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A NEW SPECIES, NEW SYNONYMY, AND ADDITIONAL RECORDS OF *GYROPHAENA* (COLEOPTERA, STAPHYLINIDAE, ALEOCHARINAE) FROM THE PALAEARCTIC REGION

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A New Species, New Synonymy, and Additional Records of *Gyrophaena* (Coleoptera, Staphylinidae, Aleocharinae) from the Palaearctic Region. Glotov, S. V. — *Gyrophaena anastasiarum* Glotov, sp. n. is described from Primorskiy Krai (Russian Far East). New synonymy is proposed: *Gyrophaena triquetra* Weise, 1877 = *Gyrophaena flammula* Pace, 2007 syn. n. Lectotypes are designated for *Gyrophaena hanseni* A. Strand, 1946, *G. korbi* A. Strand, 1939, *G. munsteri* A. Strand, 1935, *G. pseudonana* A. Strand, 1939, *G. semipunctata* Bernhauer, 1926, and *G. transversalis* A. Strand, 1939. *Gyrophaena kaunshanchiensis* Pace, 2007 is recorded from Russia (Primorskiy Krai) for the first time.

Key words: Coleoptera, Staphylinidae, Aleocharinae, *Gyrophaena*, taxonomy, Russia, Taiwan.

Introduction

The rove beetle genus *Gyrophaena* Mannerheim, 1830 includes 721 described species in the world fauna (Newton, 2022). Of these, 193 species are known from the Palaearctic Region (Schülke & Smetana, 2015). Larvae and adult *Gyrophaena* are obligate fungivores feeding on mature spores, basidium, or fungal hyphae, scraping spores off the surface of the fungal hymenium (Ashe, 1984). Several species can form mass aggregations in one fungal body, and particular species are repeatedly found together in one complex of co-existing species. Some species of *Gyrophaena* demonstrate associations with particular species of fungi (Ashe, 1984; Seevers, 1951). Though often very similar in external characters, the species are readily separated based on the form of male tergite VIII and morphology of the aedeagus, which is usually relatively large and distinctive. A reliable identification of females, however, is often difficult. The present paper is based on examination of material of both sexes from numerous institutional and private collections, including one previously unknown species; in addition, new synonymies are established and numerous new records of zoogeographical interest are provided.

Material and methods

The material is deposited in the following collections and was examined through the kindness of the following curators:

FMNH — Field Museum of Natural History, Chicago, Illinois, USA (J. Boone, A. Newton);

ISEA — Institute of Systematic and Evolution of Animals, Polish Academy of Sciences, Kraków, Poland (G. Paśnik);

MIZ — Institute of Zoology of the Polish Academy of Sciences, Warsaw, Poland;

MNHB — Museum für Naturkunde, Berlin, Germany (J. Frisch);

MSNV — Museo Civico di Storia Naturale, Verona, Italy (L. Latella);

NHMO — Natural History Museum, Oslo, Norway (V. Gusarov);

ZMUC — Natural History Museum of Denmark, Copenhagen, Denmark (A. Solodovnikov);

cGI — private collection S. Glotov, Lviv, Ukraine.

Gyrophaena (Gyrophaena) anastasiarum Glotov, sp. n.

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Material examined. **Type.** Holotype ♂: "RUSSIA: Primorie reg. [Primorsky Krai], 20 km N Artyom [town] env., 200–350 m, Prevalsky. Kamenuschka 15.05–6.06.2002, leg. A. Plutenko [white label] / Sammlung M. Schülke, Berlin [white labels] / Holotypus *Gyrophaena anastasiarum* sp. n. det. S. Glotov, 2021 [red label]" (MNHB).

Description. Measurements (in mm): length of antenna: maximal head width (including eyes): 0.41; head length: 0.26; maximal width of pronotum: 0.41; length of pronotum (measured along its midline): 0.31; length of elytra at suture: 0.39; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.61; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 1.8.

Coloration: head dark brown, glossy; pronotum brown; elytra and abdomen brown; antennae, mouthparts, legs and antennal segments yellow or pale brown.

Head strongly transverse, 1.5 times as wide as long, vertex with 7 moderate, round, distinct punctures scattered on each lateral side.

Pronotum transverse, 1.3 times as wide as long and the same width as head, with moderate punctation of round, scattered, in the middle with 2 longitudinal rows of 3 large round, distinct punctures each; posterior edge of pronotum bordered; posterior angles and posterior margin of pronotal disc rounded; microsculpture indistinct or absent.

Elytra 1.3 times as wide as pronotum; with even, sparse and small punctures; microsculpture indistinct.

Abdomen narrower than elytra, with dense and distinct microsculpture; abdominal tergites each, with indistinct, small, round punctation; male: posterior margin of tergite VII with a row of longitudinal and narrow striae; posterior margin of tergite VIII with wide incision bordered by 2 short, wide, apically weakly pointed, inward curved appendages and medially with 2 short and thin appendages (fig. 1, 1). Aedeagus (fig. 2, 1). Female: unknown.

