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## Contribution to the knowledge of *Gyrophaena* MANNERHEIM 1830 (Coleoptera: Staphylinidae: Aleocharinae: Gyrophaenina) of the Baikal region

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**A b s t r a c t :** Species of the genus *Gyrophaena* MANNERHEIM 1830 of the Baikal Region are reviewed. Twenty-one species are recorded, eighteen of which are confirmed by study of our material. *Gyrophaena* (*Gyrophaena*) *aedugena* ENUSHCHENKO sp. nov. from Irkutsk Area is described and illustrated. New synonymy is established: *Gyrophaena* (*G.*) *joyi* WENDELER 1924 = *G. joyi asiatica* WÜSTHOFF 1937 syn. nov. The following species are newly recorded for Siberia: *G. (G.) obsoleta* GANGLBAUER 1895, *G. (G.) pseudonana* A. STRAND 1939, *G. (G.) rugipennis* MULSANT & REY 1861, *G. (G.) transversalis* A. STRAND 1939, *G. (G.) williamsi* A. STRAND 1935. *Gyrophaena* (*G.*) *poweri* CROTCH 1867 is newly recorded from Siberia and the Far East. Additional new records are as follows: *G. (Phaenogyra) strictula* ERICHSON 1839 new for East Siberia, *G. (Leptarthrophaena) affinis* MANNERHEIM 1830, *G. (G.) congrua* ERICHSON 1837, *G. (G.) gentilis* ERICHSON 1839, *G. (G.) manca* ERICHSON 1839 and *G. (G.) pulchella* HEER 1839 new for the Chita Area, *G. (G.) joyi* WENDELER new for Irkutsk and Chita Areas, *G. (G.) orientalis* A. STRAND 1938 new for Buryatia Republic and the Irkutsk and Chita Areas. Illustrations of genital structures are provided for *G. joyi*, *G. manca*, *G. orientalis*, and *G. transversalis*. The bionomics of sixteen species are presented.

**K e y w o r d s :** Coleoptera, Staphylinidae, Aleocharinae, *Gyrophaena*, Siberia,, fauna, new species, new synonymy, new records.

### Introduction

The first records of *Gyrophaena* Mannerheim for the Baikal region (Irkutsk Area, Republic of Buryatia and Chita Area) was published by SOLSKY (1871: 236), who recorded four species, *G. affinis*, *G. congrua*, *G. nana* (PAYKULL 1800), *G. pulchella*, from the south-western part of Irkutsk Area ("Irkoutsk - Oussol. [= Ussolye Sibirskoe]"). SOLSKY (1875) also described *Encephalus kraatzi* from Cisbaikalia (type locality: "...près de Koultuk, sur le lac Baikal"), which was synonymized later with *G. nitidula* (GYLLENHAL 1810) by GANGLBAUER (1895). EPPELSHEIM (1893) recorded five species (*G. boleti* (LINNAEUS 1758), *G. bihamata* THOMSON 1867, *G. fasciata* (MARSHAM 1802), *G. gentilis*, *G. polita* (GRAVENHORST 1802) for Tunkinskaya valley and Munku-Sardyk mountain in Eastern Sayan (Republic of Buryatia). STRAND (1938) described *G. orientalis* from Finland and Eastern Sayan ("...Fluss Sisti-Kem [Sisti-Khem river, Tuva Republic]..."). SHAVRIN (1998) and SHAVRIN et al. (1999) confirmed records of several

*Gyrophana* species (*G. affinis*, *G. boleti*, *G. bihamata*, *G. congrua*, *G. fasciata*, *G. pulchella*) and recorded *G. manca* from the Baikal region for the first time. VOINCOV (2006) provided the first record of *G. nana* from the republic of Buryatia (the Selengean Middle-altitude mountain land).

This paper presents a list of species for the Baikal region with new and additional records, distributional data, bionomics and the description of a new species.

### Material and methods

This paper is based on material collected by the authors during 2008-2010 in the Baikal region and specimens from the private collection of the second author. In total, we have examined about 1200 specimens. The studied material is deposited in the personal collection of the first author except for the specimens of *G. joyi*, which are deposited in the Národní museum, Praha (NMP).

The material was collected from mushrooms and killed with ethyl acetate. For dissected specimens, the tergite and sternite of abdominal segment VIII were glued on the same plate as the specimen and aedeagi were placed into a drop of Euparal on a celluloid microslide and later pinned under the specimens they originated from.

Fungi yielding specimens of *Gyrophana* were preserved in the herbarium collection and prepared according to the standard methodology recommended by BONDARCEV & ZINGER (1950). The fungi were identified by A.N. Petrov (Irkutsk, Russia).

For mycological taxonomy we follow the database Index Fungorum ([www.indexfungorum.org](http://www.indexfungorum.org)).

The list of *Gyrophana* species is based on both literature and new material. We have followed the classification presented in the catalogue by SMETANA (2004). Subgenera and species are listed in alphabetical order. Species which are not confirmed to occur in the Baikal region by new material are in square brackets [ ]. In the species accounts, only references pertaining to the Baikal region are listed. Distributional data are based on SMETANA (2004) with additional corrections by various authors. The *Gyrophana* species were identified using various taxonomic literature (LOHSE 1974; LIKOVSKY 1964; SEEVERS 1951; SCHEERPELTZ & HÖFLER 1948; STRAND 1935, 1938, 1939, 1946, 1968; WÜSTHOFF 1937). All studied specimens were identified by the first author.

The following abbreviations are used in the text: S - south, N - north, E - east, W - west, distr. - district, Mts. - mountains, riv. - river, val. - valley, env. - environs; st. - station, spec. - specimens; LA - length of antenna, LH - head length from anterior margin of clypeus to posterior margin of head, WH - head width (including eyes), LE - length of eye, LT - length of temple, WP - maximal width of pronotum, LP - length of pronotum along median line, LEI - length of elytra from apex of scutellum to posterior margin, WE - combined width of elytra, WA - maximal width of abdomen; LAed - length of aedeagus from apex of ventral process to base, TL - total length. All measurements are given in millimeters.

The holotype of *G. aedugena* nov.sp. is deposited in Zoological Museum of Copenhagen University, Copenhagen, Denmark (ZMUC, curator A. Solodovnikov).

## Results

### *Gyrophæna (Agaricophæna) boleti* (LINNÆUS 1758)

[*fungicola* MOTSCHULSKY 1860; *punctipennis* THOMSON 1860].

