Germany. He published since 1957 on the taxonomy, speciation, phylogeny and evolution of European and Western Mediterranean Auchenorrhyncha. He was especially interested in the Canary Islands, from where he described 11 Issus species. His collection is now in the Senckenberg Naturhistorische Sammlungen, Dresden, Germany.

Plate 2. Ernest de Bergevin (from MNHN Entomological Library, Paris, France), top left; Valentina Logvinenko (photo by G. Kotenko), top right; Leopold Melichar (from MMBC, Brno, Czech Republic), bottom left; Rauno Linnavuori, bottom right.

Plate 3. Jirí Dlabola (photo by W. Holzinger), top left; Alexandr Emeljanov (photo by V. Gnezdilov), top right; Ivan Mitjaev (photo by R. Jashchenko), bottom left; Reinhard Remane (photo by W. Holzinger), bottom right.

MORPHOLOGY OF THE FAMILY ISSIDAE

Terminology

The terminology of the head follows Emeljanov (1995). According to him in the advanced families of Fulgoroidea Kirkaldy, 1907, including Issidae, the division into the vertical and facial sides of the head runs between the "coryphe" and "metope". This can be determined in the nymphal stage, when the metope bears two rows of sensory pits along the lateral keels and the sublateral carinae. The coryphe is always without sensory pits. In the Issidae the "metope" corresponds with the frons and "coryphe" — the vertex.

A sensory pit — a small hole with horizontal seta directed inwards and diverging from its border, the length of the seta is not greater than diameter of the hole according to Emeljanov (2001c).

Hypocostal plate — a basal extension of the forewing below and perpendicular to the costal margin according to Emeljanov (1971).

The terminology of the male genitalia follows Gnezdilov (2003a, b) and that of the female genitalia — Bourgoin (1993) and Gnezdilov (2002c).

General Characters of the Family

Issidae are "beetle-like" planthoppers (Pl. 4) with total length (from apex of the head or apex of the head proboscis (Parahiraciini) to apex of fore wings or apex of abdomen in subbrachypterous species) 1.9—12.5 mm. Adults from macropterous (tropical Issini) to subbrachypterous (all Western Palaearctic species), with body shape (head with fore wings and abdomen) from elongate (Parahiraciini) to ovoid (Issini) or hemisphaerical (Hemisphaeriini). Metope often with median and sublateral carinae, and sometimes with transverse carina (*Issus* spp., *Brachyprosopa* spp.) (Pl. 6, fig. 2, Pl. 13, figs a—d). Metopoclypeal suture arched or almost straight. Postclypeus without lateral carinae. Coryphe transverse or elongate (Pl. 6, fig. 1, Pl. 4). Pronotum with large disc and narrow paradiscal fields behind the eyes. Mesonotum relatively short. Fore wings dull, rigid and convex (elytriform) or flat and transparent (Issini: *Oronoqua* spp.), often with hypocostal plate (Pl. 5, fig. 4). Venation diverse, sometimes obscure (Issini: *Pseudohemisphaerius* Melichar, 1906 and Hemisphaeriini). For main part of Western Palaearctic species venation pattern of fore wing as follows — radius with 2 or 3 branches, median simple, or with 3—4 branches, cubitus anterior simple or with 2 branches. Hind wings normally developed, with diverse venation, often with 2 marginal clefts (e. g. *Eusarima* spp.) or more or less rudimentary (all other Western Palaearctic species). Legs usually short and strong (except Parahiraciini with long legs). The axis of coxa — trochanter articulation of hind leg, as a rule, more or less horizontal (Anufriev & Emeljanov 1988). Hind tibia with 1—6 (usually 1—2) lateral spines or without them (*Sfaxia* spp.) and with 2 latero-apical and some apical intermediate spines (Pl. 5, fig. 3). First metatarsomere usually with 2 latero-apical spines and with some apical intermediate spines (Pl. 5, fig. 3). Second metatarsomere with only 2 latero-apical spines. Some genera (*Balduza* Gnezdilov & O'Brien, 2006, *Kathleenum* Gnezdilov, 2004, *Lethierium* Dlabola, 1980) are characterized by the presence of sensory pits in imago on abdominal sternites IV—VI. In Auchenorrhyncha sensory pits are specific organs in fulgoroid larvae and are very rare in imago (Emeljanov 2001c; Gnezdilov & Wilson 2007c).

Male genitalia. Anal tube is of different shape, with anal column (Pl. 6, figs 7, 8). Penis with sclerotized phallobase devided into dorso-lateral and ventral lobes (Pl. 6, figs 3, 4). Dorso-lateral lobes often with teeth or processes. Aedeagus with pair of apical processes, phallotrema between them, and 1—2 pairs of ventral hooks or without hooks. Ventral hooks with simple apices or bifurcate. Style with a distinct capitulum, often on neck, bearing apical and lateral teeth (except *Lindbergatium* spp. with rudimentary lateral tooth) (Pl. 6, figs 5, 6, 9, Pl. 11, fig. 5). Hind margin of style convex, straight or concave.

Female genitalia. Hind margin of pregenital sternum VII widely concave (Pl. 5, fig. 1) or with median process. Ovipositor rounded (Pl. 5, figs 1, 2) or beak-shaped (some Oriental Issini). In rounded ovipositor gonoplacs convex, fused basally, sometimes with transverse keel outside (Pl. 5, fig. 2). Gonapophyses IX fused proximally and joined with scoop-shaped gonospiculum bridge. Posterior connective lamina of gonapophyses IX with usually convex proximal part and arcuated, curved at angle or rather straight distal parts (Pl. 7, fig. 3). Median field of the lamina, a weakly pigmented area situated between its distal parts, weakly convex, mono- or bilobed apically (Pl. 7, figs 3, 4, Pl. 10, figs 1, 2) or in form of a large process curved to the base of gonapophyses (subtribe Agal-

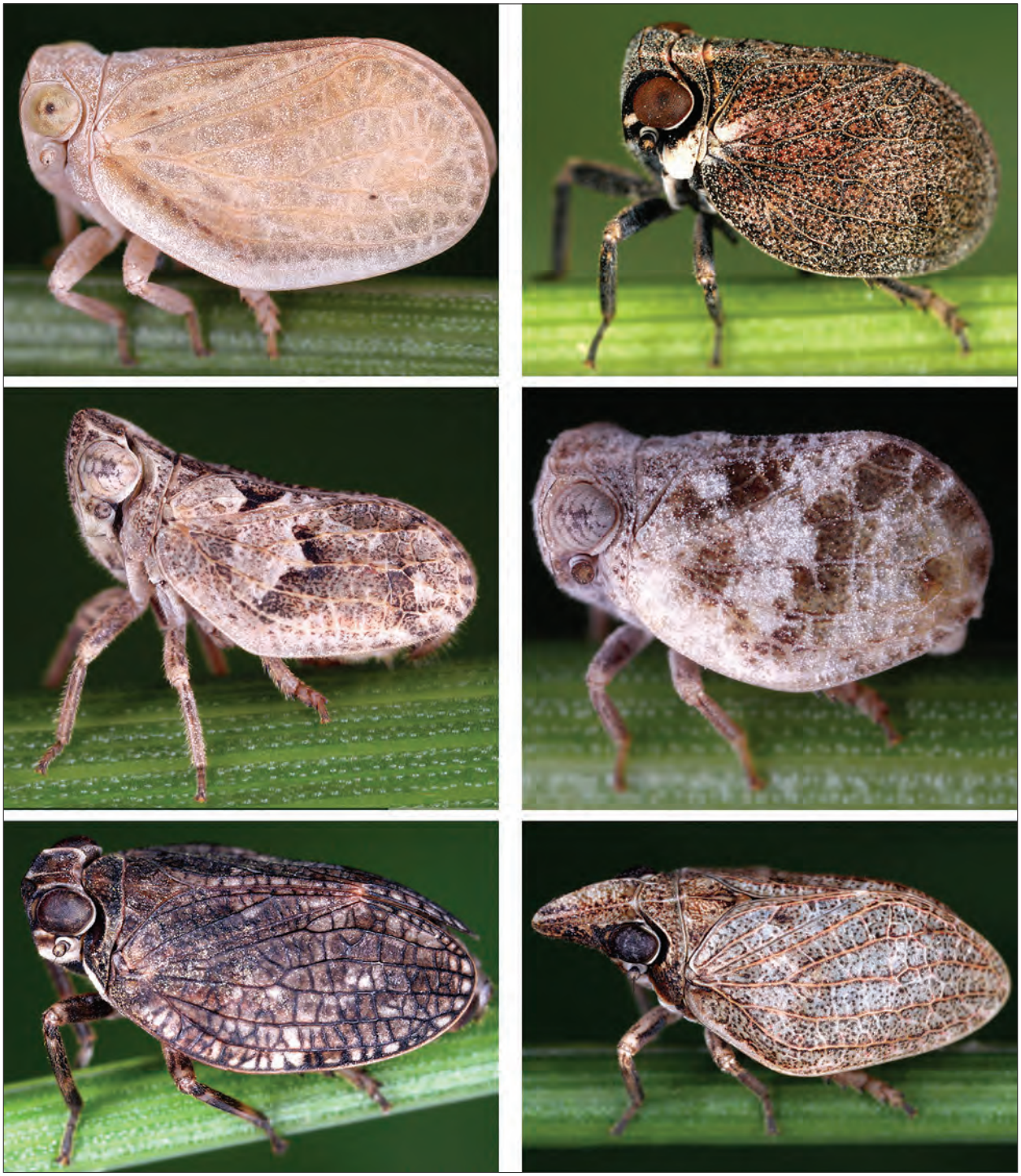


Plate 4. *Agalmatium bilobum* (Fieber), top left; *Kervillea conspurcata* (Spinola), top right; *Conosimus coelatus* Mulsant & Rey, mid left; *Hysteropterum dolichotum* Gnezdilov & Mazzoni, mid right; *Issus muscaeformis* (Schrank), bottom left; *Mycterodus cuniceps* Melichar, bottom right (all photos by G. Kunz).

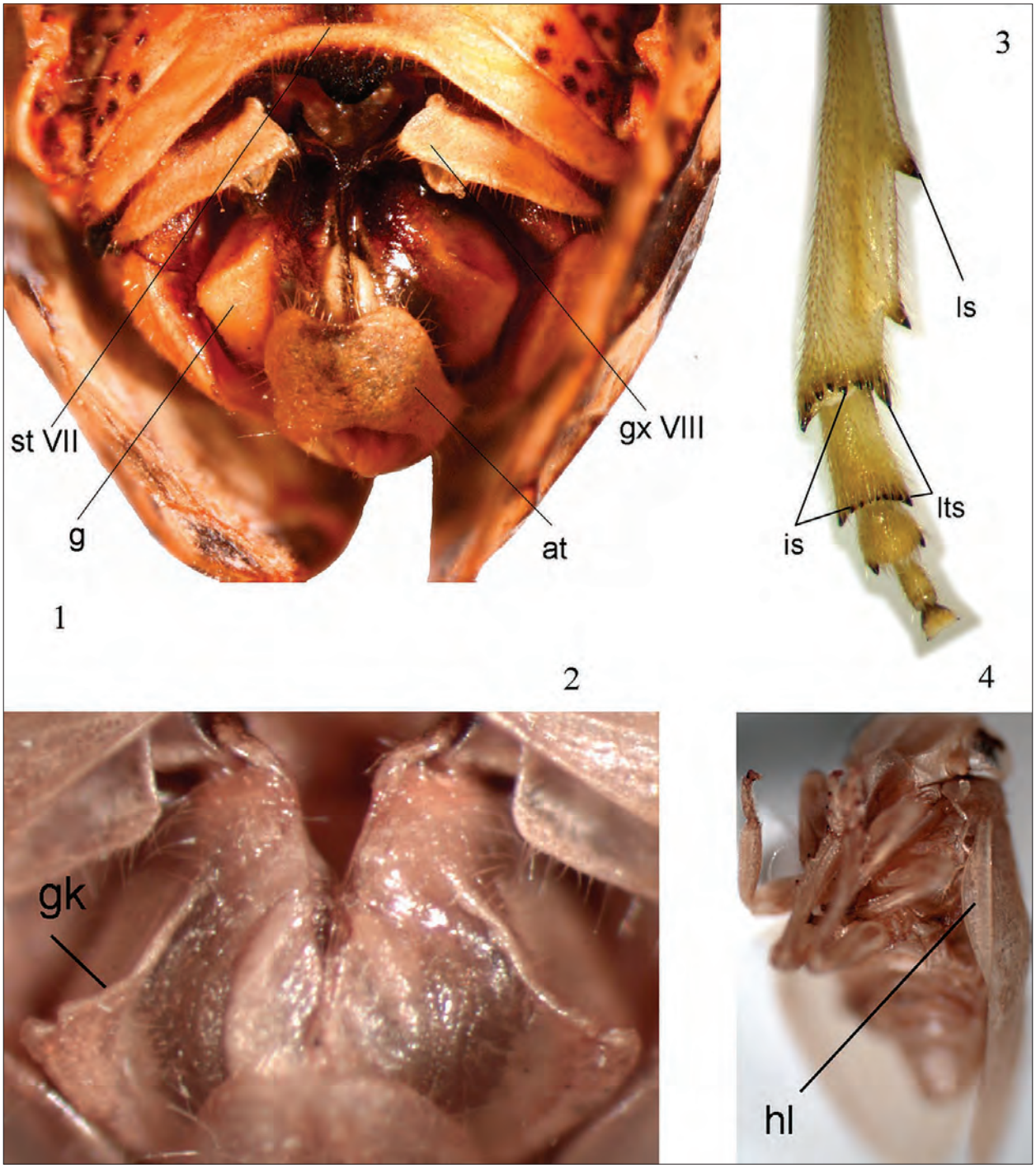


Plate 5. 1, *Iberanum dlabolai* Gnezdilov, ovipositor, ventral view; 2, *Palaeolithium distinguendum* (Kirschbaum), ovipositor, ventral view; 3, *Pamphylium cingulatum* (Dlabola), hind leg; 4, *Agalmatium bilobum* (Fieber), ventral view.
Abbreviations: at — anal tube; g — gonoplac; gk — keel of gonoplac; gx VIII — hind margin of gonocoxa VIII; hl — hypocostal plate of fore wing; is — intermediate apical spines of hind tibia and first metatarsomere; ls — lateral spines of hind tibia; lts — latero-apical spines of hind tibia and first metatarsomere; st VII — hind margin of sternum VII.

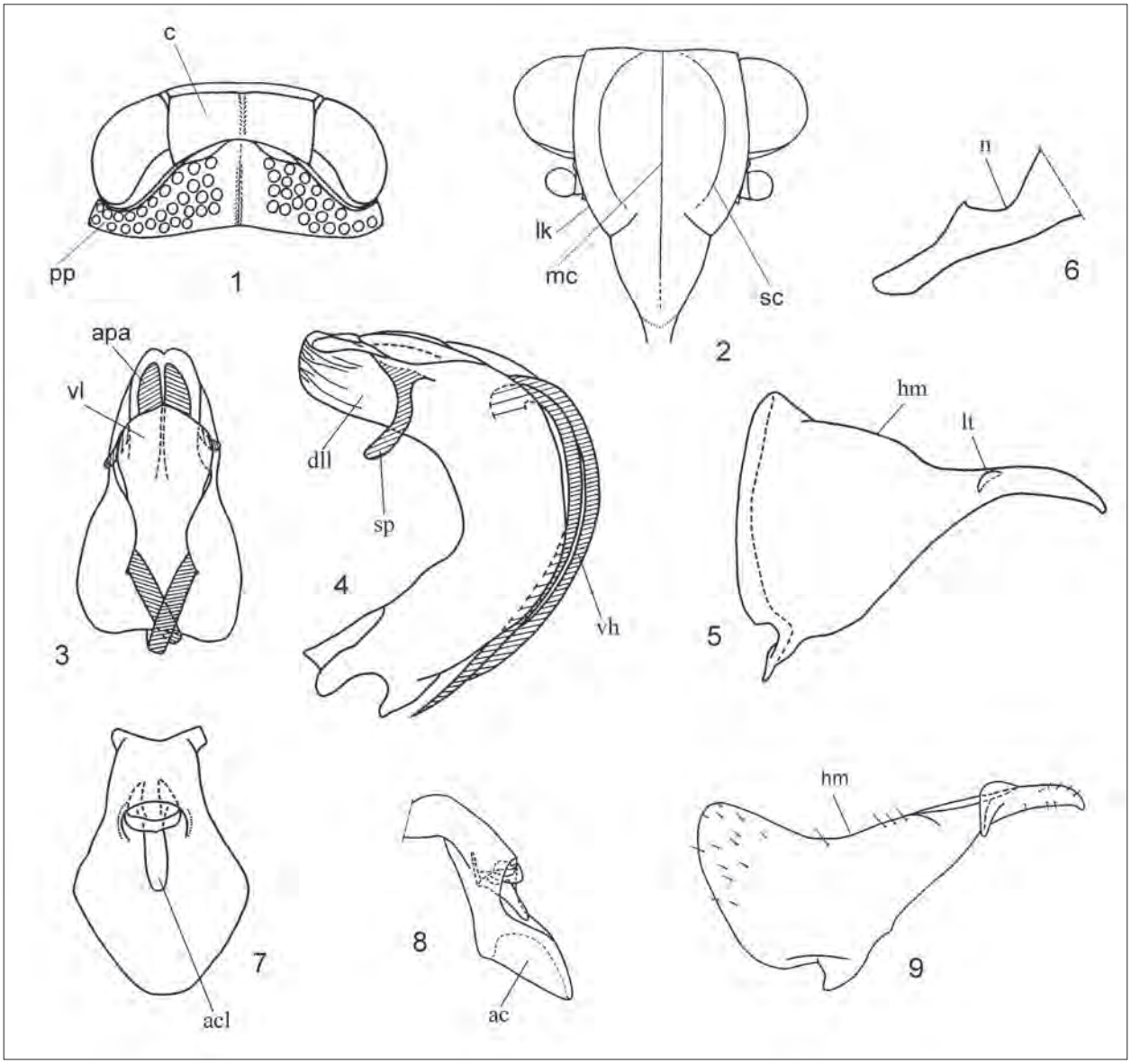


Plate 6. 1, *Tshurtshurnella eugeniae* Kusnezov, head and pronotum, dorsal view (after Gnezdilov, 2002d); 2, *Tshurtshurnella mysica* Gnezdilov, head, frontal view (after Gnezdilov, 2002d); 3, *Fieberium impressum* (Fieber), penis, ventral view (after Gnezdilov, 2003a); 4, same, lateral view (after Gnezdilov, 2003a); 5, *F. impressum* (Fieber), style, lateral view (after Gnezdilov, 2003a); 6, same, capitulum of style, dorsal view (after Gnezdilov, 2003a); 7, *F. impressum* (Fieber), male anal tube, dorsal view (after Gnezdilov, 2003a); 8, *Numidius litus* Gnezdilov, Guglielmino & D'Urso, male anal tube, lateral view (after Gnezdilov, Guglielmino & D'Urso, 2003); 9, *Anatolodus pictifrons* (Melichar), style, lateral view (after Gnezdilov, 2002a). Abbreviations: apa — apical processes of aedeagus; ac — apical concavity of ventral side of male anal tube; acl — anal column of anal tube; c — coryphe; dll — dorso-lateral phallobase lobes; hm — hind margin of style; lk — lateral keel of metope; lt — lateral tooth of style; mc — median carina of metope; n — neck of capitulum of style; pp — paradiscal fields of pronotum; sc — sublateral carina of metope; sp — subapical process of dorso-lateral phallobase lobe; vh — ventral aedeagal hooks; vl — ventral phallobase lobe.

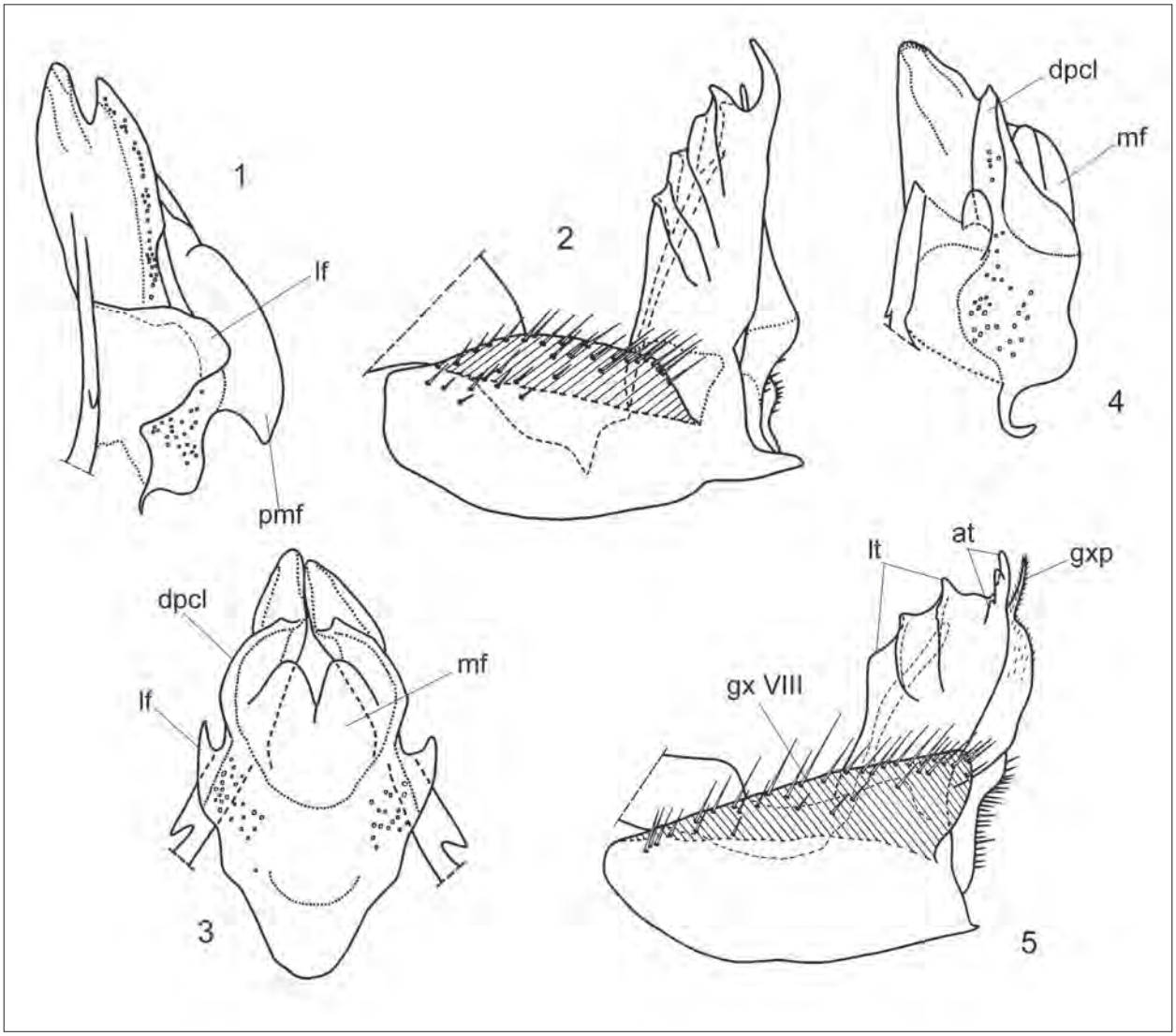


Plate 7. 1, *Tingissus guadarramense* (Melichar), posterior connective lamina of gonapophyses IX, lateral view (after Gnezdilov, 2003a); 2, *T. guadarramense* (Melichar), anterior connective lamina of gonapophyse VIII, lateral view (after Gnezdilov, 2003a); 3, *Hysteropterum reticulatum* (Herrich-Schäffer), posterior connective lamina of gonapophyses IX, dorsal view (after Gnezdilov, 2002c); 4, *H. reticulatum* (Herrich-Schäffer), posterior connective lamina of gonapophyses IX, lateral view (after Gnezdilov, 2002c); 5, *Iberanum dlabolai* Gnezdilov, anterior connective lamina of gonapophyse VIII, lateral view (after Gnezdilov, 2003a).
Abbreviations: mf — median field of posterior connective lamina of gonapophyses IX; pmf — process of the median field of posterior connective lamina of gonapophyses IX; dpcl — distal parts of posterior connective lamina of gonapophyses IX; lf — lateral field of posterior connective lamina of gonapophyses IX; gx VIII — hind margin of gonocoxa VIII; lt — lateral teeth of anterior connective lamina of gonapophyse VIII; at — apical teeth of anterior connective lamina of gonapophyse VIII; gxp — endogonocoxal process.

matiina) (Pl. 7, fig. 1). Lateral fields of the lamina, weakly pigmented areas situated between posterior fibulae and the proximal part of the lamina, flat or in shape of projections. Anterior connective lamina of gonapophyse VIII usually in shape of relatively broad plate with apical and lateral groups of teeth (these groups include 1—3 and 1—5 teeth, respectively) (Pl. 7, fig. 5). Endogonocoxal process either simple or 2-3-lobed. Hind margin of gonocoxa VIII often protruding as a lobe (Pl. 5, fig. 1, Pl. 7, figs 2, 5).

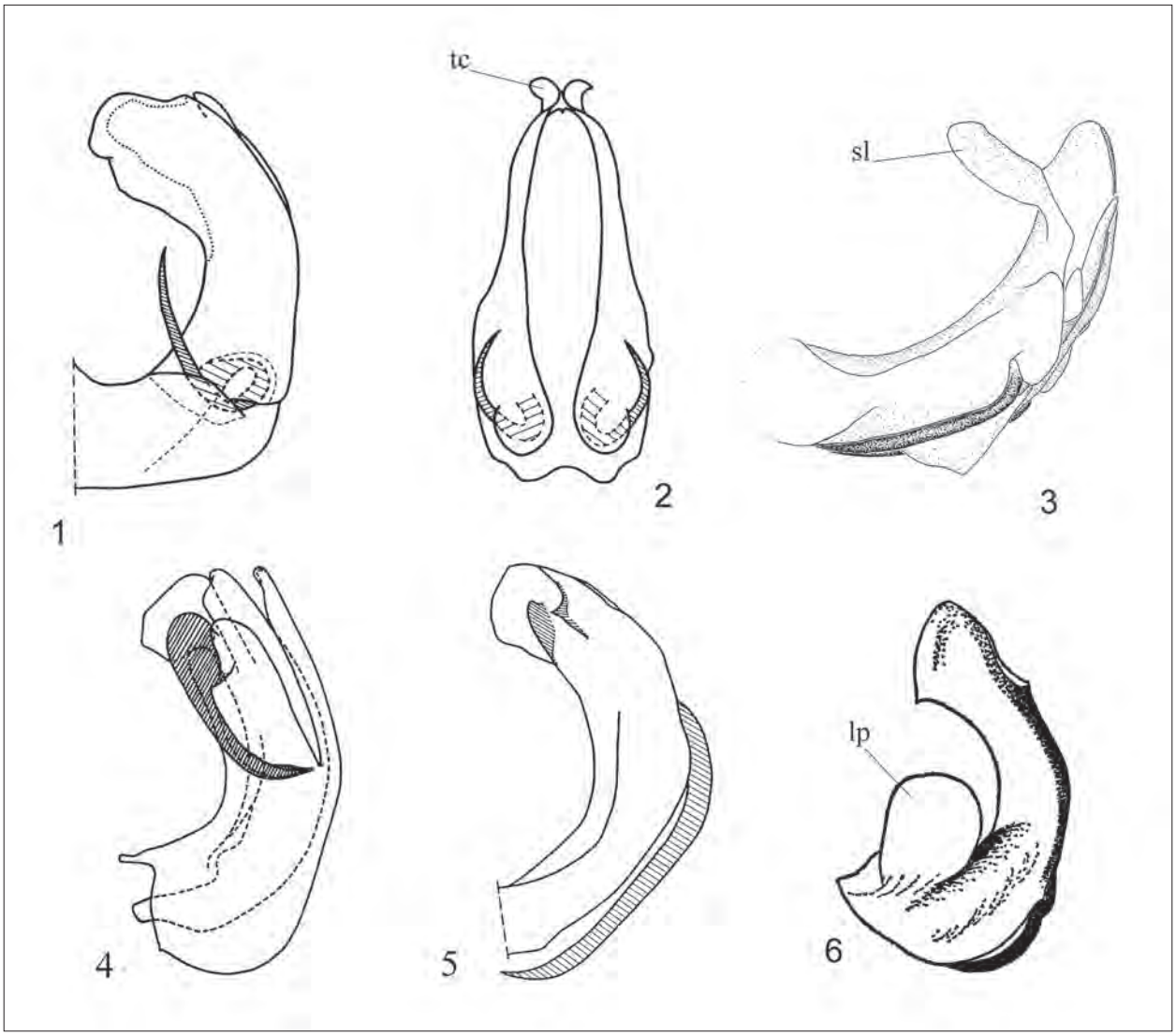


Plate 8. 1, *Falcidius limbatus* (A. Costa), penis, lateral view (after Gnezdilov, 2003a); 2, *Falcidius apterus* (Fabricius), penis, ventral view (after Gnezdilov & Wilson, 2008); 3, *Latissus dilatatus* (Fourcroy), penis, lateral view (after Holzinger, Kammerlander & Nickel, 2003, modified); 4, *Anatonga alosa* (Emeljanov), penis, lateral view (after Emeljanov, 2001b); 5, *Semissus semissoides* (Bergevin), penis, lateral view (after Gnezdilov & Wilson, 2005a); 6, *Lethierium reiberi* (Lethierry), penis, lateral view (after Dlabola, 1980a, modified).
Abbreviations: lp — lobe-shaped process of phallobase; sl — subapical lobe of phallobase; tc — tubular collar of phallobase.

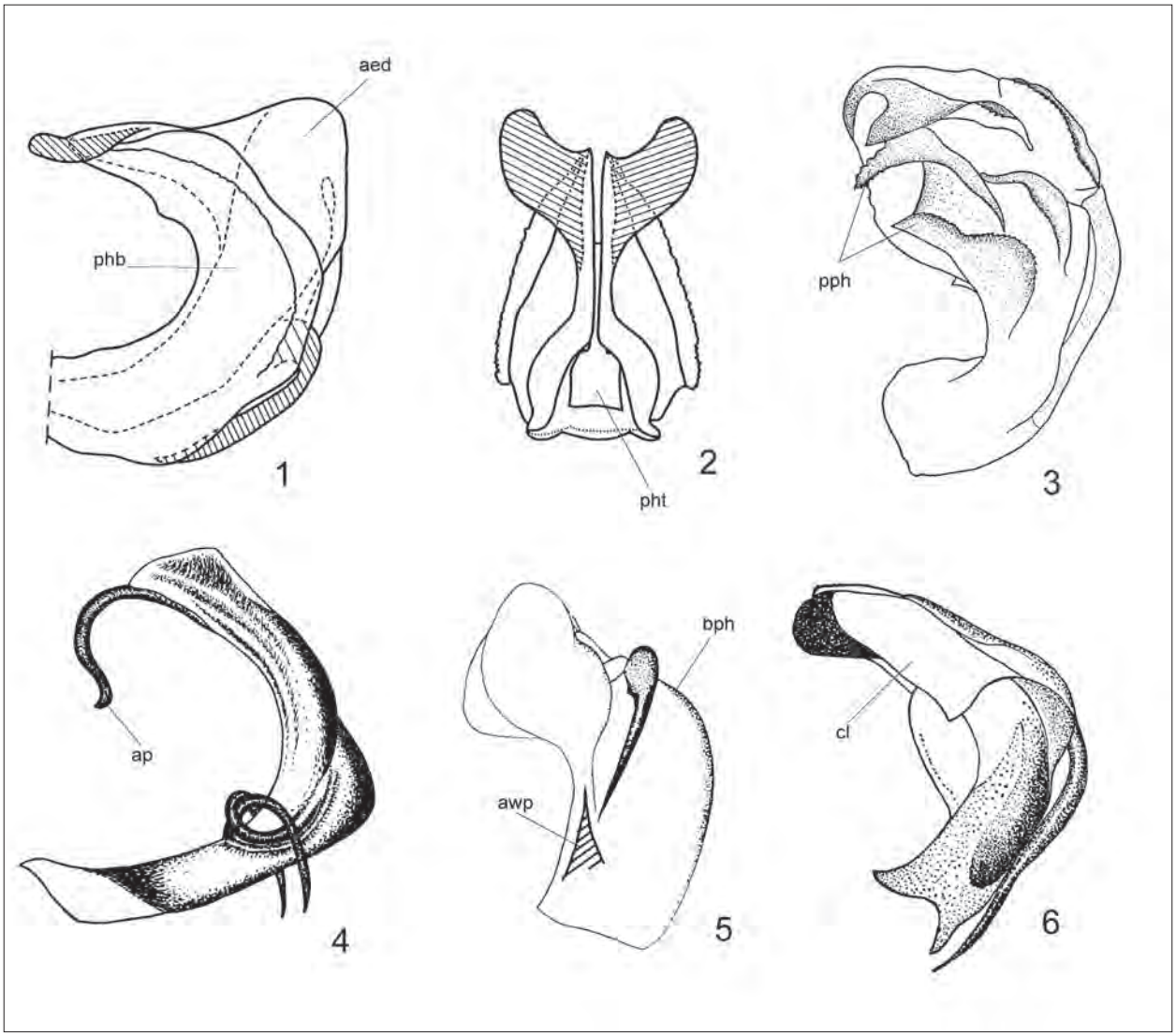


Plate 9. 1, *Mycterodus idomeneus* Dlabola, penis, lateral view (after Gnezdilov & Drosopoulos, 2005); 2, same, caudal view (after Gnezdilov & Drosopoulos, 2005); 3, *Mycterodus lobatus* Logvinenko, penis, lateral view (after Logvinenko, 1968, modified); 4, *Granum pooti* (Dlabola), penis, lateral view (after Dlabola, 1989, modified); 5, *Scorlupaster emersum* (Dlabola), penis, lateral view (after Dlabola, 1981a, modified); 6, *Libanissum trispinatum* (Dlabola), penis, lateral view (after Dlabola, 1985, modified).

Abbreviations: aed — aedeagus; phb — phallobase; pht — phallotrema; pph — lateral proceses of phallobase; ap — apical process of phallobase; awp — awl-shaped process of phallobase; bph — bulbose phallobase; cl — collar around phallotrema.

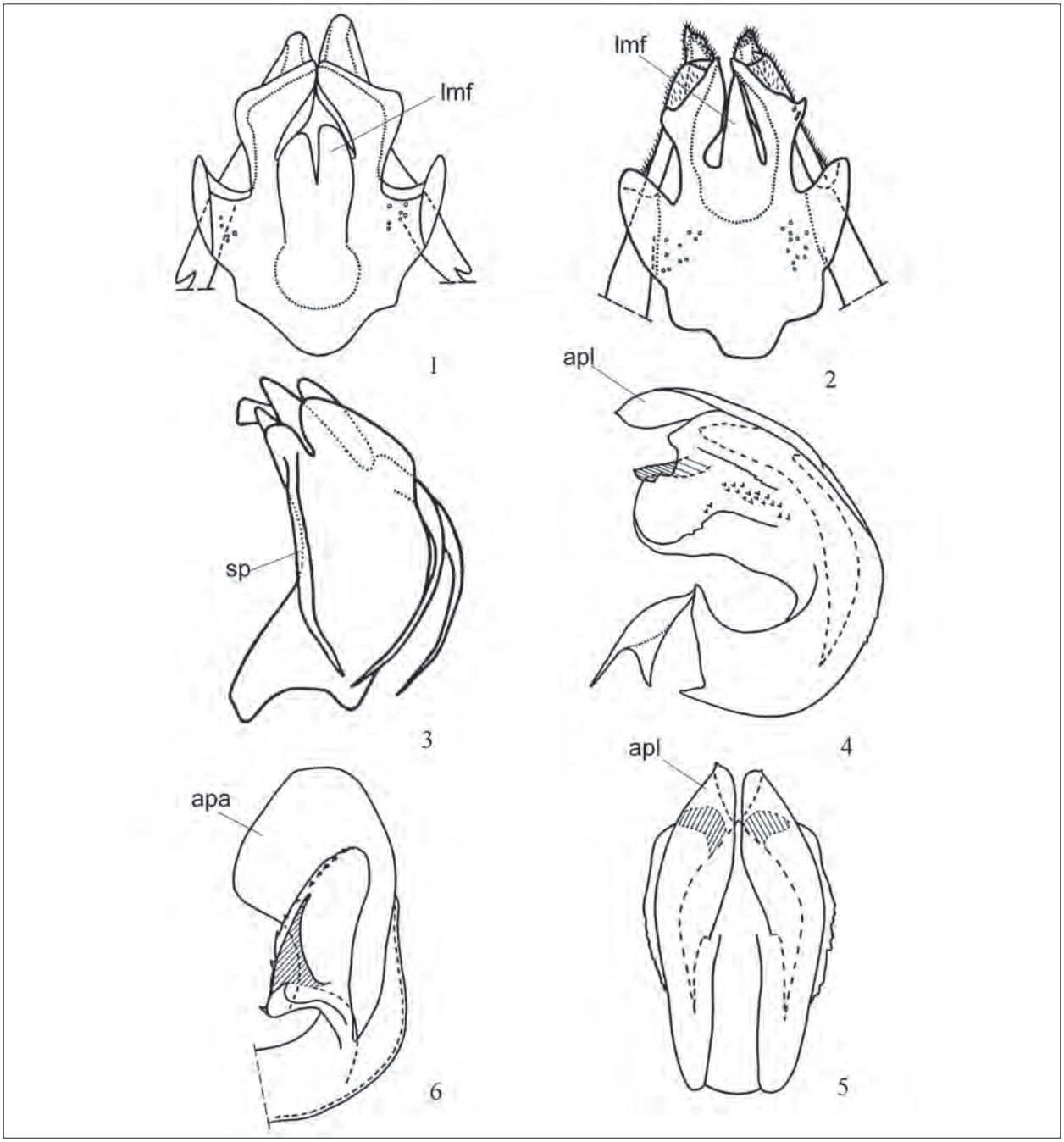


Plate 10. 1, *Latematium latifrons* (Fieber), posterior connective lamina of gonapophyses IX, dorsal view (after Gnezdilov, 2002c); 2, *Pamphylium cypriacum* (Dlabola), posterior connective lamina of gonapophyses IX, dorsal view (after Gnezdilov & Wilson, 2007a); 3, *Phasmena breviuscula* Emeljanov, penis, lateral view (after Emeljanov, 1978, modified); 4, *Kervillea coronata* (Logvinenko), penis, lateral view (after Gnezdilov, 2002b); 5, same, ventral view (after Gnezdilov, 2002b); 6, *Tshurtshurnella uvarovi* Gnezdilov, penis, lateral view (after Gnezdilov, 2002d).
Abbreviations: lmf — lobes of median field of posterior connective lamina of gonapophyses IX; sp — subapical process of phallobase; apa — apical process of aedeagus; apl — apical process of dorso-lateral phallobase lobe.

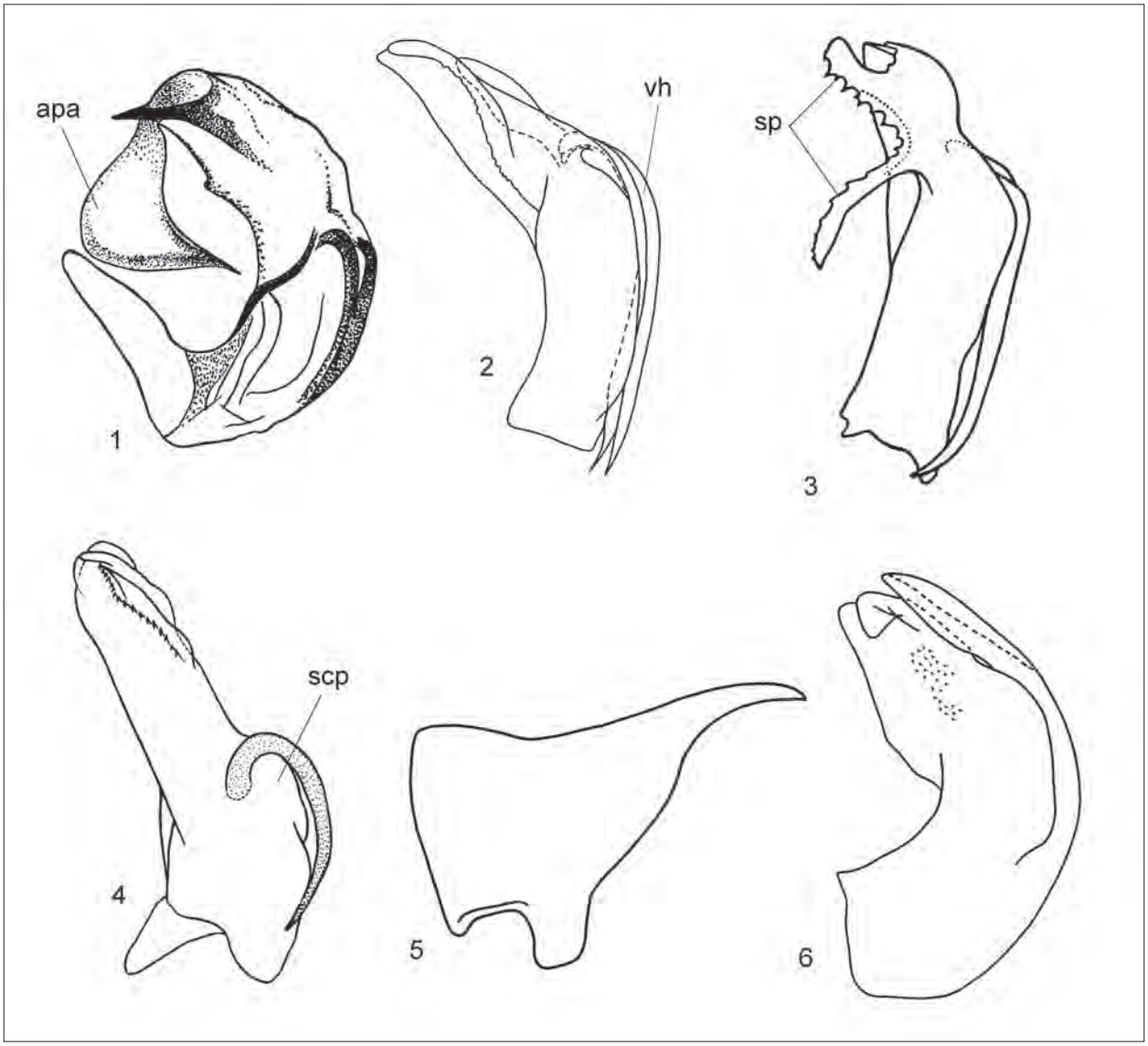


Plate 11. 1, *Cavatorium bispinatum* Dlabola, penis, lateral view (after Dlabola, 1980a, modified); 2, *Anatolodus pictifrons* (Melichar), penis, lateral view (after Gnezdilov, 2002a); 3, *Celyphoma coelimontana* Emeljanov, penis, lateral view (after Emeljanov, 1978, modified); 4, *Inflatodus parvus* (Logvinenko), penis, lateral view (after Logvinenko, 1977b, modified); 5, *Lindbergatium punctulifrons* (Lindberg), style, lateral view (after Lindberg, 1964, modified); 6, *Corymbius tekirdagicus* (Dlabola), phallobase, lateral view (after Gnezdilov, 2002b).
Abbreviations: apa — apical process of aedeagus; scp — semicircular process under ventral aedeagal hook; sp — subapical process of phallobase; vh — ventral aedeagal hook.