Comparative notes. Based on the similar morphology of the male primary and secondary sexual characters, *Gyrophaena anastasiarum* Glotov, sp. n. is similar to *G. triquetra* Weise, 1877 and allied species, *G. bucranium* Pace, 2007 and *G. monstrosa* Pace, 2007. It can be reliably distinguished from these species by the shape of the male sternite VIII and aedeagus. For illustrations of the aedeagi of *G. bucranium* and *G. monstrosa* see Pace (2007).

Eymology. The new species is named after my daughter and my wife, both Anastasia.

Distribution. Russia (Primorsky Krai).

Gyrophaena (Gyrophaena) hanseni A. Strand, 1946

Gyrophaena hanseni Strand, 1946: 173.

Gyrophaena spoliata Assing, 2009: 146.

Material examined. **Type.** *Gyrophaena hanseni*: Lectotype (here designated): ♂ "TYPE [red label] / *hanseni* Strand [white labels] / Dyrehaven 21.9.44 [1944] [white labels] / Dania. Coll. Victor Hansen [yellow

labels] / LECTOTYPE ♂ *Gyrophaena hanseni* A. Strand, 1946 S. Glotov des. 2011 [red label]" (ZMUC); paralectotype ♂ "Dyrehaven 21.9.44 [1944] [white labels] / *hanseni* Strand det. [white labels] / Dania. Coll. Victor Hansen [yellow labels] / PARALECTOTYPE ♂ *Gyrophaena hanseni* A. Strand, 1946 S. Glotov des. 2011 [red label]" (ZMUC).

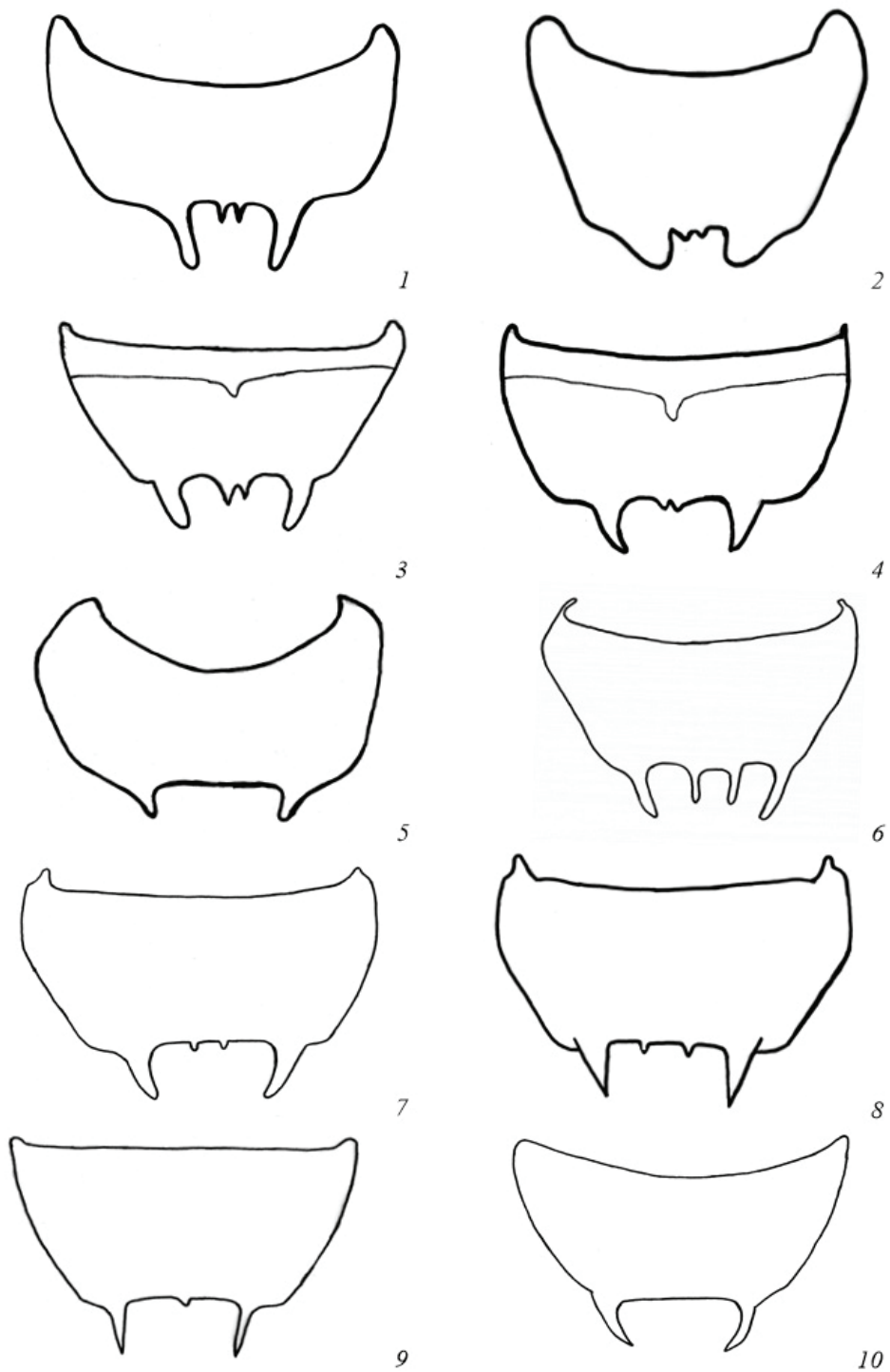


Fig. 1. Abdominal tergites VIII of the male: 1 — *G. anastasiarum* sp.n.; 2 — *G. kaunshanchiensis*; 3–4 — *G. hanseni*; 5 — *G. korbi*; 6 — *G. munsteri*; 7 — *G. pseudonana*; 8 — *G. pseudonitidula*; 9 — *G. transversalis*; 10 — *G. triquetra*.