*Gyrophæna boleti*: EPPELSHEIM 1893: 40.

*Gyrophæna boleti*: JACOBSON 1909: 533.

*Agaricochara* [sic!] *boleti*: SHAVRIN 1998: 83.

*Agaricochara* [sic!] *boleti*: SHAVRIN et al. 1999: 32.

**Material examined:** Irkutsk Area: 120 spec., Shelekhovskiy distr., right side of Podkamennaya riv., Podkamennaya st., 19.VI.2010, in *Fomitopsis pinicola* (SW.) P. KARST., leg. I. Enushchenko & A. Shavrin; 23 spec., Slyudyanskiy distr., val. of Solzan riv., 05.VI.1981, leg. E. Berlov; ♂, ♀, Taishetskiy distr., Shitkino env., val. of Biryusa riv., N 65°22'435'' E 98°21'123'', 17.VI.2009, A. Shavrin; 10 spec., Nukutskiy distr., val. of Zalarinka riv., N 53°40'872'' E 102°39'409'', 11.VI.2009, leg. A. Shavrin; 6 spec., Tulunskiy distr., Celinnoe env., N 54°41'284'' E 100°37'637'', 15.VII.2009, A. Shavrin; ♂, Zalarinskiy distr., Bazhir env., 20-24.VI.1997, leg. A. Shavrin; 2♂♂, ♀, Angarskiy distr., Angarsk, right side of Malaya Elovka riv., Elovskoe water reservoir env., 07.VI.2009, in *Fomes fomentarius* (L.) J. KICKX f., leg. I. Enushchenko; 2♂♂, Angarskiy distr., Angarsk, Elovskoe water reservoir env., 08.VII.2009, in *Trametes trogii* BERK. (= *Funalia trogii* (BERK.) BONDARTSEV & SINGER), leg. I. Enushchenko; 1 spec., Usolskiy distr., Kityov riv., opposite Neudachnykh island, 14-16.VII.1996, leg. A. Shavrin; 1 spec., Slyudyanskiy distr., Khamar-Daban Mts., upper of Talzy riv., tributary of Snezhnaya riv., 19-25.V.1997, leg. A. Shavrin; Buryatia Republic: 7♂♂, 7♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Vodopadnyy stream, 19, 22.VII.2010, in *Fomitopsis pinicola* (SW.) P. KARST., leg. I. Enushchenko & A. Shavrin; ♂, Kurumkanskiy distr., Shamanka riv., 6.VIII.1997, leg. A. Shavrin; 6♂♂, 9♀♀, Tunkinskiy distr., right side of Kyngarga riv., Arshan, 26-29 VIII 2009, in *Fomitopsis pinicola* (SW.) P. KARST., leg. I. Enushchenko.

**Distribution:** Europe and the European part of Russia, Turkey, Kazakhstan, West and East Siberia.

**Bionomics:** This species has been collected in *Fomes fomentarius* (L.) J. KICKX f., *Fomitopsis pinicola* (SW.) P. KARST. and *Trametes trogii* BERK.

### *Gyrophæna (Gyrophæna) aedugena* ENUSHCHENKO nov.sp. (Figs 1-3)

**Type material:** Holotype ♂: Irkutsk Area: Angarskiy distr., Angarsk, environs of Elovskoe water reservoir, 8.VII.2009, in *Daedaleopsis tricolor* (BULL.) BOND. & Sing., leg. I. Enushchenko (ZMUC).

**Description:** Measurements of the holotype: LA: 0.601; LH: 0.171; WH: 0.314; LE: 0.086; LT: 0.057; WP: 0.357; LP: 0.228; LEI: 0.285; WE: 0.471; WA: 0.428; LAed: 0.285; TL: 1.285.

Body unicoloured, dark-brown; legs, antennae and mouthparts yellowish-brown. Head moderately transverse, with irregular and indistinct punctation, with weak microsculpture between punctures. Eyes large, 1.5 times longer than temples. Antenna as in Fig. 1; antennomere I and II with the same width; antennomere III 3 times narrower than II and IV; antennomere IV weakly transverse; antennomeres V-VIII with the same proportions; antennomere X as long as wide. Length/width of antennomeres are: I: 0.09 × 0.03; II: 0.06 × 0.03; III: 0.04 × 0.01; IV: 0.04 × 0.03; V-VIII: 0.04 × 0.04; IX: 0.06 × 0.04; X: 0.06 × 0.06; XI: 0.09 × 0.06. Pronotum 1,56 times as wide as long; with indistinct microsculpture and small punctures scattered elsewhere. Elytra with fine and sparse punctures, with indistinct microsculpture.

Male. Aedeagus as in Fig. 2. Posterior margin of tergite VIII (Fig.3) with four thin lateral teeth, medial pair significantly shorter.

Female unknown.

**Comparative notes:** Based on body size, colour, arrangement of pronotal punctures and elytral microsculpture, *Gyrophaena aedugena* is similar to *G. manca*, from which it can be distinguished by the shapes of antennal segments (4<sup>th</sup> segment elongate not transverse and 5-9 segments less transverse as in *G. manca*), shape of tergite VIII and the different shape and structure of the aedeagus.

**Comment:** Based on the structure of the aedeagus, the new species belongs to the *coniciventr* species group, which was defined by SEEVERS (1951: 697); species of this group are distributed in North America except for the Palaearctic *G. manca*.

**Etymology:** The species name (Lat., pers.) is derived from Aedugen (=Otugen), the name of the goddess of the Earth of Alarian Buryat's.

**Distribution:** Known only from the type locality.

**Bionomics:** The holotype was collected from *Daedaleopsis tricolor* (BULL.) BOND. & SING.

### ***Gyrophaena (Gyrophaena) bihamata* THOMSON 1867**

[*carpini* BAUDI DI SELVE 1870; *despecta* MULSANT & REY 1870; *ruficornis* MULSANT & REY 1872].

*Gyrophaena bihamata*: EPPELSHEIM 1893: 40.

*Gyrophaena bihamata*: JACOBSON 1909: 533.

*Gyrophaena bihamata*: SHAVRIN 1998: 83.