KEY TO WESTERN PALAEARCTIC ISSID GENERA (IMAGO)

1. Metope with horizontal transverse carina in its upper part (Pl. 13, figs a—d). Subtribe Issina 2
— Metope without such horizontal transverse carina in its upper part (Pl. 14, fig. c) 3
2. Fore wings with hypocostal plate. Phallobase with long flattened dorso-ventrally subapical lobe (Pl. 8, fig. 3) . . . . . ***Latissus*** **Dlabola**
— Fore wings without hypocostal plate. Phallobase without such subapical lobe . . . . . ***Issus*** **Fabricius**
3. Median field of posterior connective lamina of gonapophyses IX strongly protruding, usually in shape of process turned basally (Pl. 7, fig. 1). Subtribe Agalmatiina. For external view see the plates 14—16 4
— Median field of posterior connective lamina of gonapophyses IX not protruding in shape of process (Pl. 7, fig. 4). Subtribe Hysteropterina 8
4. First metatarsomere usually with only 2 intermediate spines apically. For external view see the plate 14, figs a—c . . . . . ***Agalmatium*** **Emeljanov**
— First metatarsomere with 5—7 intermediate spines apically (Pl. 5, fig. 3) 5
5. Hind wings reach pygofer. For external view see the plate 15 . . . . . ***Iberanum*** **Gnezdilov**
— Hind wings rudimentary 6
6. Metope rather convex, with distinct median and sublateral carinae joined at its upper margin (Pl. 14, fig. e). Fore wings short and wide (Pl. 14, fig. f) . . . . . ***Clybeccus*** **Gnezdilov**
— Metope flat, with only median carina distinct (Pl. 16, figs c, d). Fore wings longer (Pl. 16, figs b, e) 7
7. Capitulum of style with reduced lateral tooth (Pl. 11, fig. 5). Gonoplacs without keels. For external view see the plate 16, figs a—c . . . . . ***Lindbergatium*** **Dlabola**
— Capitulum of style with a distinct lateral tooth. Gonoplacs with semicircular keels. For external view see the plate 16, figs d—f . . . . . ***Tingissus*** **Gnezdilov**
8. Hind wings well developed, 3-lobed . . . . . ***Eusarima*** **Yang**
[The genus is placed in the subtribe Hysteropterina provisionally. The subtribal system of Oriental genera is not developed].
— Hind wings more or less reduced, never 3-lobed 9
9. Fore wings with indistinct claval suture (Pl. 45, fig. a) . . . . . ***Pseudohemisphaerius*** **Melichar**
— Fore wings with distinct claval suture 10
10. Lateral parts of metope horn-shaped (Pl. 20, figs d—f). Hind margin of female abdominal sternum V with large projection . . . . . ***Bootheca*** **Emeljanov**
— Metope without horn-shaped projections, female abdominal sternum V without projection 11
11. Metope and coryphe joined at obtuse angle (in lateral view), metope well visible from above (Pl. 17, figs e, f), with characteristic longitudinal black stripe medially (Pl. 17, fig. d) . . . . . ***Alloscelis*** **Kusnezov**
— Metope and coryphe joined at nearly right or acute angle (in lateral view), metope not visible from above, without black stripe medially 12
12. Hind tibia without lateral spines . . . . . ***Sfaxia*** **Bergevin**
— Hind tibia with 1—3 lateral spines 13
13. Metope with transverse carina in shape of wide "V" letter medially (Pl. 20, fig. c) . . . . . ***Brachyprosopa*** **Kusnezov**
— Metope without such V-shaped transverse carina medially 14
14. Abdominal sternites IV—VI each with pair of large sensory pits medially. Phallobase with pair of lobe-shaped processes proximally (Pl. 8, fig. 6). For external view see the plate 36 . . . . . ***Lethierium*** **Dlabola**
— Abdominal sternites IV—VI without sensory pits. Phallobase of another structure 15
15. Phallobase in shape of distinctive "tubular collar" apically, with strongly curved ventral hooks of aedeagus (Pl. 8, figs 1, 2). For external view see the plates 26 and 27 . . . . . ***Falcidius*** **Stål**
— Phallobase without "tubular collar" apically, ventral hooks of aedeagus of another shape 16
16. Metope with dark brown or black bands or spots (Pl. 35, figs f, g). Fore wings narrowing apically — nearly oval (Pl. 35, fig. e) . . . . . ***Mulsantereum*** **Gnezdilov**
— Metope without such bands or spots. If metope with bands — fore wings widening apically (Pl. 43, fig. b) 17
17. Metope usually with median and sublateral carinae joined below its upper margin (Pl. 22, fig. h, Pl. 31, fig. d, Pl. 40, Pl. 53, fig. d) 18
— Metope with median and sublateral carinae joined at its upper margin 21
18. Metope often with characteristic turned "V"-shaped band (Pl. 40). Aedeagus usually with characteristic well exposed apical processes and large phallotrema (Pl. 9, figs 1, 2) . . . . . ***Mycterodus*** **Spinola**
— Metope usually without turned "V"-shaped band. Aedeagus without such apical processes and phallotrema 19

19. First bifurcation of radial vein on fore wings starts almost from the basal cell, median simple, cubitus anterior with 2 branches (Pl. 22, fig. f) ..... ***Caepovultus*** **Gnezdilov & Wilson**
— First bifurcation of radial vein on fore wings starts from the common stem on a distance from the basal cell, median with 3 branches, cubitus anterior simple (Pl. 31, fig. e, Pl. 53, fig. e) 20
20. Body (head with fore wings) rather wide (in dorsal view) (Pl. 53, fig. f). Fore wings with radius with 2 branches (Pl. 53, fig. e) ..... ***Zopherisca*** **Emeljanov**
— Body more narrow (in dorsal view) (Pl. 31, fig. f). Fore wings with radius with 3 branches (Pl. 31, fig. e) ..... ***Kovacsiana*** **Synave**
21. Fore wings with hypocostal plate 22
— Fore wings without hypocostal plate 33
22. Hind tibia with single lateral spine 23
— Hind tibia with two lateral spines 25
23. Hind wings well developed, expand to pygofer. For external view see the plate 19, figs d—f ..... ***Bergevinium*** **Gnezdilov**
— Hind wings rudimentary 24
24. Fore wings rather short and wide (Pl. 47, fig. b). Aedeagus with pair of short ventral hooks. Female anal tube short, truncate apically ..... ***Tautoprosopa*** **Emeljanov**
— Fore wings longer (Pl. 28, figs b, e). Aedeagus with pair of long ventral hooks. Female anal tube elongate ..... ***Fieberium*** **Dlabola**
25. Fore wings with characteristic relief, sometimes brown, venation (Pl. 25, figs a, b). Phallobase with long apical process turned down (Pl. 9, fig. 4) ..... ***Granum*** **Gnezdilov**
— Fore wings with another kind of venation. Phallobase without such process 26
26. Each gonoplac with a keel bearing teeth (Pl. 5, fig. 2) or with a long spine 27
— Gonoplacs without teeth or spines 28
27. Metope with smoothed carinae (Pl. 41, fig. c). Coryphe transverse (Pl. 41, fig. b). Aedeagus with ventral hooks directed basally. Each gonoplac with a keel bearing two teeth (Pl. 5, fig. 2) ..... ***Palaeolithium*** **Gnezdilov**
— Metope with distinct carinae (Pl. 53, fig. c). Coryphe elongate (Pl. 53, fig. a). Aedeagus with ventral hooks directed apically. Each gonoplac with a long spine-shaped process ..... ***Webbisanus*** **Dlabola**
28. Fore wings widening apically (in lateral view) (Pl. 34, figs a, d, Pl. 43, fig. b) 29
— Fore wings not widening – nearly square or they narrowing apically (in lateral view) (Pl. 24, figs b, e, Pl. 29, figs a, f, Pl. 41, fig. f, Pl. 42, figs b, e) 30
29. Coryphe short (Pl. 34, figs c, f). Median field of posterior connective lamina of gonapophyses IX with two fold-shaped lobes situated closely each to other (Pl. 10, fig. 1) ..... ***Latematium*** **Dlabola**
— Coryphe longer (Pl. 43, fig. a). Median field of posterior connective lamina of gonapophyses IX with single elongate lobe (Pl. 10, fig. 2) ..... ***Pamphylium*** **Gnezdilov & Wilson**
30. Each fore wing with 3 characteristic brown dots (Pl. 41, figs e, f). Hind wings reach pygofer. Male anal tube with ventral side concave apically (Pl. 6, fig. 8) ..... ***Numidius*** **Gnezdilov, Guglielmino & D'Urso**
— Fore wings without such brown dots. Hind wings rudimentary. Male anal tube without such concavity 31
31. Coryphe rather elongate, often with median carina, anterior margin angulately protruding (Pl. 24, figs a, f). Costal margin of fore wings angulately convex (Pl. 24, figs b, e) ..... ***Conosimus*** **Mulsant & Rey**
— Coryphe transverse, without median carina, anterior margin convex (Pl. 29, figs b, e, Pl. 42, figs a, d). Costal margin of fore wings nearly straight or widely convex (Pl. 29, figs a, f, Pl. 42, figs b, e) 32
32. Fore wings wide — nearly square (Pl. 29, figs a, f). Median field of posterior connective lamina of gonapophyses IX with two lobes apically (Pl. 7, fig. 3) ..... ***Hysteropterum*** **Amyot & Serville**
— Fore wings more narrow (Pl. 42, figs b, e). Median field of posterior connective lamina of gonapophyses IX with single lobe apically ..... ***Palmallorcus*** **Gnezdilov**
33. Hind wings almost as long as fore wings. For external view see the plate 33 ..... ***Latilica*** **Emeljanov**
— Hind wings rudimentary 34
34. Metope with weak transverse elevation between traces of sublateral carinae medially (Pl. 47, fig. d). For external view see the plate 47, figs e, f ..... ***Scorlupella*** **Emeljanov**
— Metope without such transverse elevation medially 35
35. Phallobase bulbose (convex in lateral view) under ventral aedeagal hooks, with pair of awl-shaped processes proximally (Pl. 9, fig. 5). For external view see the plate 46, figs d—f ..... ***Scorlupaster*** **Emeljanov**
— Phallobase not bulbose under ventral aedeagal hooks, without awl-shaped processes proximally 36
36. Fore wings short, reaching only pygofer (Pl. 43, figs e, f) ..... ***Pentissus*** **Dlabola**
— Fore wings longer, exceed in length abdomen 37
37. Fore wings with radius with 3 branches 38
— Fore wings with radius with 2 branches 39

38. Each dorso-lateral phallobase lobe with narrow serrated subapical process (Pl. 11, fig. 4). Aedeagus with pair of relatively short ventral hooks arose in its lower part. For external view see the plate 30 ..... ***Inflatodus* Dlabola**
— Dorso-lateral phallobase lobes with another kind of processes (Pl. 8, fig. 5). Aedeagus with long ventral hooks. For external view see the plates 48 and 49 ..... ***Semissus* Melichar**
39. First metatarsomere with 1—2 intermediate spines apically 40
— First metatarsomere with 4—7 intermediate spines apically 42
40. Apical processes of aedeagus with enlarged apices (Pl. 10, fig. 6). For external view see the plates 51 and 52 .... ***Tshurtshurnella* Kusnezov**
— Apical processes of aedeagus more narrow 41
41. Body massive, fore wings widening apically (Pl. 25, figs e, f). Each dorso-lateral phallobase lobe with small rounded subapical process (Pl. 11, fig. 6). Aedeagus with pair of very short ventral hooks ..... ***Corymbius* Gnezdilov**
— Body more narrow (Pl. 18). Dorso-lateral phallobase lobes with narrow serrated subapical process (Pl. 11, fig. 2). Aedeagus with pair of long ventral hooks ..... ***Anatolodus* Dlabola**
42. Fore wings with wide subcostal area (Pl. 23, fig. e, Pl. 31, fig. b) 43
— Fore wings with rather narrow subcostal area 44
43. Apical processes of aedeagus in shape of long projections far exceeding phallobase margin (Pl. 11, fig.1) .... ***Cavatorium* Dlabola**
— Apical processes of aedeagus without such long projections ..... ***Iranodus* Dlabola**
44. Upper margin of metope often trapezially concave, with protruding upper angles (Pl. 21, figs c, f, h) .... ***Bubastia* Emeljanov**
— Upper margin of metope straight or concave, upper angles not protruding 45
45. Dorso-lateral phallobase lobes fused, enlarged apically, in shape of a collar around the phallotrema (Pl. 9, fig. 6). For external view see the plate 37 .... ***Libanissum* Dlabola**
— Phallobase without collar around the phallotrema .. 46
46. Aedeagus with pair of ventral hooks 47
— Aedeagus without ventral hooks 49
47. Pro- and mesonotum usually with median carina. Dorso-lateral phallobase lobes never have branchy subapical processes. For external view see the plate 45, figs d—f ..... ***Quadriva* Ghauri**
— Pro- and mesonotum usually without median carina. Dorso-lateral phallobase lobes often with branchy subapical processes. For external view see the plates 23, figs a—c and 44 48
48. Fore wings with median with 2—3 branches. Hind tibia with 1—2 lateral spines. Each dorso-lateral phallobase lobe with 1—2, sometimes branchy, subapical processes (Pl. 11, fig. 3). For external view see the plate 23, figs a—c ..... ***Celyphoma* Emeljanov**
— Fore wings with median with 2 branches. Hind tibia with single lateral spine. Each dorso-lateral phallobase lobe with single, sometimes branchy, subapical process (Pl. 10, fig. 3). For external view see the plate 44 .... ***Phasmena* Melichar**
49. Coryphe long and narrow (Pl. 19, fig. a). Each dorso-lateral phallobase lobe with large hook-shaped subapical process (Pl. 8, fig. 4) ..... ***Anatonga* Emeljanov**
— Coryphe rather wide and relatively short. Dorso-lateral phallobase lobes without hook-shaped subapical processes 50
50. Dorso-lateral phallobase lobes without processes or teeth. For external view see the plate 46, figs a—c .... ***Rhissolepus* Emeljanov**
— Each dorso-lateral phallobase lobe with long apical process narrowing apically or with apical tooth (Pl. 10, figs 4, 5). For external view see the plate 32 .... ***Kervillea* Bergevin**

CHECKLIST OF WESTERN PALAEARCTIC ISSIDAE WITH KEY TO SUBGENERA

Family Issidae Spinola, 1839

Subfamily Issinae Spinola, 1839

Tribe Issini Spinola, 1839

Subtribe Issina Spinola, 1839

Genus *Issus* Fabricius

Fabricius, 1803: 99. Type species: *Cercopis coleoptrata* Fabricius, 1781.

Archissus Sergel, 1986a: 49 (Type species: *Issus canariensis* Melichar, 1906), syn. fide Gnezdilov 2003a: 26.

Composition and distribution: 32 species distributed mostly in the Mediterranean Basin.

The genus is in need of revision. The validity of some old names is dubious. Remane (1985) stated that some species from Canary Islands do not have significant differences in morphology but were described in the hope of further study.

***Issus abdulnouri* Dlabola**

Issus abdulnouri Dlabola, 1987c: 301.
Distribution: Israel, Lebanon, Turkey.
Identification: Dlabola 1987c.

***Issus afrolauri* Sergel**

Issus afrolauri Sergel, 1986d: 79.
Distribution: Algeria.
Identification: Sergel 1986d.

***Issus analis* Brullé**

Issus analis Brullé, 1832: 107.
Distribution: Greece.
Identification: Brullé 1832.
Note: Uncertain species known only from original description.

***Issus bellardi* Melichar**

Issus bellardi Melichar, 1906: 188.
Distribution: Cyprus, ?Greece (Haupt 1928).
Identification: Melichar 1906.
Note: Uncertain species known only from original description.

***Issus bimaculatus* Melichar**

Issus canariensis var. *bimaculatus* Melichar, 1906: 191.

Issus dispersus Lindberg, 1954: 164, syn. fide Remane 1985: 81.

Distribution: Spain (Canary Islands: Tenerife I.).
Identification: Remane 1985.

***Issus cagola* Remane**

Issus cagola Remane, 1985: 42.
Distribution: Spain (Canary Islands: La Gomera I., Hierro I.).
Identification: Remane 1985.
Biology: Remane 1985.

***Issus cagracala* Remane**

Issus cagracala Remane, 1985: 48.
Distribution: Spain (Canary Islands: Gran Canaria I.).
Identification: Remane 1985.

***Issus cahipi* Remane**

Issus cahipi Remane, 1985: 43.
Distribution: Spain (Canary Islands: Hierro I.).
Identification: Remane 1985.
Biology: Remane 1985.

***Issus canalaurisi* Sergel**

Issus canalaurisi Sergel, 1986b: 60.
Distribution: Spain (Canary Islands: Tenerife I.).
Identification: Sergel 1986b.

***Issus canariensis* Melichar**

Issus canariensis Melichar, 1906: 190.
Distribution: Spain (Canary Islands: Tenerife I.).
Identification: Remane 1985.

***Issus capala* Remane**

Issus capala Remane, 1985: 47.
Distribution: Spain (Canary Islands: La Palma I.).
Identification: Remane 1985.

***Issus capapi* Remane**

Issus capapi Remane, 1985: 46.
Distribution: Spain (Canary Islands: La Palma I.).
Identification: Remane 1985.

***Issus cinereus* (Olivier)**

Fulgora cinerea Olivier, 1791: 577.

Distribution: France.
Identification: Olivier 1791.
Note: Uncertain species known only from original description.

***Issus climacus* Fieber**

Issus climacus Fieber, 1876: 266 [separata 1876: 256].
Distribution: Portugal, ?Spain (Sergel 1986c).
Identification: Gnezdilov, Soulier-Perkins & Bourgoin 2011.

***Issus coleoptratus* (Fabricius)**

Cercopis coleoptrata Fabricius, 1781: 330.
Issus quadriguttatus Walker, 1851: 366, syn. fide Gnezdilov, Drosopoulos & Wilson 2004: 217.
Distribution: Algeria, Austria, Belgium, Bulgaria, Czech Republic, France including Corsica I., Germany, Great Britain, Greece, Hungary, Ireland, Italy including Sardinia I. and Sicily I., Luxembourg, Moldova, The Netherlands, Poland, ?Portugal (de Seabra 1930), Romania, Slovakia, Slovenia, Spain, Switzerland.
Identification: Holzinger, Kammerlander & Nickel 2003.
Biology: Holzinger, Kammerlander & Nickel 2003, Nickel 2003, Whitehead & Key 2010, Badmin 2010.
Note: The species was also described as *Issus quadriguttatus* after a female from Hong Kong (Walker 1851). Probably that was an error label. The species is authentically known from St. Helene Island in Atlantic (Synave 1976).
Photos (Pl. 12, figs a—c, Pl. 13, fig. b): France (BMNH): ♂, frontal, dorsal and lateral views; ♀, lateral view.

***Issus distinguendus* Lindberg**

Issus distinguendus Lindberg, 1954: 164.
Distribution: Spain (Canary Islands: Lanzarote I., Fuerteventura I.).
Identification: Remane 1985.
Biology: Lindberg 1954.

***Issus fieberi* Melichar**

Issus fieberi Melichar, 1906: 191.
Distribution: Cyprus.
Identification: Melichar 1906.
Note: Uncertain species known only from original description.

***Issus frontalis* Fieber**

Issus frontalis Fieber, 1876: 264 [separata 1876: 254].
Issus novaki Dlabola, 1959: 152, syn. fide Gnezdilov, Soulier-Perkins & Bourgoin 2011: 26.
Issus truncatus sensu Holzinger, Kammerlander & Nickel 2003: 451.
Distribution: Austria, Croatia, France, Italy, Serbia.
Identification: Holzinger, Kammerlander & Nickel 2003, Gnezdilov, Soulier-Perkins & Bourgoin 2011.

***Issus gracalama* Remane**

Issus gracalama Remane, 1985: 78.
Distribution: Spain (Canary Islands: Gran Canaria I.).
Identification: Remane 1985.
Biology: Remane 1985.

***Issus gratehigo* Remane**

Issus gratehigo Remane, 1985: 88.
Distribution: Spain (Canary Islands: Gran Canaria I., Tenerife I., La Gomera I., Hierro I.).
Identification: Remane 1985.
Biology: Remane 1985.

***Issus hidipus* Remane**

Issus hidipus Remane, 1985: 83.
Distribution: Spain (Canary Islands: Hierro I.).
Identification: Remane 1985.
Biology: Remane 1985.

***Issus kabylicus* Dlabola**

Issus kabylicus Dlabola, 1989: 22.
Distribution: Algeria.
Identification: Dlabola 1989.

***Issus lauri* Ahrens**

Issus lauri Ahrens, 1814: Pl.19.
Distribution: Albania, ?Bosnia and Herzegovina (Fieber 1876), Croatia, France (Corsica I.), Greece including Corfu I., Italy including Sicily I., ?Montenegro (Horváth 1918), ?Portugal (Puton 1886b), ?Serbia (Divac 1907), ?Spain (Puton 1886b).
Identification: Holzinger, Kammerlander & Nickel 2003.
Biology: Holzinger, Kammerlander & Nickel 2003.

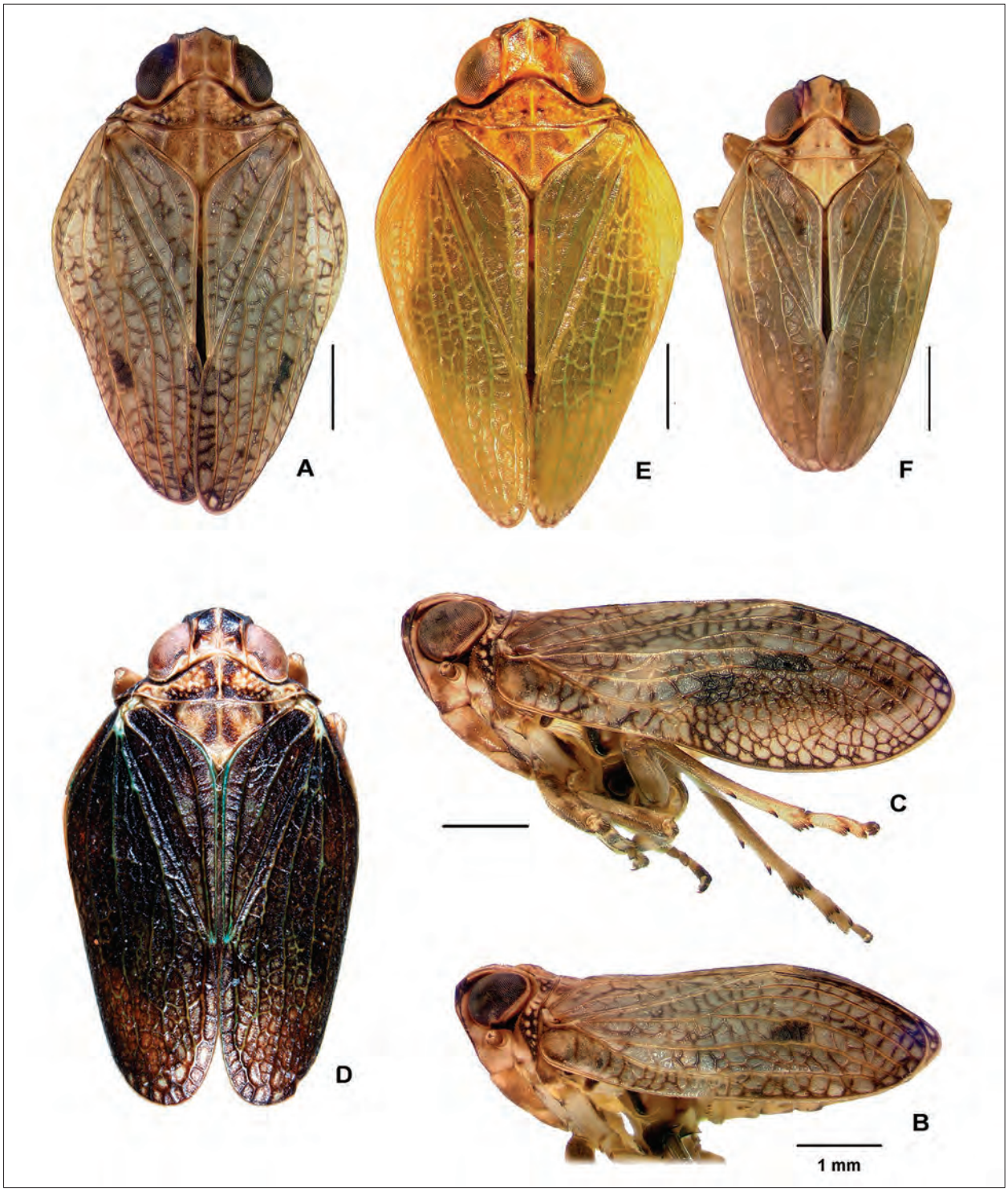


Plate 12. a, *Issus coleoptratus* (Fabricius), male, dorsal view; b, same, male, lateral view; c, same, female, lateral view; d, *Issus lauri* Ahrens, female (melanistic form), dorsal view; e, same, male, dorsal view; f, *Issus maderensis* Lindberg, male, dorsal view.

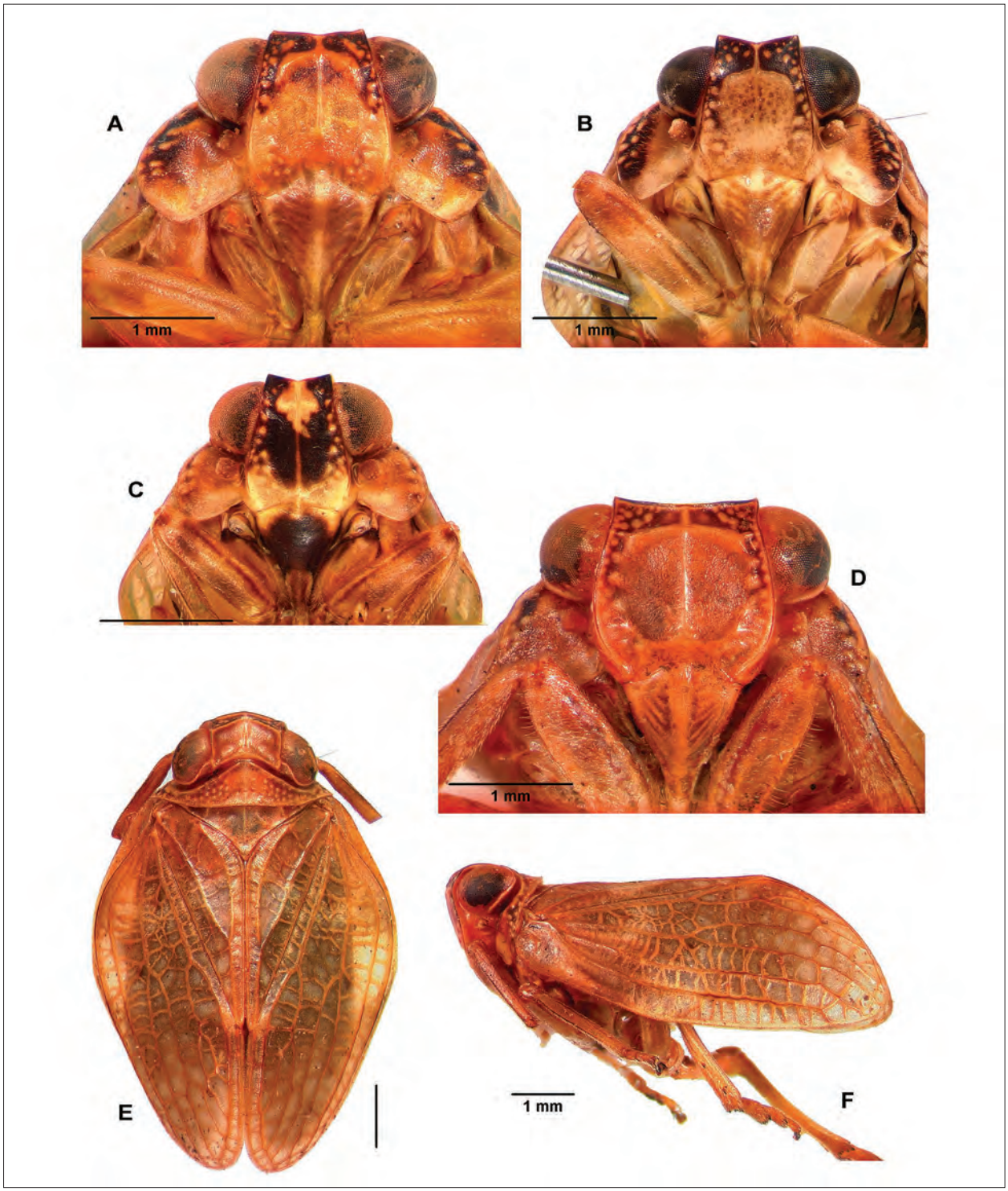


Plate 13. a, *Issus lauri* Ahrens, female, frontal view; b, *Issus coleoptratus* (Fabricius), male, frontal view; c, *Issus maderensis* Lindberg, male, frontal view; d, *Latissus dilatatus* (Fourcroy), female, frontal view; e, same, dorsal view; f, same, lateral view.

Photos (Pl. 12, figs d, e, Pl. 13, fig. a): Croatia (BMNH): ♀, frontal view; Italy, Sicily I. (BMNH): ♂, dorsal view; Greece, Corfu I. (MNHN): dorsal view.

***Issus maderensis* Lindberg**

Issus maderensis Lindberg, 1954: 161.
Distribution: Portugal (Madeira I.).
Identification: Remane 1985.
Photos (Pl. 12, fig. f, Pl. 13, fig. c): Portugal, Madeira I. (BMNH): ♂, frontal and dorsal views.

***Issus muscaeformis* (Schrank)**

Cicada muscaeformis Schrank, 1781: 253.
Issus truncatus Fieber, 1876: 265 [separata 1876: 255], syn. fide Melichar 1906: 192.
Issus frontalis sensu Holzinger, Kammerlander & Nickel 2003: 449.
Distribution: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Great Britain, Greece, Hungary, Italy, Moldova, Montenegro, The Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Sweden, Switzerland, Ukraine including Crimea.
Identification: Holzinger, Kammerlander & Nickel 2003.
Biology: Holzinger, Kammerlander & Nickel 2003, Nickel 2003, Whitehead & Key 2010.

***Issus padipus* Remane**

Issus padipus Remane, 1985: 84.
Distribution: Spain (Canary Islands: La Palma I.).
Identification: Remane 1985.
Biology: Remane 1985.

***Issus paladitus* Remane**

Issus paladitus Remane, 1985: 90.
Distribution: Spain (Canary Islands: La Palma I.).
Identification: Remane 1985.

***Issus palama* Remane**

Issus palama Remane, 1985: 79.
Distribution: Spain (Canary Islands: La Palma I.).
Identification: Remane 1985.

***Issus pallipes* Lucas**

Issus pallipes Lucas, 1853: 70.
Distribution: ?Algeria (Fieber 1872), Greece (Crete I.).
Identification: Lucas 1853.
Note: Uncertain species known only from original description.

***Issus patruelis* Stål**

Issus patruelis Stål, 1861: 210.
Distribution: Algeria, ?Morocco (Gnezdilov 2002c), ?Tunisia (Linnavuori 1965).
Identification: Stål 1861.
Note: Uncertain species known only from original description.

***Issus pospisili* Dlabola**

Issus muscaeformis pospisili Dlabola, 1958: 322.
Distribution: Armenia, Azerbaijan, Georgia, Greece, Russia (Karachay-Cherkess Republic, Krasnodar Territory).
Identification: Dlabola 1958.

***Issus rarus* Lindberg**

Issus rarus Lindberg, 1954: 165.
Distribution: Spain (Canary Islands: Tenerife I.).
Identification: Remane 1985.

Genus *Latissus* Dlabola

Dlabola, 1974c: 299. Type species: *Cicada dilatata* Fourcroy, 1785.
Composition and distribution: Monotypical genus widely distributed in Mediterranean Europe excluding Iberian Peninsula.

***Latissus dilatatus* (Fourcroy)**

Cicada dilatata Fourcroy, 1785: 193.
Issus luteus Fieber, 1876: 260 [separata 1876: 250], syn. fide Puton 1899: 105.
Distribution: Albania, Croatia, Montenegro, France, Greece, Italy including Sardinia I. and Sicily I., Slovenia.
Identification: Holzinger, Kammerlander & Nickel 2003.
Biology: Holzinger, Kammerlander & Nickel 2003.
Photos (Pl. 13, figs d–f): Italy, Liguria (NMWC): ♀, frontal, dorsal and lateral views.

Subtribe Agalmatiina Gnezdilov, 2002

Genus *Agalmatium* Emeljanov

Emeljanov, 1971: 624. Type species: *Cercopis grylloides* Fabricius, 1794.

Composition and distribution: 6 species distributed mostly in the Mediterranean Basin, two of these (*A. bilobum* and *A. flavescens*) are known also from Central Europe and Caucasus. *A. bilobum* was introduced also to USA (California) (Gnezdilov & O'Brien 2006). The genus is in need of revision.

Agalmatium abruptum (Bergevin)

Hysteropterum abruptum Bergevin, 1920a: 159.

Distribution: ?France (Dlabola 1989), Morocco.

Identification: Bergevin 1920a, Dlabola 1984.

Agalmatium bilobum (Fieber)

Hysteropterum bilobum Fieber, 1877: 16.

Hysteropterum angustum Melichar, 1906: 130, syn. fide Dlabola 1980a: 234.

Hysteropterum beameri Doering, 1958: 101, syn. fide Gnezdilov & O'Brien 2006: 51.

Hysteropterum dubium Melichar, 1906: 131, syn. fide Dlabola 1984: 29.

Hysteropterum inconspicuum Matsumura, 1910: 27, syn. fide Dlabola 1984: 29.

Hysteropterum severini Caldwell & De Long, 1948: 176, syn. fide Gnezdilov & O'Brien 2006: 51.

Distribution: Armenia, Bulgaria, Cyprus, France, Georgia, Greece including islands, Israel, Italy including Sardinia I. and Sicily I., Lebanon, Moldova, Palestine, Portugal, Romania, Russia (Krasnodar Territory), Spain including the Canary Islands, Turkey, Ukraine including Crimea, "former Yugoslavia".

Identification: Holzinger, Kammerlander & Nickel 2003.

Biology: Logvinenko 1975a, Holzinger, Kammerlander & Nickel 2003, Chumak 2005.

Photos (Pl. 14, figs a—c): Portugal (NMWC): ♂, frontal, dorsal and lateral views.

Note: Tishechkin (1988) recorded the species from the Moscow Province in Russia, but it has not been confirmed recently. Temporary occurance of the species on Wangerooge I. (Germany) was registered in 1960 (Harz 1965, Nickel 2003).

Agalmatium costale (Matsumura)

Hysteropterum costale Matsumura, 1910: 25.

Hysteropterum dubiosum Matsumura, 1910: 23, syn. fide Dlabola 1984: 28.

Distribution: Spain.

Identification: Dlabola 1984.

Agalmatium curtulum (Melichar)

Hysteropterum curtulum Melichar, 1906: 121.

Distribution: Spain.

Identification: Dlabola 1980a.

Agalmatium flavescens (Olivier)

Fulgora flavescens Olivier, 1791: 577.

Cercopis grylloides Fabricius, 1794: 54, syn. fide Melichar 1906: 125.

Hysteropterum euryproctum Kirschbaum, 1868: 56, syn. fide Dlabola 1984: 28.

Hysteropterum orientale Kusnezov, 1926: 282, syn. fide Nast 1987: 631.

Issus dufourii Spinola, 1839: 361, syn. fide Melichar 1906: 125.

Issus liliimaculata O. Costa, 1834: 84, syn. fide Linnavuori 1962: 14.

Issus smyrnensis Spinola, 1839: 363, syn. fide Melichar 1906: 125.

Distribution: Albania, Armenia, Austria, Bulgaria, France, Georgia, Greece, Hungary, Italy including Sardinia I. and Sicily I., Moldova, Montenegro, Portugal, Romania, Russia (Krasnodar Territory), Serbia, Slovenia, Spain, Turkey, Ukraine (Crimea).

Identification: Holzinger, Kammerlander & Nickel 2003.

Biology: Sacchi 1930, Silvestri 1934, Logvinenko 1975a, Holzinger, Kammerlander & Nickel 2003.

Agalmatium piceovenosum (Puton)

Hysteropterum piceovenosum Puton, 1887: 104.

Distribution: Tunisia.

Identification: Puton 1887.

Genus *Clybeccus* Gnezdilov

Gnezdilov, 2003a: 71. Type species: *Hysteropterum declivum* Dlabola, 1986.

Composition and distribution: Monotypical genus distributed in the Mediterranean Basin.

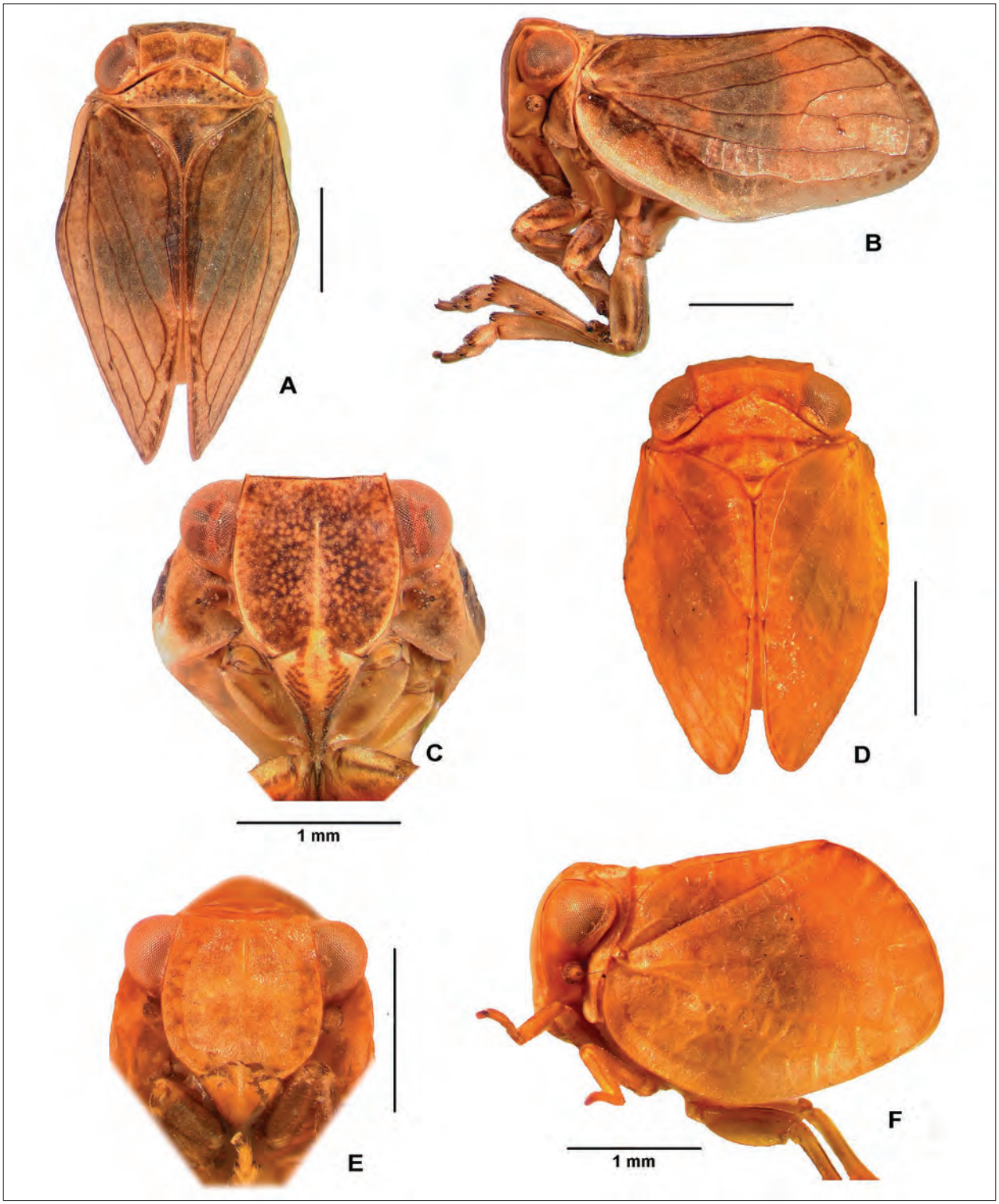


Plate 14. a, *Agalmatium bilobum* (Fieber), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Clybeccus declivus* (Dlabola), male, dorsal view; e, same, frontal view; f, same, lateral view.

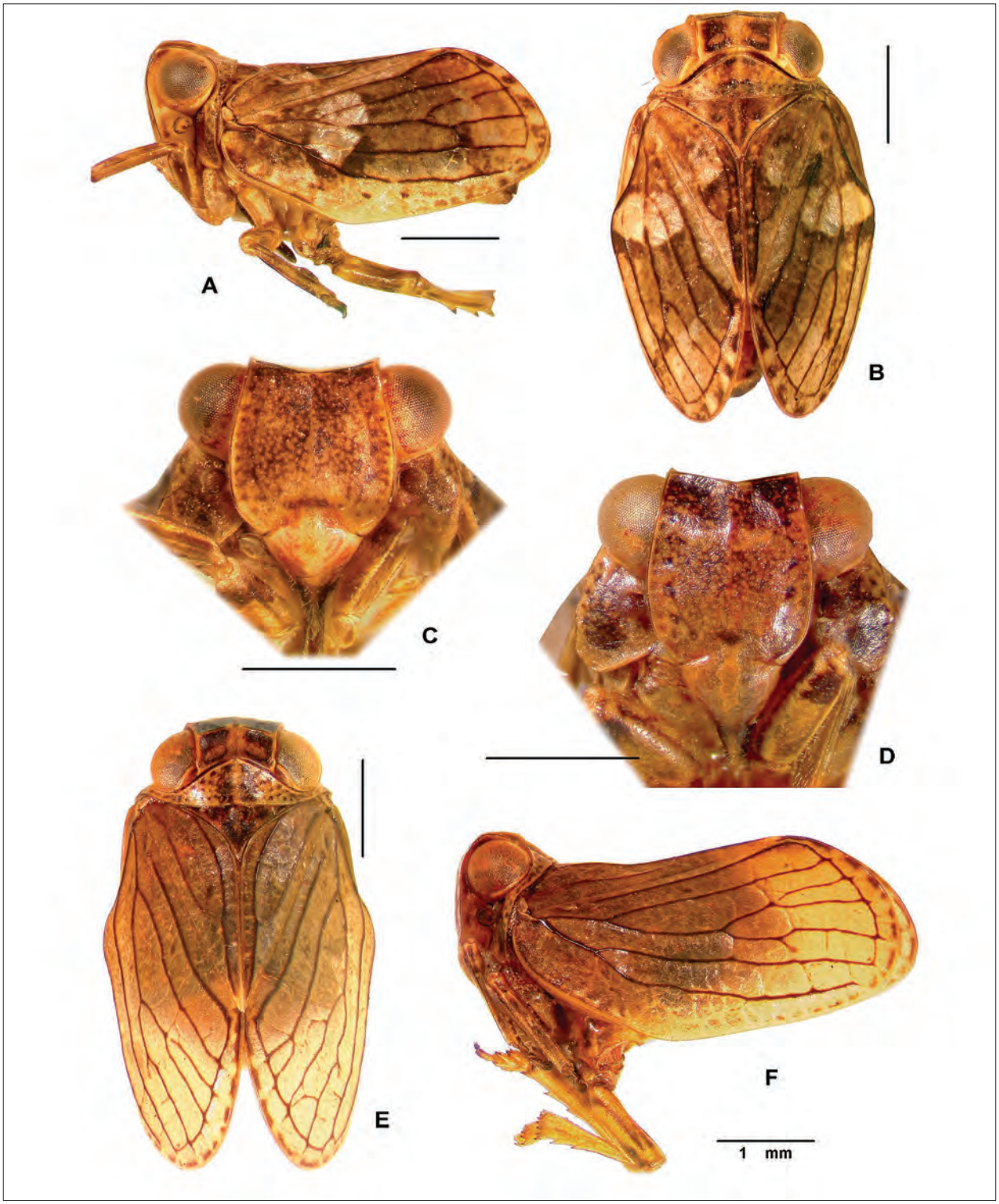


Plate 15. a, *Iberanum dlabolai* Gnezdilov, male, lateral view; b, same, dorsal view; c, same, frontal view; d, *Iberanum fuscovenosum* (Fieber), female, frontal view; e, same, dorsal view; f, same, lateral view.

***Clybeccus declivus* (Dlabola)**

Hysteropterum declivum Dlabola, 1986: 191.