Redescription. Measurements (in mm): length of antenna: 0.67; maximal head width (including eyes): 0.45; head length 0.27; maximal width of pronotum: 0.52; length of pronotum (measured along its midline): 0.35; length of elytra at suture: 0.38; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.70; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.1.

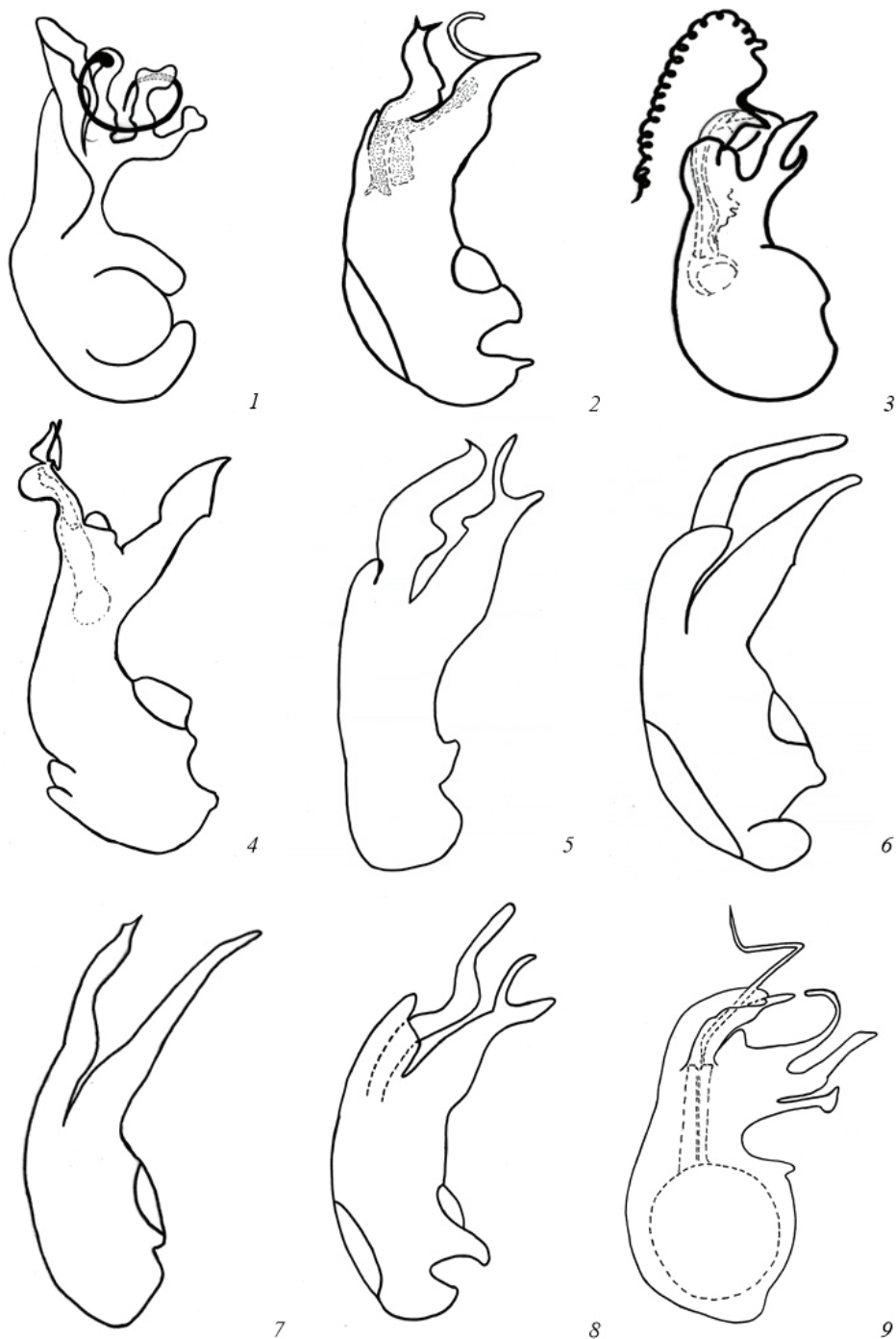


Fig. 2. Aedeagus: 1 — *G. anastasiarum*, sp. n.; 2 — *G. hanseni*; 3 — *G. kaunshanchiensis*; 4 — *G. korbi*; 5 — *G. munsteri*; 6 — *G. pseudonana*; 7 — *G. pseudonitidula*; 8 — *G. transversalis*; 9 — *G. triquetra*.

Coloration: head red-brown; pronotum pale brown or brown, glossy; elytra yellow-brown, posterior angles and base with 2 (1 on each elytron) triangular, apically pointed, dark brown spots; abdomen pale brown, abdominal tergites VI and VII dark brown; mouthparts, antennae and legs yellow or pale brown.