**Material examined:** Irkutsk Area: 41 spec., Irkutsk, right side of Irkut riv., Sinyushina Gora, 16.VI.2008, in *Inocybe* sp., leg. I. Enushchenko; ♂, ♀, Irkutsk, left side of Angara riv., Ershovskiy bay, 15.VII.2008, leg. A. Shavrin & I. Enushchenko; 17♂♂, 25♀♀, Angarskiy distr., right side of Kitoy riv., Angarsk, 02.VII.2008, leg. I. Enushchenko; ♂, Katangskiy distr., val. of Nizhnyaya Tunguska riv., Podvoloshino env., 04-09.VIII.2008, leg. A. Shavrin & I. Enushchenko; 16♂♂, 9♀♀, Kazachinsk-Lenskiy distr., Nebel', 31.VII.2008, leg. A. Shavrin & I. Enushchenko; ♂, 3♀♀, Shelekhovskiy distr., Shelekhov, Olkha riv., 29.VIII.1993, leg. A. Shavrin; 2♂♂, 2♀♀, Shelekhovskiy distr., right side of Bolshaya Olkha riv., near mouth of Klyuch Shirokiy riv., Orlenok st., 28.VII, 01.VIII.2009, in *Hypholoma capnoides* (FR.) P. KUMM., leg. E. Vedernikova; 2♂♂, 3♀♀, Usolskiy distr., val. of Toisuk riv., 5 km S Talyany, 27.VII.1998, leg. A. Shavrin; 12♂, 5♀♀, Angarskiy distr., Angarsk, environs of Elovskoe water reservoir, 29.VII.2010, in *Armillaria mellea* (VAHL) P. KUMM. (= *Armillariella mellea* (VAHL) P. KARST.), *Hebeloma longicaudum* (PERS.) P. KUMM., *Hypholoma fasciculare* (HUDS.) P. KUMM., *Psathyrella* sp., leg. I. Enushchenko; Buryatia Republic: ♂, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13'' E108°59'34'', h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; ♂, Bargusinskiy distr., Dukhovoe lake, N53°16'45'' E108°50'51'', 05.VII.2010, in *Pluteus cervinus* (SCHAEFF.) P. KUMM. (= *Pluteus atricapillus* (BATSCH) FAYOD), leg. I. Enushchenko; ♂, Kabanskiy distr., Khamar-Daban Mts., Bolshoy Mamay riv., 19.VIII.2006, leg. A. Shavrin.

**Distribution:** Transpalaearctic species (North Africa (Algeria, Tunisia), Europe, European part of Russia, Caucasus, Turkey, West and East Siberia, Russian Far East, North Korea).

**Bionomics:** Specimens have been collected in *Armillaria mellea* (VAHL) P. KUMM., *Hypholoma capnoides* (FR.) P. KUMM., *H. fasciculare* (FR.) P. KUMM., *Hebeloma longicaudum* (PERS.) P. KUMM., *Inocybe* sp., *Pluteus cervinus* (SCHAEFF.) P. KUMM. and *Psathyrella* sp.

***Gyrophæna (Gyrophæna) congrua* ERICHSON 1837***Gyrophæna congrua*: SOLSKY 1871: 236.*Gyrophæna congrua*: JACOBSON 1909: 533.*Gyrophæna congrua*: SHAVRIN et al., 1999: 32.

**M a t e r i a l e x a m i n e d** : Irkutsk Area: 2♂♂, ♀, Taishetskiy distr., val. of Biryusa riv., Patrikha set., 24.VI.1998, leg. A. Shavrin; 3♀♀, Slyudyanskiy distr., SW Baikal, Bolshie Koty, 03, 06-10.VII.1993, leg. A. Shavrin; 5♂♂, Ust'-Kutskiy distr., 18 km N Ust'-Kut val. of Lena riv., 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; 2♀♀, Shelekhovskiy distr., 2 km S Podkamennaya set., Sanatornyi st., 04.VIII.2010, in *Laccaria bicolor* (MAIRE) P.D. ORTON, leg. E. Bokova; 2♂♂, ♀, Shelekhovskiy distr., right side of Bolshaya Olkha riv., near mouth of Klyuch Shirokiy riv., Orlyonok, 28.VII, 01.VII.2009, in *Neolentinus lepideus* (FR.) REDHEAD & GINNS (= *Lentinus lepideus* (FR.) FR.), leg. E. Vedernikova; 3♂♂, 2♀♀, Bodaibinskiy distr., val. of Vitim riv., Bodaibo, 15.VIII.2009, in *Melanoleuca grammopodia* (BULL.) MURRILL, leg. O. Sharova; 6♂♂, Zhigalovskiy distr., Zhigalovo env., 19.VII.2008, leg. A. Frolov; Buryatia Republic: 5♂♂, 8♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13" E108°59'34", h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; 33♂♂, 40♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Peshekhodnyi stream, N 55°05'52" E 108°47'06", h=1013 m, 19, 28.VII.2010, in *Amanita muscaria* (L.) LAM., *Polyporus tuberaster* (JACQ. ex PERS.) FR. (= *Polyporus coronatus* ROSTK.), leg. I. Enushchenko & A. Shavrin; 4♂♂, 8♀♀, Barguzinskiy distr., Dukhovoe lake, N53°16'45" E108°50'51", 05.VII.2010, in *Pluteus cervinus* (SCHAEFF.) P. KUMM., leg. I. Enushchenko; ♂, Tunkinskiy distr., Tunkinskaya val., Arshan env., VII.1999, leg. V. Shilenkov; ♂, Kabanskiy distr., Khamar-Daban Mts., Vydrinnaya riv., 13.VIII.2006, leg. A. Shavrin; ♂, Kabanskiy distr., Khamar-Daban Mts., upper of Osinovka riv., "Chum" winter hut, 17-21.VII.2009, leg. Yu. Sundukova & L. Sundukov; ♂, Tunkinskiy distr., right side of Kyngyrga riv., Arshan, 26-29.VIII.2009, leg. I. Enushchenko; 3♂♂, Tunkinskiy distr., 6 km S Moigoty, 24.VIII.2007, leg. A. Shavrin; Chita Area: 2♂♂, Kyrenskiy-Uletovskiy distr., watershed of Onon and Ingoda riv., 18,26.VII.2009, leg. A. Shavrin & I. Enushchenko; 2♂♂, ♀, Kyrenskiy distr., right bank of Agutsa riv., Buninda stream, 28.VII.2009, in *Pholiota adiposa* (BATSCH) P. KUMM., leg. A. Shavrin & I. Enushchenko.

**A d d i t i o n a l m a t e r i a l e x a m i n e d** : Maritime Province: ♂, Chernye Mts., right tributary of Poyma riv., 30.VII.-5.VIII.1999, A. Shavrin.