Distribution: Greece (Fournoi I., Rhodes I., Crete I.), Italy (Lampedusa I., Pantelleria I., Favignana I., Sicily I.), Malta, Spain, Tunisia.

Identification: Dlabola 1986.

Photos (Pl. 14, figs d–f): ♂: Italy, Lampedusa I. (ZIN): dorsal and lateral views; Greece, Rhodes I. (NMWC): frontal view.

Genus *Iberanum* Gnezdilov

Gnezdilov, 2003a: 74. Type species: *Iberanum dlabolai* Gnezdilov, 2003.

Composition and distribution: 2 species distributed in European Western and Central Mediterranean Basin.

***Iberanum dlabolai* Gnezdilov**

Iberanum dlabolai Gnezdilov, 2003a: 75.

Distribution: Spain.

Identification: Gnezdilov 2003a.

Photos (Pl. 15, figs a–c): Spain, Tarragona (ZIN): ♂, frontal, dorsal and lateral views.

***Iberanum fuscovenosum* (Fieber)**

Hysteropterum fuscovenosum Fieber, 1877: 29.

Iberanum nuragicum Gnezdilov & Mazzoni, 2003: 355, syn. fide Gnezdilov, Soulier-Perkins & Bourgoin 2011: 28.

Distribution: France including Corsica I., Italy (Sardinia I.).

Identification: Gnezdilov & Mazzoni 2003, Gnezdilov, Soulier-Perkins & Bourgoin 2011.

Photos (Pl. 15, figs d–f): France, Corsica I. (MNHN): ♀, frontal, dorsal and lateral views.

Genus *Lindbergatium* Dlabola

Dlabola, 1984: 48. Type species: *Hysteropterum atlasense* Lindberg, 1964.

Composition and distribution: 8 species (one of them with 2 subspecies) distributed in Morocco and Algeria. The genus is in need of revision.

***Lindbergatium atlasense* (Lindberg)**

Hysteropterum atlasense Lindberg, 1964: 57.

Distribution: Morocco.

Identification: Lindberg 1964.

***Lindbergatium battandieri* (Bergevin)**

Hysteropterum battandieri Bergevin, 1923c: 108.

Distribution: Algeria.

Identification: Bergevin 1923c, Dlabola 1984.

***Lindbergatium draense* (Lindberg)**

Hysteropterum draense Lindberg, 1964: 62.

Distribution: Morocco.

Identification: Lindberg 1964, Dlabola 1984.

***Lindbergatium evanescens* (Bergevin)**

Histeropterum evanescens Bergevin, 1919b: 286.

Hysteropterum s-album Linnavuori, 1965: 40, syn. fide Dlabola 1984: 49.

Distribution: Morocco.

Identification: Bergevin 1919b, Dlabola 1984.

Photos (Pl. 16, figs a–c): Morocco, Melilla (NMWC): ♀ (paratype of *H. s-album*), frontal, dorsal and lateral views.

***Lindbergatium halophilum* (Lindberg)**

Hysteropterum halophilum Lindberg, 1964: 60.

Distribution: Morocco.

Identification: Dlabola 1984.

***Lindbergatium nigrosuturale nigrosuturale* (Lindberg)**

Hysteropterum nigrosuturale Lindberg, 1964: 61.

Distribution: Morocco.

Identification: Dlabola 1984.

***Lindbergatium nigrosuturale aaiunense* (Lindberg)**

Hysteropterum nigrosuturale aaiunense Lindberg, 1965: 14.

Distribution: Morocco.

Identification: Lindberg 1965.

***Lindbergatium punctulifrons* (Lindberg)**

Hysteropterum punctulifrons Lindberg, 1964: 58.

Distribution: Morocco.

Identification: Lindberg 1964.

***Lindbergatium sousense* (Lindberg)**

Hysteropterum sousense Lindberg, 1964: 59.

Distribution: Morocco.

Identification: Lindberg 1964.

Genus *Tingissus* Gnezdilov

Gnezdilov, 2003a: 72. Type species: *Hysteropterum tangirum* Matsumura, 1910.

Composition and distribution: 2 species distributed in Morocco and Iberian Peninsula.

***Tingissus guadarramense* (Melichar)**

Hysteropterum guadarramense Melichar, 1906: 126.

Hysteropterum tangirum Matsumura, 1910: 20, syn. fide Gnezdilov 2010: 420.

Distribution: Morocco, Portugal, Spain.

Identification: Gnezdilov 2003a.

Photos (Pl. 16, figs d—f): Portugal (NMWC): ♂, frontal, dorsal and lateral views.

***Tingissus melanophleps* (Fieber)**

Hysteropterum melanophleps Fieber, 1877: 5.

Distribution: ?Portugal (Puton 1875), Spain.

Identification: Dlabola 1984, Gnezdilov, Soulier-Perkins & Bourgoin 2011.

Subtribe Hysteropterina Melichar, 1906

Genus *Alloscelis* Kusnezov

Kusnezov, 1930: 271. Type species: *Hysteropterum vittifrons* Ivanoff, 1885.

Composition and distribution: Monotypical genus known from the steppe zone of Southern Russia and Ukraine.

***Alloscelis vittifrons* (Ivanoff)**

Hysteropterum vittifrons Ivanoff, 1885: 107.

Distribution: Russia (Belgorod Province, Krasnodar Territory, Rostov Province, Stavropol Territory), Ukraine.

Identification: Logvinenko 1975a.

Biology: Logvinenko 1975a.

Photos (Pl. 17, figs d—f): Russia, Krasnodar Territory (ZIN): ♀, dorsal and lateral views; ♂, frontal view.

Genus *Anatolodus* Dlabola

Dlabola, 1982: 126. Type species: *Anatolodus musivus* Dlabola, 1982.

Logvinenkoana Gnezdilov, 2002c: 618 (as subgenus of *Bubastia* Emeljanov, 1975) (Type species: *Hysteropterum pictifrons* Melichar, 1906), syn. fide Gnezdilov 2010: 414.

Composition and distribution: 5 species known from Iran, Transcaucasia, and Turkey.

***Anatolodus karabachicus* (Logvinenko)**

Aeluropsis karabachica Logvinenko, 1975b: 59.

Hysteropterum ignavum Dlabola, 1981a: 179, syn. fide Gnezdilov 2010: 414.

Distribution: Azerbaijan (Nagorno-Karabakh Republic), Iran, Turkey.

Identification: Logvinenko 1975b, Dlabola 1981a.

***Anatolodus midicus* (Logvinenko)**

Aeluropsis midica Logvinenko, 1975b: 58.

Distribution: Azerbaijan (Nakhchivan Republic).

Identification: Logvinenko 1975b.

***Anatolodus musivus* Dlabola**

Anatolodus musivus Dlabola, 1982: 128.

Distribution: Turkey.

Identification: Dlabola 1982.

Photos (Pl. 18, figs d—f): Turkey, Mus (NMWC): ♂ (paratype), frontal, dorsal and lateral views.

***Anatolodus pictifrons* (Melichar)**

Hysteropterum pictifrons Melichar, 1906: 140.

Bubastia kulikiana Logvinenko, 1977b: 63, syn. fide Gnezdilov 2002a: 213.

Distribution: Armenia, Georgia, Turkey.

Identification: Gnezdilov 2002a.

Photos (Pl. 18, figs a—c): Armenia (ZIN): ♂, frontal, dorsal and lateral views.

***Anatolodus transcaucasicus* (Melichar)**

Hysteropterum transcaucasicum Melichar, 1914: 135.

Distribution: Armenia, Turkey.

Identification: Logvinenko 1975b.

Genus *Anatonga* Emeljanov

Emeljanov, 2001b: 61. Type species: *Phasmena alosa* Emeljanov, 1978.

Composition and distribution: Monotypical genus known from Tajikistan.

***Anatonga alosa* (Emeljanov)**

Phasmena alosa Emeljanov, 1978: 329.

Distribution: Tajikistan.

Identification: Emeljanov 2001b.

Photos (Pl. 19, figs a—c): Tajikistan (ZIN): ♂, frontal, dorsal and lateral views.

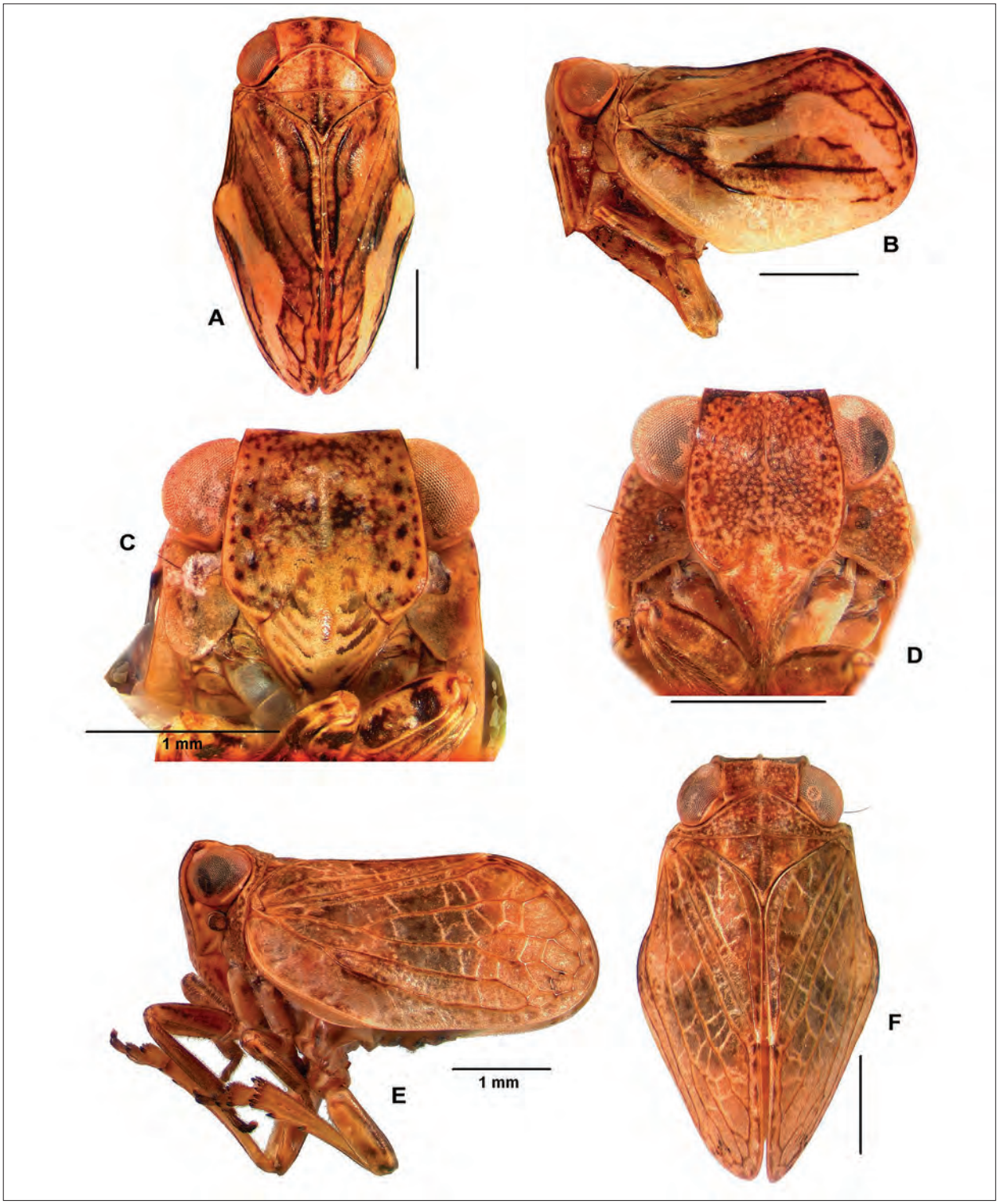


Plate 16. a, *Lindbergatium evanescens* (Bergevin), female, dorsal view; b, same, lateral view; c, same, frontal view; d, *Tingissus guadarramense* (Melichar), male, frontal view; e, same, lateral view; f, same, dorsal view.

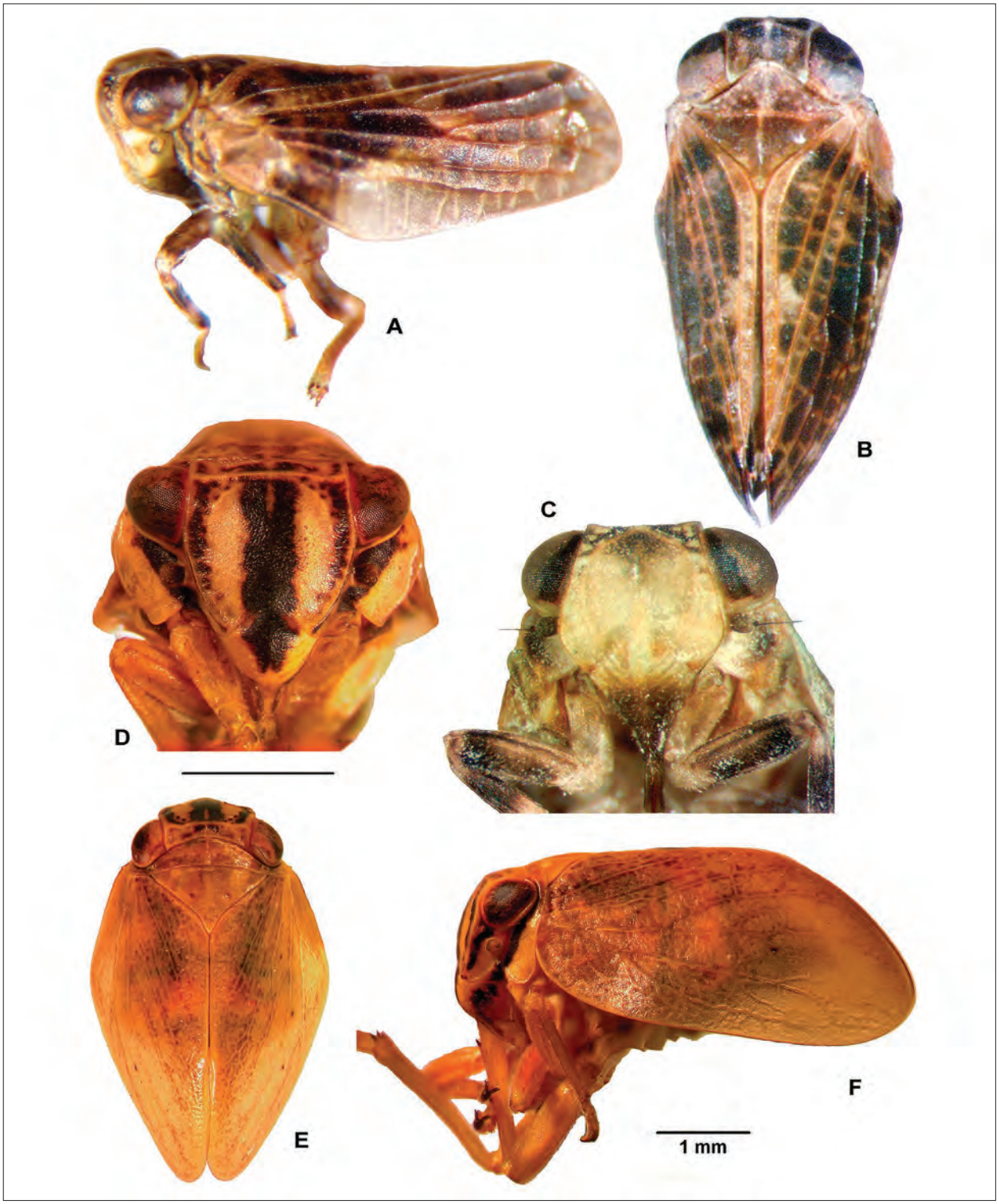


Plate 17. a, *Eusarima iranica* Gnezdilov & Mozaffarian, male (holotype), lateral view; b, same, dorsal view; c, same, paratype, frontal view; d, *Alloscelis vittifrons* (Ivanoff), male, frontal view; e, same, female, dorsal view; f, same, female, lateral view.

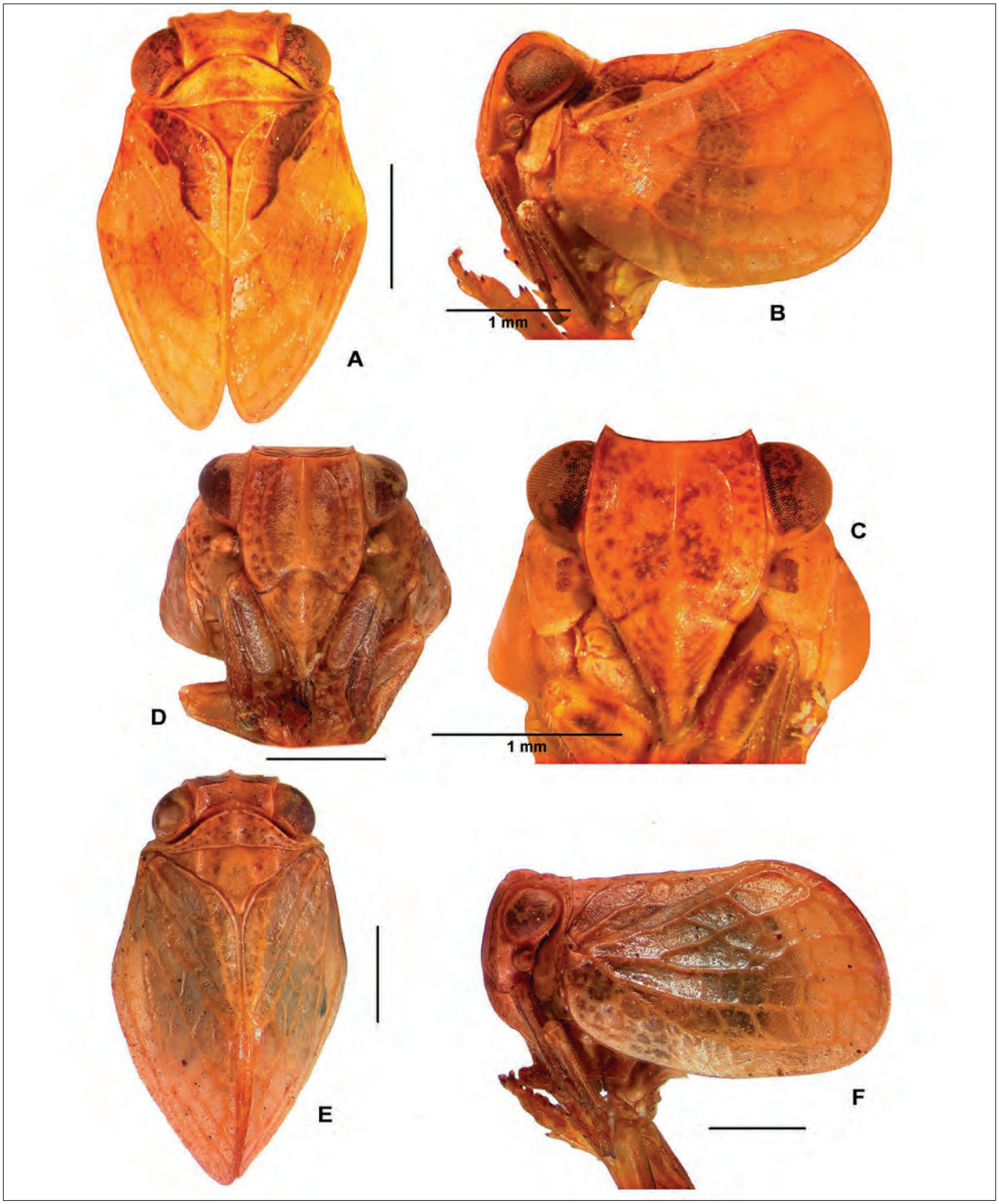


Plate 18. a, *Anatolodus pictifrons* (Melichar), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Anatolodus musivus* Dlabola, male (paratype), frontal view; e, same, dorsal view; f, same, lateral view.

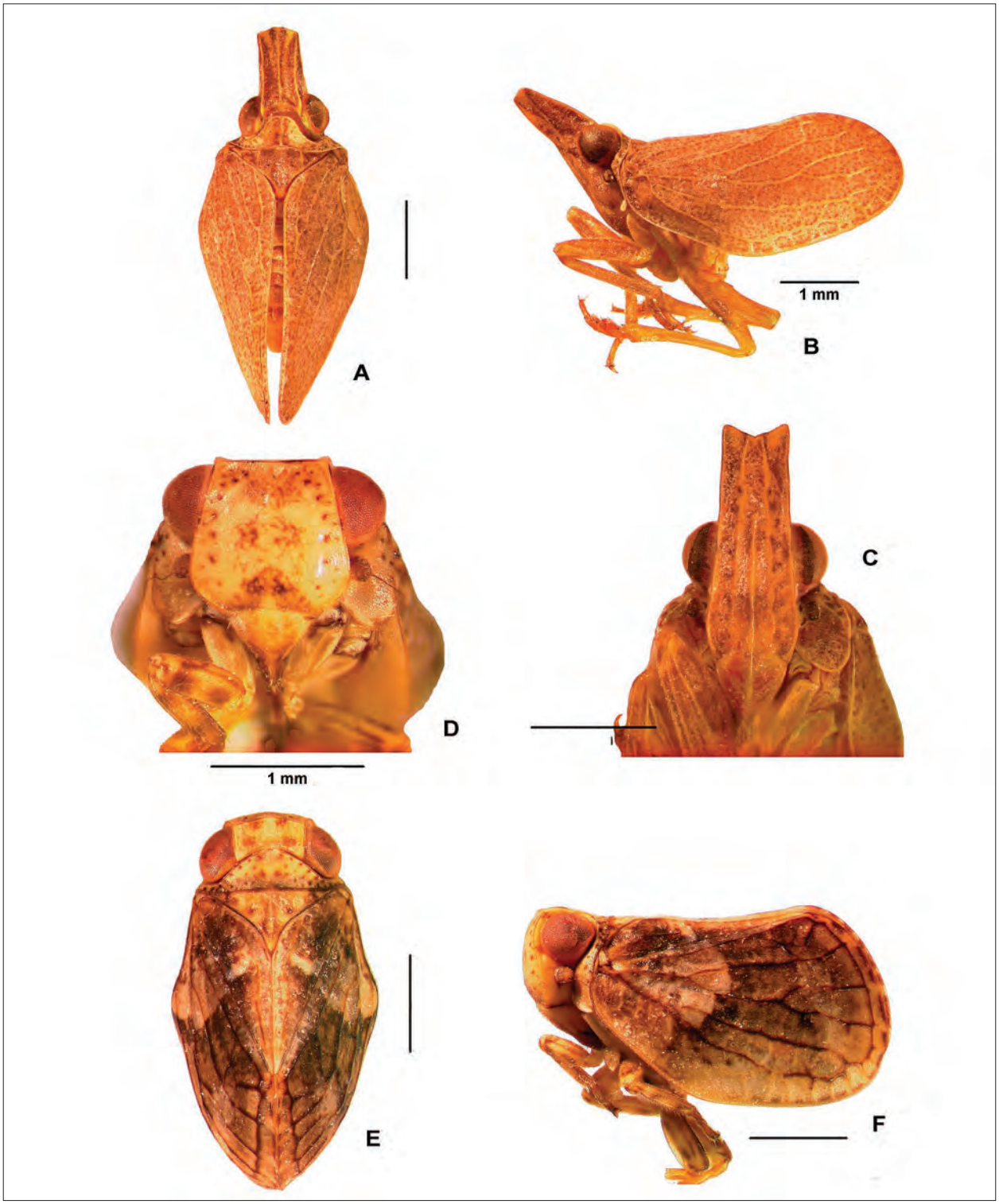


Plate 19. a, *Anatonga alosa* (Emeljanov), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Bergevinium malagense* (Matsumura), female, frontal view; e, same, dorsal view; f, same, lateral view.

Genus *Bergevinium* Gnezdilov

Gnezdilov, 2003a: 59. Type species: *Hysteropterum gravesteini* Dlabola, 1975.

Composition and distribution: 8 species distributed in the Western Mediterranean Basin.

***Bergevinium angulare* (Fieber)**

Hysteropterum angulare Fieber, 1877: 39.

Distribution: ?Algeria (Puton 1875), ?Portugal (Puton 1875), Spain.

Identification: Dlabola 1984, Gnezdilov, Soulier-Perkins & Bourgoin 2011.

***Bergevinium drahamense* (Linnavuori)**

Hysteropterum drahamense Linnavuori, 1965: 39.

Distribution: Tunisia.

Identification: Linnavuori 1965.

***Bergevinium gravesteini* (Dlabola)**

Hysteropterum gravesteini Dlabola, 1975: 77.

Distribution: Spain (Balearic Islands: Majorca I., Pollensa I.).

Identification: Dlabola 1975.

***Bergevinium lividum* (Bergevin)**

Hysteropterum lividum Bergevin, 1923a: 83.

Distribution: Morocco.

Identification: Bergevin 1923a, Dlabola 1984.

***Bergevinium malagense* (Matsumura)**

Hysteropterum malagense Matsumura, 1910: 23.

Distribution: ?Portugal (Oshanin 1912), Spain.

Identification: Dlabola 1984.

Photos (Pl. 19, figs d—f): Spain, Malaga (KDB): ♀, frontal, dorsal and lateral views.

***Bergevinium maroccanum* (Lethierry)**

Hysteropterum maroccanum Lethierry, 1877: 46.

Distribution: Morocco, ?Tunisia (Puton 1886a).

Identification: Lethierry 1877.

***Bergevinium theryi* (Bergevin)**

Hysteropterum theryi Bergevin, 1925: 159.

Distribution: Morocco.

Identification: Bergevin 1925.

***Bergevinium trapezoidale* (Bergevin)**

Hysteropterum trapezoidale Bergevin, 1917a: 50.

Distribution: Algeria, Morocco.

Identification: Dlabola 1984.

Genus *Bootheca* Emeljanov

Emeljanov, 1964a: 355. Type species: *Lusanda taurus* Oshanin, 1870.

Composition and distribution: Monotypical genus distributed in the steppe zone of Southeastern Europe.

***Bootheca taurus* (Oshanin)**

Lusanda taurus Oshanin, 1870: 133.

Distribution: Bulgaria, Moldova, Romania, Ukraine.

Identification: Logvinenko 1975a.

Biology: Logvinenko 1975a.

Photos (Pl. 20, figs d—f): Ukraine, Vinnitskaya Province (ZIN): ♀, frontal, dorsal and lateral views.

Genus *Brachyprosopa* Kusnezov

Kusnezov, 1929: 332. Type species: *Brachyprosopa umnovi* Kusnezov, 1929.

Composition and distribution: 2 species distributed in Kazakhstan, Middle Asia, and Afghanistan.

***Brachyprosopa bicornuta* (Kusnezov)**

Hysteropterum bicorne Kusnezov, 1929: 331.

Hysteropterum enitidum Dlabola, 1961: 265, syn. fide Dubovsky 1966: 60.

Hysteropterum enitidum var. *inhonora* Dlabola, 1961: 266.

Distribution: Afghanistan, Kazakhstan, Uzbekistan.

Identification: Dubovsky 1966, Mitjaev 1971.

Biology: Mitjaev 2002.

***Brachyprosopa umnovi* Kusnezov**

Brachyprosopa umnovi Kusnezov, 1929: 333.

Distribution: Kazakhstan, Tajikistan, Turkmenistan.

Identification: Mitjaev 1971.

Biology: Kaplin 1986.

Photos (Pl. 20, figs a—c): Tajikistan (ZIN): ♂, frontal, dorsal and lateral views.

Genus *Bubastia* Emeljanov

Emeljanov, 1975: 390 (nom. nov. pro *Aeluropsis* Emeljanov, 1971 nec Lydekker, 1884). Type species: *Hysteropterum tauricum* Kusnezov, 1926.

Composition and distribution: 3 subgenera with 22 species mostly distributed in the Eastern Mediterranean Basin. More than a half of the known species

are recorded from Greece, from where eleven endemic species are known (Drosopoulos 1990).

Key to subgenera

1. Fore wing with caudo-dorsal angle approximately right (Pl. 21, figs d, g). Aedeagus without ventral hooks 2
— Fore wing with caudo-dorsal angle obtuse (Pl. 21, fig. a, Pl. 22, figs b, e). Aedeagus with pair of ventral hooks . . . . . ***Bubastia*** **Emeljanov**
2. Coryphe short, transverse (Pl. 21, fig. i). Capitulum of style clearly detached, on long neck. Ventral and dorso-lateral phallobase lobes with long awl-shaped processes . . . . . ***Acrestia*** **Dlabola**
— Coryphe relatively long, approximately square (Pl. 21, fig. e). Capitulum of style weakly detached, without neck. Ventral and dorso-lateral phallobase lobes without awl-shaped processes . . . . . ***Capititudes*** **Gnezdilov, Drosopoulos & Wilson**

Subgenus *Bubastia* Emeljanov

Emeljanov, 1975: 390 (nom. nov. pro *Aeluropsis* Emeljanov, 1971 nec Lydekker, 1884). Type species: *Hysteropterum tauricum* Kusnezov, 1926.

Composition and distribution: 19 species distributed in the Eastern Mediterranean Basin and also in steppe, mountain, and submediterranean regions of Southeastern Europe.

Bubastia amasica Kartal & Karavin

Bubastia amasica Kartal & Karavin, 2010: 75.
Distribution: Turkey.
Identification: Kartal & Karavin 2010.

Bubastia corniculata (Puton)

Hysteropterum corniculatum Puton, 1890: 231.
Distribution: Bosnia and Herzegovina, Bulgaria, ?Croatia (Puton 1899), Greece.
Identification: Dlabola 1979a.

Bubastia cyrenaica (Linnavuori)

Hysteropterum cyrenaicum Linnavuori, 1965: 18.
Distribution: Libya.
Identification: Linnavuori 1965.

Bubastia ephialtes (Linnavuori)

Hysteropterum ephialtes Linnavuori, 1971: 71.
Bubastia libanotica Dlabola, 1987d: 304, syn. fide Gnezdilov, Drosopoulos & Wilson 2004: 219.
Distribution: Cyprus, Greece, Lebanon, Syria, Turkey.
Identification: Linnavuori 1971.
Photos (Pl. 22, figs a—e): Lebanon (NMWC): ♂, frontal, dorsal and lateral views; ♀, dorsal and lateral views.

Bubastia jankovici Dlabola

Bubastia jankovici Dlabola, 1980a: 226.
Distribution: Greece.
Identification: Dlabola 1980a.

Bubastia josifovi Dlabola

Bubastia josifovi Dlabola, 1980a: 227.
Distribution: Bulgaria.
Identification: Dlabola 1980a.

Bubastia kelkitica Kartal & Karavin

Bubastia kelkitica Kartal & Karavin, 2010: 73.
Distribution: Turkey.
Identification: Kartal & Karavin 2010.

Bubastia lindskogi Dlabola

Bubastia lindskogi Dlabola, 1985: 227.
Distribution: Greece.
Identification: Dlabola 1985.

Bubastia ludviki Dlabola

Bubastia ludviki Dlabola, 1979a: 275.
Distribution: Bulgaria, Republic of Macedonia.
Identification: Dlabola 1979a.

Bubastia lukia Dlabola

Bubastia lukia Dlabola, 1984: 59.
Distribution: Greece.
Identification: Dlabola 1984.

Bubastia montandonica Dlabola

Bubastia montandonica Dlabola, 1984: 64.
Distribution: Romania.
Identification: Dlabola 1984.

Bubastia novalis (Logvinenko)

Aeluropsis novalis Logvinenko, 1975b: 56.
Distribution: Bulgaria, Greece, Ukraine.
Identification: Logvinenko 1975b.

Bubastia obsoleta (Fieber)

Hysteropterum obsoletum Fieber, 1877: 24.
Distribution: ?Albania (Horváth 1916), Croatia, Greece, Montenegro, Italy, Slovenia.

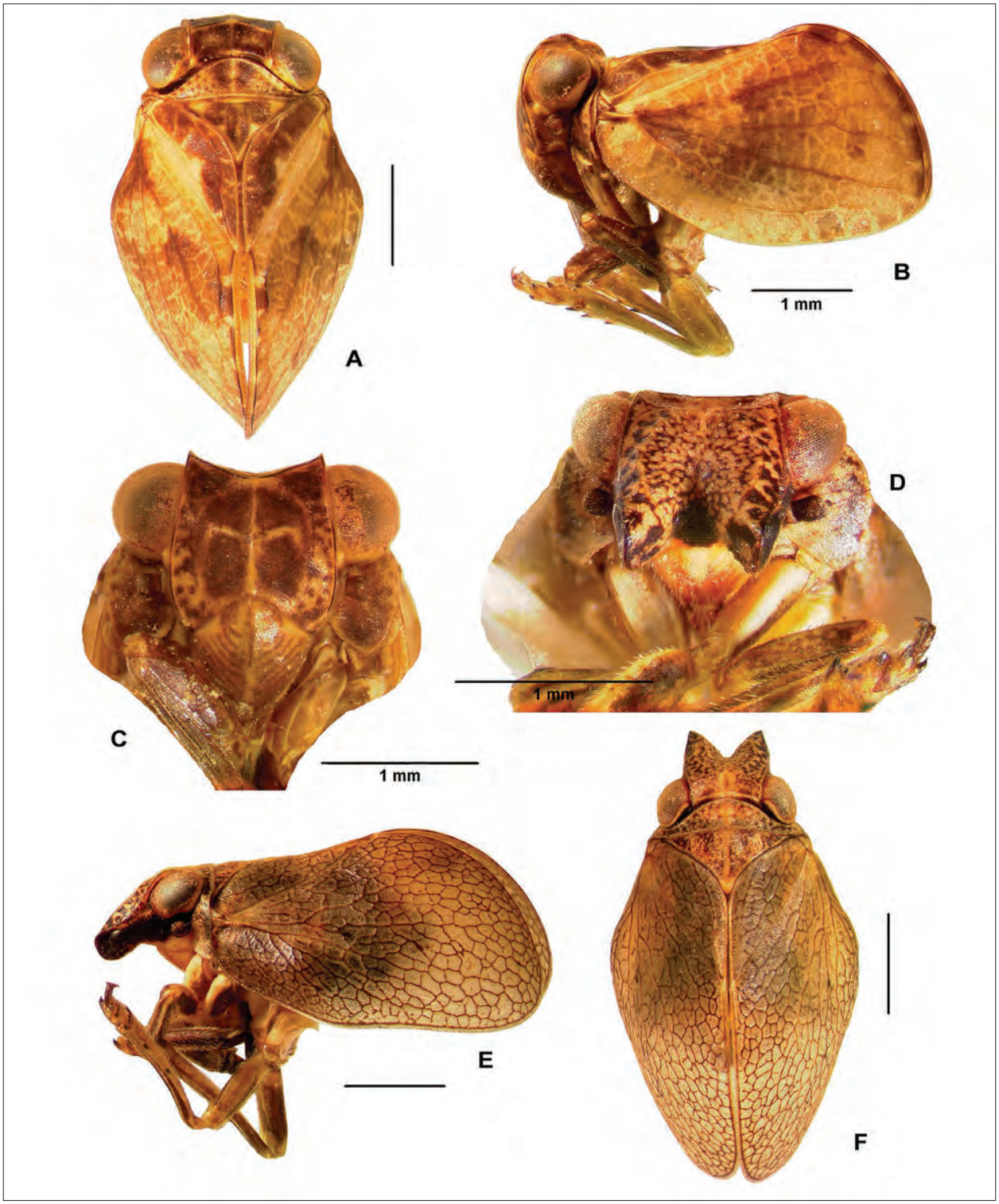


Plate 20. a, *Brachyprosopa umnovi* Kusnezov, male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Bootheca taurus* (Oshanin), female, frontal view; e, same, lateral view; f, same, dorsal view.

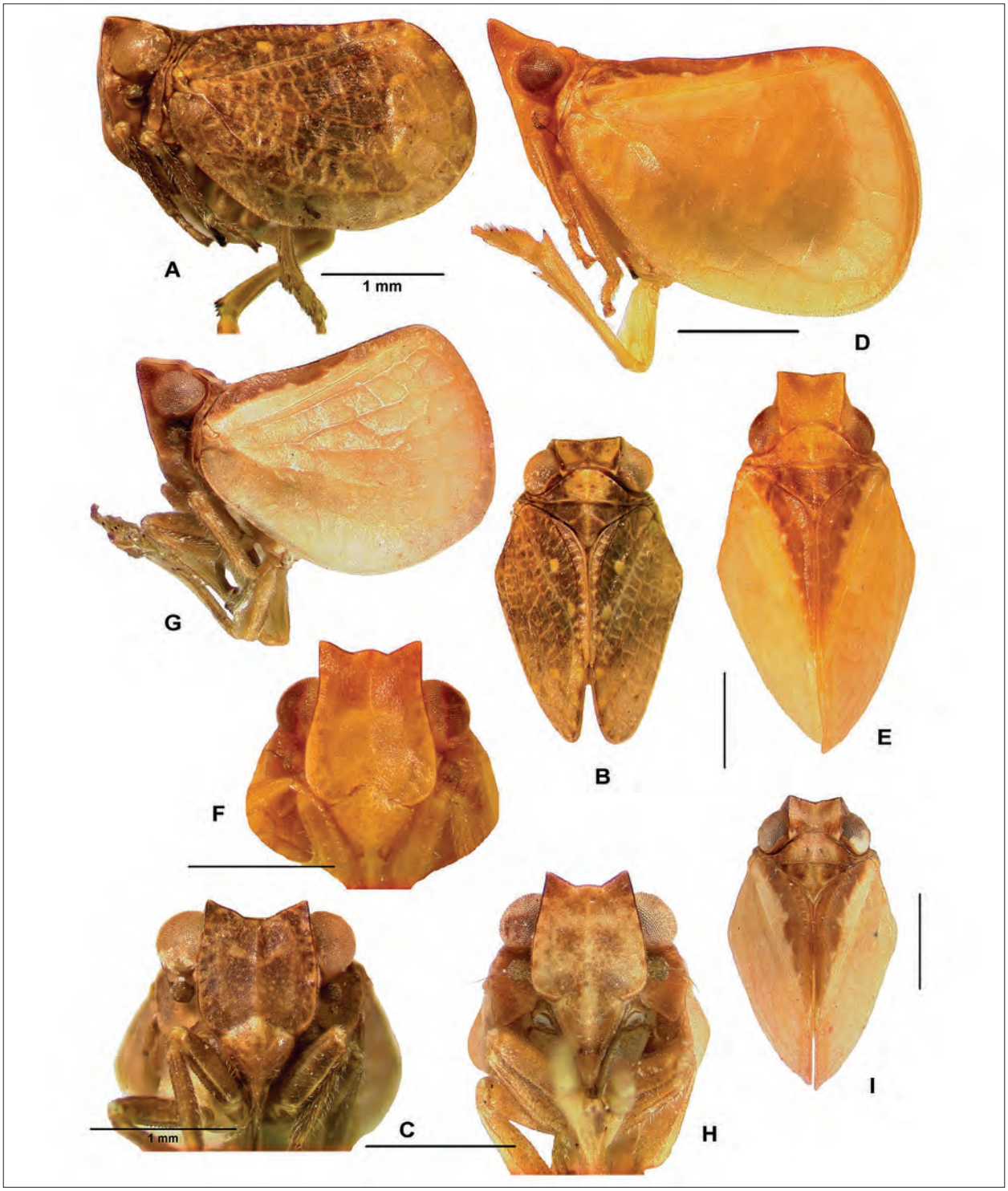


Plate 21. a, *Bubastia (Bubastia) taurica* (Kusnezov), male, lateral view; b, same, dorsal view; c, same, frontal view; d, *Bubastia (Capititudes) jatagana* Dlabola, female, lateral view; e, same, dorsal view; f, same, frontal view; g, *Bubastia (Acrestia) suturale*, male, lateral view; h, same, frontal view; i, same, dorsal view.

Identification: Dlabola 1980a, Gnezdilov, Soulier-Perkins & Bourgoin 2011.

***Bubastia olympica* Dlabola**

Bubastia olympica Dlabola, 1982: 138.
Distribution: Greece.
Identification: Dlabola 1982.

***Bubastia sakisi* Dlabola**

Bubastia sakisi Dlabola, 1984: 61.
Distribution: Greece.
Identification: Dlabola 1984.

***Bubastia saskia* Dlabola**

Bubastia saskia Dlabola, 1984: 58.
Distribution: Greece.
Identification: Dlabola 1984.

***Bubastia taurica* (Kusnezov)**

Hysteropterum tauricum Kusnezov, 1926: 280.
Distribution: Russia (Krasnodar Territory), Ukraine (Crimea).
Identification: Logvinenko 1975a.
Biology: Logvinenko 1975a.
Photos (Pl. 21, figs a—c): Russia, Krasnodar Territory (ZIN): ♂, frontal, dorsal and lateral views.

***Bubastia thaidis* Dlabola**

Bubastia thaidis Dlabola, 1987a: 69.
Distribution: Greece.
Identification: Dlabola 1987a.

***Bubastia thessalica* Dlabola**

Bubastia thessalica Dlabola, 1980a: 229.
Distribution: Greece.
Identification: Dlabola 1980a.

Subgenus *Acrestia* Dlabola

Dlabola, 1980a: 222 (as subgenus). Type species: *Bubastica acrestia quadracuta* Dlabola, 1980.
Composition and distribution: 2 species — endemics to Greece.

***Bubastia spartica* Dlabola**

Bubastica spartica Dlabola, 1982: 136.
Distribution: Greece.
Identification: Dlabola 1982.

***Bubastia suturalis* (Fieber)**

Hysteropterum suturale Fieber, 1877: 3.
Acrestia quadracuta Dlabola, 1980a: 223, syn. fide Gnezdilov, Drosopoulos & Wilson 2004: 220.
Distribution: Greece.
Identification: Dlabola 1980a.
Photos (Pl. 21, figs g—i): Greece (NMWC): ♂, frontal, dorsal and lateral views.

Subgenus *Capititudes* Gnezdilov, Drosopoulos & Wilson

Gnezdilov, Drosopoulos & Wilson, 2004: 219 (as subgenus). Type species: *Bubastia jatagana* Dlabola, 1980.
Composition and distribution: Monotypical subgenus known from Greece and Turkey.

***Bubastia jatagana* Dlabola**

Bubastia jatagana Dlabola, 1980a: 224.
Distribution: Greece (Samos I., Rhodes I.), Turkey.
Identification: Dlabola 1980a.
Photos (Pl. 21, figs d—f): Greece, Samos I. (ZIN): ♀, frontal, dorsal and lateral views.

Genus *Caepovultus* Gnezdilov & Wilson

Gnezdilov & Wilson, 2007b: 110. Type species: *Caepovultus deemingi* Gnezdilov & Wilson, 2007.
Composition and distribution: 2 species known from mountains of Oman and United Arab Emirates.

***Caepovultus deemingi* Gnezdilov & Wilson**

Caepovultus deemingi Gnezdilov & Wilson, 2007b: 110.
Distribution: Oman.
Identification: Gnezdilov & Wilson 2007.
Photos (Pl. 22, figs f—h): Oman (NMWC): ♂ (holotype), frontal, dorsal and lateral views.

Caepovultus vegrandis Gnezdilov & Wilson

Caepovultus vegrandis Gnezdilov & Wilson, 2011: 109.
Distribution: United Arab Emirates.
Identification: Gnezdilov & Wilson 2011.

Genus *Cavatorium* Dlabola

Dlabola, 1980a: 208. Type species: *Cavatorium bispinatum* Dlabola, 1980.
Composition and distribution: 4 species — endemics to Iran.

***Cavatorium ardakanum* Dlabola**

Cavatorium ardakanum Dlabola, 1980a: 210.
Distribution: Iran.
Identification: Dlabola 1980a.

***Cavatorium bispinatum* Dlabola**

Cavatorium bispinatum Dlabola, 1980a: 209.
Distribution: Iran.
Identification: Dlabola 1980a.

***Cavatorium quadrispinatum* Dlabola**

Cavatorium quadrispinatum Dlabola, 1980a: 211.
Distribution: Iran.
Identification: Dlabola 1980a.
Photos (Pl. 23, figs d–f): Iran (NMWC): ♀, frontal, dorsal and lateral views.