Head strongly transverse, long, vertex with 8 or more small, round, distinct punctures on each side; microsculpture dense and distinct or absent. Antennae: segment I long, strongly widened towards apex; segment II long, narrower and shorter than segments I; segment III narrower and shorter than segment II; segments IV–X slightly strongly transverse, 1.33–1.50 times as wide as long, all segments almost parallel-sided.

Pronotum transverse, posterior angles and posterior margin of pronotal disc rounded; with 2 moderately large and some small round, distinct punctures, in the middle near posterior margin with 2 large, round punctures, posterior margin with even, dense, fine punctation; microsculpture dense and distinct.

Elytra with dense and fine punctation; microsculpture dense and distinct; with sparsely distributed fine setae.

Abdomen: abdominal tergites each with dense and distinct microsculpture and moderately large and some small round distinct punctures. Male: posterior margin of tergite VII in the middle with 2 large, round striae and laterally with some longitudinal, short striae; posterior margin of tergite VII with 1 moderately long, weakly pointed and inward curved process laterally and in middle with 2 slightly shorter appendages (fig. 1, 3–4). Aedeagus as on fig. 2, 2.

Distribution. Europe, Asia Minor (Schülke & Smetana, 2015).

Comments. The original description of *G. hanseni* is based on four syntypes collected “Dyrehaven Jægemborg Dyrehave near Copenhagen the 21st September 1944” by Victor Hansen (Strand, 1946). Two male syntypes were found in the collections of ZMUC. The designation of one male specimen as lectotype is done for the better fixation of the identity of the name *Gyrophaena hanseni* A. Strand, 1946.

***Gyrophaena (Gyrophaena) kaunshanchiensis* Pace, 2007**

Pace, 2007: 107.

Material examined. Russia: Primorsky Krai (Primorye Territory), Lazovskiy District, Lazo Village, Lazovka Valley, (133°54'01" E, 43°22'43" N), 2 exs, 20.VIII.1999, leg. J. Sundukow (cSch).

Redescription. Measurements (in mm): length of antenna: 0.68; maximal head width (including eyes): 0.54; head length 0.26; maximal width of pronotum: 0.61; length of pronotum (measured along its midline): 0.44; length of elytra at suture: 0.48; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.80; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.7.

Coloration: head dark brown; pronotum brown; elytra yellow, with slightly darkened posterior angles; abdomen brown, abdominal tergites VI and VII dark brown; mouthparts, antennae and legs yellow.

Head strongly transverse, 2.1 times as wide as long, vertex with 11 or more sparse, small, round, distinct punctures on each side; microsculpture indistinct. Antennae: antennal segment I long, strongly widened towards apex; segment II long, narrower and shorter than segment I; segment III narrower and shorter than segment II; segment IV small and short; segments V–X each slightly elongate, almost of quadrate shape, and slightly widened apicad.

Pronotum strongly transverse, 1.39 times as wide as long and 1.13 times as wide as head; posterior angles and posterior margin of pronotal disc rounded; in middle and lateral sides of pronotal disc with sparse, scattered, small, rounded punctures, in middle with 2 longitudinal rows of 5 moderately large, round, distinct punctures each; microsculpture indistinct or absent.

Elytra 1.31 times as wide as pronotum; with dense and fine punctuation fine punctuation; microsculpture dense and distinct; with sparsely distributed fine setae.

Abdomen: abdominal tergites, each, with relatively dense, fine punctuation and dense and distinct microsculpture; posterior margin of each abdominal tergite medially with one row of round, small punctures. Male: posterior margin of tergite VIII with wide incision bordered by 2 short, wide, apically weakly pointed, inward curved appendages and medially with 2 short and thin appendages (fig. 1, 2). Aedeagus (fig. 2, 3).

Distribution. Russia (Primorsky Krai) (**first record**), Taiwan (Pace, 2007).

Gyrophæna (Gyrophæna) korbi A. Strand, 1939

Strand, 1939: 109.

Material examined. **Types.** Lectotype ♂ *Gyrophæna korbi*: (here designated): “Kasp. Meer-Geb. Talysch 18.07 Korb [collector] / TYPUS *Gyrophæna korbi* [pink label] / NHMO : type collection 1000175161 / LECTOTYPE ♂ *Gyrophæna korbi* A. Strand, 1939 des. Glotov 2010” (NHMO).

Redescription. Measurements (in mm): length of antenna: 0.63; maximal head width (including eyes): 0.45; head length: 0.28; maximal width of pronotum: 0.51; length of pronotum (measured along its midline): 0.31; length of elytra at suture: 0.32; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.65; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.0.

Coloration: head dark-brown; pronotum pale brown; elytra yellow-brown, posterior angles and base dark brown; abdomen yellow-brown, abdominal tergites IV–VI dark brown; mouthparts, antennae and legs yellow.

Head strongly transverse, vertex with 10 or more sparse, small, round, distinct punctures on each side; microsculpture dense and distinct. Antennae: antennal segment I long, strongly widened towards apex; segment II long, narrower and shorter than segment I; segment III narrower and shorter than segment II; segments IV–X transverse, all segment-almost parallel-sided.