**D i s t r i b u t i o n** : Europe, European part of Russia?, Caucasus, East Siberia, Russian Far East.

**B i o n o m i c s** : Specimens have been collected in *Amanita muscaria* (L.) LAM., *Laccaria bicolor* (MAIRE) P.D. ORTON, *Neolentinus lepideus* (FR.) REDHEAD & GINNS, *Melanoleuca grammopodia* (BULL.) MURRILL, *Pholiota adiposa* (BATSCH) P. KUMM., *Pluteus cervinus* (SCHAEFF.) P. KUMM. and *Polyporus tuberaster* (JACQ. ex PERS.) FR.

**C o m m e n t** : This species is reported here from the Chita area for the first time. The record for "...Ameryki Północnej" (BURAKOWSKI et al. 1981: 24) is erroneous. The record for Caucasus (LIKOVSKY 1964: 54) needs confirmation.

***Gyrophæna (Gyrophæna) fasciata* (MARSHAM 1802)**[*laevipennis* KRAATZ 1856; *pallicornis* (STEPHENS 1832), *rhodeana* CASEY 1906].*Gyrophæna laevipennis*: EPPELSHEIM 1893: 40.*Gyrophæna laevipennis*: JACOBSON 1909: 533.*Gyrophæna fasciata*: SHAVRIN 1998: 83.*Gyrophæna fasciata*: SHAVRIN et al. 1999: 32.

**M a t e r i a l e x a m i n e d** : Irkutsk Area: 9♂♂, 16♀♀, Katangskiy distr., val. of Nizhnyaya Tunguska riv., Podvoloshino env., 04-09.VIII.2008, leg. A. Shavrin & I. Enushchenko; 3♂♂, 10♀♀, Ust'-Kutskiy distr., 18 km N Ust'-Kut, val., of Lena riv., 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; ♂, Ust'-Kutskiy distr., 50 km SE Shumilovo set., 24-25.VI.2008, leg. A. Shavrin

& I. Enushchenko; 5♂♂, 4♀♀, Erbogachyonskiy distr., right side of Nizhnyaya Tunguska riv., Erbogachyon, 18, 26-27.VIII.2008, leg. A. Shavrin & I. Enushchenko; ♂, Cheremkhovskiy distr., Sredniy Bulay, 01.VII.2006, leg. A. Shavrin; ♂, Taishetskiy distr., val. of Biryusa riv., Staro-Shelekhovo env., 27.VI.1998, leg. A. Shavrin; Buryatia Republic: 5♂♂, ♀, Kabanskiy distr., Khamar-Daban Mts., Osinovka riv., Tankhoy, 24.VII.1995, leg. A. Shavrin; 2♂♂, Pribaykalskiy distr., Selenga riv., Il'inka env., 1.VII.1997, leg. A. Shavrin.

**D i s t r i b u t i o n** : Europe, European part of Russia, Caucasus, East Siberia.

### ***Gyrophæna (Gyrophæna) gentilis* ERICHSON 1839**

*Gyrophæna gentilis*: EPPELSHEIM 1893: 40.

*Gyrophæna gentilis*: JACOBSON 1909: 533.

**M a t e r i a l e x a m i n e d** : Chita Area: ♀, Kalarskiy distr., vall. of Chara riv., Malaya Chara env., 22.VIII.2009, leg. A. Boiko.

**D i s t r i b u t i o n** : Europe and the European part of Russia, Caucasus, Turkey (ASSING 2007: 24), West and East Siberia.

**C o m m e n t** : This species is here reported from the Chita area for the first time.

### ***Gyrophæna (Gyrophæna) joi* WENDELER 1924 (Fig. 4)**

[*convexicollis* JOY].

*Gyrophæna joi asiatica*: WÜSTHOFF 1937; **syn. nov.**

**M a t e r i a l e x a m i n e d** : Irkutsk Area: ♂, 3♀♀, Taishetskiy distr., Patrikha env., 27.VI.1998, leg. A. Shavrin; 8♂♂, 2♀♀, Erbogachyonskiy distr., right side of Nizhnyaya Tunguska riv., Erbogachyon, 18, 26-27.VIII.2008, leg. A. Shavrin & I. Enushchenko; ♂, 2♀♀, Katangskiy distr., val. of Nizhnyaya Tunguska riv., Podvoloshino env., 04-09.VIII.2008, leg. A. Shavrin & I. Enushchenko; ♂, Slyudyanskiy distr., Khamar-Daban Mts., val. of Slyudyanka riv., 14-16.VII.2008, leg. A. Shavrin; Buryatia Republic: ♂, ♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13" E108°59'34", h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; 3♂♂, 2♀♀, Pribaikalskiy distr., Selenga riv., 5 km N Mostovka, 31.VII-01.VIII.1997, leg. A. Shavrin; ♂, Kabanskiy distr., Khamar-Daban Mts., val. of Snezhnaya riv., 05-08.VI.2007, leg. A. Shavrin; ♂, Selenginskiy distr., Khamar-Daban Mts., Tayozhniy env., 15-16.VIII.2006, leg. A. Shavrin; ♂, Kabanskiy distr., Khamar-Daban Mts., Vydrinnaya riv. mouth, 13.VIII.2006, leg. A. Shavrin; Chita Area: ♂, Kyrenskiy distr., val. of Kyra riv., near Kyra set., 18 VII 2009, in *Pleurotus pulmonarius* (Fr.) Quél., leg. A. Shavrin & I. Enushchenko.

**A d d i t i o n a l m a t e r i a l e x a m i n e d** : ♂, 3♀♀, Volgograd Area: N Kalach-na-Donu, 17-18.IX.1997, leg. K.A. Grebennikov; ♂, "Sil[esia]., Teschen Th. V. Wanka" (NMP); ♂, "Austr[ia]. Inferior]. Umgb. Krems a. D. Th. v. Wanka" (NMP).

**D i s t r i b u t i o n** : Europe, including European part of Russia (NIKITSKIY et al. 1996: 36; DEDYUKHIN et al. 2005: 300; SEMENOV 2009: 48), Turkey, East Siberia.