***Cavatorium sarbaz* Dlabola**

Cavatorium sarbaz Dlabola, 1980a: 212.
Distribution: Iran.
Identification: Dlabola 1980a.

Genus *Celyphoma* Emeljanov

Emeljanov, 1971: 625. Type species: *Hysteropterum fruticulinum* Emeljanov, 1964.
Composition and distribution: 23 species (one of them with 2 subspecies) known from Kazakhstan and Middle Asia. One species is known from Northwestern China (Xinjiang) (Mitjaev 1995). More than half of the species (13) are known from Kyrgyzstan.

***Celyphoma atomata* (Mitjaev)**

Phasmena atomata Mitjaev, 1971: 71.
Distribution: Kazakhstan.
Identification: Mitjaev 1971.

***Celyphoma biarmata* Chelpakova**

Celyphoma biarmata Chelpakova, 1989: 309.
Distribution: Kyrgyzstan.
Identification: Chelpakova 1989, Anufriev 2004.

***Celyphoma bogutica* Mitjaev**

Celyphoma bogutica Mitjaev, 1995: 18.
Distribution: Kazakhstan.
Identification: Mitjaev 1995.

***Celyphoma chelifer* Lukjanova**

Celyphoma chelifer Lukjanova, 1992: 350.
Distribution: Kyrgyzstan.
Identification: Lukjanova 1992.

***Celyphoma coelimontana* Emeljanov**

Celyphoma coelimontana Emeljanov, 1978: 331.
Distribution: Kyrgyzstan.
Identification: Emeljanov 1978, Anufriev 2004.

***Celyphoma corrugata* Emeljanov**

Celyphoma corrugata Emeljanov, 1978: 329.
Distribution: Kyrgyzstan.
Identification: Emeljanov 1978.

***Celyphoma dietrichi* Anufriev**

Celyphoma dietrichi Anufriev, 2004: 41.
Distribution: Kyrgyzstan.
Identification: Anufriev 2004.

***Celyphoma dilatata* Emeljanov**

Celyphoma dilatata Emeljanov, 1978: 330.
Distribution: Tajikistan.
Identification: Emeljanov 1978.

***Celyphoma dzhungarica* Mitjaev**

Celyphoma dzhungarica Mitjaev, 1995: 18.
Distribution: Kazakhstan.
Identification: Mitjaev 1995.

***Celyphoma emeljanovi* Anufriev**

Celyphoma emeljanovi Anufriev, 2004: 42.
Distribution: Uzbekistan.
Identification: Anufriev 2004.

***Celyphoma fruticulina* (Emeljanov)**

Hysteropterum fruticulinum Emeljanov, 1964b: 13.
Distribution: Kazakhstan.
Identification: Emeljanov 1964b.
Biology: Emeljanov 1969.
Photos (Pl. 23, figs a–c): Kazakhstan, Karaganda Province (ZIN): ♂, frontal, dorsal and lateral views.

***Celyphoma furcata* Lukjanova**

Celyphoma furcata Lukjanova, 1992: 350.
Distribution: Kyrgyzstan.
Identification: Lukjanova 1992.

***Celyphoma gloreosa* Mitjaev**

Celyphoma gloreosa Mitjaev, 1995: 19.
Distribution: Kazakhstan.
Identification: Mitjaev 1995.

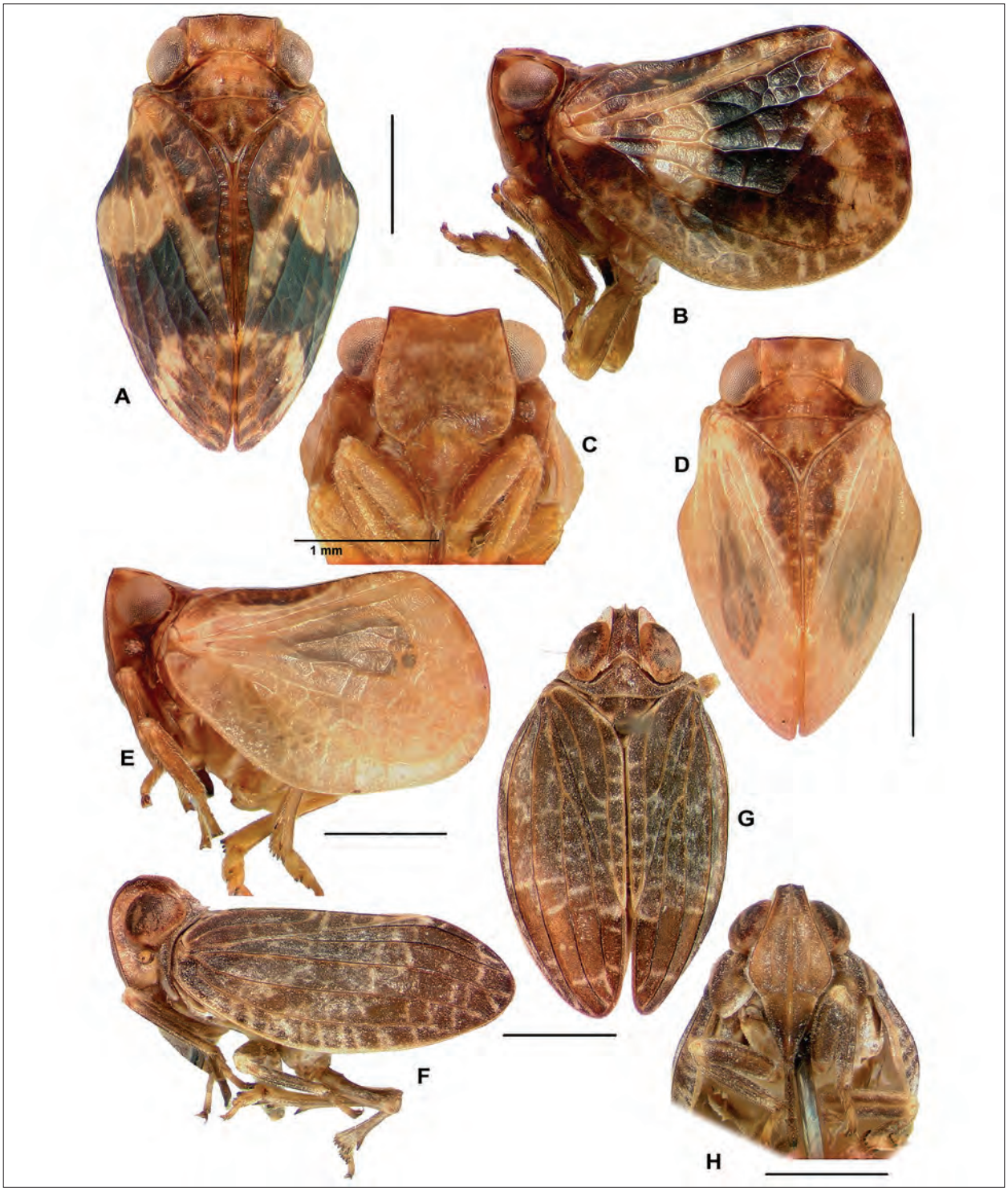


Plate 22. a, *Bubastia (Bubastia) ephialtes* (Linnavuori), female, dorsal view; b, same, female, lateral view; c, same, male, frontal view; d, same, male, dorsal view; e, same, male, lateral view; f, *Caepovultus deemingi* Gnezdilov & Wilson, male (holotype), lateral view; g, same, dorsal view; h, same, frontal view.

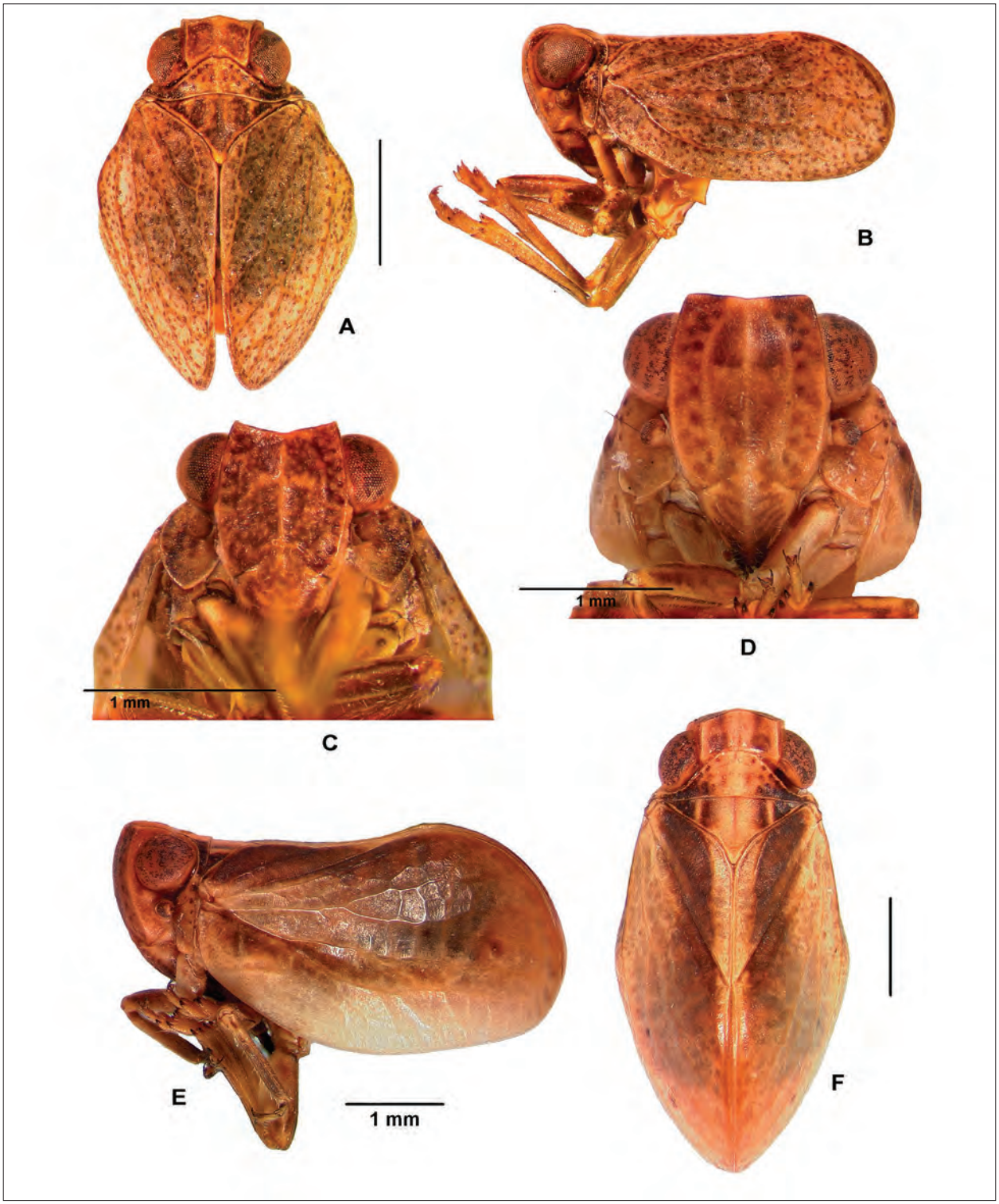


Plate 23. a, *Celyphoma fruticulina* (Emeljanov), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Cavatorium quadrispinatum* Dlabola, female, frontal view; e, same, lateral view; f, same, dorsal view.

***Celyphoma gultchense* Anufriev**

Celyphoma gultchense Anufriev, 2004: 45.
Distribution: Kyrgyzstan.
Identification: Anufriev 2004.

***Celyphoma issykkulica* Chelpakova**

Celyphoma issykkulica Chelpakova, 1989: 308.
Distribution: Kyrgyzstan.
Identification: Chelpakova 1989.

***Celyphoma karatepica* (Dlabola)**

Hysteropterum karatepicum Dlabola, 1961: 264.
Distribution: Uzbekistan.
Identification: Dlabola 1961, Anufriev 2004.

***Celyphoma karatavica* Mitjaev**

Celyphoma karatavica Mitjaev, 1995: 14.
Distribution: Kazakhstan.
Identification: Mitjaev 1995.
Biology: Mitjaev 2002.

***Celyphoma loginovae loginovae* Anufriev**

Celyphoma loginovae Anufriev, 2004: 44.
Distribution: Kyrgyzstan.
Identification: Anufriev 2004.

***Celyphoma loginovae karakolica* Anufriev**

Celyphoma loginovae karakolica Anufriev, 2004: 44.
Distribution: Kyrgyzstan.
Identification: Anufriev 2004.

***Celyphoma modesta* Lukjanova**

Celyphoma modesta Lukjanova, 1992: 349.
Distribution: Kyrgyzstan.
Identification: Lukjanova 1992.

***Celyphoma modestula* Anufriev**

Celyphoma modestula Anufriev, 2004: 43.
Distribution: Kyrgyzstan.
Identification: Anufriev 2004.

***Celyphoma nigrimontana* Emeljanov**

Celyphoma nigrimontana Emeljanov, 1978: 331.
Distribution: Kazakhstan.
Identification: Emeljanov 1978.

***Celyphoma obnoxia* Mitjaev**

Celyphoma obnoxia Mitjaev, 1995: 18.
Distribution: Kazakhstan.
Identification: Mitjaev 1995.
Biology: Mitjaev 2002.

***Celyphoma ogusica* Chelpakova**

Celyphoma ogusica Chelpakova, 1989: 308.
Distribution: Kyrgyzstan.
Identification: Chelpakova 1989, Anufriev 2004.

Genus *Conosimus* Mulsant & Rey

Mulsant & Rey, 1855b: 203. Type species: *Conosimus coelatus* Mulsant & Rey, 1855.

Sphenidius Soós, 1976: 87 (Type species: *Sphenidius horvathi* Soós, 1976), syn. fide Dlabola 1987b: 75.

Composition and distribution: 5 species distributed in the Western Mediterranean Basin.

***Conosimus coelatus* Mulsant & Rey**

Conosimus coelatus Mulsant & Rey, 1855b: 204.

Conosimus corsicus Lethierry, 1876: 76, syn. fide Melichar 1906 : 110.

Distribution: France including Corsica I., ?Italy (Sardinia I.) (Servadei 1952), Spain including Balearic Islands (Majorca I., Ibiza I.).

Identification: Dlabola 1987b.

Photos (Pl. 24, figs d–f): France, Bouches-du-Rhone (KDB): ♀, dorsal and lateral views; Spain, Tarragona (KDC): ♂, frontal view.

***Conosimus horvathi* (Soós)**

Sphenidius horvathi Soós, 1976: 88.
Distribution: Spain.
Identification: Soós 1976.

***Conosimus malfanus* Dlabola**

Conosimus malfanus Dlabola, 1987b: 78.
Distribution: Italy (Malfa I.).
Identification: Dlabola 1987b.

***Conosimus noualhieri* Puton**

Conosimus noualhieri Puton, 1898: 171.
Distribution: Algeria, Morocco.
Identification: Puton 1898.

Photos (Pl. 24, figs a–c): Morocco, Berkane (MNHN): ♀, frontal, dorsal and lateral views.

***Conosimus violantis* Ferrari**

Conosimus violantis Ferrari, 1884: 505.
Distribution: Tunisia (Galita I.).
Identification: Ferrari 1884.

Genus *Corymbius* Gnezdilov

Gnezdilov, 2002b: 149 (as subgenus of *Kervillea* Bergevin, 1918). Type species: *Quadrastylum tekirdagicum* Dlabola, 1982.

Composition and distribution: Monotypical genus known from Bulgaria, Greece, and Turkey.

Corymbius tekirdagicus (Dlabola)

Quadrastylum tekirdagicum Dlabola, 1982: 141.

Distribution: Bulgaria, Greece, Turkey.

Identification: Dlabola 1982, Gnezdilov 2002b.

Photos (Pl. 25, figs e—f): Bulgaria (ZIN): ♂, frontal, dorsal and lateral views.

Genus *Eusarima* Yang, 1994

Yang, 1994: 108 (in Chan & Yang 1994). Type species: *Eusarima contorta* Yang, 1994 (in Chan & Yang 1994).

Composition and distribution: 2 subgenera — *Eusarima* Yang with 32 species known from Taiwan and Japan and *Nepalius* Dlabola, 1997 with 2 species known from Nepal and Iran (Gnezdilov 2009, 2013b, Gnezdilov & Mozaffarian 2011). In the Western Palaearctic only the subgenus *Nepalius* Dlabola with single species is presently known.

Note: The genus is placed in the subtribe Hysteropterina provisionally. The subtribal system of Oriental genera is not developed yet.

Key to subgenera

1. Intermediate cainae of metope joined below its upper margin. Fore wings without hypocostal plate ..... ***Eusarima* Yang**
— Intermediate cainae of metope joined on its upper margin. Fore wings with narrow hypocostal plate ..... ***Nepalius* Dlabola**

Eusarima iranica Gnezdilov & Mozaffarian

Eusarima (Nepalius) iranica Gnezdilov & Mozaffarian, 2011: 459.

Distribution: Iran.

Identification: Gnezdilov & Mozaffarian 2011.

Photos (Pl. 17, figs a—c): Iran, Tehran (HMIM): ♂, dorsal and lateral views (holotype); frontal view (paratype).

Genus *Falcidius* Stål

Stål, 1866: 205. Type species: *Cercopis aptera* Fabricius, 1794.

Composition and distribution: 10 species distributed in the Western and Central Mediterranean Basin.

Falcidius apterus (Fabricius)

Cercopis aptera Fabricius, 1794: 54.

Hysteropterum heydenii Kirschbaum, 1868: 55, syn. fide Melichar 1906: 115.

Hysteropterum areolatum A. Costa, 1883: 338, syn. fide Melichar 1906: 115.

Distribution: Algeria, Italy (Abruzzo Province, ?Sardinia I. (Costa 1883)).

Identification: Gnezdilov & Wilson 2008.

Photos (Pl. 26, figs a—c): Algeria (NMWC): ♀, frontal, dorsal and lateral views.

Falcidius chlorizans (Rey)

Hysteropterum chlorizans Rey, 1891: 242.

Distribution: Algeria.

Identification: Gnezdilov & Wilson 2008.

Falcidius diphtheriopsis Bergevin

Falcidius diphtheriopsis Bergevin, 1919a: 157.

Distribution: Algeria.

Identification: Gnezdilov & Wilson 2008.

Falcidius doriae (Ferrari)

Hysteropterum doriae Ferrari, 1884: 507.

Distribution: Italy (Sicily I.), Tunisia.

Identification: Gnezdilov & Wilson 2008.

Falcidius duffelsicus Dlabola

Falcidius duffelsicus Dlabola, 1982: 135.

Distribution: Tunisia.

Identification: Gnezdilov & Wilson 2008.

Photos (Pl. 27, figs d—f): Tunisia (BMNH): ♀, frontal, dorsal and lateral views.

Falcidius ebejeri Gnezdilov & Wilson

Falcidius ebejeri Gnezdilov & Wilson, 2008: 1470.

Distribution: Malta.

Identification: Gnezdilov & Wilson 2008.

Falcidius hannibal Gnezdilov & Wilson

Falcidius hannibal Gnezdilov & Wilson, 2008: 1471.

Distribution: Algeria, Tunisia.

Identification: Gnezdilov & Wilson 2008.

Photos (Pl. 27, figs a—c): Tunisia (ZIN): ♂ (paratype), frontal, dorsal and lateral views.

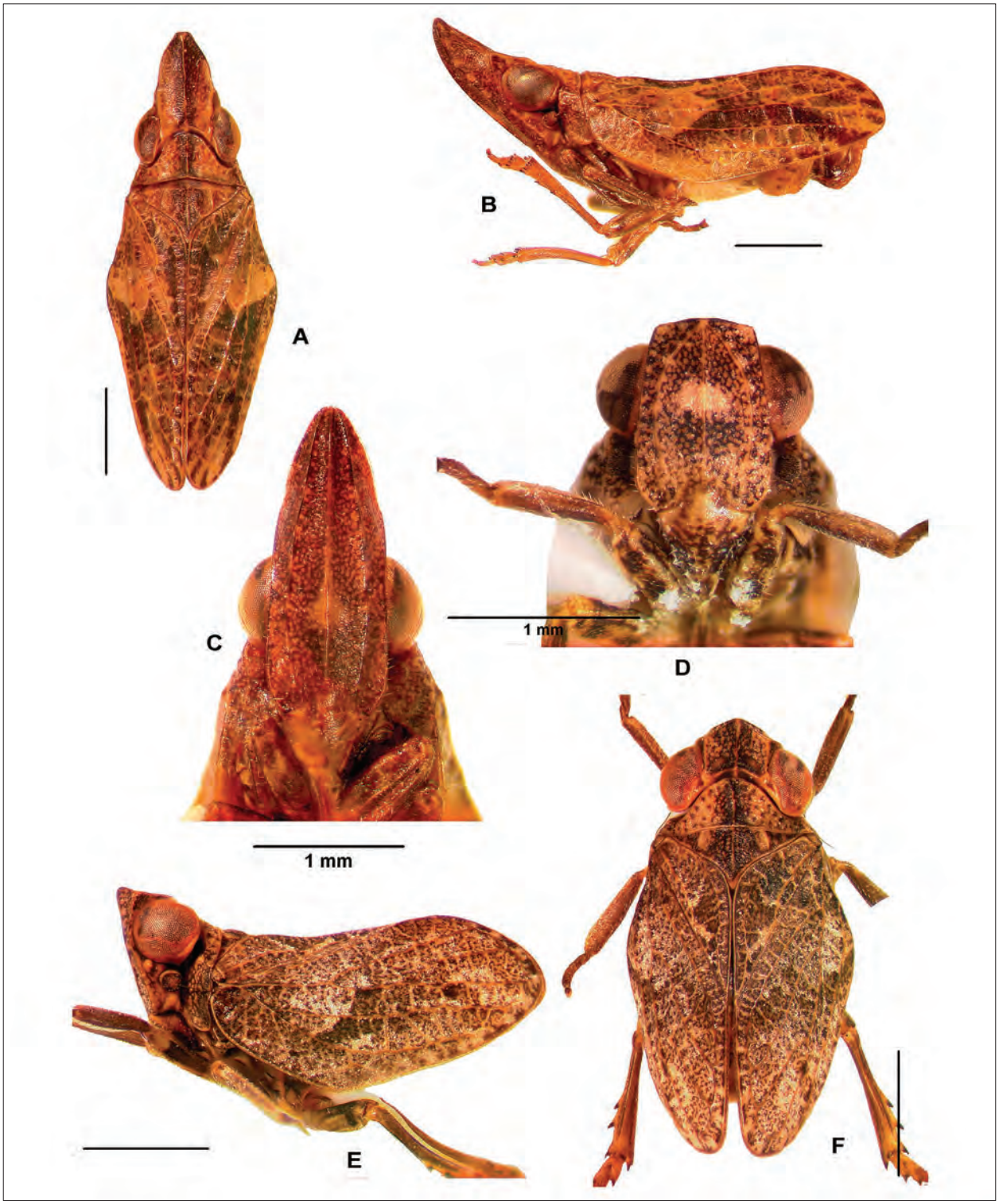


Plate 24. a, *Conosimus nouallieri* Puton, female, dorsal view; b, same, lateral view; c, same, frontal view; d, *Conosimus coelatus* Mulsant & Rey, male, frontal view; e, same, female, lateral view; f, same, female, dorsal view.

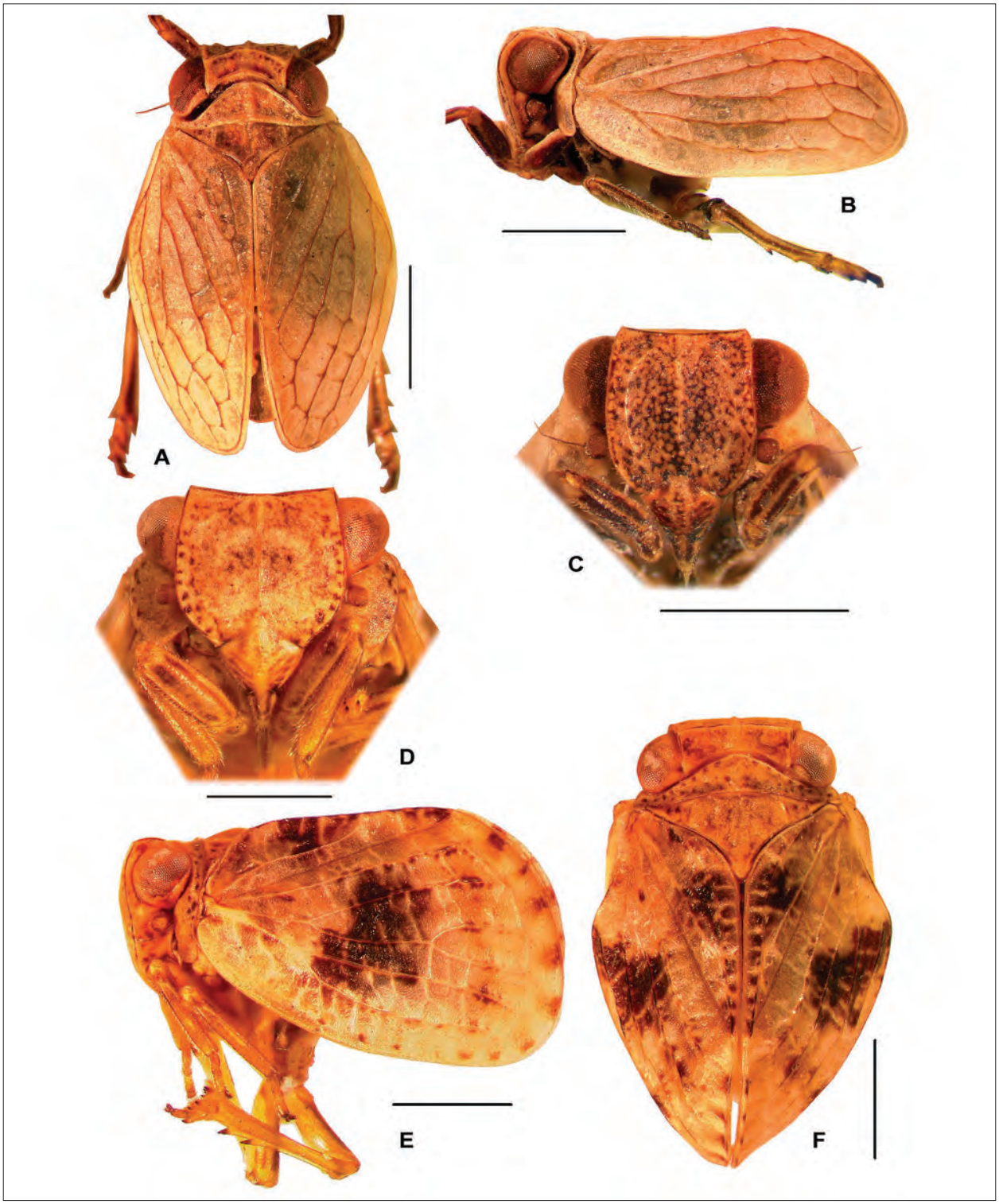


Plate 25. a, *Granum pooti* (Dlabola), female, dorsal view; b, same, lateral view; c, same, frontal view; d, *Corymbius tekirdagicus* (Dlabola), male, frontal view; e, same, lateral view; f, same, dorsal view.

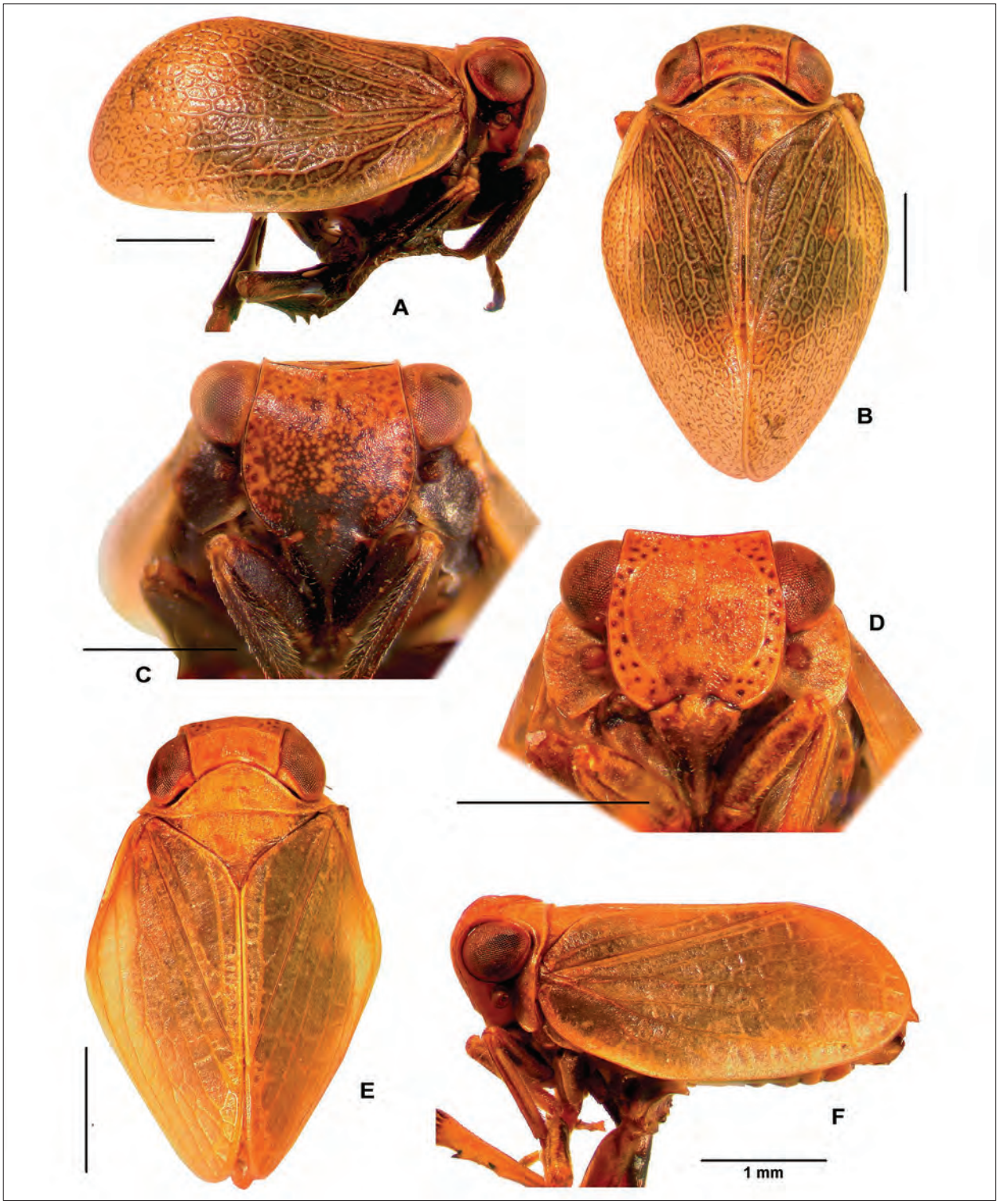


Plate 26. a, *Falcidius apterus* (Fabricius), female, lateral view; b, same, dorsal view; c, same, frontal view; d, *Falcidius scipionis* Gnezdilov & Wilson, male (paratype), frontal view; e, same, dorsal view; f, same, lateral view.

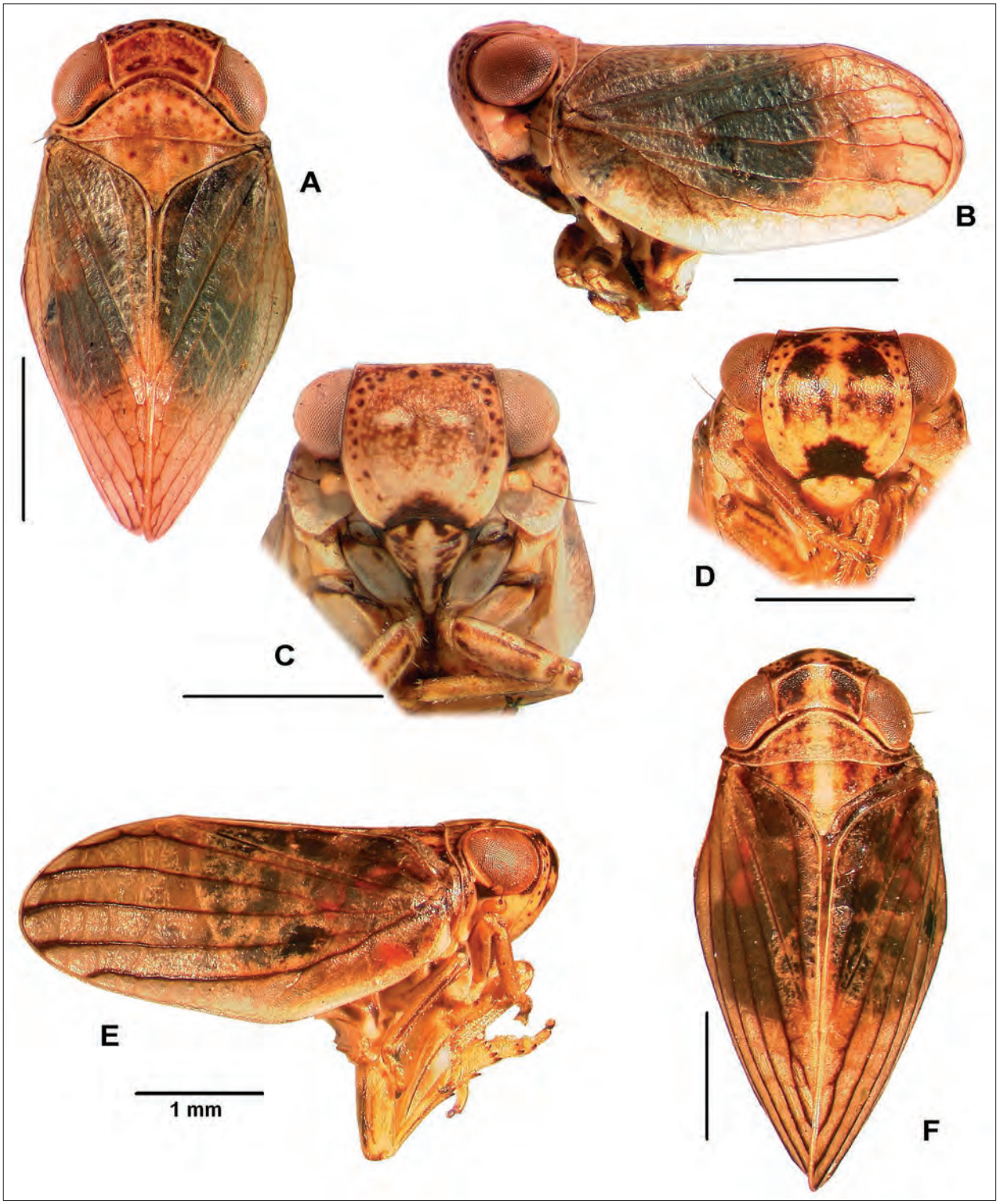


Plate 27. a, *Falcidius hannibal* Gnezdilov & Wilson, male (paratype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Falcidius duffelsicus* Dlabola, female, frontal view; e, same, lateral view; f, same, dorsal view.

***Falcidius limbatus* (A. Costa)**

Hysteropterum limbatum A. Costa, 1864: 137.
Distribution: Algeria, Italy (Calabria Province, Sicily I.).
Identification: Gnezdilov & Wilson 2008.

***Falcidius marocanus* Bergevin**

Falcidius marocanus Bergevin, 1923b: 80.
Falcidius bergevini Lindberg, 1963: 29, syn. fide Gnezdilov & Wilson 2008: 1461.
Distribution: Morocco.
Identification: Gnezdilov & Wilson 2008.

***Falcidius scipionis* Gnezdilov & Wilson**

Falcidius scipionis Gnezdilov & Wilson, 2008: 1468.
Distribution: Algeria.
Identification: Gnezdilov & Wilson 2008.
Photos (Pl. 26, figs d—f): Algeria (MNHN): ♂ (paratype), frontal, dorsal and lateral views.

Genus *Fieberium* Dlabola

Dlabola, 1980a: 232. Type species: *Hysteropterum impressum* Fieber, 1877.
Lyrofrontium Dlabola, 1982: 119 (Type species: *Hysteropterum paludum* Bergevin, 1918), syn. fide Gnezdilov 2003a: 29.
Composition and distribution: 12 species (one of them with 2 subspecies) distributed in the Mediterranean Basin. One unidentified species is known from the Balearic Islands (Ibiza I.) and another one — from Sicily I. The genus is in need of revision.

***Fieberium bergevini* (Dlabola)**

Lyrofrontium bergevini Dlabola, 1984: 46.
Distribution: Algeria.
Identification: Dlabola 1984.

***Fieberium candidum* (Bergevin)**

Hysteropterum candidum Bergevin, 1919c: 260.
Distribution: Algeria.
Identification: Dlabola 1984.

***Fieberium corsicum* (Dlabola)**

Agalmatium corsicum Dlabola, 1982: 157.
Distribution: France (Corsica I.), Spain.
Identification: Dlabola 1982.

***Fieberium deserticolum* (Linnavuori)**

Hysteropterum paludum deserticola Linnavuori, 1962: 15.
Distribution: Israel.
Identification: Linnavuori 1962.

***Fieberium flavosuturale* (Lindberg)**

Hysteropterum flavosuturale Lindberg, 1956: 15.
Distribution: Morocco.
Identification: Lindberg 1956.

***Fieberium impressum* (Fieber)**

Hysteropterum impressum Fieber, 1877: 31.
Distribution: ?Algeria (Puton 1875), ?Portugal (Puton 1886), Spain, ?Morocco (Linnavuori 1956).
Identification: Gnezdilov 2003a, Gnezdilov, Soulier-Perkins & Bourgoin 2011.
Photos (Pl. 28, figs d—f): Spain, Tarragona (KDB): ♀, frontal, dorsal and lateral views.

***Fieberium nigridorsale* (Matsumura)**

Hysteropterum nigridorsale Matsumura, 1910: 21.
Distribution: Morocco.
Identification: Dlabola 1984.
Photos (Pl. 28, figs a—c): Morocco (ZIN): ♀, frontal, dorsal and lateral views.

***Fieberium normandi* (Bergevin)**

Hysteropterum normandi Bergevin, 1920b: 87.
Distribution: Tunisia.
Identification: Dlabola 1984.

***Fieberium oranense* (Matsumura)**

Hysteropterum oranense Matsumura, 1910: 22.
Hysteropterum melanostictum Bergevin, 1917c: 107, syn. fide Dlabola 1984: 42.
Hysteropterum leucodictyon Bergevin, 1917b: 203, syn. fide Dlabola 1984: 42.
Distribution: Algeria, Morocco.
Identification: Bergevin 1917, Dlabola 1984.

***Fieberium pallidellum* (Matsumura)**

Hysteropterum pallidellum Matsumura, 1910: 27.
Distribution: ?Portugal (Oshanin 1912), Spain.
Identification: Dlabola 1984.

***Fieberium paludum paludum* (Bergevin)**

Hysteropterum paludum Bergevin, 1918d: 338.
Distribution: Algeria, Tunisia.
Identification: Dlabola 1984.

***Fieberium paludum altivagum* (Linnavuori)**

Hysteropterum paludum altivagum Linnavuori, 1965: 41.

Distribution: Tunisia.

Identification: Linnavuori 1965.

***Fieberium royeri* (Bergevin)**

Hysteropterum royeri Bergevin, 1921: 241.

Distribution: Morocco.

Identification: Dlabola 1984.

Genus *Granum* Gnezdilov

Gnezdilov, 2003a: 44. Type species: *Hysteropterum pooti* Dlabola, 1989.

Composition and distribution: Monotypical genus known from Spain.

***Granum pooti* (Dlabola)**

Hysteropterum pooti Dlabola, 1989: 29.

Distribution: Spain.

Identification: Dlabola 1989.

Photos (Pl. 25, figs a—c): Spain, Huesca (ZIN): ♀, frontal, dorsal and lateral views.

Genus *Hysteropterum* Amyot & Serville

Amyot & Serville, 1843: 519. Type species: *Hysteropterum schaefferi* Metcalf, 1958 (= *Issus immaculatus* Herrich-Schaeffer, 1836 nec *Cercopis immaculata* Fabricius, 1794).

Composition and distribution: 6 species distributed in Southwestern and Central Europe.

***Hysteropterum albaceticum* Dlabola**

Hysteropterum albaceticum Dlabola, 1983: 132.

Distribution: Spain.

Identification: Dlabola 1983.

Photos (Pl. 29, figs a—c): Spain (ZIN): ♀, frontal, dorsal and lateral views.

***Hysteropterum alicantium* Dlabola**

Hysteropterum alicantium Dlabola, 1986: 193.

Hysteropterum alciranum Gnezdilov, 2003a: 47, syn. fide Gnezdilov 2010: 416.

Distribution: Spain.

Identification: Dlabola 1986.

***Hysteropterum dolichotum* Gnezdilov & Mazzoni**

Hysteropterum dolichotum Gnezdilov & Mazzoni, 2004b: 2.

Distribution: France, Italy, Spain.

Identification: Gnezdilov & Mazzoni 2004b.

***Hysteropterum reticulatum* (Herrich-Schäffer)**

Issus reticulatus Herrich-Schäffer, 1835: 65.

Hysteropterum schaefferi Metcalf, 1958: 277 (nom. nov. pro *Issus immaculatus* Herrich-Schäffer, 1836 nec *Cercopis immaculata* Fabricius, 1794), syn. fide Holzinger, Kammerlander & Nickel 2003: 465.

Distribution: Austria, Croatia, Italy, Slovenia.

Identification: Holzinger, Kammerlander & Nickel 2003.

Biology: Holzinger, Kammerlander & Nickel 2003.

Photos (Pl. 29, figs d—f): Slovenia (ZIN): ♀, frontal, dorsal and lateral views.

New record: 1♂, Croatia, Adria, 300 m, E supra Karlobaq, "Ju 81-3", 19.VI.1981, M. Asche & H. Hoch leg. (CAH).

***Hysteropterum tkalcui* (Dlabola)**

Falcidius tkalcui Dlabola, 1980a: 216.

Distribution: France (Corsica I.).

Identification: Dlabola 1980a.

***Hysteropterum vasconicum* Gnezdilov**

Hysteropterum vasconicum Gnezdilov, 2003a: 48.

Distribution: Andorra, France, Spain.

Identification: Gnezdilov 2003a.

Genus *Inflatodus* Dlabola

Dlabola, 1982: 122. Type species: *Hysteropterum viridans* Dlabola, 1974.

Composition and distribution: 6 species known from Transcaucasia and Iran.

***Inflatodus astyages* Dlabola**

Inflatodus astyages Dlabola, 1982: 124.

Distribution: Iran.

Identification: Dlabola 1982.

***Inflatodus carinatus* (Logvinenko)**

Bubastia carinata Logvinenko, 1978: 799.

Distribution: Azerbaijan (Nakhchivan Republic).

Identification: Logvinenko 1978.

***Inflatodus kyaxares* Dlabola**

Inflatodus kyaxares Dlabola, 1982: 122.

Distribution: Iran.