Pronotum strongly transverse, posterior angles and posterior margin of pronotal disc rounded; in the middle with 2 longitudinal rows of 5 (2 moderately large and 3 small) round, distinct punctures each; microsculpture dense and distinct.

Elytra as wide as pronotum; with dense and fine punctuation; microsculpture dense and distinct; with sparsely distributed fine setae.

Abdomen: abdominal tergites each with punctuation relatively indistinct or absent. Male: posterior margin of tergite VIII with wide incision bordered by 2 short, wide, apically weakly pointed, inward curved appendages and medially with 2 short and thin appendages (fig. 1, 5). Aedeagus (fig. 2, 4).

Distribution. Azerbaijan, Iran (Enushchenko & Semenov, 2016).

Comments. The original description of *G. korbi* is based on 50 syntypes collected in “Lenkoran” (Azerbaijan) and “Talysch” (a historical and geographical area of the southwest coast of the Caspian Sea which is divided between two states: Azerbaijan and Iran), by Korb and Leder (Strand, 1939). A male syntype was found in the collections of NHMO. The designation of the male specimen as lectotype is done for the better fixation of the identity of the name *Gyrophæna korbi* A. Strand, 1939.

Gyrophæna (Gyrophæna) munsteri A. Strand, 1935

Strand, 1935: 399.

Material examined. **Types.** *G. munsteri*: Lectotype (here designated): ♂ “Invinhoe England B. S. Williams / *Gyrophæna munsteri* TYPUS A. Strand [pink label] / *Gyrophæna munsteri* Strand det. Ádám, 2007. [white labels] / LECTOTYPE ♂ *Gyrophæna munsteri* A. Strand, 1935 des. S. Glotov 2011 [red label]” (NHMO). Paralectotypes. Norway. Sundnes, Drangedal, Munster, 2 exs (NHMO).

Redescription. Measurements (in mm): length of antenna: 0.91; maximal head width (including eyes): 0.63; head length: 0.48; maximal width of pronotum: 0.68; length of pronotum (measured along its midline): 0.48; length of elytra at suture: 0.51; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.97; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.5.

Coloration: head brown; pronotum pale brown; elytra yellow or pale brown, with slightly darkened posterior angles; abdomen pale brown, abdominal tergites VI–VII brown; mouthparts, antennae and legs yellow.

Head strongly transverse, vertex with 6 or more small, round, distinct punctures on each side; microsculpture dense and distinct. Antennae length: antennal segment I long, strongly widened towards apex; segment II long, narrower and shorter than segment I; segment III narrower and shorter than segment II; segments IV–X transverse, 1.5–2.0 times as wide as long, all segments almost parallel-sided.

Pronotum strongly transverse, posterior angles and posterior margin of pronotal disc rounded; in middle and lateral sides of pronotal disc with sparse, scattered, small, rounded punctures, microsculpture dense and distinct.

Elytra with dense and fine punctuation; microsculpture dense and distinct; with sparsely distributed fine setae, microsculpture indistinct or absent.

Abdomen: abdominal tergites, each, with relatively indistinct or absent, fine punctuation. Male: posterior margin of tergite VIII with wide incision bordered by 2 short, wide, apically weakly pointed, inward curved appendages and medially with 2 short and thin appendages (fig. 1, 6). Aedeagus (fig. 2, 5).

Distribution. Europe, Asia Minor, Middle Asia (Schülke & Smetana, 2015).

Comments. The original description of *G. munsteri* is based on 3 syntypes collected “in Sandnes in Drangedal” (is a city in Norway) by Münster and 4 syntypes collected “in Invinhoe in England”, by Williams (Strand, 1935). One male syntype found in the collection of NHMO is designated here as lectotype for the better fixation of the identity of the name *Gyrophæna munsteri* A. Strand, 1935.

***Gyrophæna (Gyrophæna) plutenkoi* Glotov, 2014**

Glotov, 2014: 183.

Comments. The original description of *G. plutenkoi* is based on a single holotype from “Russia, Primorsky Krai” collected by A. Plutenko (Glotov, 2014). In the original description, the species was not assigned to any subgenus, which has caused some confusion and in the catalog of the Palearctic (Schülke & Smetana, 2015), rendering it a “species incertae sedis”. According to external morphological features, including: the shape and proportions of the length and width of the head, which is strongly transverse, the size and nature of the convexity of the eyes, and the nature of the narrowing of the head behind the eyes, as well as the shape of aedeagus, the species can be placed in the subgenus *Gyrophæna*.

***Gyrophæna (Gyrophæna) pseudonana* A. Strand, 1939**

Strand, 1939: 108.

Material examined. Types. *G. pseudonana*: Lectotype ♂ (here designated): “Rundhaug Målselv A. Strand / *Gyrophæna pseudonana* A. Strand TYPUS / NHMO: type collection 1000175265 / LECTOTYPE ♂ *Gyrophæna pseudonana* A. Strand, 1939 des. Glotov 2010” (NHMO).

Non-type. Ukraine, Lugansk Region, Stanichno-Luganskiy, 1 ex., 30.04.2007 (cGl).