**B i o n o m i c s** : The specimens from the Chita area have been collected from *Pleurotus pulmonarius* (Fr.) QUÉL.

**C o m m e n t** : WÜSTHOFF (1937: 143) described from Siberia a new subspecies *G. joi asiatica*, which differs from the nominal taxon by lighter coloration, coarser and more distinct punctuation of the elytra and a more slender aedeagus. We did not examine the holotype of *G. joi asiatica*, however we studied additional material from Europe and the European part of Russia, which are in all characters similar to the Siberian specimens and no significant differences in the shape of the aedeagus or elytral sculpture were detected. Consequently, the following new synonymy is established: *Gyrophæna joi* WENDELER 1924 = *G. joi asiatica* WÜSTHOFF 1937, **syn. nov.** Aedeagus as in Fig. 4. It is here reported from Irkutsk and Chita areas for the first time.



***Gyrophæna (Gyrophæna) manca* ERICHSON 1839 (Figs 5-7)**[*angustata* (STEPHENS), *puncticollis* HOCHHUTH].*Gyrophæna manca*: SHAVRIN 1998: 83.*Gyrophæna manca*: SHAVRIN et al. 1999: 32.

**M a t e r i a l e x a m i n e d :** Irkutsk Area: 5 ♀♀, Olkhonskiy distr., Baikal lake, Olkhon island, pad' Idiba, near stream, 24.VIII.2005, leg. A. Shavrin; 3 ♂♂, 5 ♀♀, Taishetskiy distr., val. of Biryusa riv., Staro-Shelekhovo env., 27.VI.1998, leg. A. Shavrin; 37 ♂♂, 42 ♀♀, Taishetskiy distr., val. of Biryusa riv., Shitkino, N 65°22'435" E 98°21'123", 17.VI.2009, leg. A. Shavrin; 4 ♂♂, 5 ♀♀, Irkutskiy distr., Irkutsk, left side of Angara riv., Ershovskiy bay, 19.VI.2010, in *Neolentinus lepideus* (FR.) REDHEAD & GINNS, leg. I. Enushchenko, A. Shavrin; 2 ♂♂, 3 ♀♀, Angarskiy distr., Angarsk, right side of Malaya Elovka riv., vicinities of Elovskoye water reservoir, 07.VI.2009, in *Trametes gibbosa* (PERS.) FR., leg. I. Enushchenko; ♂, Angarskiy distr., Angarsk, right side of Malaya Elovka riv., vicinities of Elovskoye water reservoir, 09.VI.2010, in *Fomes fomentarius* (L.) J. KICKX f., leg. I. Enushchenko; ♀, Shelekhovskiy distr., Bolshaya Olkha riv., mouth of Klyuch Shirokiy riv., Orlyonok st., 28.VII, 1.VIII.2009, in *Neolentinus lepideus* (FR.) REDHEAD & GINNS, leg. E. Vedernikova; ♂, Slyudyanskiy distr., Sukhoy Ruchey env., 09.VII.2009, in *Lentinus cyathiformis* (SCHAEFF.) BRES., leg. I. Enushchenko & A. Shavrin; ♂, 2 ♀♀, Tulunskiy distr., Celinnoe env., 15.VII.2009, leg. A. Shavrin; 6 ♂♂, 4 ♀♀, Angarskiy distr., Angarsk, Elovskoye water reservoir env., 08.VII.2009, in *Daedaleopsis confragosa* (BOLTON) J. SCHRÖT. (= *Daedaleopsis tricolor* (BULL.) BONDARTSEV & SINGER), leg. I. Enushchenko; 4 ♂♂, 8 ♀♀, Angarskiy distr., 18 km NW Angarsk, right side of Kitoy riv., Kitoy env., 04.VII.2009, in *Trametes trogii* BERK., leg. I. Enushchenko; ♂, ♀, Usolskiy distr., val. of Toisuk riv., 5 km S Talyany, 27.VII.1998, leg. A. Shavrin; Buryatia Republic: ♀, Kabanskiy distr., Khamar-Daban Mts., vall. of Snezhnaya riv., 19-25.V.1997, leg. A. Shavrin; ♂, Tunkinskiy distr., right side of Kyngyrga riv., Arshan env., 26-29.VIII.2009, in *Fomitopsis pinicola* (SW.) P. KARST., leg. I. Enushchenko; 5 ♂♂, 4 ♀♀, Barguzinskiy distr., Dukhovoe lake, N53°16'45" E108°50'51", 05.VII.2010, in *Neolentinus lepideus* (FR.) REDHEAD & GINNS, I. ENUSHCHENKO; ♀, Severo-Baikalskiy distr., left side of Kurkula riv., Vodopadnyi stream, 27.VII.2010, leg. I. Enushchenko & A. Shavrin; ♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13" E108°59'34", h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; Chita Area: ♀, Kyrinskiy distr., right side of Aguca riv., Buninda stream, 17.VII.2009, leg. A. Shavrin & I. Enushchenko; ♀, Uletovskiy distr., upper of Lukovaya riv. (right tributary of Ingoda riv.), N49°51'838" E111°08'595", 22.VII.2009, leg. A. Shavrin & I. Enushchenko.

**D i s t r i b u t i o n :** Europe, including European part of Russia, Caucasus, West and East Siberia.

**B i o n o m i c s :** This species has been collected in *Daedaleopsis confragosa* (BOLTON) J. SCHRÖT., *Fomes fomentarius* (L.) J. KICKX f., *Fomitopsis pinicola* (SW.) P. KARST., *Trametes trogii* BERK., *Lentinus cyathiformis* (SCHAEFF.) BRES., *Neolentinus lepideus* (FR.) REDHEAD & GINNS, and *Trametes gibbosa* (PERS.) FR.

**C o m m e n t :** Antenna as in Fig. 5. Aedeagus as in Fig. 6. Tergite VIII as in Fig. 7. New record for the Chita Area.

***Gyrophæna (Gyrophæna) nana* (PAYKULL 1800)**[*marginata* (STEPHENS 1832); *nigriventris* A. FLEISCHER 1909; *perpolita* CASEY 1906].*Gyrophæna nana*: SOLSKY 1871: 236.*Gyrophæna nana*: JACOBSON 1909: 533.*Gyrophæna nana*: VOINCOV 2006: 46.

**D i s t r i b u t i o n :** Holarctic species (Europe, including European part of Russia, Caucasus, Western and Eastern Siberia, Russian Far East, boreal North America).

**C o m m e n t :** SOLSKY (1871: 236) recorded *G. nana* for the Baikal region. Sixty-seven years thereafter, STRAND (1939: 108) described a closely related species *G. pseudonana*,

which is widespread in the Baikal region. It is possible that the previous records of *G. nana* by Solsky and Voincov represent misidentifications of *G. pseudonana*.