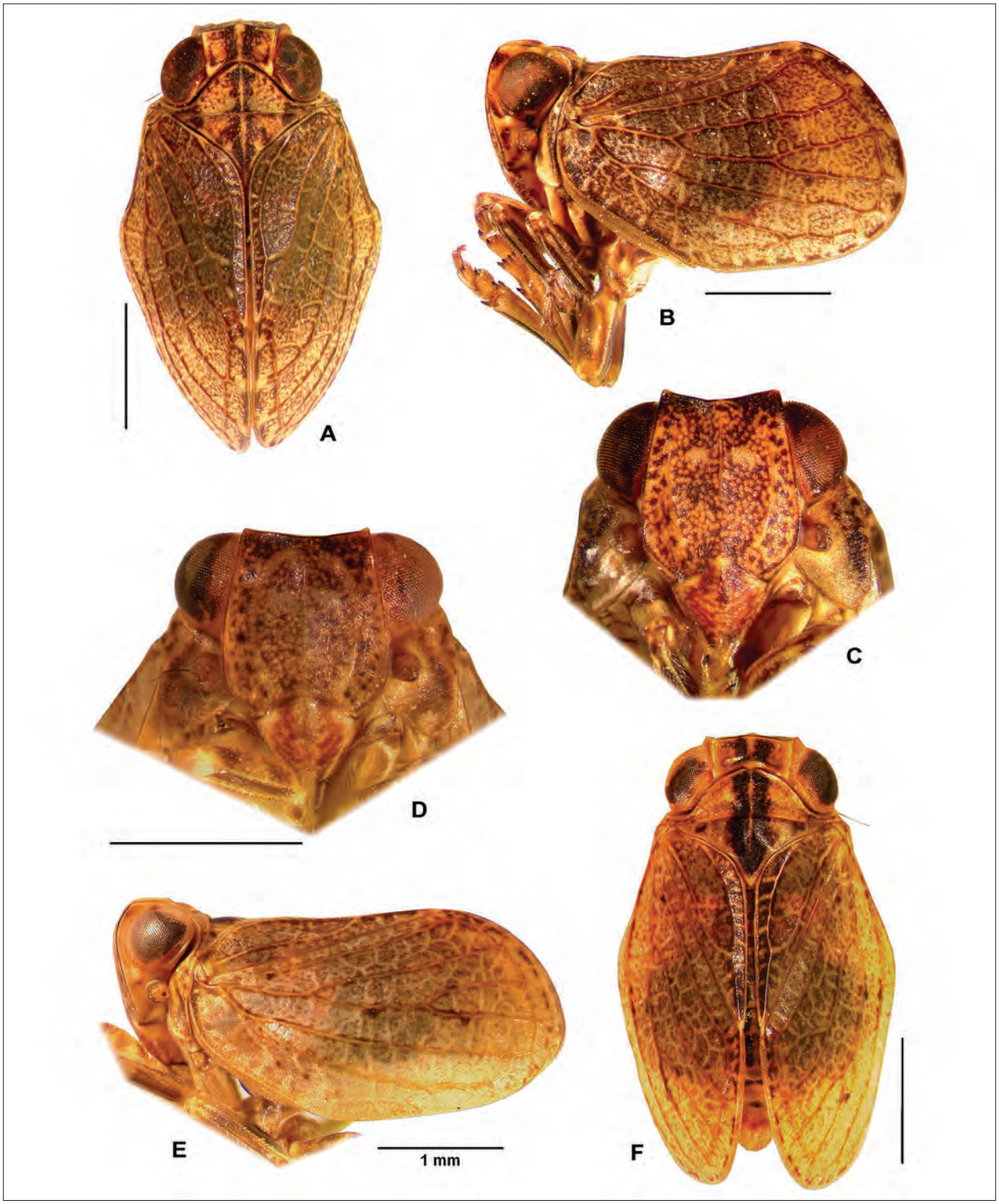


Plate 28. a, *Fieberium nigridorsale* (Matsumura), female, dorsal view; b, same, lateral view; c, same, frontal view; d, *Fieberium impressum* (Fieber), female, frontal view; e, same, lateral view; f, same, dorsal view.

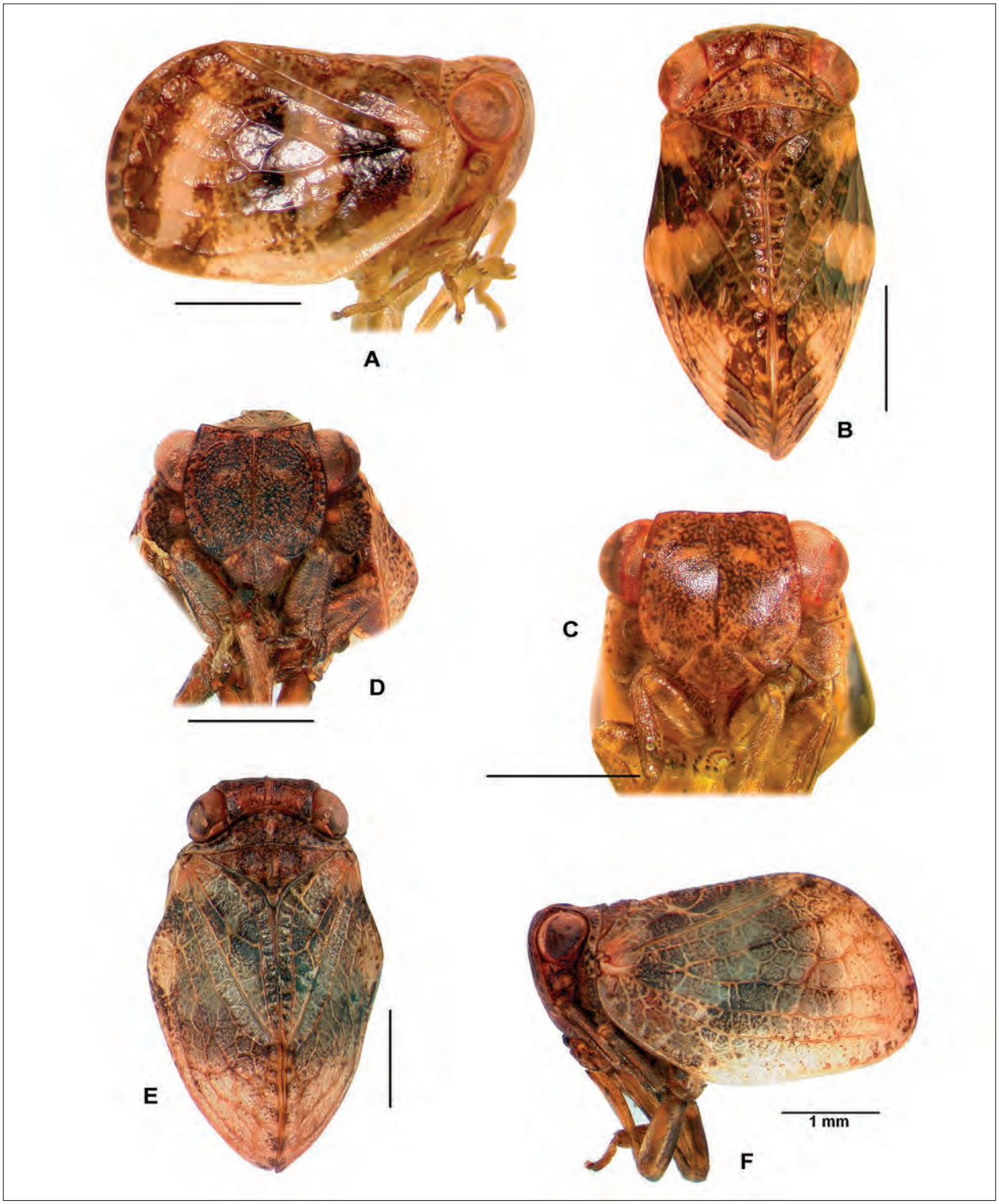


Plate 29. a, *Hysteropterum albaceticum* Dlabola, female, lateral view; b, same, dorsal view; c, same, frontal view; d, *Hysteropterum reticulatum* (Herrich-Schäffer), female, frontal view; e, same, dorsal view; f, same, lateral view.

Identification: Dlabola 1982.

Photos (Pl. 30, figs b–d): Iran (NMPC): ♂ (holotype), frontal view; ♀ (paratype), dorsal and lateral views.

***Inflatodus parvus* (Logvinenko)**

Bubastia parva Logvinenko, 1977b: 64.
Distribution: Azerbaijan.
Identification: Logvinenko 1977b.

***Inflatodus persicus* (Dlabola)**

Hysteropterum persicum Dlabola, 1981a: 181.
Distribution: Iran.
Identification: Dlabola 1981a.

Photos (Pl. 30, fig. a): Iran, Abyek (NMPC): ♀ (paratype), dorsal view.

***Inflatodus viridans* (Dlabola)**

Hysteropterum viridatum Dlabola, 1971a: 380.

Hysteropterum viridans Dlabola, 1974a: 44 (nom. nov. pro *Hysteropterum viridatum* Dlabola, 1971 nec Caldwell, 1945).

Distribution: Iran.
Identification: Dlabola 1971a.

Photos (Pl. 30, figs e–g): Iran, Semnan (NMWC): ♂, frontal, dorsal and lateral views.

Genus *Iranodus* Dlabola

Dlabola, 1980a: 203. Type species: *Iranodus transversalis* Dlabola, 1980.

Composition and distribution: 6 species — all endemics to Iran.

***Iranodus amygdalinus* Dlabola**

Iranodus amygdalinus Dlabola, 1980a: 205.
Distribution: Iran.
Identification: Dlabola 1980a.

Photos (Pl. 31, figs a–c): Iran, Bezan (NMPC): ♂ (paratype), frontal, dorsal and lateral views.

***Iranodus dumetorus* (Dlabola)**

Hysteropterum dumetorum Dlabola, 1981a: 185.
Distribution: Iran.
Identification: Dlabola 1981a.

***Iranodus khatunus* (Dlabola)**

Hysteropterum khatunum Dlabola, 1981a: 187.
Distribution: Iran.
Identification: Dlabola 1981a.

***Iranodus nishabur* Dlabola**

Iranodus nishabur Dlabola, 1982: 128.
Distribution: Iran.
Identification: Dlabola 1982.

***Iranodus repandus* (Dlabola)**

Hysteropterum repandum Dlabola, 1981a: 182.
Distribution: Iran.
Identification: Dlabola 1981a.

***Iranodus transversalis* Dlabola**

Iranodus transversalis Dlabola, 1980a: 204.
Distribution: Iran.
Identification: Dlabola 1980a.

Genus *Kervillea* Bergevin

Bergevin, 1918a: 104. Type species: *Kervillea ancyrana* Bergevin, 1918.

Hysterella Logvinenko, 1977a: 849 (Type species: *Hysterella coronata* Logvinenko, 1977), syn. fide Gnezdilov 2002b: 148.

Quadrastylum Dlabola, 1979a: 283 (Type species: *Quadrastylum campanuliforme* Dlabola, 1979), syn. fide Gnezdilov 2002b: 148.

Falcidiopsis Kusnezov, 1930a: 98 (Type species: *Falcidiopsis kirgisorum* Kusnezov, 1930), syn. fide Gnezdilov 2010: 417.

Composition and distribution: 20 species distributed in the Eastern Mediterranean Basin, Asia Minor, Ukraine, Southern Russia, and Kazakhstan.

***Kervillea anatolica* (Dlabola)**

Falcidius anatolicus Dlabola, 1979a: 280.
Distribution: Turkey.
Identification: Dlabola 1979a.

***Kervillea ancyrana* Bergevin**

Kervillea ancyrana Bergevin, 1918a: 105.

Hysteropterum parvissimum Dlabola, 1957: 31, syn. fide Kartal & Miroğlu 2011: 58.

Kervillea placophora sensu Gnezdilov 2002b: 149.
Distribution: Turkey.
Identification: Kartal & Miroğlu 2011.

***Kervillea aylae* (Dlabola)**

Quadrastylum aylae Dlabola, 1987c: 302.
Distribution: Turkey.
Identification: Dlabola 1987c.

***Kervillea basinigra* (Dlabola)**

Quadrastylum basiniger Dlabola, 1982: 141.
Distribution: Greece, Turkey.
Identification: Dlabola 1982.

***Kervillea beysehirica* (Dlabola)**

Quadrastylum beysehiricum Dlabola, 1983: 129.
Distribution: Turkey.
Identification: Dlabola 1983.

***Kervillea campanuliformis* (Dlabola)**

Quadrastylum campanuliforme Dlabola, 1979a: 283.
Distribution: Turkey.
Identification: Dlabola 1979a.

***Kervillea conspurcata* (Spinola)**

Issus conspurcatus Spinola, 1839: 363.
Hysteropterum dohrnii Kirschbaum, 1868: 53, syn. fide Melichar 1906: 144.
Distribution: Bulgaria, Hungary, Republic of Macedonia, Slovakia, Slovenia, Romania.
Identification: Gnezdilov 2002b, Holzinger, Kammerlander & Nickel 2003.
Photos (Pl. 32, figs d–f): Slovakia, Darkán (NMWC): ♂, frontal, dorsal and lateral views.

***Kervillea coronata* (Logvinenko)**

Hysterella coronata Logvinenko, 1977a: 849.
Distribution: Ukraine.
Identification: Logvinenko 1977a, Gnezdilov 2002b.

***Kervillea epunctata* (Mitjaev)**

Falcidiopsis epunctatus Mitjaev, 1971: 71.
Distribution: Kazakhstan.
Identification: Mitjaev 1971.
Biology: Mitjaev 2002.

***Kervillea gaziantepica* Dlabola**

Kervillea gaziantepica Dlabola, 1985: 224.
Distribution: Turkey.
Identification: Dlabola 1985.

***Kervillea jahjai* (Dlabola)**

Quadrastylum jahjai Dlabola, 1983: 130.
Distribution: Turkey.
Identification: Dlabola 1983.

***Kervillea kirgisorum* (Kusnezov)**

Falcidiopsis kirgisorum Kusnezov, 1930a: 98.
Hysteropterum pygmaeum Vilbaste, 1961: 317, syn. fide Gnezdilov 2003a: 63.
Distribution: Kazakhstan, Russia (Belgorod Province, Kalmyk Republic, Stavropol Territory), Ukraine.
Identification: Logvinenko 1975a.
Biology: Mitjaev 2002
Photos (Pl. 32, figs a–c): Kazakhstan, Aktyubinsk (ZIN): ♀ (syntype), frontal, dorsal and lateral views.

***Kervillea kulaica* (Dlabola)**

Quadrastylum kulaicum Dlabola, 1982: 140.
Distribution: Turkey.
Identification: Dlabola 1982.

***Kervillea lodosica* (Dlabola)**

Quadrastylum lodosicum Dlabola, 1980a: 239.
Distribution: Turkey.
Identification: Dlabola 1980a.

***Kervillea meridionalis* (Dlabola)**

Falcidiopsis meridionalis Dlabola, 1983: 132.
Distribution: Turkey.
Identification: Dlabola 1983.

***Kervillea nervosa* (Fieber)**

Hysteropterum nervosum Fieber, 1877: 11.
Distribution: Southern Europe.
Identification: Fieber 1877.
Note: Authentically known only after type specimen which is missing abdomen. Proper identification of the species is difficult. The country of type locality is unknown.

***Kervillea placophora* (Horváth)**

Hysteropterum placophorum Horváth, 1905: 188.
Distribution: ?Syria (Melichar 1906), Turkey.
Identification: Gnezdilov 2002b.

***Kervillea scoleogramma* (Fieber)**

Hysteropterum scoleogramma Fieber, 1877: 13.
Hysteropterum fallaciosum Matsumura, 1910: 26, syn. fide Dlabola 1984: 57.
Distribution: Greece, Turkey.
Identification: Dlabola 1980a.

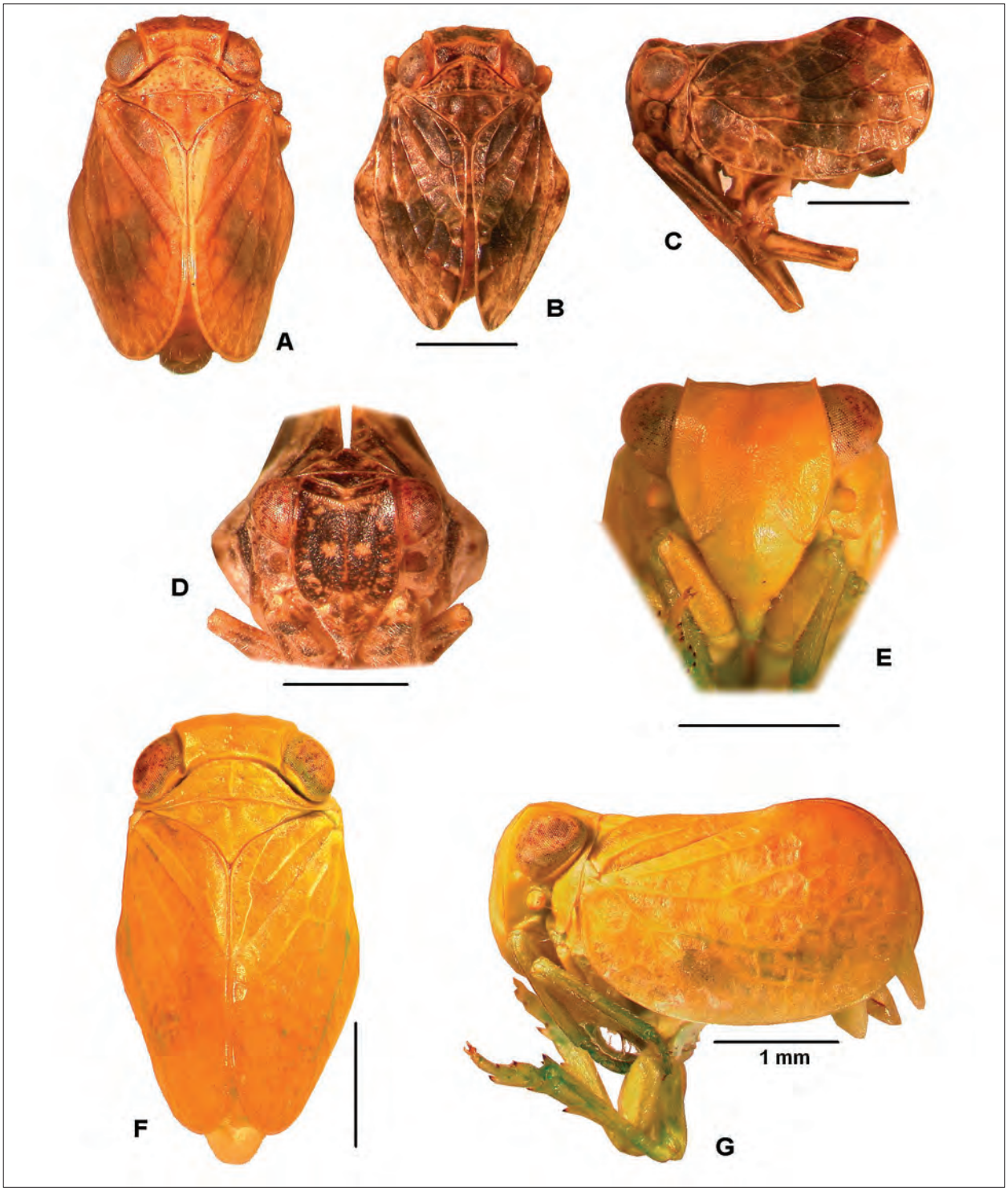


Plate 30. a, *Inflatodus persicus* (Dlabola), female (paratype), dorsal view; b, *Inflatodus kyaxares* Dlabola, female (paratype), dorsal view; c, same, lateral view; d, same, male (paratype), frontal view; e, *Inflatodus viridans* (Dlabola), male, frontal view; f, same, dorsal view; g, same, lateral view.

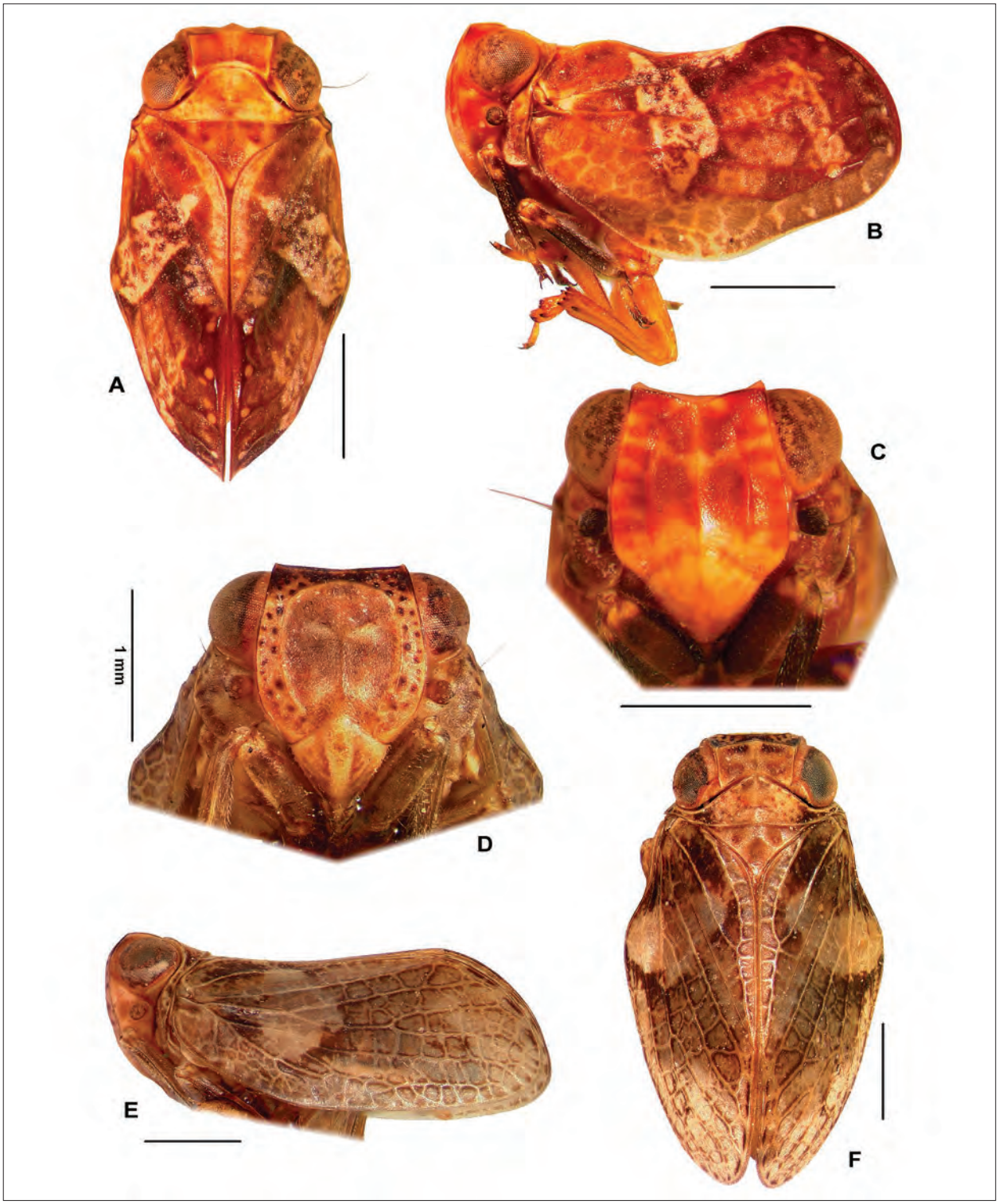


Plate 31. a, *Iranodus amygdalinus* Dlabola, male (paratype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Kovacsiana abyssinica* Synave, female, frontal view; e, same, lateral view; f, same, dorsal view.

***Kervillea syriaca* (Melichar)**

Hysteropterum syriacum Melichar, 1906: 145.
Distribution: Greece, ?Palestine (Bodenheimer 1937), Syria.
Identification: Dlabola 1980a.

***Kervillea tarsusana* (Dlabola)**

Quadrastylum tarsusanum Dlabola, 1989: 25.
Distribution: Turkey.
Identification: Dlabola 1989.

Genus *Kovacsiana* Synave

Synave, 1956: 12. Type species: *Kovacsiana abyssinica* Synave, 1956.
Composition and distribution: 3 species known from the Eastern Africa and Arabian Peninsula. One species is also recorded from Rhodes I. (Greece).

***Kovacsiana abyssinica* Synave**

Kovacsiana abyssinica Synave, 1956: 14.
Distribution: Ethiopia, Greece (Rhodes I.), Yemen.
Identification: Synave 1956.
Photos (Pl. 31, figs d—f): Yemen, "W Aden Prot" (NMWC): ♀, frontal, dorsal and lateral views.

Genus *Latilica* Emeljanov

Emeljanov, 1971: 622. Type species: *Latilica emeljanovi* Logvinenko, 1975, by subsequent fixation of the type species by Emeljanov 2001a: 99.
Dalmatrium Dlabola, 1980a: 231 (Type species: *Hysteropterum maculipes* Melichar, 1906), syn. fide Emeljanov 2001a: 99.
Composition and distribution: 10 species distributed mostly in the Eastern Mediterranean Basin.

***Latilica abdulnouri* Gnezdilov**

Latilica abdulnouri Gnezdilov, 2004a: 624.
Distribution: Lebanon.
Identification: Gnezdilov 2004a.

***Latilica antalyica* (Dlabola)**

Kovacsiana antalyica Dlabola, 1986: 187.
Distribution: Greece including the islands, Turkey.
Identification: Dlabola 1986.

***Latilica forficeps* (Dlabola)**

Kovacsiana forficeps Dlabola, 1986: 189.
Distribution: Turkey.
Identification: Dlabola 1986.

***Latilica libanensis* Gnezdilov**

Latilica libanensis Gnezdilov, 2004a: 621.
Distribution: Lebanon.
Identification: Gnezdilov 2004a.

***Latilica maculipes* (Melichar)**

Hysteropterum maculipes Melichar, 1906: 141.
Latilica emeljanovi Logvinenko, 1975a: 217, syn. fide Gnezdilov & Mazzoni 2004a: 147.
Distribution: Bosnia and Herzegovina, Croatia, Cyprus, France, Greece, Israel, Italy including the islands (Sardinia I., Sicily I., Linosa I., Pantelleria I.), Palestine, Russia (Krasnodar Territory), Slovenia, Turkey, Ukrane (Crimea).
Identification: Gnezdilov & Mazzoni 2004a.
Biology: Gnezdilov & Mazzoni 2004a.
Photos (Pl. 33, figs a—d): Italy (ZIN): ♂ (Tuscany), frontal, dorsal and lateral views; ♀ (Lazio), dorsal view.

***Latilica melichari* Gnezdilov**

Latilica melichari Gnezdilov, 2004a: 622.
Distribution: Lebanon, Turkey.
Identification: Gnezdilov 2004a.

***Latilica oertzeni* (Matsumura)**

Hysteropterum oertzeni Matsumura, 1910: 20.
Hysteropterum quercus Lindberg, 1948: 117, syn. fide Gnezdilov & Mazzoni 2004 a: 149.
Distribution: Cyprus, Greece including Crete I. and Skiatos I., Turkey.
Identification: Gnezdilov & Mazzoni 2004a.

***Latilica petrica* (Dlabola)**

Kovacsiana petrica Dlabola, 1985: 232.
Distribution: Jordan.
Identification: Dlabola 1985.

***Latilica retamae* (Linnavuori)**

Hysteropterum retamae Linnavuori, 1962: 17.
Distribution: Israel.
Identification: Linnavuori 1962.
Photos (Pl. 33, figs e—g): Israel (NMWC): ♂, frontal, dorsal and lateral views.

***Latilica tunetana* (Matsumura)**

Hysteropterum tunetanum Matsumura, 1910: 24.
Hysteropterum issifrons Bergevin, 1918b: 374, syn. fide Gnezdilov & Mazzoni 2004a: 149.

Distribution: Algeria, Egypt, Greece (Crete I.), Italy including the islands (Linosa I., Pantelleria I., Sardinia I., Sicily I.), Libya, Montenegro, Spain (Balearic Islands: Majorca I., Formentera I.), Tunisia.

Identification: Gnezdilov & Mazzoni 2004a.

Biology: Gnezdilov & Mazzoni 2004a.

New record: 1♂, 3♀, Montenegro, Kruce, 25.IX.1976, "Trockenhang an Wacholder", Wellschmied leg. (ZSM, ZIN).

Genus *Latematium* Dlabola

Dlabola, 1979a: 283. Type species: *Hysteropterum latifrons* Fieber, 1877.

Composition and distribution: 2 subgenera with 3 species distributed in Balkan Peninsula.

Key to subgenera

1. Fore wings with smoothed veins (Pl. 34, fig. d, Pl. 35, fig. c). Male anal tube broadening apically. Dorso-lateral phallobase lobes without processes. Ventral phallobase lobe without additional lobes. Aedeagus without ventral hooks ..... ***Latematium* Dlabola**
— Fore wings with well marked veins (Pl. 34, fig. a). Male anal tube narrowing apically. Each dorso-lateral phallobase lobe with narrow weakly sclerotized process. Ventral phallobase lobe in shape of three lobes apically. Aedeagus with pair of short ventral hooks .... ***Atticus* Gnezdilov**

Subgenus *Latematium* Dlabola

Dlabola, 1979a: 283. Type species: *Hysteropterum latifrons* Fieber, 1877.

Latematium cygnetis (Fieber)

Hysteropterum cygnetis Fieber, 1877: 27.

Distribution: Croatia.

Identification: Dlabola 1979a, Gnezdilov, Soulier-Perkins & Bourgoin 2011.

Photos (Pl. 34, figs d—f): Croatia, Split (BMNH): ♀, frontal, dorsal and lateral views.

Latematium latifrons (Fieber)

Hysteropterum latifrons Fieber, 1877: 22.

Distribution: Bulgaria, Greece, Hungary, Republic of Macedonia, ?Romania (Nast 1987), Serbia.

Identification: Dlabola 1979a.

Photos (Pl. 35, figs a—c): Bulgaria, Boboshevo (ZIN): ♀, frontal, dorsal and lateral views.

Subgenus *Atticus* Gnezdilov

Gnezdilov, 2003a: 67 (as subgenus). Type species: *Latematium graecicum* Dlabola, 1982.

Latematium graecicum Dlabola

Latematium graecicum Dlabola, 1982: 152.

Distribution: Greece.

Identification: Dlabola 1982.

Photos (Pl. 34, figs a—c): Greece, Evia I. (SDC): ♂, frontal, dorsal and lateral views.

Genus *Lethierium* Dlabola

Dlabola, 1980a: 235. Type species: *Hysteropterum reiberi* Lethierry, 1878.

Composition and distribution: 3 species distributed in Morocco and Algeria.

Lethierium cedricolum (Dlabola)

Hysteropterum cedricolum Dlabola, 1989: 28.

Distribution: Morocco.

Identification: Dlabola 1989.

Photos (Pl. 36, figs a—c): Morocco (BMNH): ♂ (paratype), frontal, dorsal and lateral views.

Lethierium juniperi (Bergevin)

Hysteropterum juniperi Bergevin, 1915: 71.

Distribution: Algeria.

Identification: Dlabola 1984.

Lethierium reiberi (Lethierry)

Hysteropterum reiberi Lethierry, 1878: 27.

Distribution: Algeria.

Identification: Dlabola 1980a.

Photos (Pl. 36, figs d—f): Algeria, Aïn Séfra (Oran) (MNHN): ♂, frontal, dorsal and lateral views.

Genus *Libanissum* Dlabola

Dlabola, 1980a: 218. Type species: *Hysteropterum talhouki* Dlabola, 1974.

Irakopterum Dlabola, 1985: 225 (Type species: *Irakopterum trispinatum* Dlabola, 1985), syn. fide Gnezdilov & Wilson 2007: 302.

Composition and distribution: 5 species distributed in the Eastern Mediterranean Basin and the Middle East.

Libanissum circinalis Dlabola

Libanissum circinalis Dlabola, 1994: 61.

Distribution: Israel.

Identification: Dlabola 1994.

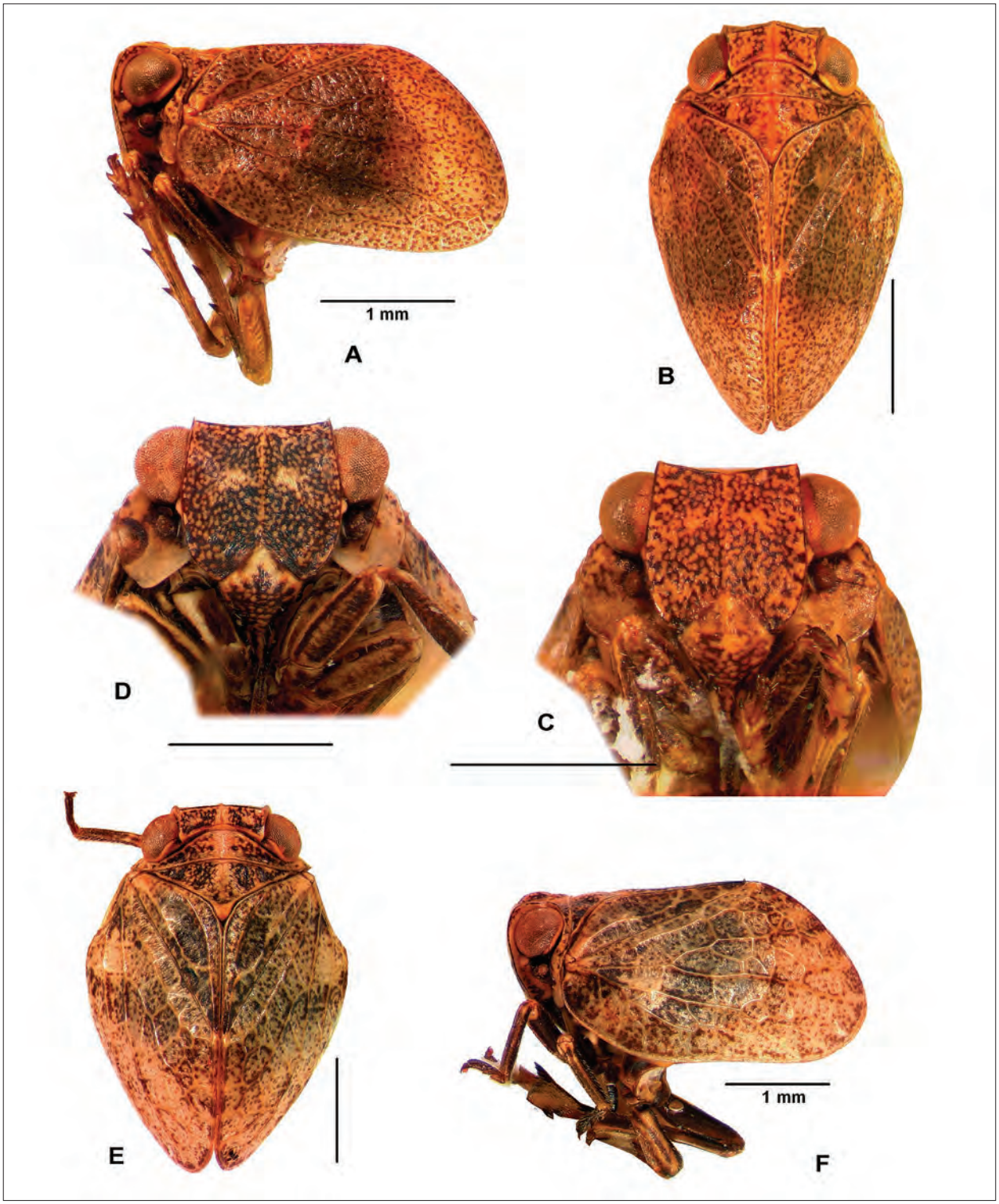


Plate 32. a, *Kervillea kirgisorum* (Kusnezov), female (syntype), lateral view; b, same, dorsal view; c, same, frontal view; d, *Kervillea conspurcata* (Spinola), male, frontal view; e, same, dorsal view; f, same, lateral view.

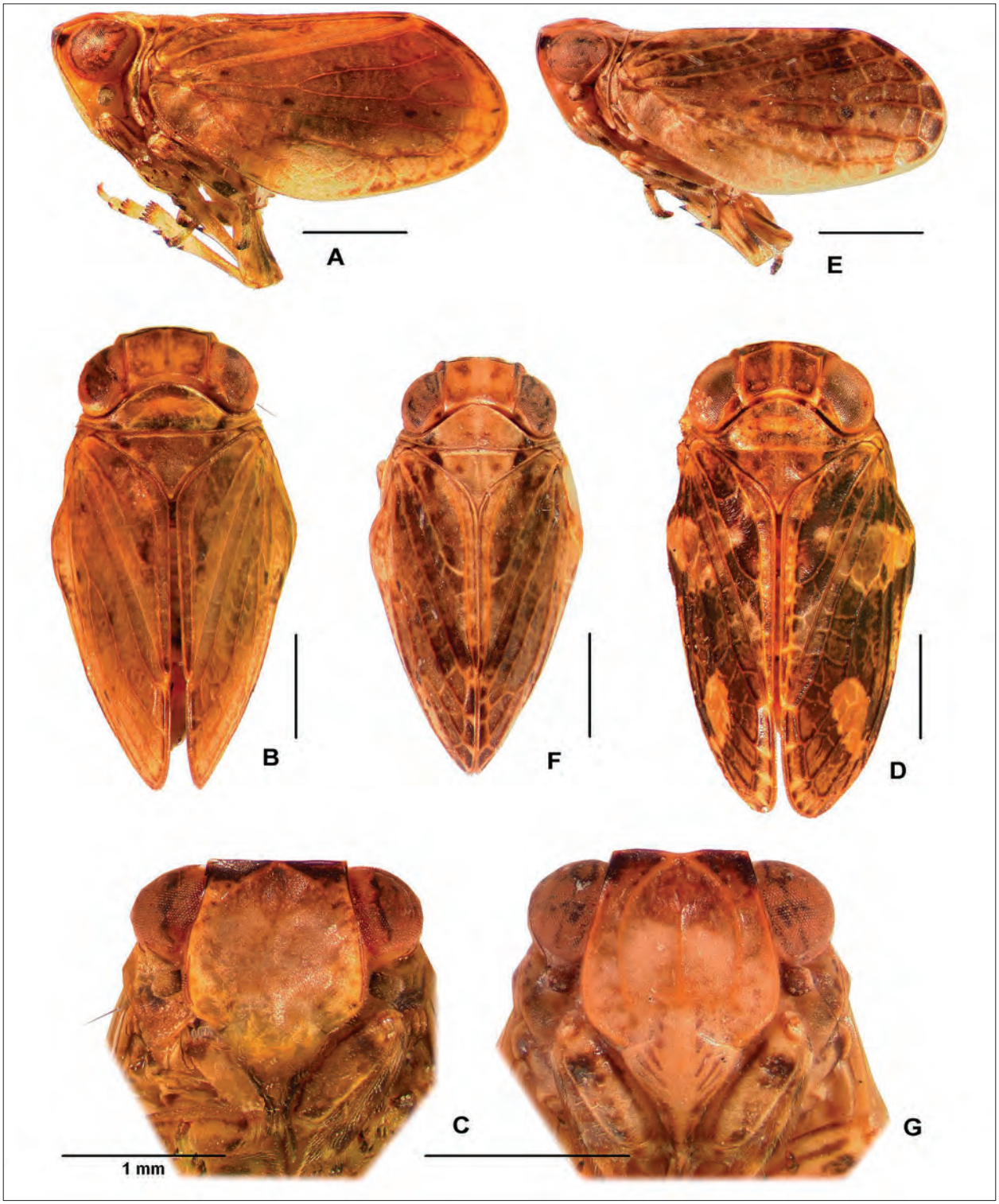


Plate 33. a, *Latilica maculipes* (Melichar), male, lateral view; b, same, dorsal view; c, same, frontal view; d, same, female, dorsal view; e, *Latilica retamae* (Linnavuori), male, lateral view; f, same, dorsal view; g, same, frontal view.

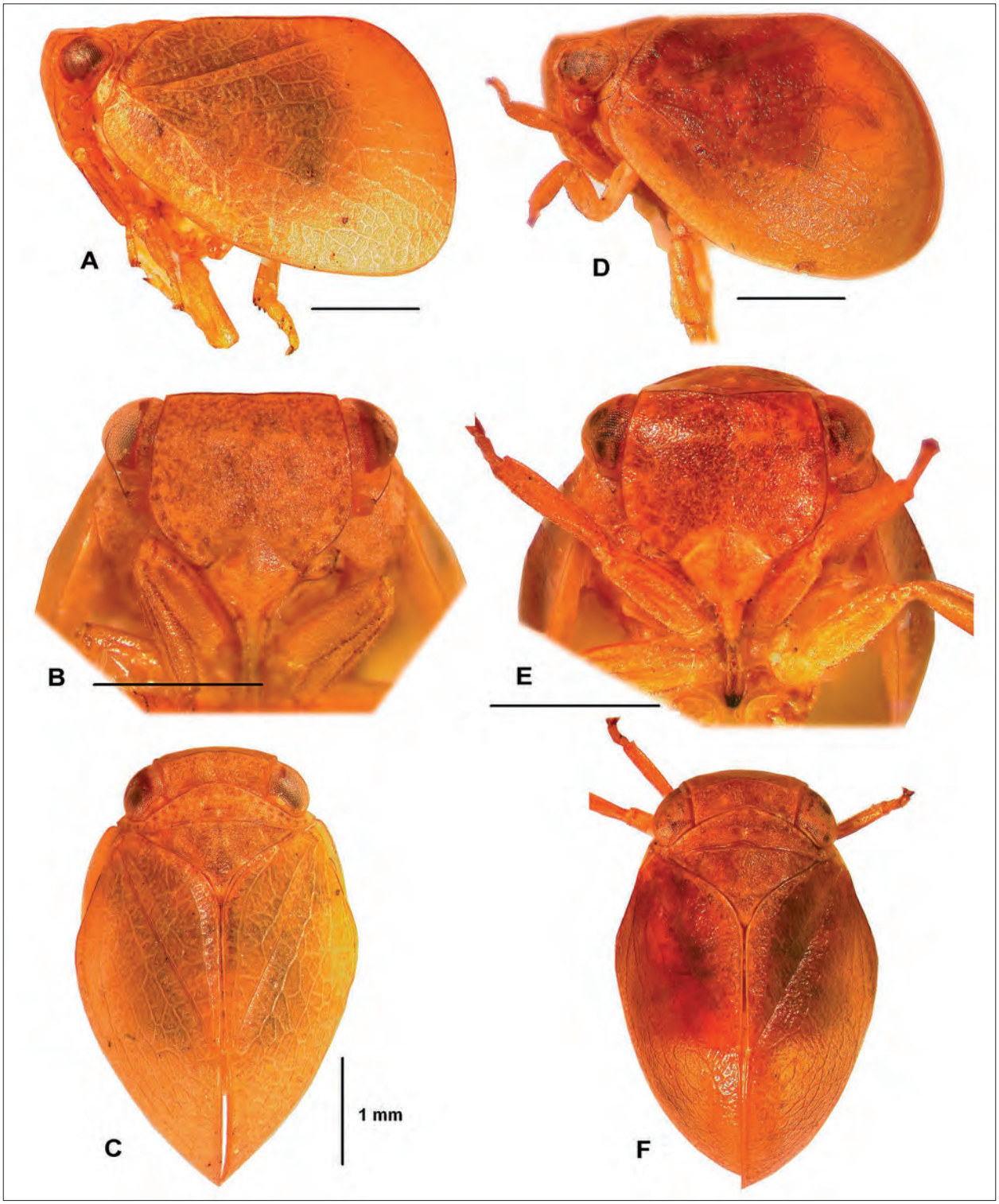


Plate 34. a, *Latematium (Atticus) graecicum* Dlabola, male, lateral view; b, same, frontal view; c, same, dorsal view; d, *Latematium (Latematium) cygnetis* (Fieber), female, lateral view; e, same, frontal view; f, same, dorsal view.