Redescription. Measurements (in mm): length of antenna: 0.70; maximal head width (including eyes): 0.45; head length 0.28; maximal width of pronotum: 0.57; length

of pronotum (measured along its midline): 0.36; length of elytra at suture: 0.40; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.77; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.4.

Coloration: head dark brown; pronotum dark brown; elytra yellow or pale brown, with slightly darkened posterior angles; abdomen pale brown, abdominal tergites VI–VII brown; mouthparts, antennae and legs yellow.

Head transverse, vertex with 9 or more fine, round, distinct punctures on each side; microsculpture dense and distinct. Antennae length; antennal segment I long, strongly widened towards apex; segment II long, narrower and shorter than segment I; segment III narrower and shorter than segment II; segments IV–X moderately strongly transverse.

Pronotum strongly transverse, posterior angles and posterior margin of pronotal disc rounded; in the middle with 2 longitudinal rows of 6 or more (1 moderately large and 5 or more small) round, distinct punctures each; microsculpture dense and distinct.

Elytra with dense and fine punctuation; microsculpture dense and distinct; with sparsely distributed fine setae, microsculpture indistinct or absent.

Abdomen: abdominal tergites each with indistinct or absent, fine punctuation. Male: posterior margin of tergite VIII with wide incision bordered by 2 short, wide, apically weakly pointed, inward curved appendages and medially with 2 short and thin appendages (fig. 1, 7). Aedeagus (fig. 2, 6). Spermatheca (fig. 3, 1).

Distribution. Europe, Siberia (Schülke & Smetana, 2015).

Comments. The original description of *G. pseudonana* is based on an unspecified number of syntypes collected collected “sie wurde bei Rundhang in Målselv in Nord-Norwegen am 18. Juni 1937 an kleinen Scheibenpilzen zwischen Salix-Sträuchern am Ufer des Flusses in Gesellschaft zahlreicher *nana* gefunden. Einige weitere Stücke wurden in Anspüllicht bei Rundhang und bei Moen in Målselv gefunden. Sie liegt ferner von Sel in Gudbrandsdal vor, wo ich ein ♀ am 6. Juni 1929 fand., wie auch von Sorum in Vågå wo Munster ein ♂ im Juli 1932 erbeutet hat” collected by Merkmalen (Strand, 1939). A male syntype found in the collection of NHMO is designated as lectotype is done for the better fixation of the identity of the name *Gyrophæna pseudonana* A. Strand, 1939.

***Gyrophæna (Gyrophæna) pseudonitidula* V. Semenov, 2015**

Semenov et al., 2015: 41.

Material examined. Russia: Primorsky Kray, S Artyom town env., 100–300 m, Ozemyi Kluytch Riv., 20.04.–30.5.1976, 2 exs, leg. A. Plutenko (cSch).

Distribution. Russia: Central and Western Siberia, the Udmurt and Chuvash Republics, Far East (Semenov et al., 2015).

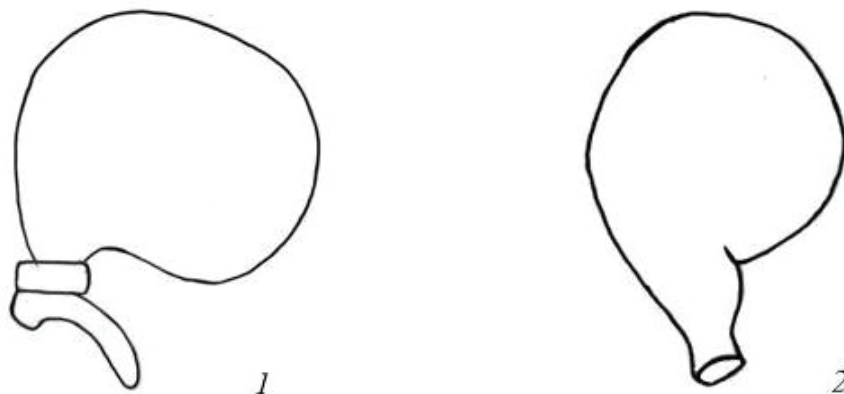


Fig. 3. Spermatheca: 1 — *G. pseudonana*; 2 — *G. semipunctata*.

***Gyrophaena (Gyrophaena) semipunctata* Bernhauer, 1926**

Bernhauer, 1926: 268.

Material examined. **Type.** Holotype ♀: “Chikuansha S. Mandschur[e]i / *semipunctata* Bernh.[auer] Typ.[us] Mn. don. Staudinger [yellow label] / Chicago NHMus M. Bernhauer Collection / HOLOTYPE ♀ *Gyrophaena semipunctata* Bernhauer, 1926 rev. S. Glotov 2010 [red label]” (FMNH).

Redescription. Measurements of the holotype (in mm): length of antenna: 0.73; head width (including eyes): 0.49; head length: 0.35; width of pronotum: 0.59; length of pronotum: 0.39; length of elytra at suture: 0.39; width of elytra (combined width of each elytron when elytra closed along suture): 0.74; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.5.

Coloration: head brown; pronotum pale brown; elytra yellow; abdomen pale brown, abdominal tergites VI and VII dark brown; mouthparts, antennal segments I–XI and legs yellow.