### [*Gyrophæna (Gyrophæna) nitidula* (GYLLENHAL 1810)]

**D i s t r i b u t i o n :** Europe, Turkey,? East Siberia.

**C o m m e n t s :** SOLSKY (1875: 270) described *Encephalus kraatzi* from the coast of Baikal Lake (type locality: "... près de Koultuk, sur le lac Baikal"), from one specimen (sex is not specified), and compared his new species to the European *E. complicans* STEPHENS 1832. HOCHHUTH (1872: 118) described *Encephalus kraatzi* from the Ukraine (Kiev), from one specimen (sex is not specified), and compared his new species to the European *E. complicans*. Both descriptions were made independently and are quite different. HEYDEN (1880: 68) has replaced the species (homonymy) name *Encephalus kraatzi* SOLSKY 1875 (as *E. kraatzii* [sic!]) into *E. solskyi* HEYDEN. GANGLBAUER (1895: 301) listed the names "*kraatzi* SOLSKY" and "*solskyi* FAUVEL" [sic!, not HEYDEN] as synonyms under *G. nitidula* (GYLLENHAL 1810). JACOBSON (1909: 532) in his catalogue cited *Encephalus kraatzi* HOCHHUTH 1872 as a valid species, and *G. kraatzi* SOLSKY 1875 (page 533) as a junior synonym under *G. nitidula*. WINKLER (1925: 405, 406) cited as valid *Encephalus kraatzi* SOLSKY 1870 [sic!], and *G. kraatzi* SOLSKY 1875 and *G. solskyi* HEYDEN 1881 [sic!] as synonyms under *G. nitidula*. BERNHAUER & SCHEERPELTZ (1926: 526) considered *Encephalus kraatzi* SOLSKY 1870: 256 [sic!] as valid species, ignored Solsky's proposed homonymy and confused the publication date 1870 with 1875 (Solsky). In the same publication in the section on *Gyrophæna* (p. 533), the authors considered names - "*kraatzi* SOLSKY, 1875" and "*solskyi* HEYDEN, 1880-81" [sic!] as synonyms of *G. nitidula* (GYLL.). SEEVERS (1951: 758) cited *Encephalus kraatzi* HOCHHUTH as a valid species. TICHOMIROVA (1973: 152) considered *Encephalus kraatzi* SOLSKY 1870 [sic!] as valid; and reported *G. nitidula* without synonyms as a valid species. SMETANA (2004: 445) considered two names (besides *signatipennis* GREDLER 1863) under *G. nitidula*: "*kraatzi* SOLSKY, 1875", noting the homonyms («[HN]») and "*solskyi* L. HEYDEN, 1880" [rejected name].

These researchers have not studied the type material of Solsky and Hochhuth. *Gyrophæna nitidula* (GYLL.), a common European species, is not reliably recorded from Siberia.

### *Gyrophæna (Gyrophæna) obsoleta* GANGLBAUER 1895

**M a t e r i a l e x a m i n e d :** Irkutsk Area: 50 spec., Zhigalovskiy distr., Zhigalovo set., 19.VII.2008, A. Frolov; ♂, ♀, Ust'-Kutskiy distr., Markovo, 08.VIII.2008, A. Shavrin & I. Enushchenko; 22♂♂ 16♀♀, Angarskiy distr., Angarsk, Elovskoe water reservoir env., 29.VII.2010, in *Clitocybe inornata* (SOWERBY) GILLET, *Hygrophorus* sp., *Lyophyllum decastes* (FR.) SINGER, I. Enushchenko; 2♂♂, Severo-Baikalskiy distr., left side of Kurkula riv., Peshkhodnyi stream, N 55°05'52'' E 108°47'06'', h=1013 m, 19.VII.2010, I. Enushchenko & A. Shavrin; Buryatia Republic: ♂, 4♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Vodopadnyi stream, 27.VII.2010, I. Enushchenko & A. Shavrin; 5♂♂, 12♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13'' E108°59'34'', h=624 m, 28.VII.2010, I. Enushchenko & A. Shavrin; 45 ex., Tunkinskiy distr., 6 km S Moigoty, 24.VIII.2007, A. Shavrin; 4♂♂, 6♀♀, Khamar-Daban Mts., Tayozhnyi set., 15-16.VIII.2006, A. Shavrin; 42♂♂, 47♀♀, Tunkinskiy distr., right side of Kyngyrga riv., Arshan set., 26-29.VIII.2009, in *Clitocybe inornata* (SOWERBY) GILLET, *C. nebularis* (BATSCH) P. KUMM., *C. vibecina* (FR.) QUÉL., I. Enushchenko; 3♂♂, 4♀♀,



Tunkinskaya val., Zhemchug env., 19.VIII.2006, A. Shavrin; 8♂♂, 24♀♀, Tunkinskiy distr., 15 km W Tagarkhai set., Barun-Khandagai riv., 10.VIII.2010, in *Lepista caespitosa* (BRES.) SINGER, K. Skokova; Chita Area: 2♂♂, ♀, Krasno-Chikoiskiy distr., 8 km NNW Uruk, 19.VIII.1998, A. Shavrin.

**D i s t r i b u t i o n** : Europe, including European part of Russia, West (Babenko 1991: 73) and East Siberia.

**B i o n o m i c s** : This species has been collected in *Clitocybe inornata* (SOWERBY) GILLET, *C. nebularis* (BATSCH) P. KUMM., *C. vibecina* (FR.) QUÉL., *Lepista caespitosa* (BRES.) SINGER, *Lyophyllum decastes* (FR.) SINGER and *Hygrophorus* sp.

**C o m m e n t** : This species is here reported for Siberia for the first time.

### ***Gyrophaena (Gyrophaena) orientalis* A. STRAND 1938 (Figs 8-9)**

*Gyrophaena orientalis*: STRAND 1938: 40.