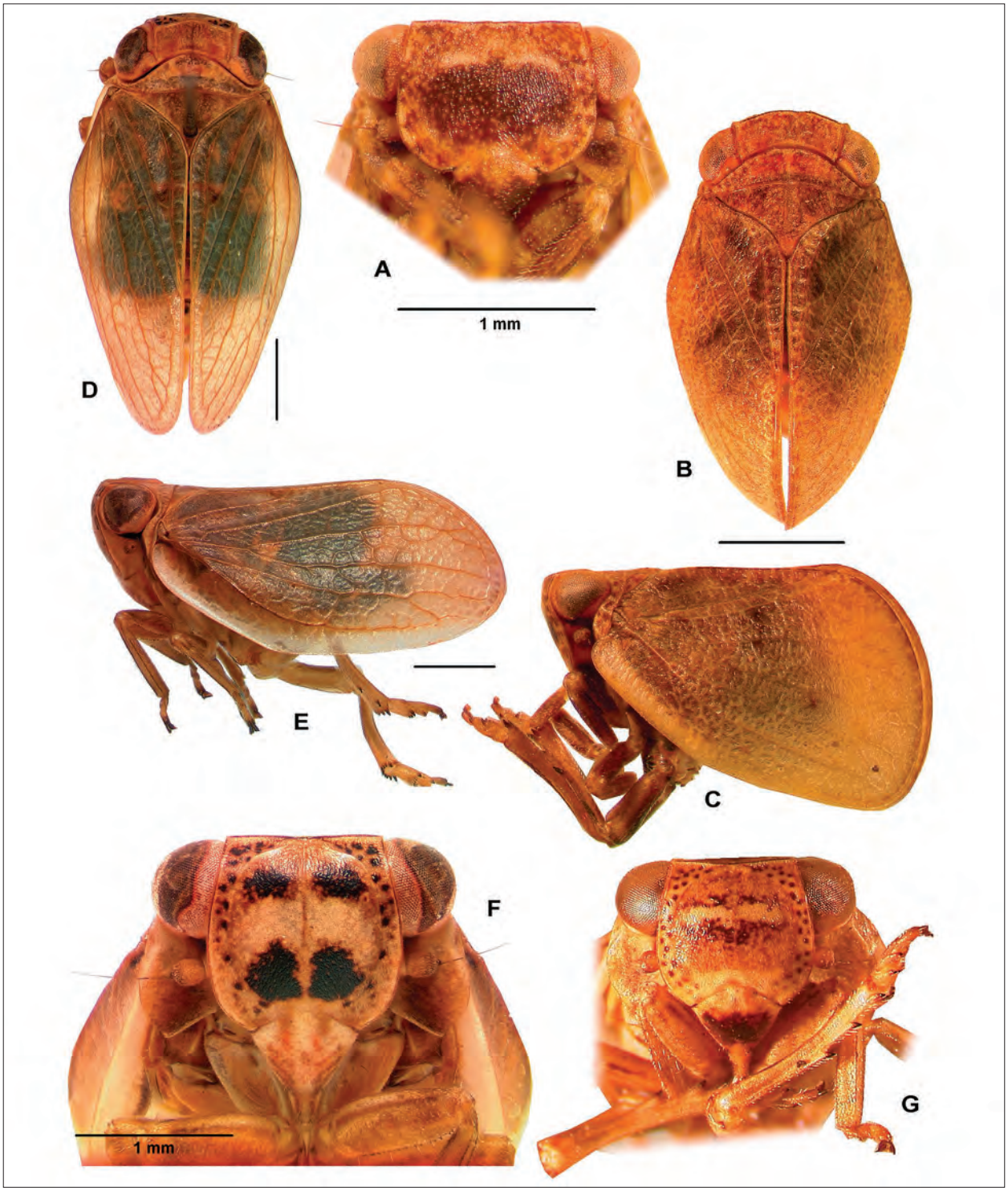


Plate 35. a, *Latematium (Latematium) latifrons* (Fieber), female, frontal view; b, same, dorsal view; c, same, lateral view; d, *Mulsantereum maculifrons* (Mulsant & Rey), female, dorsal view; e, same, lateral view; f, same, frontal view; g, *Mulsantereum novaki* (Wagner), female (paratype), frontal view.

***Libanissum hermonicus* Dlabola**

Libanissum hermonicus Dlabola, 1994: 59.
Distribution: Syria.
Identification: Dlabola 1994.
Photos (Pl. 37, figs a—c): Syria (NMWC): ♀ (paratype), frontal, dorsal and lateral views.

***Libanissum laminatum* (Horváth)**

Hysteropterum laminatum Horváth, 1911: 609.
Distribution: Syria.
Identification: Dlabola 1984.

***Libanissum talhouki* (Dlabola)**

Hysteropterum talhouki Dlabola, 1974b: 126.
Distribution: Cyprus, Israel, Lebanon, Syria.
Identification: Dlabola 1974b.
Photos (Pl. 37, figs d—f): Lebanon (NMWC): ♂, frontal, dorsal and lateral views.

***Libanissum trispinatum* (Dlabola)**

Irakopterum trispinatum Dlabola, 1985: 225.
Distribution: Iraq.
Identification: Dlabola 1985.

Genus *Mycterodus* Spinola

Spinola, 1839: 341. Type species: *Issus nasutus* Herrich-Schäffer, 1835 (= *Cercopis immaculata* Fabricius, 1794).

Composition and distribution: 6 subgenera with a total of 79 species distributed in Central and Southeastern Europe, Eastern Mediterranean Basin, Anatolia, Caucasus, Middle Asia, Iran and Iraq.

Key to subgenera

1. First metatarsomere with single intermediate spine apically . . . . . ***Montissus* Gnezdilov**
— First metatarsomere with 4—5 intermediate spines apically 2
2. First metatarsomere with 5 intermediate spines in entire row. Fore wings without hypocostal plate. Hind wings reaching apex of abdomen (except *M. batumus* which has hind wings rudimentary). Massive species, with always transverse coryphe. Phallobase with multiple denticate lateral processes (Pl. 9, fig. 3) . . . . . ***Comporodus* Kocak**
— First metatarsomere with 4—5 intermediate spines in the interrupted row (3 + 1 or 4 + 1). Fore wings with or without hypocostal plate. Hind wings reaching apex of abdomen or rudimentary. Massive or gracile species with transverse or elongate coryphe. Phallobase without multiple denticate lateral processes 3
3. Aedeagus with 1—2 pairs of ventral hooks 4
— Aedeagus without ventral hooks . . . . . ***Aconosimus* Dlabola**
4. Ventral aedeagal hooks directed apically . . . . . ***Aegaeum* Gnezdilov**
— Ventral aedeagal hooks directed basally (except *M. krameri*) 5
5. Body + head form an elongate oval in dorsal view (Pl. 38, fig. f) . . . . . ***Semirodus* Dlabola**
— Body + head form a wide oval in dorsal view (Pl. 38, figs a—c) . . . . . ***Mycterodus* Spinola**

Subgenus *Mycterodus* Spinola

Spinola, 1839: 341. Type species: *Issus nasutus* Herrich-Schäffer, 1835 (= *Cercopis immaculata* Fabricius, 1794).

Composition and distribution: 40 species distributed in Central and Southeastern Europe, Eastern Mediterranean Basin, Anatolia, Caucasus, Middle Asia, and Iran.

***Mycterodus anaticeps* Puton**

Mycterodus anaticeps Puton, 1895: 89.
Distribution: Syria.
Identification: Puton 1895, Gnezdilov 2008.

***Mycterodus arpadi* Dlabola**

Mycterodus arpadi Dlabola, 1977: 282.
Distribution: Turkey.
Identification: Dlabola 1977.

***Mycterodus aspernatus* Gnezdilov**

Mycterodus aspernatus Gnezdilov, 2001a: 359.
Distribution: Georgia (Abchazia), Russia (Krasnodar Territory).
Identification: Gnezdilov 2001a.
Photos (Pl. 38, fig. a, Pl. 39, fig. a, Pl. 40, fig. a): Russia, Krasnodar Territory (ZIN): ♂ (paratype), frontal, dorsal and lateral views.

***Mycterodus astragalicus* Dlabola**

Mycterodus astragalicus Dlabola, 1974a: 42.
Distribution: Iran.
Identification: Dlabola 1974a.

***Mycterodus balikesiricus* Dlabola**

Mycterodus balikesiricus Dlabola, 1979b: 245.

Distribution: Turkey.
Identification: Dlabola 1979b.

***Mycterodus carpathicus* Logvinenko**

Mycterodus carpathicus Logvinenko, 1974: 845.
Distribution: Romania, Ukraine.
Identification: Logvinenko 1974, Holzinger, Kammerlander & Nickel 2003.
Biology: Logvinenko 1975a.
Note: Holzinger, Kammerlander & Nickel 2003 mistakenly placed the species in synonymy under *Mycterodus confusus* Stål, 1861.

***Mycterodus chorassanicus* Logvinenko**

Mycterodus chorassanicus Logvinenko, 1974: 847.
Distribution: Turkmenistan.
Identification: Logvinenko 1974.

***Mycterodus confusus* Stål**

Mycterodus confusus Stål, 1861: 211.
Distribution: Turkey.
Identification: Stål 1861.

***Mycterodus cuniceps* Melichar**

Mycterodus cuniceps Melichar, 1906: 108.
Mycterodus longivertex Gruev, 1970: 1, syn. fide Gruev 1973: 72.
Distribution: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Romania, Serbia, Slovakia.
Identification: Gruev 1970, Holzinger, Kammerlander & Nickel 2003.
Biology: Holzinger, Kammerlander & Nickel 2003.
Photos (Pl. 38, fig. b, Pl. 39, fig. e, Pl. 40, fig. f): Slovakia, Kováčov (NMPC): ♀, dorsal and lateral views; Bulgaria (ZIN): ♂, frontal view.

***Mycterodus demavendinus* Dlabola**

Mycterodus demavendinus Dlabola, 1981a: 174.
Distribution: Iran.
Identification: Dlabola 1981a.

***Mycterodus denticulatus* Lindberg**

Mycterodus denticulatus Lindberg, 1948: 113.
Distribution: Cyprus.
Identification: Lindberg 1948.

***Mycterodus drosopoulosi* Dlabola**

Mycterodus drosopoulosi Dlabola, 1982: 158.
Distribution: Greece, Turkey.
Identification: Dlabola 1982, comments by Gnezdilov 2008.

***Mycterodus efesicus* Dlabola**

Mycterodus efesicus Dlabola, 1971b: 118.
Distribution: Greece (Samos I.), Turkey.
Identification: Dlabola 1971b.
Photos (Pl. 38, fig. c, Pl. 39, fig. f, Pl. 40, fig. g): Greece, Samos I. (ZMAN): ♂, frontal, dorsal and lateral views.

***Mycterodus etruscus* Dlabola**

Mycterodus etruscus Dlabola, 1980b: 61.
Distribution: Italy.
Identification: Dlabola 1980b.

***Mycterodus fagetophilus* Dlabola**

Mycterodus fagetophilus Dlabola, 1980b: 62.
Distribution: Iran.
Identification: Dlabola 1980b.

***Mycterodus hamatus* Dlabola**

Mycterodus hamatus Dlabola, 1971b: 120.
Distribution: Turkey.
Identification: Dlabola 1971b.

***Mycterodus guilanicus* Dlabola**

Mycterodus guilanicus Dlabola, 1981a: 176.
Distribution: Iran.
Identification: Dlabola 1981a.

***Mycterodus hezarmeshedi* Dlabola**

Mycterodus hezarmeshedi Dlabola, 1980b: 66.
Distribution: Iran.
Identification: Dlabola 1980b.

***Mycterodus horvathi* Dlabola**

Mycterodus horvathi Dlabola, 1977: 283.
Distribution: Turkey.
Identification: Dlabola 1977.

***Mycterodus hyrcanus* Logvinenko**

Mycterodus hyrcanus Logvinenko, 1974: 843.
Distribution: Azerbaijan (Talysh).
Identification: Logvinenko 1974.

***Mycterodus immaculatus* (Fabricius)**

Cercopis immaculata Fabricius, 1794: 54.
Issus nasutus Herrich-Schäffer, 1834: 144 auct. fide Holzinger, Kammerlander & Nickel 2003: 459.

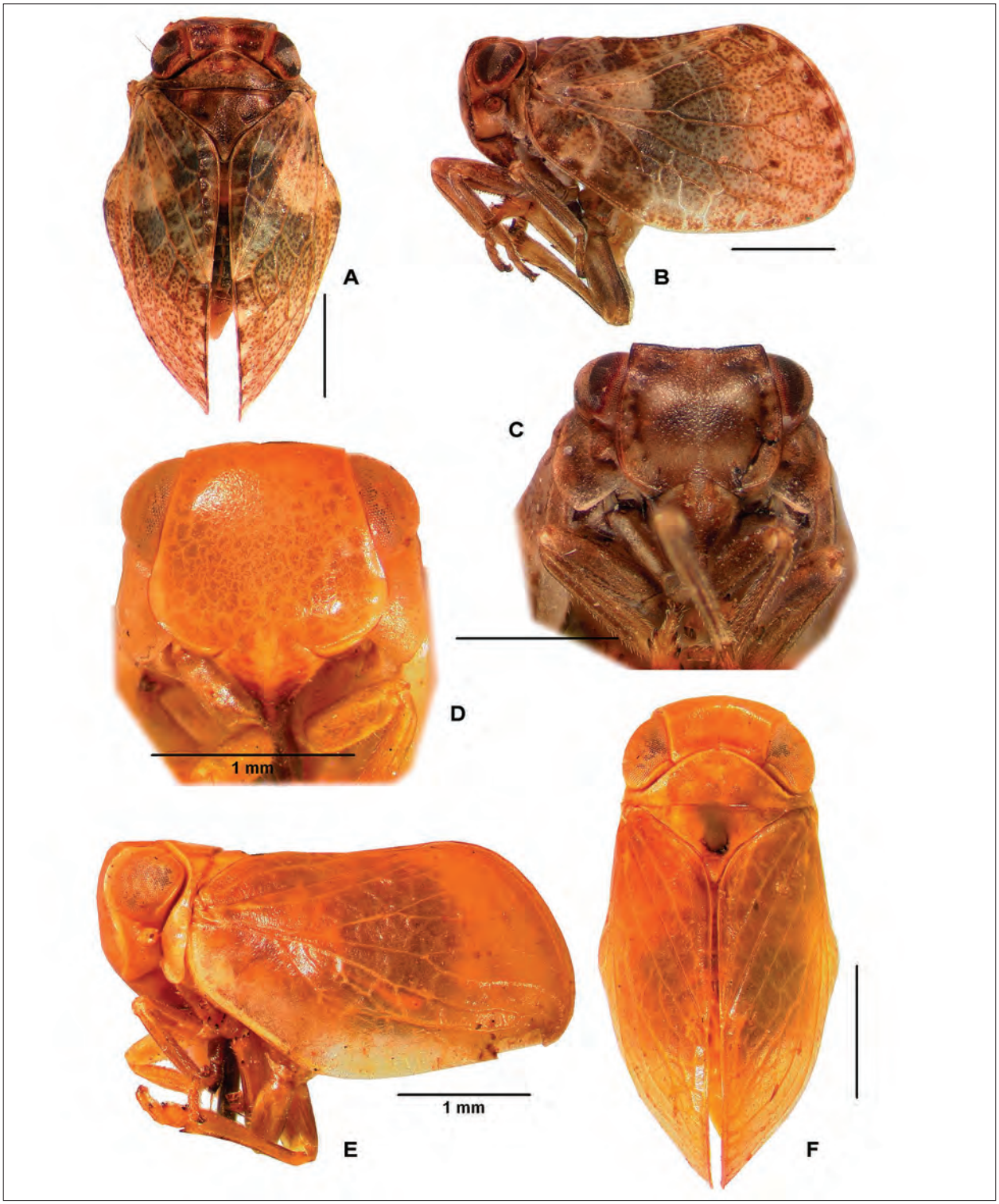


Plate 36. a, *Lethierium cedricolum* (Dlabola), male (paratype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Lethierium reiberi* (Lethierry), male, frontal view; e, same, lateral view; f, same, dorsal view.

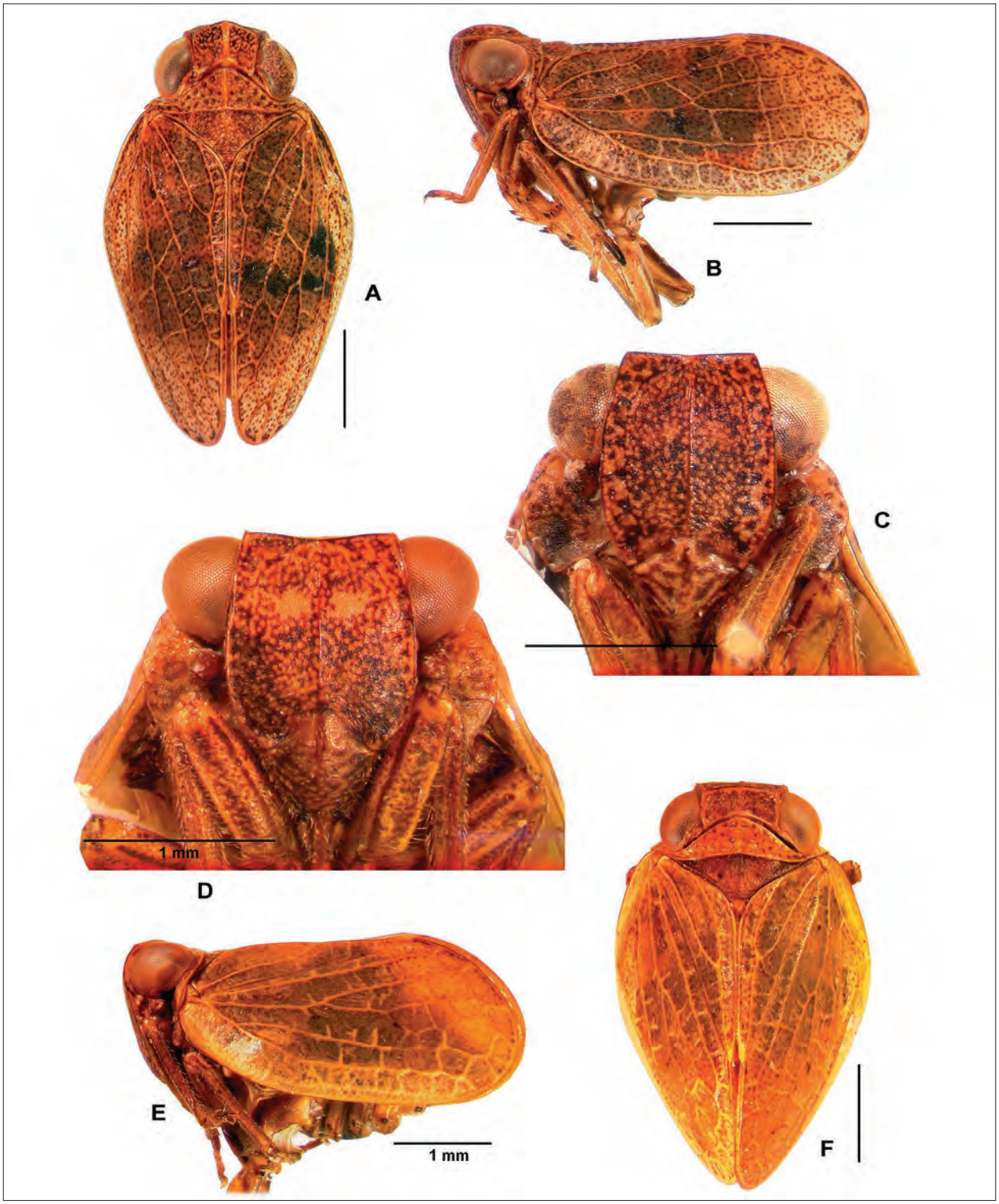
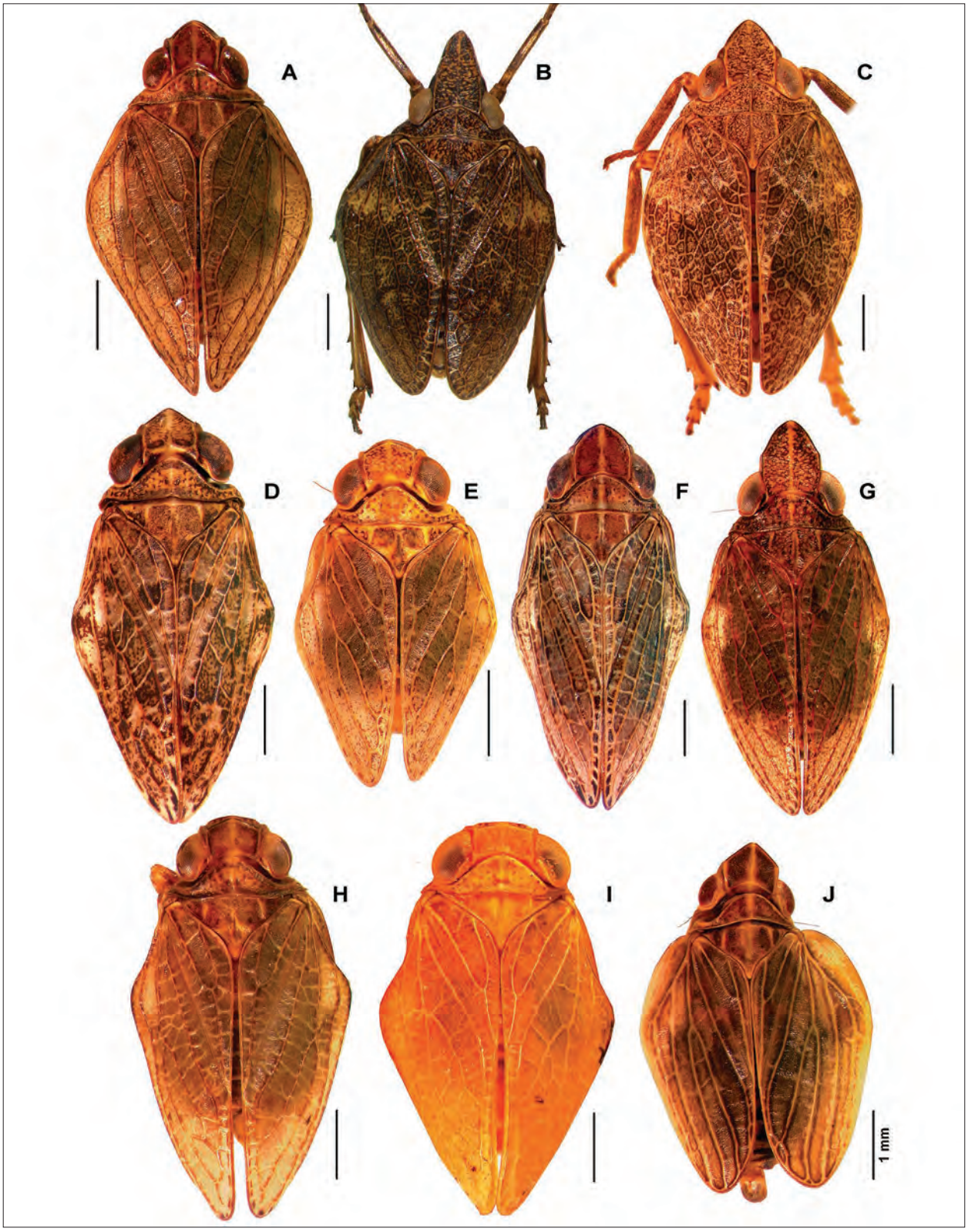


Plate 37. a, *Libanissum hermonicus* Dlabola, female (paratype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Libanissum talhouki* (Dlabola), male, frontal view; e, same, lateral view; f, same, dorsal view.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Distribution: Italy.
Identification: Gruev 1970, Holzinger, Kammerlander & Nickel 2003.
Note: Originally described from Italy (Fabricius 1794). Other records listed by Metcalf (1958) and recent authors are in need of revision.

***Mycterodus inassuetus* Dlabola**

Mycterodus inassuetus Dlabola, 1981a: 176.
Distribution: Iran.
Identification: Dlabola 1981a.

***Mycterodus intricatus* Stål**

Mycterodus intricatus Stål, 1861: 211.
Distribution: Ukraine including Crimea.
Identification: Logvinenko 1974.
Biology: Logvinenko 1975a.

***Mycterodus izmiticus* Dlabola**

Mycterodus izmiticus Dlabola, 1979b: 244.
Distribution: Turkey.
Identification: Dlabola 1979b.

***Mycterodus kandavanicus* Dlabola**

Mycterodus kandavanicus Dlabola, 1980b: 63.
Distribution: Iran.
Identification: Dlabola 1980b.

***Mycterodus krameri* Dlabola**

Mycterodus krameri Dlabola, 1974c: 297.
Distribution: Iran.
Identification: Dlabola 1974c.

***Mycterodus lapaceki* Dlabola**

Mycterodus lapaceki Dlabola, 1985: 222.
Distribution: Greece (Crete I., Kos I.).
Identification: Dlabola 1985.

***Mycterodus lodosicus* Dlabola**

Mycterodus lodosicus Dlabola, 1980a: 188.
Distribution: Turkey.
Identification: Dlabola 1980a.

***Mycterodus orthocephalus* Ferrari**

Mycterodus orthocephalus Ferrari, 1885: 272.
Distribution: Italy, Switzerland.
Identification: Dlabola 1980b.

***Mycterodus osellai* Dlabola**

Mycterodus osellai Dlabola, 1977: 281.
Distribution: Turkey.
Identification: Dlabola 1977.

***Mycterodus osmanicus* Dlabola**

Mycterodus osmanicus Dlabola, 1971b: 118.
Distribution: Turkey.
Identification: Dlabola 1971b.

***Mycterodus peterseni* Dlabola**

Mycterodus peterseni Dlabola, 1980b: 68.
Distribution: Iran.
Identification: Dlabola 1980b.

***Mycterodus rhynchophysus* Logvinenko**

Mycterodus rhynchophysus Logvinenko, 1967: 775.
Distribution: Moldova, Ukraine.
Identification: Logvinenko 1974.

***Mycterodus rostratulus* Emeljanov**

Mycterodus rostratulus Emeljanov, 1964a: 355.
Distribution: Russia (Krasnodar Territory), ?Turkey (Demir 2007).
Identification: Logvinenko 1974.

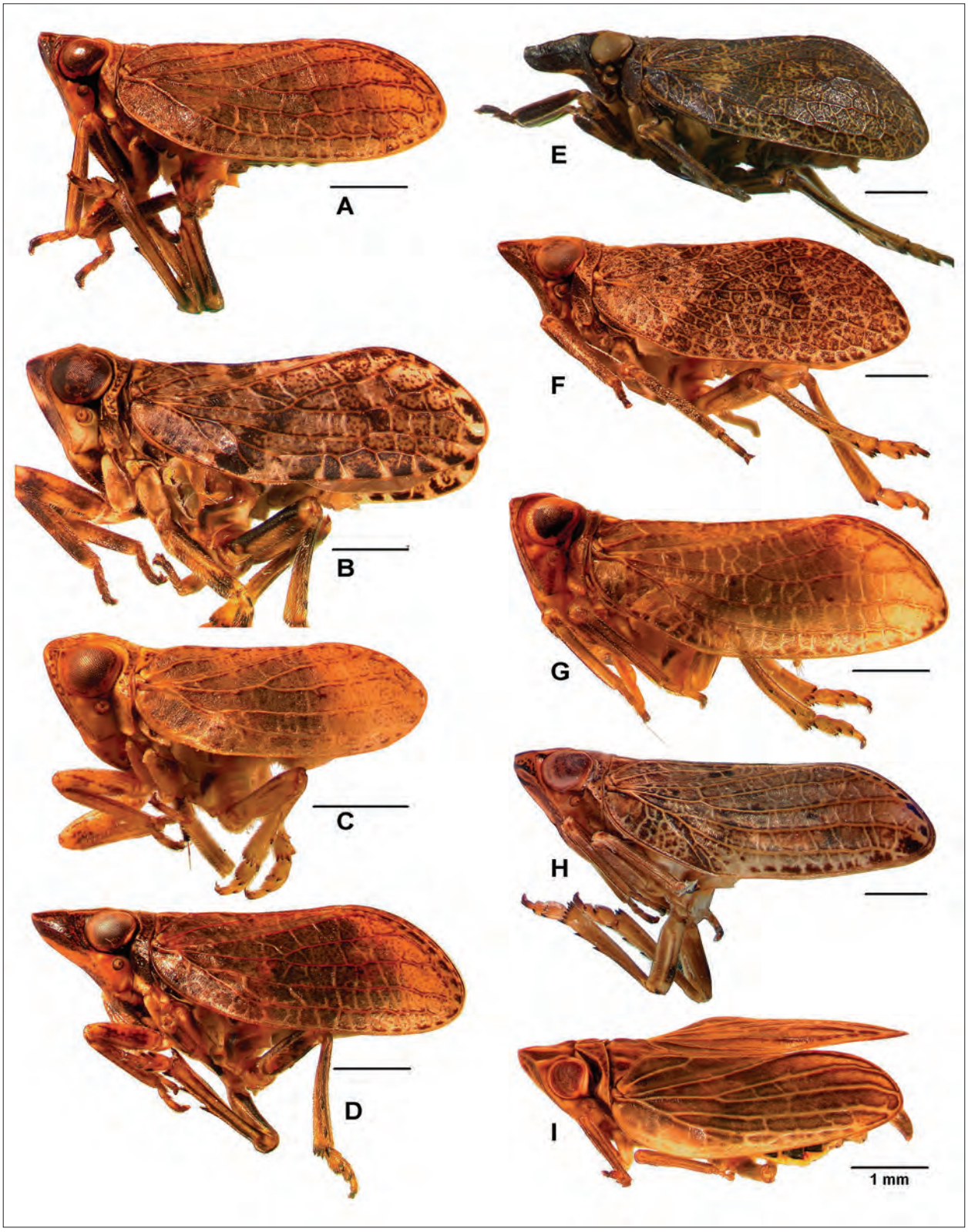
***Mycterodus sarmaticus* Logvinenko**

Mycterodus sarmaticus Logvinenko, 1967: 775.
Distribution: Russia (Krasnodar Territory).
Identification: Gnezdilov 2001a.

***Mycterodus serbicus* Dlabola**

Mycterodus serbicus Dlabola, 1980b: 59.
Distribution: Serbia.
Identification: Dlabola 1980b.

Plate 38. a, *Mycterodus (Mycterodus) aspernatus* Gnezdilov, male (paratype), dorsal view; b, *Mycterodus (Mycterodus) cuniceps* Melichar, female, dorsal view; c, *Mycterodus (Mycterodus) efesicus* Dlabola, male, dorsal view; d, *Mycterodus (Aegaeum) phoenicicus* Gnezdilov, female (paratype), dorsal view; e, *Mycterodus (Aconosimus) goricus* (Dlabola), male, dorsal view; f, *Mycterodus (Semirodus) pallens* Stål, female, dorsal view; g, *Mycterodus (Aconosimus) marki* Gnezdilov, female (paratype), dorsal view; h, *Mycterodus (Comoporodus) ovifrons* (Puton), female, dorsal view; i, *Mycterodus (Aegaeum) lesbicus* (Dlabola), male (holotype), dorsal view; j, *Mycterodus (Montissus) batathen* Gnezdilov, female (paratype), dorsal view.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***Mycterodus sexpunctatus* Dlabola**

Mycterodus sexpunctatus Dlabola, 1980b: 67.
Distribution: Iran.
Identification: Dlabola 1980b.

***Mycterodus shahrudicus* Dlabola**

Mycterodus shahrudicus Dlabola, 1980b: 65.
Distribution: Iran.
Identification: Dlabola 1980b.

***Mycterodus talyshensis* Logvinenko**

Mycterodus talyshensis Logvinenko, 1974: 842.
Distribution: Azerbaijan (Talysh).
Identification: Logvinenko 1974.

***Mycterodus wittmeri* Dlabola**

Mycterodus wittmeri Dlabola, 1974c: 296.
Distribution: Greece (Crete I.).
Identification: Dlabola 1974c.

Subgenus *Semirodus* Dlabola

Dlabola, 1987a: 64 (as genus). Type species: *Mycterodus pallens* Stål, 1861.
Composition and distribution: 8 species distributed in Croatia, Greece, and Mediterranean Turkey.

***Mycterodus colossicus* (Dlabola)**

Semirodus colossicus Dlabola, 1987a: 69.
Distribution: Greece including the islands (Rhodes I., Karpathos I., Naxos I., Paros I.).
Identification: Gnezdilov & Drosopoulos 2005.

***Mycterodus croaticus* Gnezdilov & Wilson**

Mycterodus croaticus Gnezdilov & Wilson, 2005b: 78.
Distribution: Croatia.
Identification: Gnezdilov & Wilson 2005b.

***Mycterodus hioles* Gnezdilov & Drosopoulos**

Mycterodus hioles Gnezdilov & Drosopoulos, 2005: 240.
Distribution: Greece (Lesbos I., Hios I.).
Identification: Gnezdilov & Drosopoulos 2005.

***Mycterodus idomeneus* Dlabola**

Mycterodus idomeneus Dlabola, 1985: 220.
Distribution: Greece (Crete I.).
Identification: Gnezdilov & Drosopoulos 2005.

***Mycterodus ikarus* Gnezdilov & Drosopoulos**

Mycterodus ikarus Gnezdilov & Drosopoulos, 2005: 239.
Distribution: Greece (Ikaria I.).
Identification: Gnezdilov & Drosopoulos 2005.

***Mycterodus ionus* Gnezdilov & Drosopoulos**

Mycterodus ionus Gnezdilov & Drosopoulos, 2005: 239.
Distribution: Greece (Samos I.), Turkey (Izmir).
Identification: Gnezdilov & Drosopoulos 2005.

***Mycterodus johannesi* Gnezdilov & Drosopoulos**

Mycterodus johannesi Gnezdilov & Drosopoulos, 2005: 238.
Distribution: Greece (Skiathos I., Poros I.), Turkey (Gökçeada I.).
Identification: Gnezdilov & Drosopoulos 2005.

***Mycterodus pallens* Stål**

Mycterodus pallens Stål, 1861: 210.
Distribution: Greece including the islands (Poros I., Ionian Is.).
Identification: Gnezdilov & Drosopoulos 2005.
Photos (Pl. 38, fig. f, Pl. 39, fig. h, Pl. 40, fig. b): Greece, Peloponnesus (NMWC): ♀, frontal, dorsal and lateral views.

Subgenus *Aconosimus* Dlabola

Dlabola, 1987a: 63 (as genus). Type species: *Conosimus goricus* Dlabola, 1958.
Composition and distribution: 15 species distributed in Caucasus, Turkey, Iran and Iraq.

Plate 39. a, *Mycterodus (Mycterodus) aspernatus* Gnezdilov, male (paratype), lateral view; b, *Mycterodus (Aegaeum) phoenicicus* Gnezdilov, female (paratype), lateral view; c, *Mycterodus (Aconosimus) goricus* (Dlabola), male, lateral view; d, *Mycterodus (Aconosimus) marki* Gnezdilov, female (paratype), lateral view; e, *Mycterodus (Mycterodus) cuniceps* Melichar, female, lateral view; f, *Mycterodus (Mycterodus) efesicus* Dlabola, male, lateral view; g, *Mycterodus (Comoporodus) ovifrons* (Puton), female, lateral view; h, *Mycterodus (Semirodus) pallens* (Stål), female, lateral view; i, *Mycterodus (Montissus) batathen* Gnezdilov, female (paratype), lateral view.

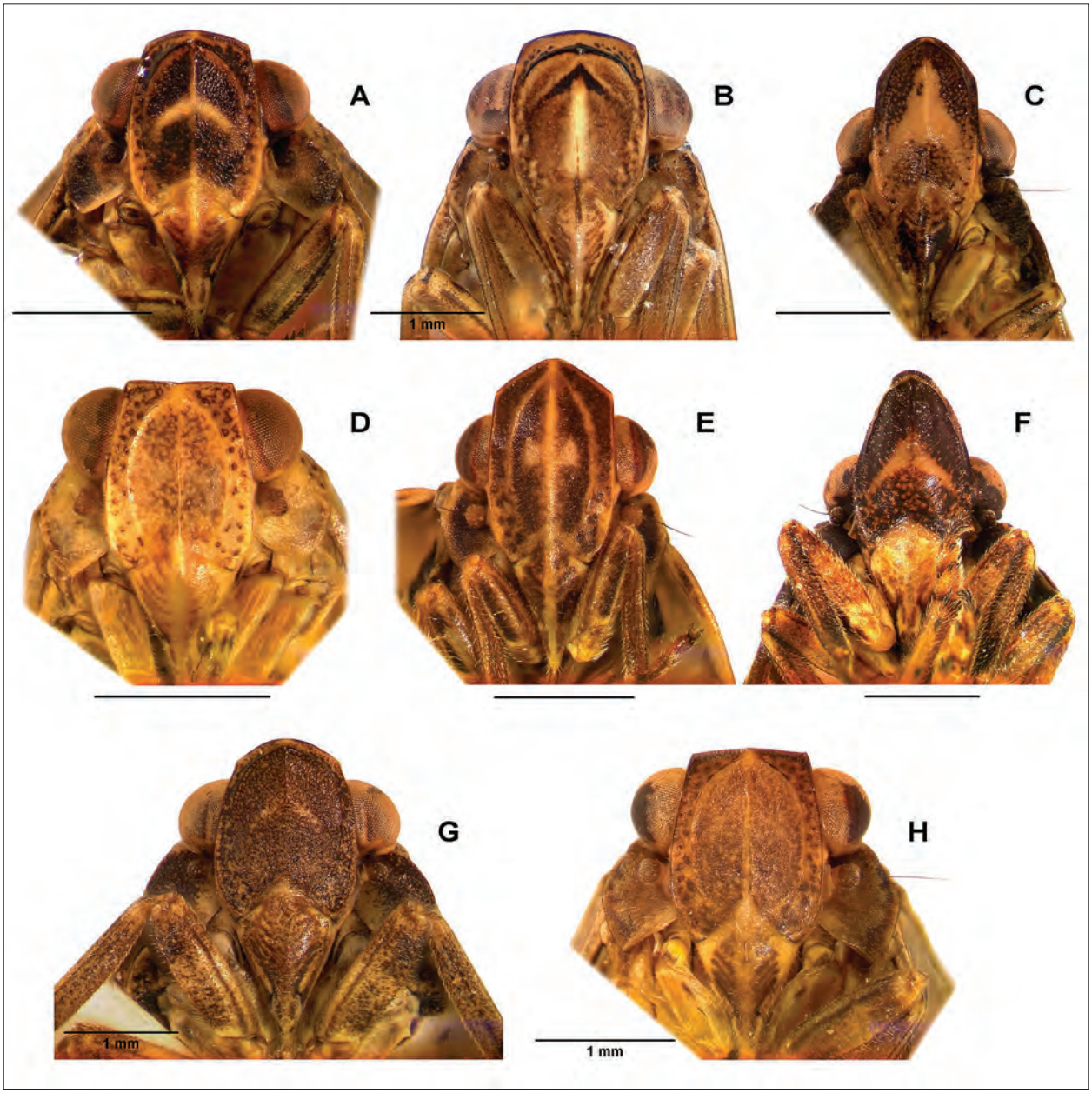

Plate 40. a, *Mycterodus (Mycterodus) aspernatus* Gnezdilov, male (paratype), frontal view; b, *Mycterodus (Semirodus) pallens* Stål, female, frontal view; c, *Mycterodus (Aconosimus) marki* Gnezdilov, female (paratype), frontal view; d, *Mycterodus (Aconosimus) goricus* (Dlabola), male, frontal view; e, *Mycterodus (Montissus) batathen* Gnezdilov, female (paratype), frontal view; f, *Mycterodus (Mycterodus) cuniceps* Melichar, female, frontal view; g, *Mycterodus (Mycterodus) efesicus* Dlabola, male, frontal view; h, *Mycterodus (Comoporodus) ovifrons* (Puton), female, frontal view.

***Mycterodus alatus* Logvinenko**

Mycterodus alatus Logvinenko, 1968: 25.
Distribution: Georgia, Turkey.
Identification: Logvinenko 1968, 1974.

***Mycterodus anatolicus* Dlabola**

Mycterodus anatolicus Dlabola, 1981a: 173.
Distribution: Turkey.
Identification: Dlabola 1981a.

***Mycterodus anatoloriens* Dlabola**

Mycterodus anatoloriens Dlabola, 1979b: 243.
Distribution: Turkey.
Identification: Dlabola 1979b.

***Mycterodus armeniacus* Logvinenko**

Mycterodus armeniacus Logvinenko, 1974: 839.
Distribution: Armenia.
Identification: Logvinenko 1974.

***Mycterodus azerbeidzhanicus* (Dlabola)**

Aconosimus azerbeidzhanicus Dlabola, 1983: 118.
Distribution: Azerbaijan.
Identification: Dlabola 1983.

***Mycterodus elbursicus* Logvinenko**

Mycterodus elbursicus Logvinenko, 1974: 838.
Distribution: Iran (Elburs).
Identification: Logvinenko 1974.

***Mycterodus goricus* (Dlabola)**

Conosimus caucasicus Melichar, 1914: 134.

Conosimus goricus Dlabola, 1958: 326, replacement name for *Conosimus caucasicus* Melichar, 1914: 134, fide Gnezdilov & Malenovský 2008: 24.

Distribution: Armenia, Azerbaijan, Georgia, Turkey.

Identification: Dlabola 1958, Logvinenko 1974.

Photos (Pl. 38, fig. e, Pl. 39, fig. c, Pl. 40, fig. d): Azerbaijan, Nakhchivan Republic (ZIN): ♂, frontal, dorsal and lateral views.

***Mycterodus hakkaricus* Dlabola**

Mycterodus hakkaricus Dlabola, 1980a: 189.
Distribution: Iraq, Turkey.
Identification: Dlabola 1980a.

***Mycterodus kobachidzei* (Dlabola)**

Conosimus kobachidzei Dlabola, 1958: 325.

Distribution: Georgia, Russia (Dagestan Republic, Chechen Republic).

Identification: Dlabola 1958, Logvinenko 1974.

Biology: Logvinenko 1975a.

***Mycterodus lanceatus* (Dlabola)**

Aconosimus lanceatus Dlabola, 1997: 307.
Distribution: Iran.
Identification: Dlabola 1997.

***Mycterodus marki* Gnezdilov**

Mycterodus marki Gnezdilov, 2008: 579.
Distribution: Turkey.
Identification: Gnezdilov 2008.

Photos (Pl. 38, fig. g, Pl. 39, fig. d, Pl. 40, fig. c): Turkey (ZIN): ♀ (paratype), frontal, dorsal and lateral views.

***Mycterodus morulus* Logvinenko**

Mycterodus morulus Logvinenko, 1976: 608.
Distribution: Russia (Dagestan Republic).
Identification: Logvinenko 1976.

***Mycterodus nuchensis* (Logvinenko)**

Conosimus nuchensis Logvinenko, 1968: 26.
Distribution: Azerbaijan.
Identification: Logvinenko 1968, 1974.

***Mycterodus sidorskii* Logvinenko**

Mycterodus sidorskii Logvinenko, 1974: 841.
Distribution: Russia (Dagestan Republic).
Identification: Logvinenko 1974.

***Mycterodus ulukislanus* Dlabola**

Mycterodus ulukislanus Dlabola, 1985: 219.
Distribution: Turkey.
Identification: Dlabola 1985.

Subgenus *Comporodus* Kocak

Kocak, 1982: 142 (as subgenus). Type species: *Mycterodus batumus* Dlabola, 1958.

Composition and distribution: 6 species distributed in Caucasus and Turkey.

***Mycterodus batumus* Dlabola**

Mycterodus batumus Dlabola, 1958: 322.
Distribution: Georgia.
Identification: Dlabola 1958, Logvinenko 1974.

***Mycterodus caucasicus* (Melichar)**

Issus caucasicus Melichar, 1906: 186.
Distribution: Georgia, Turkey.
Identification: Logvinenko 1974.

***Mycterodus lobatus* Logvinenko**

Mycterodus lobatus Logvinenko, 1968: 22.
Distribution: Georgia.
Identification: Logvinenko 1968, 1974.

***Mycterodus mutuus* Logvinenko**

Mycterodus mutuus Logvinenko, 1968: 22.
Distribution: Russia (Krasnodar Territory), ?Turkey (Kartal & Dursun 2009).
Identification: Logvinenko 1968, 1974.

***Mycterodus ovifrons* (Puton)**

Issus ovifrons Puton, 1890: 232.
Distribution: Russia (Dagestan Republic, Krasnodar Territory), Turkey.
Identification: Logvinenko 1974.
Photos (Pl. 38, fig. h, Pl. 39, fig. g, Pl. 40, fig. h): Russia, Krasnodar Territory (ZIN): ♀, frontal, dorsal and lateral views.

***Mycterodus pozanticus* Kartal**

Mycterodus pozanticus Kartal, 1983: 236.
Distribution: Turkey.
Identification: Kartal 1983.

Subgenus *Aegaeum* Gnezdilov

Gnezdilov, 2003a: 52 (as subgenus). Type species: *Hysteropterum lesbicum* Dlabola, 1981.
Composition and distribution: 8 species distributed in the Eastern Mediterranean Basin.