Head strongly transverse, 1.40 times as wide as long, vertex with 4 moderately large, round punctures on each side; microsculpture absent. Antennae long; antennal segment I long and fat; segment II narrower and long but 0.56 times shorter than segment I; segment III slightly elongate but narrower and 0.80 times shorter than segment II; segment IV small and short, almost square; V–X slightly transverse and slightly widened towards apex.

Pronotum strongly transverse, 1.51 times as wide as long and 1.20 times as wide as head; posterior angles and posterior margin of pronotal disc rounded; in the middle with 2 longitudinal rows of 5 (3 moderately large and 2 small) round, distinct punctures each; in the middle and near posterior margin with 1 moderately large, round, distinct punctures each, lateral sides; microsculpture absent.

Elytra 1.25 times as wide as pronotum; with sparse, small, round punctuation; microsculpture hardly distinct.

Abdomen: abdominal tergites, each, with dense, small, round punctuation; posterior margin, each, abdominal tergites with 1 row longitudinal and narrow striae. Female: posterior margin of tergite VIII rounded, without incision or appendages. Spermatheca (fig. 3, 2). Male: unknown.

Distribution. China (Liaoning).

Comments. The original description of *G. semipunctata* Bernhauer, 1926 was based on a single specimen collected from “Chikuanshan in der S. Mandschurei” (now a province of Liaoning, China) collected by Dr. O. Staudinger or collectors from his company (Bernhauer, 1926). In the original description, it was indicated to be a male, but during dissection of the specimen, it turned out that this is a female; its spermatheca was embedded into eupal.

***Gyrophaena (Gyrophaena) transversalis* A. Strand, 1939**

Strand, 1939: 109.

Material examined. **Type.** Lectotype ♂ *Gyrophaena transversalis* (here designated): “Austr. inf. Umgb. Krems a. D. Th. v. Wanka / TYPUS *Gyrophaena transversalis* A. Strand [pale red label] / NHMO: type collection 1000175369 / LECTOTYPE ♂ *Gyrophaena transversalis* A. Strand, 1939 S. Glotov des. 2011 [red label]” (NHMO).

Redescription. Measurements (in mm): length of antenna: 0.60; maximal head width (including eyes): 0.46; head length 0.28; maximal width of pronotum: 0.56; length of pronotum (measured along its midline): 0.32; length of elytra at suture: 0.41; maximal width of elytra (combined width of each elytron when elytra closed along suture): 0.72; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 2.0.

Coloration: head dark brown, pronotum dark brown, elytra yellow or pale brown, with slightly darkened posterior angles; abdomen pale brown, abdominal tergites V–VI brown; mouthparts, antennae and legs yellow.

Head transverse, vertex with 8–10 sparse, small, round, distinct punctures; microsculpture dense and distinct. Antennae length; antennal segment I long, strongly widened towards apex; segment II long, narrower and shorter than segment I; segment III narrower and shorter than segment II; segments IV–X transverse.

Pronotum strongly transverse, posterior angles and posterior margin of pronotal disc rounded; with round, distinct punctures each; microsculpture dense and distinct.

Elytra with dense and fine punctuation; microsculpture dense and distinct; with sparsely distributed fine setae, microsculpture dense and distinct.

Abdomen: abdominal tergites each with relatively indistinct or absent, fine punctuation. Male: posterior margin of tergite VIII with wide incision bordered by 2 short, wide, apically weakly pointed, inward curved appendages and medially with 2 short and thin appendages (fig. 1, 9). Aedeagus (fig. 2, 8).

Distribution. Europe, Eastern Siberia (Schülke & Smetana, 2015).

Comments. The original description of *G. transversalis* is based on 13 syntypes collected at “Umgebung von Krems a. D. in Nieder-Österreich” (is a city in Lower Austria) by “Th. v. Wanka” (Strand 1939). The only male syntype found in the collections of NHMO is designated as lectotype for the better fixation of the identity of the name *Gyrophæna transversalis* A. Strand, 1939.

***Gyrophæna (Gyrophæna) triquetra* Weise, 1877**

Gyrophæna triquetra Weise, 1877: 91.

Gyrophæna sunanica Pašnik, 2001: 191.

Gyrophæna flammula Pace, 2007 **syn. n.**

Material examined. **Types.** Lectotype ♂ *Gyrophæna triquetra* (here designated): “Japan S. Hiller / *Gyrophæna triquetra* W. / SYNTYPUS *Gyrophæna triquetra* Weise, 1877 labelled by MNHUB 2007 [red label] / LECTOTYPE ♂ *Gyrophæna triquetra* Weise, 1877 des. S. Glotov 2010 [red label]” (MNHUB); Paralectotypes (here designated): 2 ♀, same data as in lectotype / “Original labels with Lectotype. All syntypes were mounted on one pin before revision. S. Glotov 2010.” [white labels] / “PARALECTOTYPE ♀ *Gyrophæna triquetra* Weise, 1877 des. S. Glotov 2010” [yellow labels]” (MNHUB).