**M a t e r i a l e x a m i n e d** : Irkutsk Area: 2♀♀, Angarskiy distr., Angarsk, Elovskoye water reservoir env., 08.VII.2009, in *Psatyrella* sp., leg. I. Enushchenko; 15♂♂, 6♀♀, Ust'-Kutskiy distr., 18 km N Ust'-Kut, val. of Lena riv., 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; 2♂♂, ♀, Ust'-Kutskiy distr., Markovo, 08.VIII.2008 leg. A. Shavrin & I. Enushchenko; ♂, Shelekhovskiy distr., 2 km S Podkamennaya set., Sanatornyi st., 04.VIII. 2010, in *Gymnopilus* sp., leg. E. Bokova; 6♂♂, 6♀♀, Shelekhovskiy distr., Bolshaya Olkha riv., near mouth of Klyuch Shirokiy riv., Orlyonok st., 28.VII, 1.VIII.2009, on *Hypholoma fasciculare* (HUDS.) P. KUMM., *Hypholoma capnoides* (FR.) P. KUMM., leg. E. Vedernikova; ♂, Katangskiy distr., Podvoloshino set., val. of Nizhnaya Tunguska riv., 04-09.VIII.2008, leg. A. Shavrin & I. Enushchenko; 8♂♂, 3♀♀, Slyudyanskiy distr., Sukhoy Ruchey env., 09.VII.2009, in *Lentinus cyathiformis* (SCHAEFF.) BRES., leg. I. Enushchenko & A. Shavrin; 3♂♂, ♀, Irkutsk, Angara riv., 01.VII.2009, in *Pleurotus ostreatus* (JACQ.) P. KUMM., leg. A. Shavrin & I. Enushchenko; 15♂♂, 9♀♀, Zhigalovskiy distr., Zhigalovo env., 19.VII.2008, leg. A. Frolov; ♂, 5♀♀, Nizhneudinskiy distr., vall. of Uda riv., 5 km S Vodopadny, 04-05.VII.1999, leg. A. Shavrin; Buryatia Republic: 2♀♀, Tunkinskiy distr., 15 km W Tagarkhai, Barun-Khandagai riv., 10.VIII.2010, in *Lepista caespitosa* (BRES.) SINGER, leg. K. Skokova; 22♂♂, 25♀♀, Bargusinskiy distr., Dukhovoe lake, N53°16'45'' E108°50'51'', 5.VII.2010, in *Pluteus cervinus* (SCHAEFF.) P. KUMM., leg. I. Enushchenko; ♀, Severo-Baikalskiy distr., left side of Kurkula riv., lake Gitara, 23.VII.2010, leg. I. Enushchenko & A. Shavrin; 33♂♂, 41♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Vodopadny stream, 19, 22.VII.2010, in *Fomitopsis pinicola* (SW.) P. KARST., leg. I. Enushchenko & A. Shavrin; 2♂♂, 5♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Peshekhodnyi stream, N 55°05'52'' E 108°47'06'', h=1013 m, 19, 28.VII.2010, in *Amanita muscaria* (L.) LAM., *Polyporus tuberaster* (JACQ. ex PERS.) FR., leg. I. Enushchenko & A. Shavrin; 2♂♂, ♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13'' E108°59'34'', h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; ♂, Bauntovskiy distr., Bagdarin set., 23.VIII.2010, leg. I. Enushchenko; ♂, Tunkinskaya val., Arshan, VII.1999, leg. V. Shilenkov; 8♂♂, 2♀♀, Tunkinskiy distr., right side of Kyngarga riv., Arshan, 26-29.VIII.2009, in *Clitocybe inornata* (FR.) GILL., *Tricholomopsis rutilans* (SCHAEFF.) SINGER, leg. I. Enushchenko; ♂, Kabanskiy distr., Khamar-Daban Mts., Bolshoy Mamay riv., 19.VIII.2006, leg. A. Shavrin; Chita Area: 7♂♂, 4♀♀, Mogoichinskiy distr., val. of Chichatka riv., Malye Kovaly env., 20-28.VII.1999, leg. A. Shavrin; 2♂♂, ♀, Krasnochikoiskiy distr., Malkhanskiy Mts., pass to Maleta, 20 km N Maloarkhangelsk, 19, 25.VIII.1998, leg. A. Shavrin; 21♂♂, 29♀♀, Kyrenskiy distr., val. of Kyra riv., env. of Kyra, 18.VII.2009, in *Kuehneromyces mutabilis* (SCHAEFF.) SINGER & A.H. SM., leg. A. Shavrin & I. Enushchenko; 120 ex., Kyrenskiy distr., right side of Aguca riv., Buninda stream, 28.VII.2009, in *Gymnopus dryophilus* (BULL.) MURRILL (= *Collybia dryophila* (BULL.) P. KUMM.), *G. fuscopurpureus* (PERS.) ANTONÍN, HALLING & NOORDEL. (= *Collybia fuscopurpurea* (PERS.) P. KUMM.), *Pholiota adiposa* (BATSCH) P. KUMM., *Mycena laevigata* GILLET, leg. A. Shavrin & I. Enushchenko; 13♂♂, 16♀♀, Kyrenskiy distr., val. of Zolotoy Klyuch riv. (right tributary of Agutsa riv.), N49°45'353'' E111°11'670'', 25 VII 2009, in *Gymnopus dryophilus* (BULL.) MURRILL, leg. A. Shavrin & I. Enushchenko; ♂, 8♀♀, Kyrinskiy distr., Larionov Klyuch stream (left tributary of Agutsa riv.), N49°45'587'' E111°14'445'', in *Mycena? laevigata* GILLET, leg. A. Shavrin & I. Enushchenko;

4♂♂, 2♀♀, Uletovskiy distr., right side of Ingoda riv., Ashagley, N 49°54'367'' E111°07'952'', 19-20.VII.2009, in *Laccaria laccata* (SCOP.) COOKE, leg. A. Shavrin & I. Enushchenko; 2♂♂, 3♀♀, Uletovskiy distr., upper of Lukoviy stream (right tributary of Ingoda riv.), N49°50'207'' E111°10'825'', 18.VII.2009, in *Fomitopsis pinicola* (SW.) P. KARST, *Laetiporus sulphureus* (BULL.) MURRILL, leg. A. Shavrin, I. Enushchenko; 32 ex., Uletovskiy distr., val. of Lukovaya riv. (right tributary of Ingoda riv.), N49°51'838'' E111°08'595'', 22.VII.2009, on *Pleurotus pulmonarius* (FR.) QUÉL., leg. A. Shavrin & I. Enushchenko; 15♂♂, 14♀♀, Uletovskiy distr., val. of Ingoda riv., Ashagley, N 49°54'367'' E 111°07'952'', 18.VII.2009, in *Gymnopus dryophilus* (BULL.) MURRILL, *Flammulina velutipes* (CURTIS) SINGER, *Fomes fomentarius* (L.) J. KICKX f., *Fomitopsis pinicola* (SW.) P. KARST, *Hypholoma fasciculare* (HUDS.) P. KUMM., *Neolentinus lepideus* (FR.) REDHEAD & GINNS, leg. A. Shavrin & I. Enushchenko; ♂, Kalarskiy distr., val. of Chara riv., env. of Novaya Chara, 22.VIII.2009, leg. A. Boiko.