***Mycterodus bicornutus* Dlabola**

Mycterodus bicornutus Dlabola, 1986: 182.
Mycterodus syriacus Gnezdilov, 2008: 577, syn. fide Gnezdilov 2010: 418.
Distribution: Turkey, Syria.
Identification: Gnezdilov 2008.

***Mycterodus capitatus* Dlabola**

Mycterodus capitatus Dlabola, 1982: 161.
Distribution: Turkey.
Identification: Dlabola 1982, comments by Gnezdilov 2008.

***Mycterodus lesbicus* (Dlabola)**

Hysteropterum lesbicum Dlabola, 1981b: 6.
Distribution: Greece (Lesbos I.).
Identification: Dlabola 1981b.
Photos (Pl. 38, fig. i): Greece, Lesbos I. (ZMAN): ♂ (holotype), dorsal view.

***Mycterodus muticus* Dlabola**

Mycterodus muticus Dlabola, 1986: 183.
Distribution: Turkey.
Identification: Dlabola 1986.

***Mycterodus phoenicicus* Gnezdilov**

Mycterodus phoenicicus Gnezdilov, 2008: 576.
Distribution: Lebanon.
Identification: Gnezdilov 2008.
Photos (Pl. 38, fig. d, Pl. 39, fig. b): Lebanon (ZIN): ♀ (paratype), dorsal and lateral views.

***Mycterodus spinicordatus* Dlabola**

Mycterodus spinicordatus Dlabola, 1983: 116.
Distribution: Turkey.
Identification: Dlabola 1983.

***Mycterodus tekneticus* Dlabola**

Mycterodus tekneticus Dlabola, 1982: 160.
Distribution: Turkey.
Identification: Dlabola 1982.

***Mycterodus torosicus* Dlabola**

Mycterodus torosicus Dlabola, 1980a: 190.
Distribution: Turkey.
Identification: Dlabola 1980a.

Subgenus *Montissus* Gnezdilov

Gnezdilov, 2003a: 53 (as subgenus). Type species: *Mycterodus batathen* Gnezdilov, 2003.
Composition and distribution: 2 species distributed in Turkey and Northwestern Caucasus.

***Mycterodus batathen* Gnezdilov**

Mycterodus batathen Gnezdilov, 2003a: 54.
Distribution: Russia (Krasnodar Territory).
Identification: Gnezdilov 2003a.
Photos (Pl. 38, fig. j, Pl. 39, fig. i, Pl. 40, fig. e): Russia, Krasnodar Territory (ZIN): ♀ (paratype), frontal, dorsal and lateral views.

***Mycterodus bernhaueri* (Dlabola)**

Aconosimus bernhaueri Dlabola, 1997: 306.
Distribution: Turkey.
Identification: Dlabola 1997.

Genus *Mulsantereum* Gnezdilov

Gnezdilov, 2002c: 618. Type species: *Hysteropterum maculifrons* Mulsant & Rey, 1855.
Composition and distribution: 4 species distributed in the European Mediterranean Basin. The genus is in need of revision.

***Mulsantereum abruzicum* (Dlabola)**

Falcidius abruzicus Dlabola, 1983: 123.
Distribution: Italy.
Identification: Dlabola 1983.

***Mulsantereum maculifrons* (Mulsant & Rey)**

Hysteropterum maculifrons Mulsant & Rey, 1855a: 101.
Distribution: France, ?Portugal (Puton, 1886b), Spain.
Identification: Gnezdilov 2003a.
Photos (Pl. 35, figs d—f): France, Pyréneés-Orientales (NMWC): ♀, frontal, dorsal and lateral views.

***Mulsantereum novaki* (Wagner)**

Hysteropterum novaki Wagner, 1962: 48 (in Novak & Wagner 1962).
Distribution: Croatia.
Identification: Novak & Wagner 1962.
Photos (Pl. 35, fig. g): Croatia, Sušak (ZMH): ♀ (paratype), frontal view.

***Mulsantereum oculatum* (Linnavuori)**

Hysteropterum oculatum Linnavuori, 1965: 64.
Distribution: Italy.
Identification: Dlabola 1983.

Genus *Numidius* Gnezdilov, Guglielmino & D'Urso

Gnezdilov, Guglielmino & D'Urso, 2003: 183. Type species: *Numidius litus* Gnezdilov, Guglielmino & D'Urso, 2003.
Composition and distribution: Monotypical genus known from Tunisia and Pantelleria I. of Italy.

***Numidius litus* Gnezdilov, Guglielmino & D'Urso**

Numidius litus Gnezdilov, Guglielmino & D'Urso, 2003: 184.
Distribution: Italy (Pantelleria I.), Tunisia.
Identification: Gnezdilov, Guglielmino & D'Urso 2003.
Photos (Pl. 41, figs d—f): Italy, Pantelleria I. (ZIN): ♂ (paratype), frontal, dorsal and lateral views.

Genus *Palaeolithium* Gnezdilov

Gnezdilov, 2003a: 30. Type species: *Hysteropterum distinguendum* Kirschbaum, 1868.
Composition and distribution: Monotypical genus known from the Western and Central Mediterranean Basin.

***Palaeolithium distinguendum* (Kirschbaum)**

Hysteropterum distinguendum Kirschbaum, 1868: 54.
Hysteropterum straminum Bergevin, 1915: 74, syn. fide Gnezdilov 2003a: 31.
Distribution: Italy including Sardinia I. and Sicily I., Morocco, Portugal, Spain, Tunisia.
Identification: Dlabola 1984.
Photos (Pl. 41, figs a—c): Italy (NMWC): ♀, frontal, dorsal and lateral views.

Genus *Palmallorcus* Gnezdilov

Gnezdilov, 2003a: 41. Type species: *Hysteropterum balearicum* Dlabola, 1982.
Barbarissus Gnezdilov, 2003a: 43 (Type species: *Issus punctulatus* Rambur, 1840), syn. fide Gnezdilov 2005: 41.
Composition and distribution: 5 species distributed in Morocco, Pyrenean Peninsula, Balearic Islands, Italy, and Cyprus.

***Palmallorcus balearicus* (Dlabola)**

Hysteropterum balearicum Dlabola, 1982: 153.
Distribution: Cyprus, Spain including Balearic Islands (Majorca I.).
Identification: Dlabola 1982.

***Palmallorcus biemani* Gnezdilov**

Palmallorcus biemani Gnezdilov, 2005: 41.
Distribution: Spain.
Identification: Gnezdilov 2005.
Photos (Pl. 42, figs d, e): Spain (ZIN): ♂, dorsal and lateral views.

***Palmallorcus nevadensis* (Linnavuori)**

Hysteropterum nevadense Linnavuori, 1957: 95.

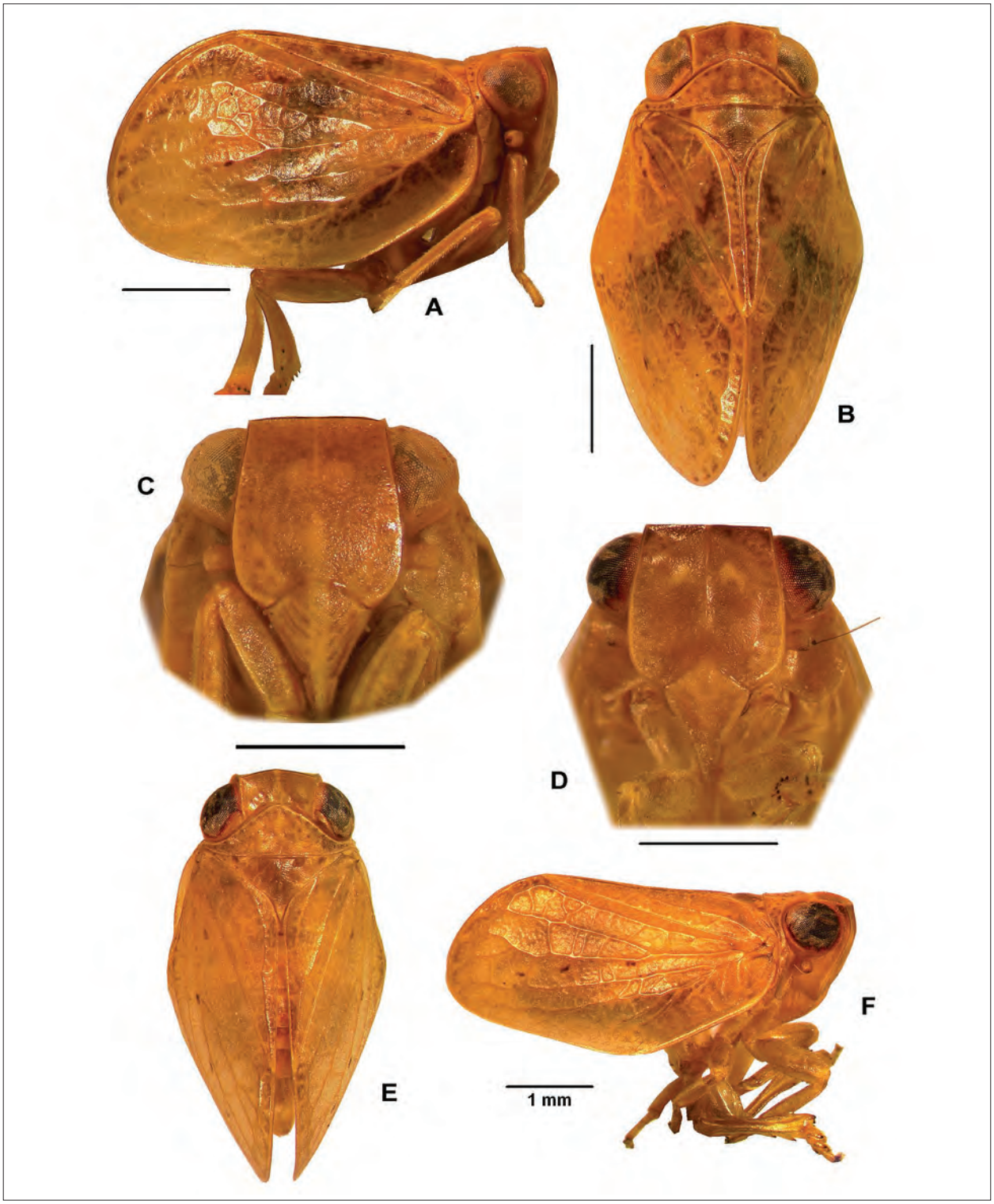

Plate 41. a, *Palaeolithium distinguendum* (Kirschbaum), female, lateral view; b, same, dorsal view; c, same, frontal view; d, *Numidius litus* Gnezdilov, Guglielmino & D'Urso, male (paratype), frontal view; e, same, dorsal view; f, same, lateral view.

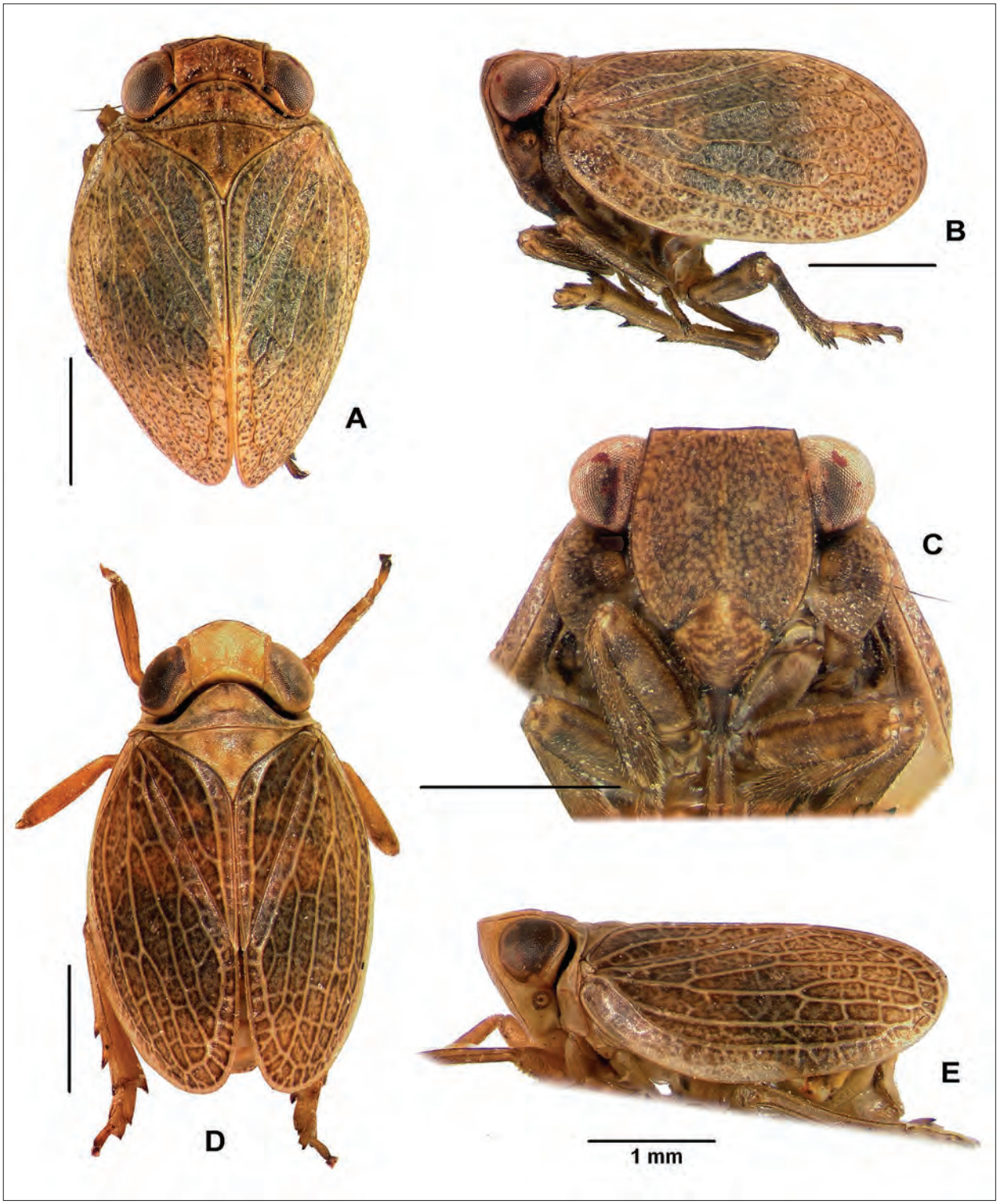

Plate 42. a, *Palmallorcus punctulatus* (Rambur), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Palmallorcus biemani* Gnezdilov, male, dorsal view; e, same, lateral view.

Distribution: Spain.
Identification: Linnavuori 1957, Dlabola 1982.

***Palmallorcus phaeophleps* (Fieber)**

Hysteropterum phaeophleps Fieber, 1877: 6.
Distribution: Italy.
Identification: Gnezdilov, Soulier-Perkins & Bourgoin 2011.

***Palmallorcus punctulatus* (Rambur)**

Issus punctulatus Rambur, 1840: 212.
Distribution: Morocco, Portugal, Spain.
Identification: Webb 1979, Dlabola 1982.
Photos (Pl. 42, figs a—c): Portugal (ZIN): ♂, frontal, dorsal and lateral views.

Genus *Pamphylium* Gnezdilov & Wilson

Gnezdilov & Wilson, 2007a: 301. Type species: *Latematium cingulatum* Dlabola, 1983.
Composition and distribution: 2 species distributed in Turkey and Cyprus.

***Pamphylium cingulatum* (Dlabola)**

Latematium cingulatum Dlabola, 1983: 123.
Distribution: Turkey.
Identification: Dlabola 1983, Gnezdilov & Wilson 2007.
Photos (Pl. 43, figs a—c): Turkey (ZIN): ♂, frontal, dorsal and lateral views.

***Pamphylium cypriacum* (Dlabola)**

Latematium cypriacum Dlabola, 1982: 150.
Distribution: Cyprus.
Identification: Dlabola 1982.

Genus *Pentissus* Dlabola

Dlabola, 1980a: 207. Type species: *Pentissus bamicus* Dlabola, 1980.
Composition and distribution: Monotypical genus — endemic to Iran.

***Pentissus bamicus* Dlabola**

Pentissus bamicus Dlabola, 1980a: 207.
Distribution: Iran.
Identification: Dlabola 1980a.
Photos (Pl. 43, figs d—f): Iran (NMWC): ♂, frontal, dorsal and lateral views.

Genus *Phasmena* Melichar

Melichar, 1902: 92. Type species: *Phasmena telifera* Melichar, 1902.
Composition and distribution: 2 subgenera (*Phasmena* s.str. with 12 species and monotypical *Stygiata* Emeljanov 1972) distributed in Transcaucasia, Iran, Kazakhstan, Mongolia, and Turkmenistan. In Western Palaearctic only *Phasmena* s.str. with 8 species present.

***Phasmena adyoungi* Dlabola**

Phasmena adyoungi Dlabola, 1982: 131.
Distribution: Iran.
Identification: Dlabola 1982.

***Phasmena breviuscula* Emeljanov**

Phasmena breviuscula Emeljanov, 1978: 328.
Distribution: Turkmenistan.
Identification: Emeljanov 1978.

***Phasmena cardinalis* Emeljanov**

Phasmena cardinalis Emeljanov, 1978: 326.
Distribution: Turkmenistan.
Identification: Emeljanov 1978.
Photos (Pl. 44, figs d—g): Turkmenistan, Ipaykala (ZIN): ♂ (paratype), frontal, dorsal and lateral views.

***Phasmena nasuta* Melichar**

Phasmena nasuta Melichar, 1902: 93.
Distribution: Iran, Turkey.
Identification: Melichar 1902, 1906.

***Phasmena nigrodorsalis* Sidorski**

Phasmena nigrodorsalis Sidorski, 1938: 130.
Distribution: Azerbaijan (Nakhchivan Republic).
Identification: Sidorski 1938.

***Phasmena spiraeae* Mitjaev**

Phasmena spiraeae Mitjaev, 1967: 715.
Issus caraganae Dlabola, 1968: 366, syn. fide Emeljanov 1977: 122.
Distribution: Kazakhstan, Mongolia.
Identification: Mitjaev 1967.
Biology: Mitjaev 2002.
Photos (Pl. 44, figs a—c): Kazakhstan (ZIN): ♀, frontal, dorsal and lateral views.

***Phasmena tardiviva* Emeljanov**

Phasmena tardiviva Emeljanov, 1978: 331.
Distribution: Kazakhstan.
Identification: Emeljanov 1978.
Biology: Mitjaev 2002.

***Phasmena telifera* Melichar**

Phasmena telifera Melichar, 1902: 92.
Distribution: Iran.
Identification: Melichar 1902, 1906.

Genus *Pseudohemisphaerius* Melichar

Melichar, 1906: 99. Type species: *Hysteropterum piceum* Puton, 1884.

Composition and distribution: Monotypical genus — endemic to Parnassus Mt. in Greece.

***Pseudohemisphaerius piceus* (Puton)**

Hysteropterum piceum Puton, 1884: 88.
Distribution: Greece.
Identification: Gnezdilov 2003a.
Photos (Pl. 45, figs a—c): Greece, Parnass (MNHN): ♀ (syntype), frontal, dorsal and lateral views.

Genus *Quadriva* Ghauri

Ghauri, 1965: 680. Type species: *Quadriva artemisiae* Ghauri, 1965.

Hysterodus Dlabola, 1980a: 192 (Type species: *Hysterodus sabzevaranus* Dlabola, 1980), syn. fide Gnezdilov, Drosopoulos & Wilson 2004: 218.

Composition and distribution: 12 species, mostly distributed in Iran (7 species), also in Tajikistan, Pakistan, and Kashmir.

***Quadriva aghilica* (Dlabola)**

Hysterodus aghilicus Dlabola, 1982: 125.
Distribution: Kashmir (Karakorum).
Identification: Dlabola 1982.

***Quadriva artemisiae* Ghauri**

Quadriva artemisiae Ghauri, 1965: 681.
Distribution: Pakistan.
Identification: Ghauri 1965.

***Quadriva aurita* (Dlabola)**

Hysterodus auritus Dlabola, 1982: 162.
Distribution: Iran.
Identification: Dlabola 1982.

***Quadriva allotria* (Lukjanova)**

Mycterodus allotrius Lukjanova, 1991: 147.
Distribution: Tajikistan.
Identification: Lukjanova 1991.
Photos (Pl. 45, figs d—f): Tajikistan (ZIN): ♂, frontal, dorsal and lateral views.

***Quadriva dehbakrina* (Dlabola)**

Hysterodus dehbakrinus Dlabola, 1980a: 196.
Distribution: Iran.
Identification: Dlabola 1980a.

***Quadriva lassa* (Dlabola)**

Hysteropterum lassum Dlabola, 1981a: 178.
Distribution: Iran.
Identification: Dlabola 1981a.

***Quadriva ochaninei* (Puton)**

Conosimus ochaninei Puton, 1890: 232.
Distribution: Kyrgyzstan/Tajikistan.
Identification: Puton 1890.

***Quadriva proxima* (Dlabola)**

Hysterodus proximus Dlabola, 1980a: 198.
Distribution: Iran.
Identification: Dlabola 1980a.

***Quadriva sabzevarana* (Dlabola)**

Hysterodus sabzevaranus Dlabola, 1980a: 193.
Distribution: Iran.
Identification: Dlabola 1980a.

***Quadriva taftanica* (Dlabola)**

Hysterodus taftanicus Dlabola, 1980a: 197.
Distribution: Iran.
Identification: Dlabola 1980a.

***Quadriva tangesarhena* (Dlabola)**

Hysterodus tangesarhenus Dlabola, 1980a: 193.
Distribution: Iran.
Identification: Dlabola 1980a.

***Quadriva tunicata* (Logvinenko)**

Mycterodus tunicatus Logvinenko, 1974: 842.
Distribution: Tajikistan.
Identification: Logvinenko 1974.

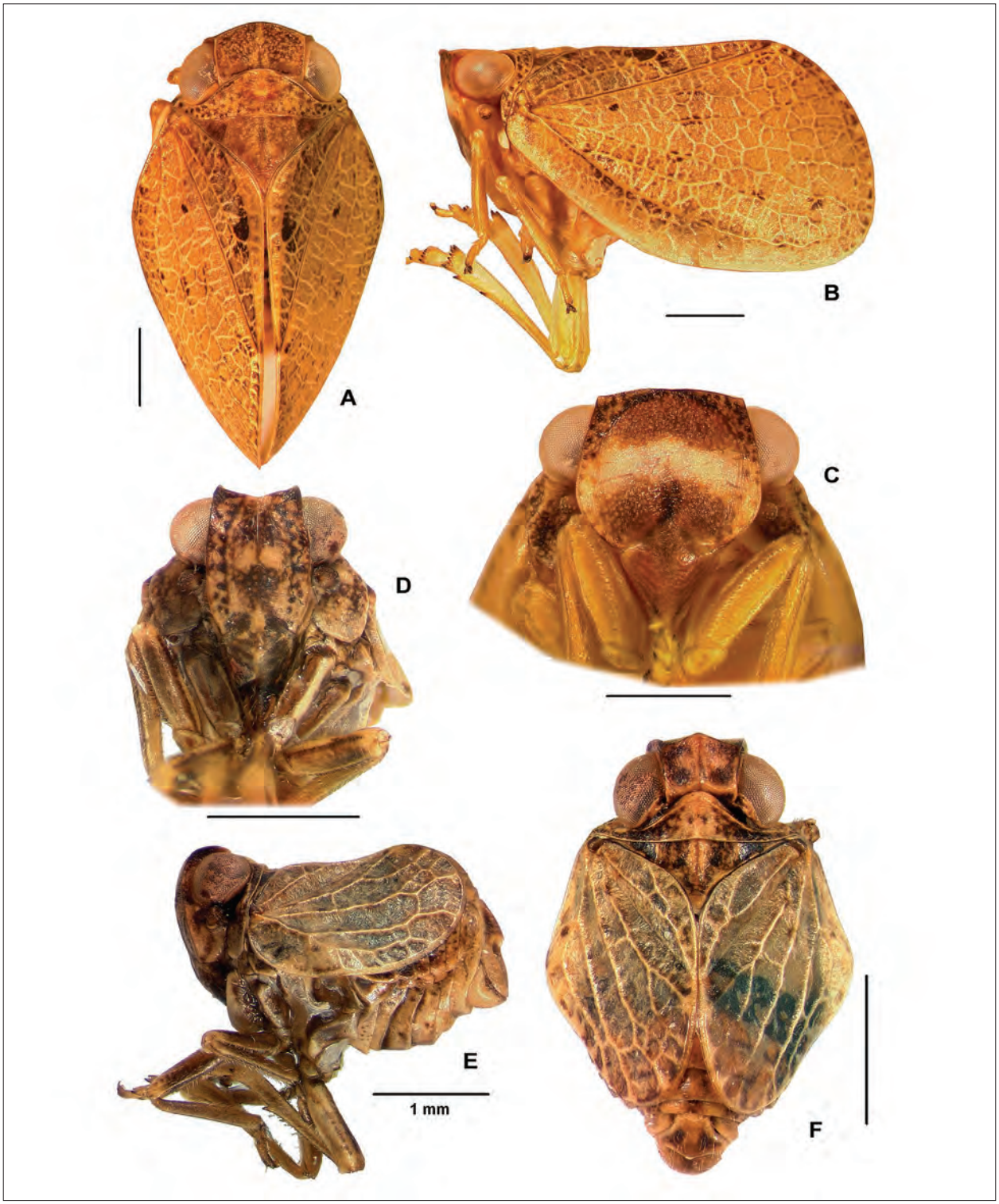

Plate 43. a, *Pamphylium cingulatum* (Dlabola), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Pentissus bamicus* Dlabola, male, frontal view; e, same, lateral view; f, same, dorsal view.

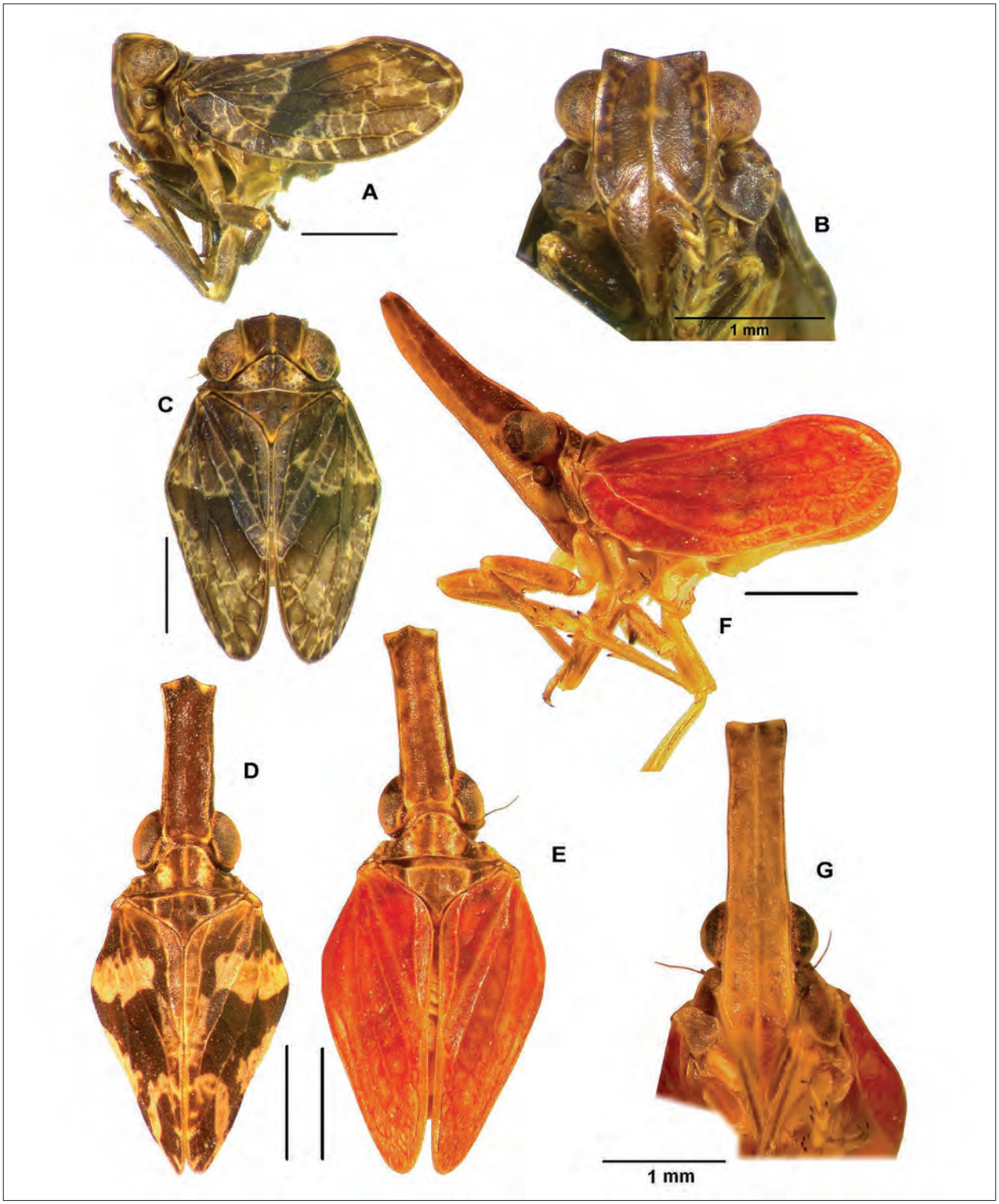

Plate 44. a, *Phasmena spiraeae* Mitjaev, female, lateral view; b, same, frontal view; c, same, dorsal view; d, e, *Phasmena cardinalis* Emeljanov, male (paratype), dorsal view; f, same, lateral view; g, same, frontal view.

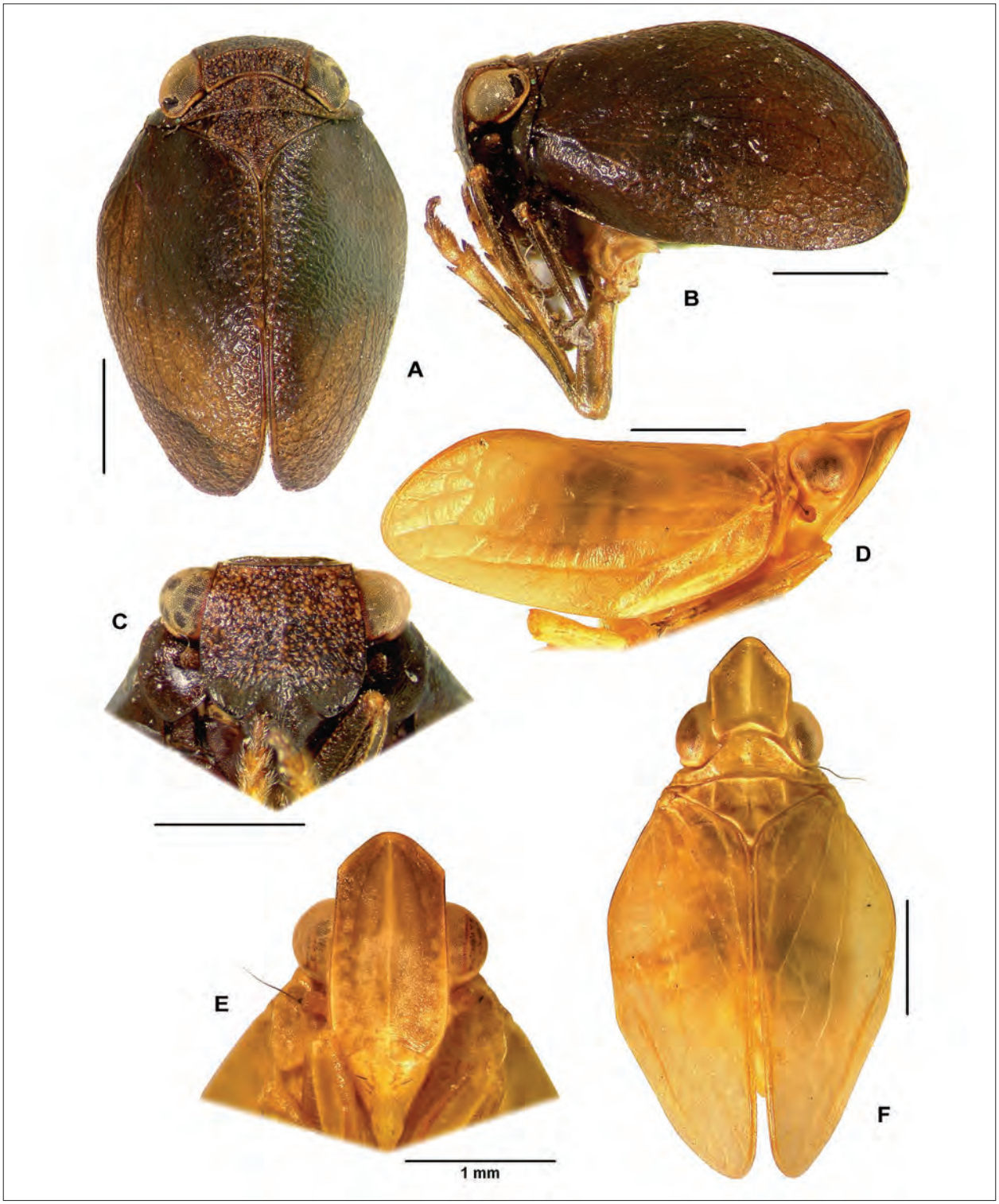

Plate 45. a, *Pseudohemisphaerius piceus* (Puton), female (syntype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Quadriva allotria* (Lukjanova), male, lateral view; e, same, frontal view; f, same, dorsal view.

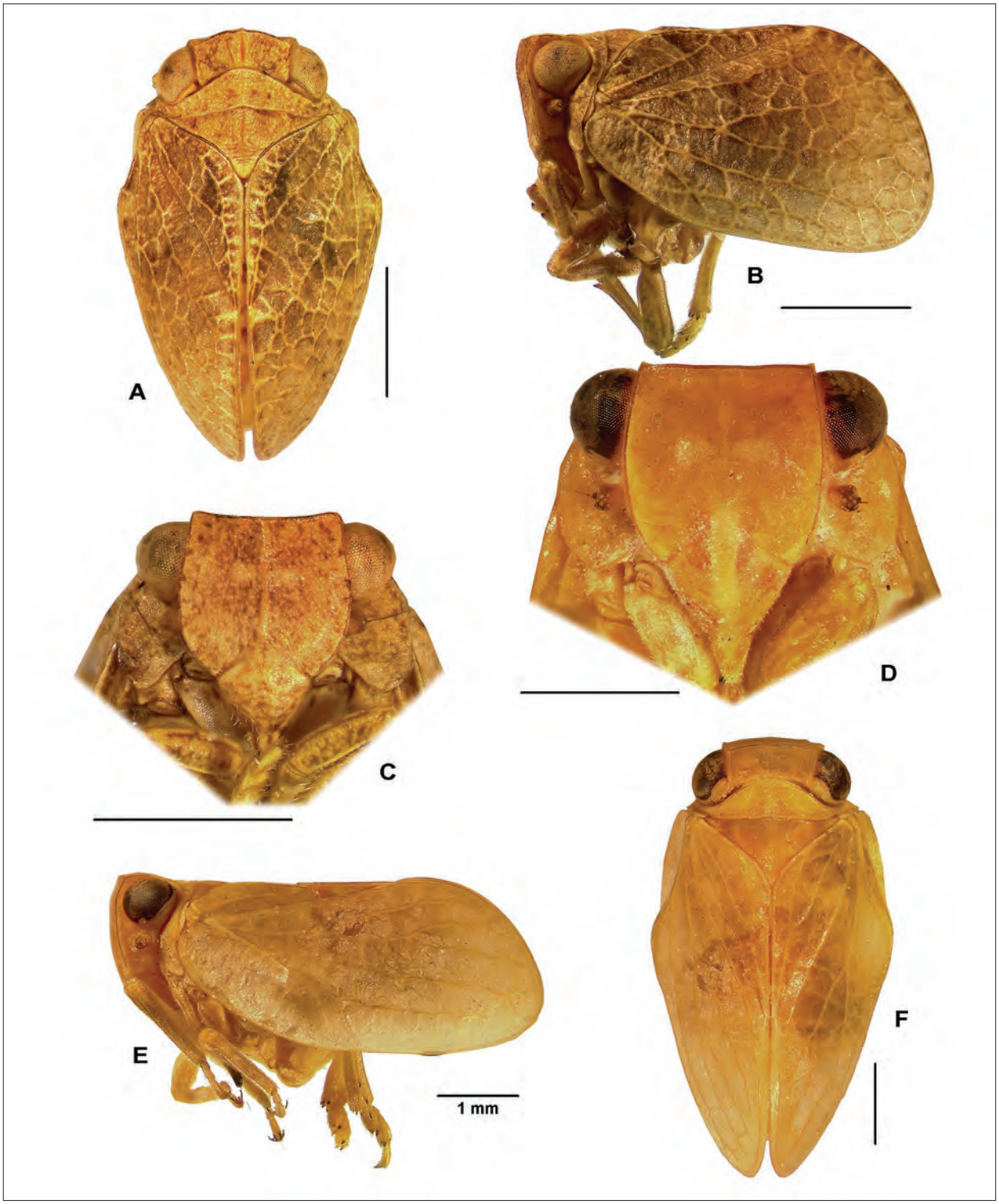

Plate 46. a, *Rhissolepus ergenense* (Becker), male (syntype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Scorlupaster asiaticum* (Lethierry), female, frontal view; e, same, lateral view; f, same, dorsal view.

Genus *Rhissolepus* Emeljanov

Emeljanov, 1971: 625. Type species: *Hysteropterum ergenense* Becker, 1865.

Composition and distribution: 4 species known from Kazakhstan, Southern Russia, Greece including islands, and Turkey.

***Rhissolepus aspinosus* Dlabola**

Rhissolepus aspinosus Dlabola, 1982: 144.
Distribution: Greece (Chios I., Lesbos I.), Turkey.
Identification: Dlabola 1982.

***Rhissolepus ergenensis* (Becker)**

Issus ergenensis Becker, 1865: 482.
Distribution: Russia (Astrakhan Province, Orenburg Province, Volgograd Province), Kazakhstan.
Identification: Emeljanov 1964a.
Biology: Emeljanov 1969, Mitjaev 2002.
Photos (Pl. 46, figs a—c): Russia, Sarepta (ZIN): ♀ (syntype), frontal, dorsal and lateral views.

***Rhissolepus insulanus* (Dlabola)**

Quadrastylum insulanum Dlabola, 1982: 143.
Distribution: Greece including the islands (Crete I., Kyklades Is., Sporades Is.), Turkey.
Identification: Dlabola 1982.

***Rhissolepus tubulatus* (Dlabola)**

Quadrastylum tubulatum Dlabola, 1989: 26.
Distribution: Turkey.
Identification: Dlabola 1989.

Genus *Scorlupaster* Emeljanov

Emeljanov, 1971: 625. Type species: *Hysteropterum asiaticum* Lethierry, 1878.

Composition and distribution: 6 species distributed in Kazakhstan, Middle Asia, and Iran. The genus is in need of revision.

***Scorlupaster alexandrae* Mitjaev**

Scorlupaster alexandrae Mitjaev, 2010: 5.
Distribution: Kazakhstan.
Identification: Mitjaev 2010.

***Scorlupaster asiaticum* (Lethierry)**

Hysteropterum asiaticum Lethierry, 1878: 27.
Hysteropterum tshurtshurnum Linnavuori, 1957: 96, syn. fide Dubovsky 1966: 59.
Distribution: Afghanistan, Iran, Kazakhstan, Uzbekistan.
Identification: Dubovsky 1966, Mitjaev 1971, 2010.
Biology: Mitjaev 2002.
Photos (Pl. 46, figs d—f): Uzbekistan, Tashkent (ZIN): ♀, frontal, dorsal and lateral views.

***Scorlupaster emersum* (Dlabola)**

Hysteropterum emersum Dlabola, 1981a: 184.
Distribution: Iran.
Identification: Dlabola 1981a.

***Scorlupaster ferganense* (Dubovsky)**

Hysteropterum ferganense Dubovsky, 1966: 59.
Distribution: Kyrgyzstan.
Identification: Dubovsky 1966, Mitjaev 2010.
Biology: Dubovsky 1966.

***Scorlupaster heptapotamicum* (Mitjaev)**

Hysteropterum heptapotamicum Mitjaev, 1971: 71.
Distribution: Kazakhstan.
Identification: Mitjaev 1971, 2010.
Biology: Mitjaev 2002.

***Scorlupaster karakunusum* (Mitjaev)**

Hysteropterum karakunusum Mitjaev, 1971: 71.
Distribution: Kazakhstan.
Identification: Mitjaev 1971, 2010.

Genus *Scorlupella* Emeljanov

Emeljanov, 1971: 624. Type species: *Issus discolor* Germar, 1821.

Composition and distribution: 10 species distributed in Southeastern Europe, Caucasus, Turkey, Iran, and Middle Asia. The genus is in need of revision.

***Scorlupella amica* Dlabola**

Scorlupella amica Dlabola, 1984: 53.
Distribution: Turkey.
Identification: Dlabola 1984.

***Scorlupella assimilis* (Horváth)**

Hysteropterum assimile Horváth, 1905: 188.
Distribution: Turkey.
Identification: Dlabola 1984.

***Scorlupella boulardi* Dlabola**

Scorlupella boulardi Dlabola, 1984: 55.
Distribution: Turkey.
Identification: Dlabola 1984.

***Scorlupella corumica* Dlabola**

Scorlupella corumica Dlabola, 1982: 133.
Distribution: Turkey.
Identification: Dlabola 1982.

***Scorlupella discolor* (Germar)**

Issus discolor Germar, 1821: 102.
Distribution: Ukraine (Crimea), Romania, Bulgaria, ?Turkey (Demir & Demirsoy 2009).
Identification: Logvinenko 1975a.
Biology: Logvinenko 1975a.

***Scorlupella medea* Logvinenko**

Scorlupella medea Logvinenko, 1976: 608.
Distribution: Russia (Adygei Republic, Krasnodar Territory).
Identification: Logvinenko 1976.
Photos (Pl. 47, figs d—f): Russia, Adygei Republic (NMWC): ♂, frontal, dorsal and lateral views.
Note: Probably the species is a junior synonym of *Scorlupella pulchella* (Ivanoff, 1885), but the type specimen of the last species is not located.

***Scorlupella montana* (Becker)**

Issus montanus Becker, 1865: 482.
Distribution: Armenia, Azerbaijan, Georgia, ?Greece (Chicote 1882), Iran, Kazakhstan, Kyrgyzstan, Moldova, ?Romania (Montandon 1900), Russia (Dagestan Republic, Kalmyk Republic, Krasnodar Territory, Orenburg Province, Rostov Province, Stavropol Territory, Volgograd Territory, Voronezh Province), Tajikistan, Turkey, Turkmenistan, Ukraine including Crimea, Uzbekistan.
Identification: Gnezdilov 2001b.
Biology: Emeljanov 1969, Logvinenko 1975a, Mitjaev 2002.

***Scorlupella okalii* Dlabola**

Scorlupella okalii Dlabola, 1983: 134.
Distribution: Georgia.
Identification: Dlabola 1983.

***Scorlupella pontica* Dlabola**

Scorlupella pontica Dlabola, 1982: 132.
Distribution: Turkey.
Identification: Dlabola 1982.

***Scorlupella pulchella* (Ivanoff)**

Hysteropterum pulchellum Ivanoff, 1885: 107.
Distribution: Russia (Stavropol Territory).
Identification: Ivanoff 1885.

Genus *Semissus* Melichar

Melichar, 1906: 112. Type species: *Issus acuminatus* Lethierry, 1876.
Theryana Bergevin, 1922: 129 (Type species: *Theryana semissoides* Bergevin, 1922), syn. fide Gnezdilov & Wilson 2005a: 422.
Composition and distribution: 5 species known from Algeria and Morocco.

***Semissus acuminatus* (Lethierry)**

Issus acuminatus Lethierry, 1876: 76.
Semissus tlemsenicus Dlabola, 1987a: 66, syn. fide Gnezdilov & Wilson 2005a: 425.
Distribution: Algeria, Morocco.
Identification: Gnezdilov & Wilson 2005a.
Photos (Pl. 49, figs a—c): Morocco (NMWC): ♂, frontal, dorsal and lateral views.