G. sunanica: Holotype ♂: “Korea [North Korea], Sökam, distr. Sunan, prov. Phjongan-namdo [Pyongan-namdo], 2.IX.1970, leg. R. Bielawski et M. Mroczkowski / Jnst. Zool. P.A.N. Warszawa 69/70 / HOLOTYPE *Gyrophæna sunanica* Pašnik, 2000 [red label] / *Gyrophæna triquetra* Weise, 1877 S. Glotov det. 2011 [white labels]” (MIZ); Paratypes: 5 ♂ and 5 ♀, same data as in holotype / PARATYPE *Gyrophæna sunanica* Pašnik, 2000 [red label] / *Gyrophæna triquetra* Weise, 1877 S. Glotov det. 2011 [white labels]” (ISEA).

G. flammula: Holotype ♂: “TAIW. [Taiwan] Kaohsiung Hs. for abv. Tona For. Sta. 1100 m, 30.IV.1998 A. Smetana [T 192] / HOLOTYPE *Gyrophæna flammula* mihi det. R. Pace, 2006 [red label] / *Gyrophæna flammula* n. sp. det. R. Pace, 2006 [white label] / *Gyrophæna triquetra* Weise, 1877 S. Glotov det. 2010 [white labels]” (MSNV).

Redescription. Measurements of the *G. triquetra* lectotype (in mm): length of antenna: 0.54; head width (including eyes): 0.36; head length: 0.24; width of pronotum: 0.41; length of pronotum: 0.21; length of elytra at suture: 0.29; width of elytra (combined width of each elytron when elytra closed along suture): 0.29; total length of body (from anterior margin of labrum to posterior margin of tergite VIII): 1.5.

Coloration: head brown; pronotum pale brown; elytra yellow-brown with slightly darkened posterior angles or posterior margin; abdomen pale brown, abdominal tergites IV–VII dark brown or slightly darkened; mouthparts, antennal segments I–XI and legs yellow.

Head strongly transverse, 1.45 times as wide as long, vertex with 10 small, round, distinct punctures on each side; microsculpture dense and distinct. Antennae short; antennal segment I long and thick; segment II narrower and long but 0.71 times as long as segment I; segment III slightly elongate but narrower and shorter than segment II; segment IV small and short, strongly widened towards apex; segments V–IX transverse, slightly widened towards apex; segment X strongly transverse.

Pronotum strongly transverse, 1.50 times as wide as long and 1.14 times as wide as head; posterior angles and posterior margin of pronotal disc rounded; in middle of pronotal disc with dense, small, rounded punctures; in middle and laterally near base, with 2 moderately large, rounded punctures on each side; microsculpture dense and distinct.

Elytra 1.21 times as wide as pronotum; with dense, small, round punctuation; microsculpture dense and distinct; with sparsely distributed fine setae.

Abdomen with dense, and distinct microsculpture; abdominal tergites each, with hardly distinct, small, round punctuation; male: posterior margin of tergite VII with a row of longitudinal and narrow striae; posterior margin of tergite VIII with 2 thin, long, pointed, weakly inward curved appendages. Female: posterior margin of tergite VIII rounded, without incision or appendages (fig. 1, 10). Aedeagus (fig. 2, 9).

Distribution. Japan, North Korea, Taiwan.

Comments. The original description of *G. triquetra* is based on an unspecified number of syntypes collected “an Baumschwämmen bei Hagi (Japan)” collected by J. Weise (Weise, 1877). Male and female syntypes were found in the collection of MNHB. The designation of the male specimen as lectotype is done for the better fixation of the identity of the name *Gyrophaena triquetra* Weise, 1877.

The original description of *G. sunanica* is based on a holotype male from “Korea, Sökam, distr. Sunan, prov. Phjongan-namdo (North Korea)” and 16 paratypes (5 ♂ and 11 ♀) same data and place as in holotype, collected by “R. Bielawski et M. Mroczkowski” (Paśnik, 2001). Male and female paratypes were found in the collections of ISEA and MIZ. Paśnik (2001) compared it to *G. futamata* (Cameron, 1933), but there was no reference whatsoever to *G. triquetra*; the figures of the aedeagus of the holotype and paratype of *G. sunanica* in Paśnik (2001) are rather misleading. An examination of the holotype and paratypes revealed that it is identical of *G. triquetra* in external characters, as well as in the shape of the male sternite VIII and in the morphology of the aedeagus. Examination of the holotype and paratype of *G. sunanica* revealed that they belong to *G. triquetra*. I consider *G. sunanica* to be a junior synonym of *G. triquetra*.

The original description of *G. flammula* is based on the male holotype from “Kaohsiung Hs. for abv. Tona For. Sta. 1100 m (Taiwan)” collected by A. Smetana (Pace, 2007). The holotype was found in the collection of MSNV. Pace (2007) compared *G. flammula* to *G. taiwaspinosa* Pace, 2007, but not to *G. triquetra*; the figures of the aedeagus of the holotype and paratype of *G. flammula* in Pace (2007) are rather misleading. An examination of the holotype *G. flammula* revealed that it is identical to *G. triquetra* in external characters, as well as in the shape of the male sternite VIII and in the morphology of the aedeagus. The synonymy of *G. sunanica* as a junior synonym of *G. triquetra* was already established before (Kim & Ahn, 2010). I also consider *G. sunanica* to be a junior synonym of *G. triquetra*.

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