***Semissus hesperidicus* Gnezdilov & Wilson**

Semissus hesperidicus Gnezdilov & Wilson, 2005a: 426.
Distribution: Algeria.
Identification: Gnezdilov & Wilson 2005a.
Photos (Pl. 48, fig. d): Algeria (IRSNB): ♂ (holotype), frontal view.

***Semissus hyadicus* Gnezdilov & Wilson**

Semissus hyadicus Gnezdilov & Wilson, 2005a: 424.
Distribution: Morocco.
Identification: Gnezdilov & Wilson 2005a.
Photos (Pl. 49, figs d—f): Morocco (NMWC): ♀ (paratype), frontal, dorsal and lateral views.

***Semissus pliadicus* Gnezdilov & Wilson**

Semissus pliadicus Gnezdilov & Wilson, 2005a: 424.
Distribution: Morocco.
Identification: Gnezdilov & Wilson 2005a.
Photos (Pl. 48, figs e—f): Morocco (NMWC): ♂ (paratype), dorsal and lateral views.

***Semissus semissoides* (Bergevin)**

Theryana semissoides Bergevin, 1922: 129.
Distribution: Morocco.
Identification: Gnezdilov & Wilson 2005a.
Photos (Pl. 48, figs a—c): Morocco (BMNH): ♀, frontal, dorsal and lateral views.

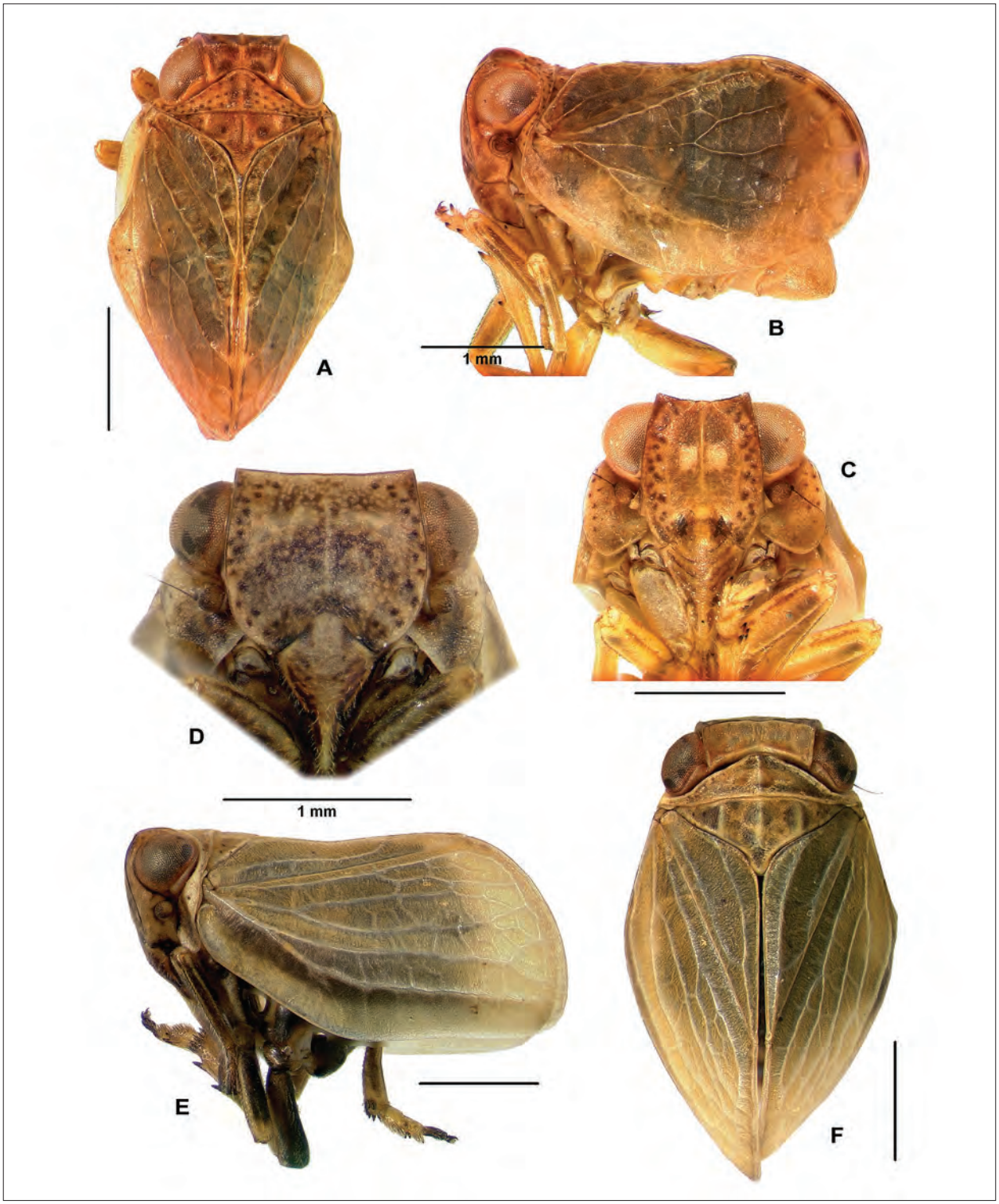

Plate 47. a, *Tautoprosopa transcaspia* (Emeljanov), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Scorlupella medea* Logvinenko, male, frontal view; e, same, lateral view; f, same, dorsal view.

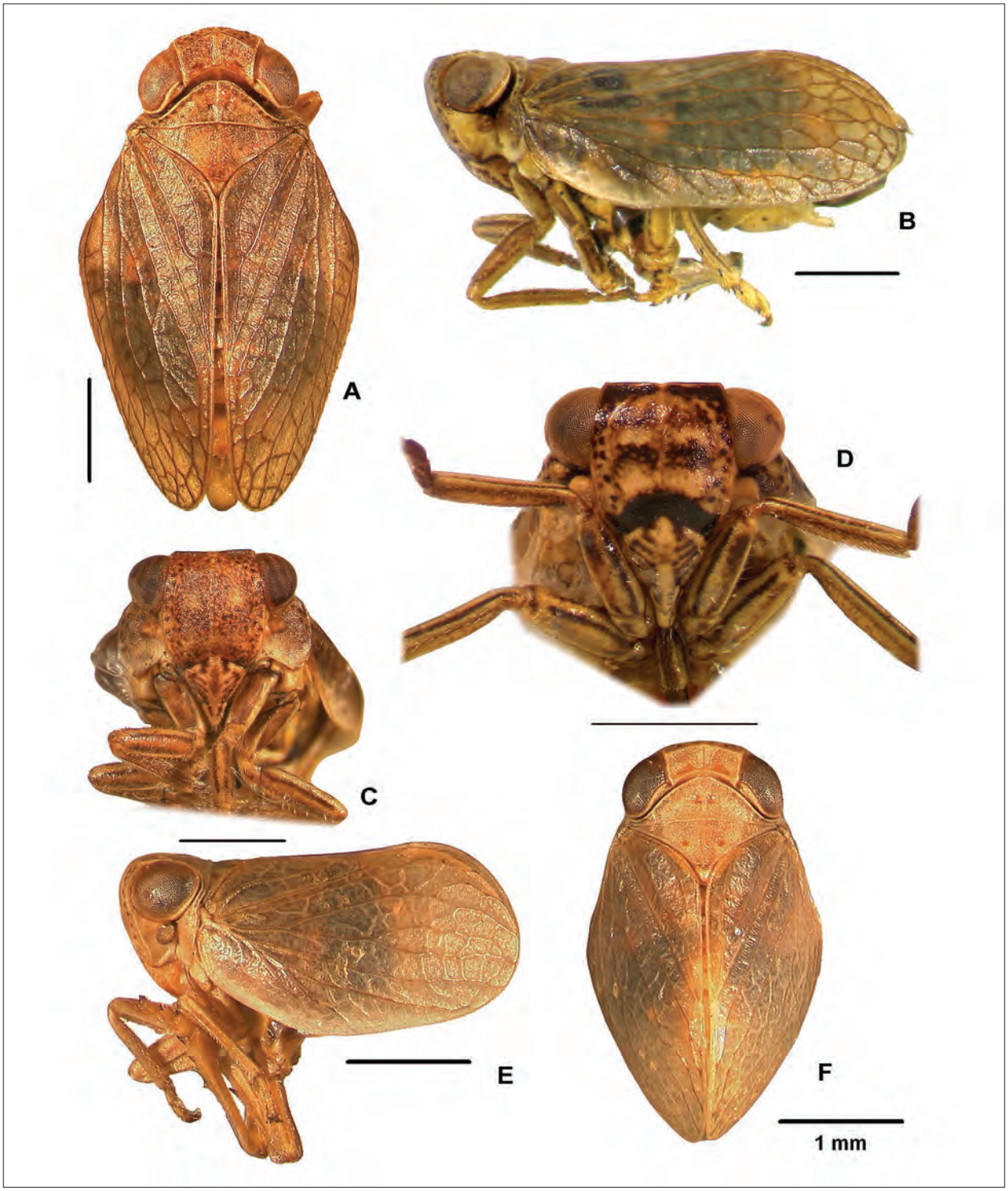

Plate 48. a, *Semissus semissoides* (Bergevin), female, dorsal view; b, same lateral view; c, same, frontal view; d, *Semissus hesperidicus* Gnezdilov & Wilson, male (holotype), frontal view; e, *Semissus pliadicus* Gnezdilov & Wilson, male (paratype), lateral view; f, same, dorsal view.

Genus *Sfaxia* Bergevin

Bergevin, 1917d: 8. Type species: *Sfaxia inermipes* Bergevin, 1917.

Planocostium Dlabola, 1982 (Type species: *Hysteropterum angusticeps* Lethierry, 1874), syn. fide Dlabola 1989: 31.

Composition and distribution: 4 species distributed in the Mediterranean Northern Africa.

***Sfaxia albogrisea* (Dlabola)**

Planocostium albogriseum Dlabola, 1984: 52.
Distribution: Tunisia.
Identification: Dlabola 1984.

***Sfaxia angusticeps* (Lethierry)**

Hysteropterum angusticeps Lethierry, 1874: 444.

Hysteropterum signatipes Melichar, 1906: 121, syn. fide Dlabola 1984: 50.

Sfaxia deserticola Bergevin, 1918c: 190, syn. fide Dlabola 1984: 50.

Distribution: Algeria, Libya.
Identification: Dlabola 1984.

***Sfaxia inermipes* Bergevin**

Sfaxia inermipes Bergevin, 1917d: 8.
Distribution: Libya, Tunisia.
Identification: Bergevin 1917d.
Photos (Pl. 50, figs d–f): Tunisia, Bis Kra (MNHN): ♂ (?syntype), frontal, dorsal and lateral views.

***Sfaxia producta* Linnavuori**

Sfaxia producta Linnavuori, 1965: 18.
Distribution: Libya.
Identification: Linnavuori 1965.
Photos (Pl. 50, figs a–c): Libya (ZIN): ♂, frontal, dorsal and lateral views.

Genus *Tautoprosopa* Emeljanov

Emeljanov, 1978: 332 (as subgenus of *Brachyprosopa* Kusnetzov, 1929). Type species: *Brachyprosopa transcaspia* Emeljanov, 1978.

Verticisium Dlabola, 1979a: 281 (Type species: *Hysteropterum pictifrons* (non Melichar, 1906): Dlabola 1979a, syn. fide Gnezdilov 2002a: 216.

Composition and distribution: Monotypical genus distributed in Iran, Kazakhstan, and Turkmenistan.

***Tautoprosopa transcaspia* (Emeljanov)**

Brachyprosopa transcaspia Emeljanov, 1978: 332.

Hysteropterum pictifrons (non Melichar, 1906): Linnavuori 1952: 191.

Verticisium pictifrons (non Melichar, 1906): Dlabola 1979a: 282.

Distribution: Iran, Kazakhstan, Turkmenistan.
Identification: Emeljanov 1978.
Biology: Mitjaev 2002.
Photos (Pl. 47, figs a–c): Iran (NMWC): ♂, frontal, dorsal and lateral views.

Genus *Tshurtshurnella* Kusnezov

Kusnezov, 1927: 219. Type species: *Tshurtshurnella eugeniae* Kusnezov, 1927.

Megissus Linnavuori, 1965: 67 (Type species: *Megissus acutus* Linnavuori, 1965), syn. fide Dlabola 1979a: 269.

Composition and distribution: Eastern Mediterranean genus with 40 species mostly distributed in Turkey (29 species).

***Tshurtshurnella acigoelica* Dlabola**

Tshurtshurnella acigoelica Dlabola, 1983: 128.
Distribution: Turkey.
Identification: Dlabola 1983.

***Tshurtshurnella acuta* (Linnavuori)**

Megissus acutus Linnavuori, 1965: 68.
Distribution: Turkey.
Identification: Linnavuori 1965.
Photos (Pl. 51, figs a–c): Turkey (NMWC): ♀ (paratype), frontal, dorsal and lateral views.

***Tshurtshurnella adana* Dlabola**

Tshurtshurnella adana Dlabola, 1986: 184.
Distribution: Turkey.
Identification: Dlabola 1986.

***Tshurtshurnella akdagica* Kartal**

Tshurtshurnella akdagica Kartal, 1985b: 70.
Distribution: Turkey.
Identification: Kartal 1985b.

***Tshurtshurnella alanyana* Dlabola**

Tshurtshurnella alanyana Dlabola, 1982: 149.
Distribution: Turkey.
Identification: Dlabola 1982.

***Tshurtshurnella armatissima* (Linnavuori)**

Hysteropterum armatissimum Linnavuori, 1962: 18.
Distribution: Greece, Italy.
Identification: Linnavuori 1962.

***Tshurtshurnella aschei* Kartal**

Tshurtshurnella aschei Kartal, 1985a: 200.
Distribution: Turkey.
Identification: Kartal 1985a.

***Tshurtshurnella bicornuta* Dlabola**

Tshurtshurnella bicornuta Dlabola, 1983: 127.
Distribution: Turkey.
Identification: Dlabola 1983.

***Tshurtshurnella bozarmutica* Kartal**

Tshurtshurnella bozarmutica Kartal, 1985a: 203.
Distribution: Turkey.
Identification: Kartal 1985a.

***Tshurtshurnella campestris* (Lindberg)**

Hysteropterum campestre Lindberg, 1948: 121.
Hysteropterum campestre bidens Linnavuori, 1965: 66, syn. fide Dlabola 1980a: 222.
Distribution: Cyprus, Turkey.
Identification: Lindberg 1948, Kartal 1985a.

***Tshurtshurnella cappadocica* (Dlabola)**

Hysteropterum cappadocicum Dlabola, 1981a: 188.
Distribution: Turkey.
Identification: Dlabola 1981a.

***Tshurtshurnella carica* Gnezdilov**

Tshurtshurnella carica Gnezdilov, 2002d: 236.
Distribution: Turkey.
Identification: Gnezdilov 2002d.

***Tshurtshurnella despecta* (Linnavuori)**

Hysteropterum despectum Linnavuori, 1965: 65.
Distribution: Turkey.
Identification: Linnavuori 1965, Kartal 1985b.

***Tshurtshurnella diyarbakira* Dlabola**

Tshurtshurnella diyarbakira Dlabola, 1980a: 221.
Distribution: Turkey.
Identification: Dlabola 1980a.

***Tshurtshurnella duffelsi* (Dlabola)**

Hysteropterum duffelsi Dlabola, 1975: 75.
Distribution: Cyprus.
Identification: Dlabola 1975.

***Tshurtshurnella edremitica* Dlabola**

Tshurtshurnella edremitica Dlabola, 1982: 166.
Distribution: Turkey.
Identification: Dlabola 1982.

***Tshurtshurnella elmalica* Kartal**

Tshurtshurnella elmalica Kartal, 1985a: 206.
Distribution: Turkey.
Identification: Kartal 1985a.

***Tshurtshurnella eugeniae* Kusnezov**

Tshurtshurnella eugeniae Kusnezov, 1927: 220.
Distribution: Russia (Belgorod Province), Ukraine including Crimea.
Identification: Gnezdilov 2002d.
Biology: Logvinenko 1975a.
Photos (Pl. 52, figs d–f): Ukraine, Crimea (ZIN): ♂, frontal, dorsal and lateral views.

***Tshurtshurnella extrema* Dlabola**

Tshurtshurnella extrema Dlabola, 1980a: 220.
Distribution: Turkey.
Identification: Dlabola 1980a.

***Tshurtshurnella hani* Gnezdilov**

Tshurtshurnella hani Gnezdilov, 2002d: 235.
Distribution: Lebanon.
Identification: Gnezdilov 2002d.
Photos (Pl. 52, figs a–c): Lebanon (ZIN): ♀ (paratype), frontal, dorsal and lateral views.

***Tshurtshurnella kalkandelenica* Dlabola**

Tshurtshurnella kalkandelenica Dlabola, 1982: 147.
Distribution: Turkey.
Identification: Dlabola 1982.

***Tshurtshurnella konstanto* Gnezdilov & Drosopoulos**

Tshurtshurnella konstanto Gnezdilov & Drosopoulos, 2006: 775.
Distribution: Greece.
Identification: Gnezdilov & Drosopoulos 2006.

***Tshurtshurnella linnavuorii* Dlabola**

Tshurtshurnella linnavuorii Dlabola, 1985: 226.

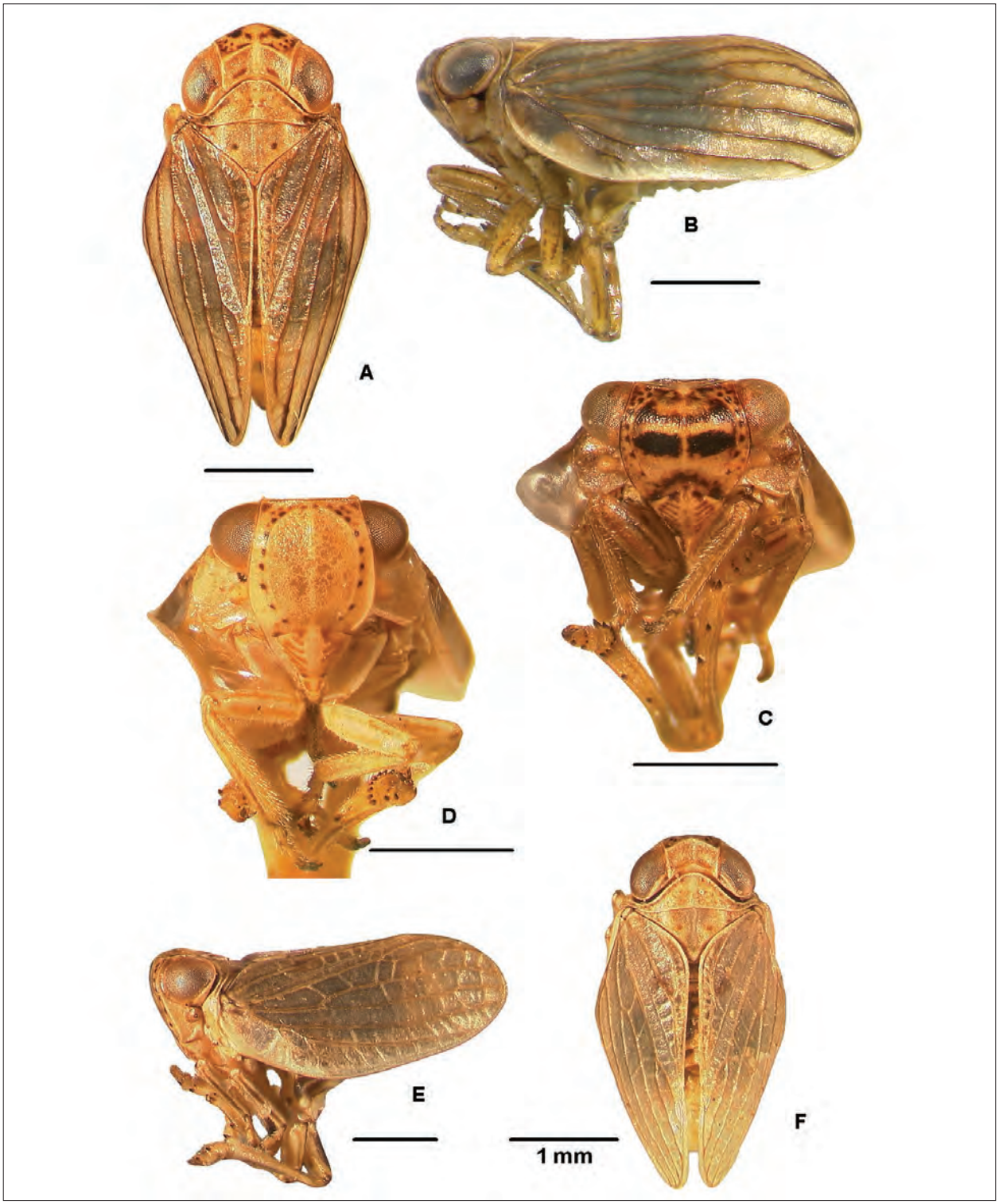

Plate 49. a, *Semissus acuminatus* (Lethierry), male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Semissus hyadicus* Gnezdilov & Wilson, female (paratype), frontal view; e, same, lateral view; f, same, dorsal view.

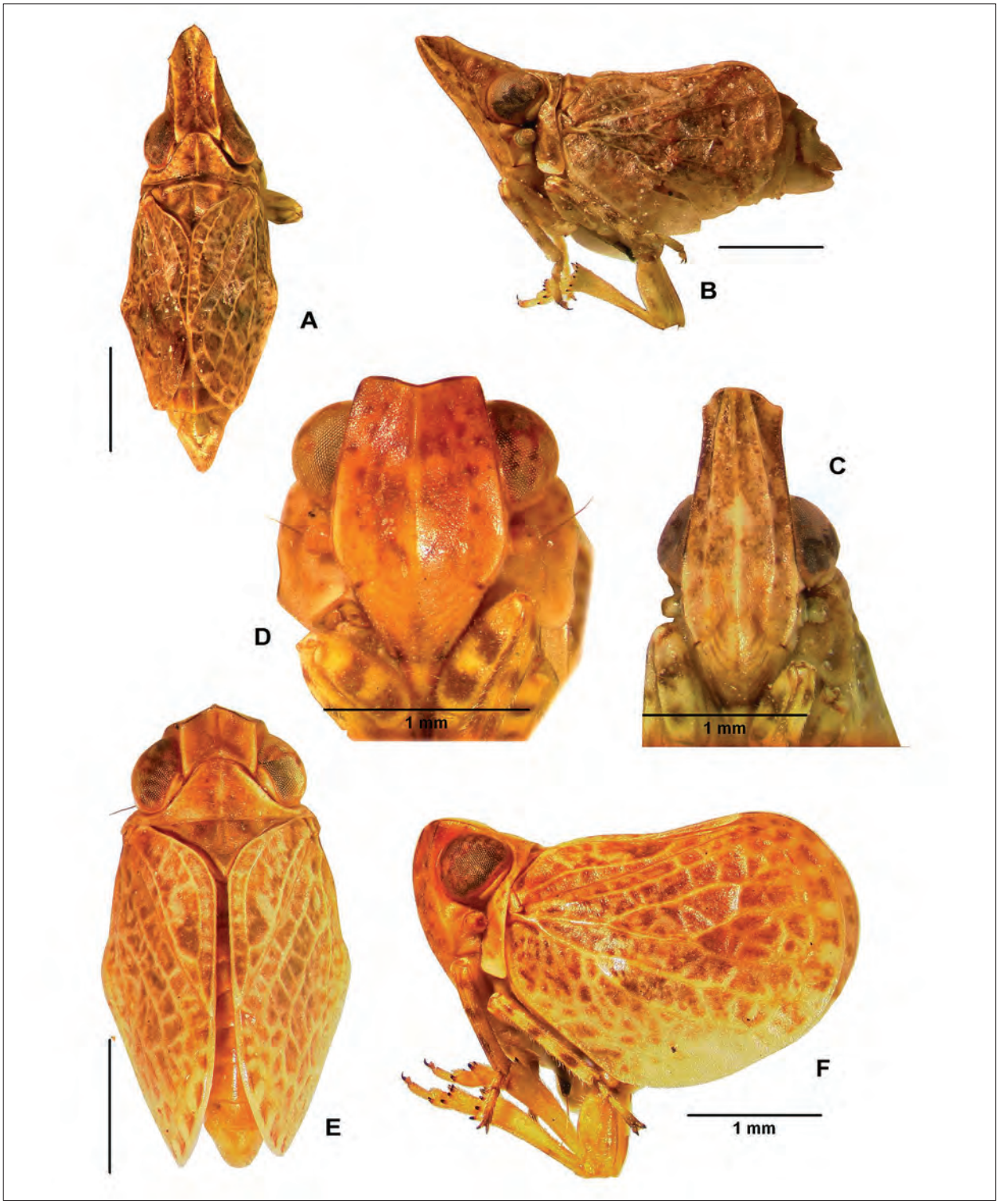

Plate 50. a, *Sfaxia producta* Linnavuori, male, dorsal view; b, same, lateral view; c, same, frontal view; d, *Sfaxia inermipes* Bergevin, male (?syntype), frontal view; e, same, dorsal view; f, same, lateral view.

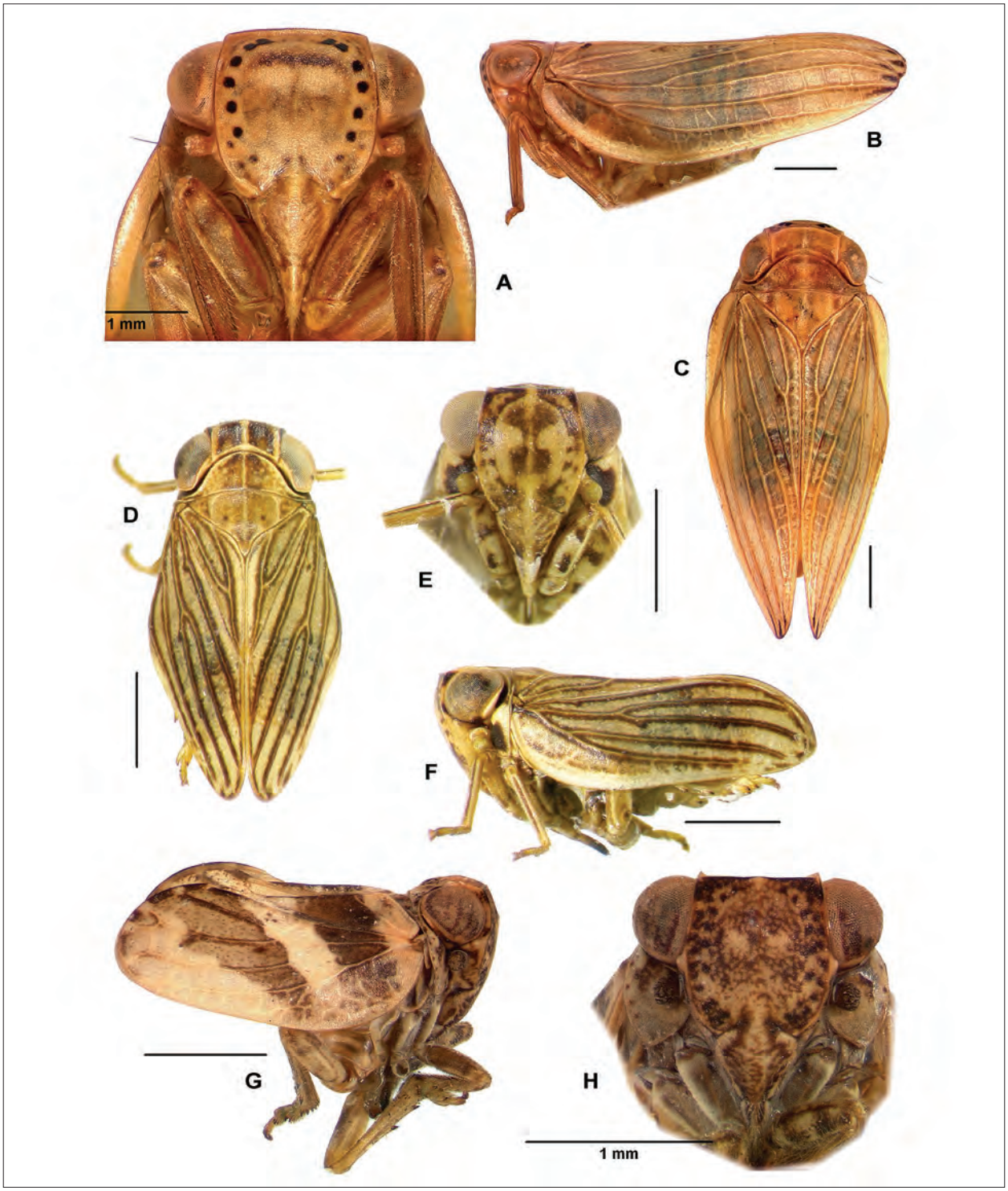

Plate 51. a, *Tshurtshurnella acuta* (Linnavuori), female (paratype), frontal view; b, same, lateral view; c, same, dorsal view; d, *Tshurtshurnella peloponica* Dlabola, male (holotype), dorsal view; e, same, frontal view; f, same, lateral view; g, *Tshurtshurnella trifasciata* (Linnavuori), male, lateral view; h, same, frontal view.

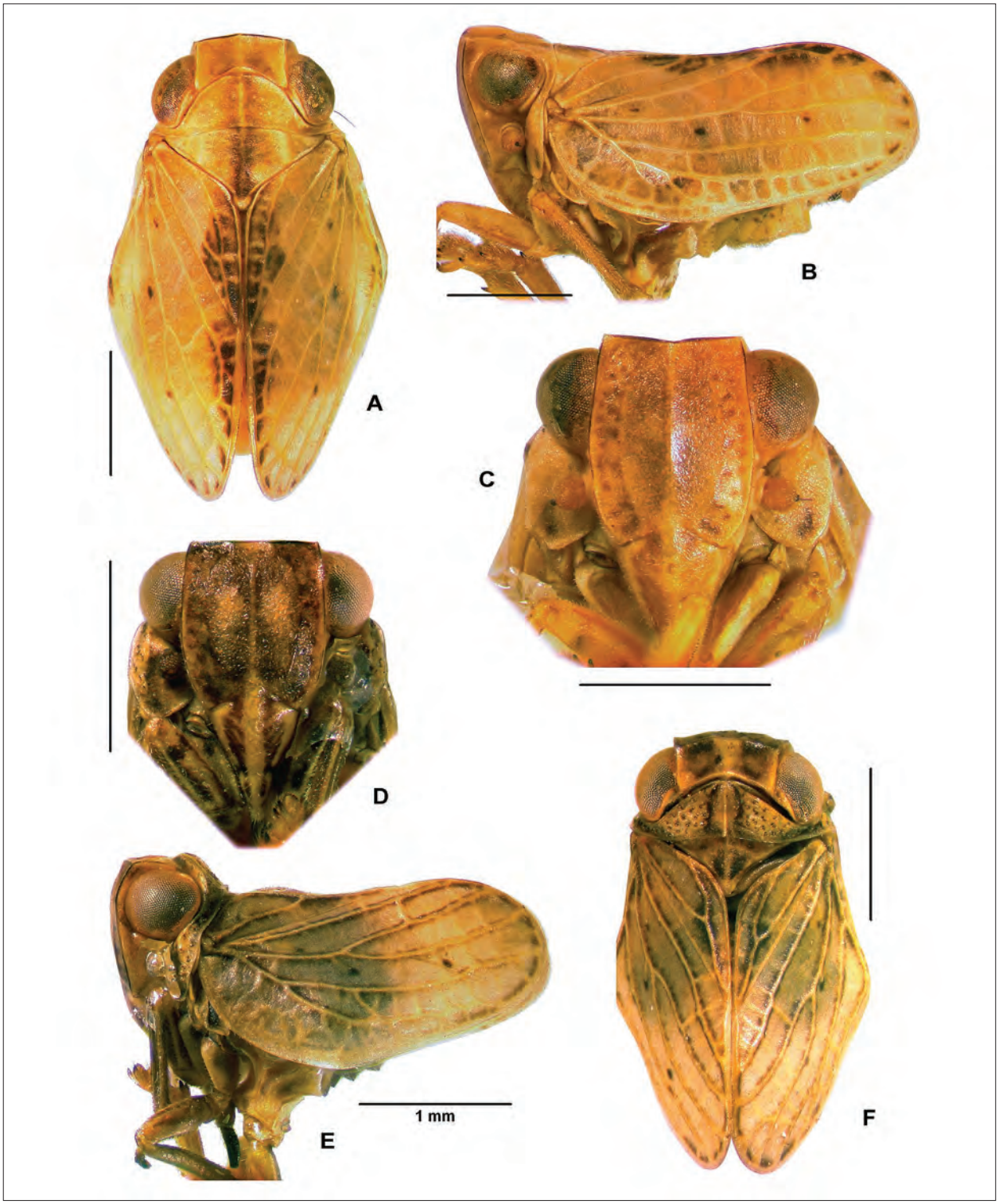

Plate 52. a, *Tshurtshurnella hani* Gnezdilov, female (paratype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Tshurtshurnella eugeniae* Kusnezov, male, frontal view; e, same, lateral view; f, same, dorsal view.

Distribution: Turkey.
Identification: Dlabola 1985.

***Tshurtshurnella lodosi* Dlabola**

Tshurtshurnella lodosi Dlabola, 1979a: 270.
Distribution: Iraq, Turkey.
Identification: Dlabola 1979a.

***Tshurtshurnella longispinosa* (Linnavuori)**

Hysteropterum campestre longispinosum Linnavuori, 1962: 20.
Distribution: Israel, Turkey.
Identification: Linnavuori 1962, Kartal 1985a.

***Tshurtshurnella mesopotamica* Dlabola**

Tshurtshurnella mesopotamica Dlabola, 1979a: 272.
Distribution: Iraq.
Identification: Dlabola 1979a.

***Tshurtshurnella moreana* Dlabola**

Tshurtshurnella moreana Dlabola, 1979a: 269.
Distribution: Greece.
Identification: Dlabola 1979a.

***Tshurtshurnella mysica* Gnezdilov**

Tshurtshurnella mysica Gnezdilov, 2002d: 235.
Distribution: Turkey.
Identification: Gnezdilov 2002d.

***Tshurtshurnella peloponica* Dlabola**

Tshurtshurnella peloponica Dlabola, 1979a: 271.
Distribution: Greece, ?Turkey (Demir 2007).
Identification: Dlabola 1979a.
Photos (Pl. 51, figs d–f): Greece (ZMAN): ♂ (holotype), frontal, dorsal and lateral views.

***Tshurtshurnella pythia* Dlabola**

Tshurtshurnella pythia Dlabola, 1979a: 270.
Distribution: Greece.
Identification: Dlabola 1979a.

***Tshurtshurnella ramosa* Dlabola**

Tshurtshurnella ramosa Dlabola, 1982: 145.
Distribution: Turkey.
Identification: Dlabola 1982.

***Tshurtshurnella rhombica* Dlabola**

Tshurtshurnella rhombica Dlabola, 1982: 165.
Distribution: Turkey.
Identification: Dlabola 1982, Kartal 1985c.

***Tshurtshurnella serapae* Kartal**

Tshurtshurnella serapae Kartal, 1985a: 192.
Distribution: Turkey.
Identification: Kartal 1985a.

***Tshurtshurnella striolata* (Fieber)**

Hysteropterum striolatum Fieber, 1877: 32.
Distribution: Greece.
Identification: Gnezdilov, Soulier-Perkins & Bourgoin 2011.

***Tshurtshurnella trifasciata* (Linnavuori)**

Hysteropterum trifasciatum Linnavuori, 1965: 67.
Tshurtshurnella zebrina Dlabola, 1987c: 304, syn. fide Gnezdilov, Drosopoulos & Wilson 2004: 218.
Distribution: Syria, Turkey.
Identification: Linnavuori 1965, Dlabola 1987c, Kartal 1985a.
Photos (Pl. 51, figs g, h): Syria (NMWC): ♂, frontal and lateral views.

***Tshurtshurnella uvarovi* Gnezdilov**

Tshurtshurnella uvarovi Gnezdilov, 2002d: 235.
Distribution: Turkey.
Identification: Gnezdilov 2002d.

***Tshurtshurnella ventricornis* Dlabola**

Tshurtshurnella ventricornis Dlabola, 1986: 185.
Distribution: Turkey.
Identification: Dlabola 1986.

***Tshurtshurnella verbasci* Dlabola**

Tshurtshurnella verbasci Dlabola, 1983: 125.
Distribution: Turkey.
Identification: Dlabola 1983.

***Tshurtshurnella yozgatica* Kartal**

Tshurtshurnella yozgatica Kartal, 1985b: 69.
Distribution: Turkey.
Identification: Kartal 1985b.

***Tshurtshurnella zelleri* (Kirschbaum)**

Hysteropterum zelleri Kirschbaum, 1868: 53.
Hysteropterum pseudarmatum Linnavuori, 1965: 65, syn. fide Dlabola 1984: 65.
Distribution: Greece, Italy.
Identification: Linnavuori 1965, Dlabola 1979a.

Genus *Webbisanus* Dlabola

Dlabola, 1983: 120. Type species: *Webbisanus ochreicolor* Dlabola, 1983.

Composition and distribution: Monotypical genus — endemic to Turkey.

Webbisanus ochreicolor Dlabola

Webbisanus ochreicolor Dlabola, 1983: 120.
Distribution: Turkey.
Identification: Dlabola 1983.
Photos (Pl. 53, figs a—c): Turkey (BMNH): ♂ (holotype), frontal, dorsal and lateral views.

Genus *Zopherisca* Emeljanov

Emeljanov, 2001a: 99. Type species: *Issus tendinosus* Spinola, 1839.

Composition and distribution: 3 species known from the Balkan Peninsula.

Zopherisca penelopae (Dlabola)

Latilica penelopae Dlabola, 1974c: 300.
Distribution: Greece.
Identification: Gnezdilov & Drosopoulos 2006.
Biology: Gnezdilov & Drosopoulos 2006.

Zopherisca skaloula Gnezdilov & Drosopoulos

Zopherisca tendinosa skaloula Gnezdilov & Drosopoulos, 2006: 778.
Distribution: Greece.
Identification: Gnezdilov & Drosopoulos 2006.
Biology: Gnezdilov & Drosopoulos 2006.

Zopherisca tendinosa (Spinola)

Issus tendinosus Spinola, 1839: 349.
Distribution: Bulgaria, Croatia, Greece.
Identification: Gnezdilov & Drosopoulos 2006.
Photos (Pl. 53, figs d—f): Bulgaria (ZIN): ♂, frontal, dorsal and lateral views.

SPECIES OF UNCERTAIN POSITION

Hysteropterum pallidum Melichar

Hysteropterum pallidum Melichar, 1906: 127.
Distribution: Algeria.
Identification: no illustrations were published.
Note: The type specimen is not located. Probably the species belongs to the genus *Lethierium* Dlabola, 1980 or to the genus *Agalmatium* Emeljanov, 1971.

Hysteropterum subangulare Rey

Hysteropterum subangulare Rey, 1891: 241.
Identification: no illustrations were published.
Note: Type locality is unknown. The type specimen is not located.

Issus algiricus Lucas

Issus algiricus Lucas, 1849a: 104.
Distribution: Algeria.
Identification: Lucas 1849a, 1849b.
Note: The type specimen is not located. Apparently the species belongs to the genus *Lindbergatum* Dlabola, 1984 according to the drawings by Lucas (1849b, pl. 4, fig. 9).

Libanissum malickyi Dlabola

Libanissum malickyi Dlabola, 1989: 23.
Distribution: France (Corsica I.).
Identification: Dlabola 1989.
Note: The taxonomic position of the species is under revision.

Quadriva bloetei (Dlabola)

Hysterodus bloetei Dlabola, 1982: 164.
Distribution: Spain.
Identification: Dlabola 1982.
Note: The taxonomic position of the species is in need of revision. Probably it belongs to the genus *Palmallorcus* Gnezdilov, 2003.

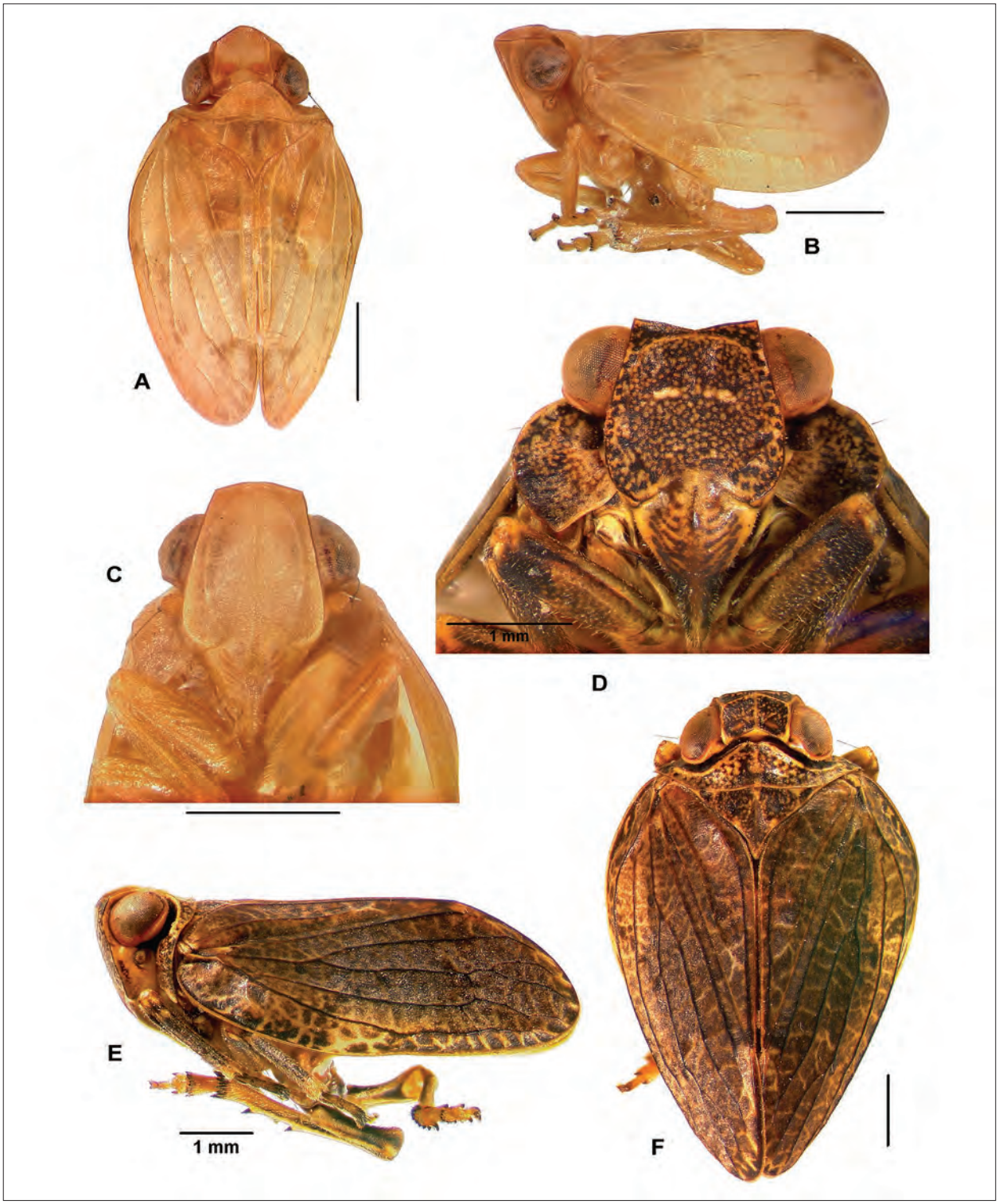

Plate 53. a, *Webbisanus ochreicolor* Dlabola, male (holotype), dorsal view; b, same, lateral view; c, same, frontal view; d, *Zopherisca tendinosa* (Spinola), male, frontal view; e, same, lateral view; f, same, dorsal view.

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