**Distribution:** North Europe, northern part of European part of Russia, East Siberia.

**Bionomics:** This species has been collected from *Amanita muscaria* (L.) LAM., *Clitocybe inornata* (FR.) GILL., *Gymnopus dryophilus* (BULL.) MURRILL, *G. fuscopurpureus* (PERS.) ANTONÍN, HALLING & NOORDEL. (= *Collybia fuscopurpurea* (PERS.) P. KUMM.), *Flammulina velutipes* (CURTIS) SINGER, *Fomitopsis pinicola* (SW.) P. KARST., *Fomes fomentarius* (L.) J. KICKX f., *Gymnopilus* sp., *Hypholoma fasciculare* (HUDS.) P. KUMM., *H. capnoides* (FR.) P. KUMM., *Kuehneromyces mutabilis* (SCHAEFF.) SINGER & A.H. SM., *Laccaria laccata* (FR.) BERK. & BR., *Laetiporus sulphureus* (BULL.) MURRILL, *Lentinus cyathiformis* (SCHAEFF.) BRES., *Lepista caespitosa* (BRES.) SINGER, *Mycena ?laevigata* GILLET, *Neolentinus lepideus* (FR.) REDHEAD & GINNS, *Pholiota adiposa* (BATSCH) P. KUMM., *Pleurotus ostreatus* (JACQ.) P. KUMM., *P. pulmonarius* (FR.) QUÉL., *Pluteus cervinus* (SCHAEFF.) P. KUMM., *Polyporus tuberaster* (JACQ.) ex PERS.) Fr. and *Tricholomopsis rutilans* (SCHAEFF.) SINGER.

**Comment:** Aedeagus as in Fig. 8. Tergite VIII as in Fig. 9. In Eastern Siberia, this species was previously known only from Tuva republic (STRAND 1938: 40). It is here reported from Buryatia republic and the Irkutsk and Chita areas for the first time.

### ***Gyrophaena (Gyrophaena) poweri* CROTCH 1867**

[*puncticollis* THOMSON 1867; *punctulata* MULSANT & REY 1870].

**Material examined:** Irkutsk Area: 4♂♂, 2♀♀, Shelekhovskiy distr., right side of Bolshaya Olkha riv., near mouth of Klyuch Shirokiy riv., Orlyonok st., 28.VII, 01.VIII.2009, in *Hypholoma capnoides* (FR.), KUMM., *Neolentinus lepideus* (FR.) REDHEAD & GINNS, leg. E. Vedernikova; 11♂♂, 12♀♀, Shelekhovskiy distr., right side of Bolshaya Olkha riv., Istochnik st., 28.VIII.2009, in *Hebeloma mesophaeum* (PERS.) QUÉL., leg. E. Vedernikova; 4♂♂, Slyudyanskiy distr., Sukhoy Ruchey set., 9.VII.2009, in *Lentinus cyathiformis* (SCHAEFF.) BRES., leg. I. Enushchenko & A. Shavrin; 3♂♂, Ust'-Kutskiy distr., 18 km N Ust'-Kut, val. of Lena riv., 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; ♂, Cheremkhovskiy distr., Sredniy Bulay, 01.VII.2006, leg. A. Shavrin; 3♂♂, ♀, Zhigalovskiy distr., Zhigalovo set., 19.VII.2008, leg. A. Frolov; ♂, ♀, Angarskiy distr., Angarsk, Elovscoe water reservoir env., 29.VII.2010, in *Armillaria mellea* (VAHL) P. KUMM., leg. I. Enushchenko; Buryatia Republic: ♂, Pribaikalskiy distr., lake Kotokel', Istok env., 01.X.2010, in *Trametes versicolor* (L.) LLOYD (= *Coriolus versicolor* (L.) QUÉL.), leg. I. Enushchenko; Kabanskiy distr., Khamar-Daban Mnt., upper of Osinovka riv., "Chum" winterhut env., 17-21.VII.2009, leg. Yu. Sundukov & L. Sundukova; ♂, Tunkinskiy distr., 3 km NW Arshan, 20.VIII.2006, leg. A. Shavrin; ♂, same distr., Arshan, VII.1999, leg. V. Shilenkov; 4♂♂, 3♀♀, same distr., right side of Kyngarga riv., Arshan, 26-29.VIII.2009, in *Cortinarius* sp., leg. I. Enushchenko; 2♂♂, Kabanskiy distr., Khamar-Daban, mouth of Vydrinnaya, 13.VIII.2006, leg. A. Shavrin; ♂, Kabanskiy distr., Khamar-Daban, Bolshoy Mamay riv., 19.VIII.2006, leg. A. Shavrin.

**A d d i t i o n a l m a t e r i a l e x a m i n e d :** Maritime Province: ♂, Lazovskiy distr., Lazo, 10-30.IX.2007, leg. V. Shokhrin.

**D i s t r i b u t i o n :** Europe, including European part of Russia, East Siberia, Russian Far East.

**B i o n o m i c s :** This species has been collected from *Armillaria mellea* (VAHL) P. KUMM., *Cortinarius* sp., *Trametes versicolor* (L.) LLOYD, *Hebeloma mesophaeum* (PERS.) QUÉL., *Hygrophorus* sp., *Hypholoma capnoides* (FR.), KUMM., *Lentinus cyathiformis* (SCHAEFF.) BRES., *Neolentinus lepideus* (FR.) REDHEAD & GINNS.

**C o m m e n t :** New record for the fauna of Siberia and the Far East.

### ***Gyrophæna (Gyrophæna) pseudonana* A. STRAND 1939**

**M a t e r i a l e x a m i n e d :** Irkutsk Area: 6 ex., Vitimskiy nature reserve, Uryakh riv., right tributary of Vitim riv., 24.VII.2000, A. Shavrin; ♀, Shelekhovskiy distr., 2 km S Podkamennaya, Sanatornyi st., 04.VIII.2010, in *Gymnopilus* sp., leg. E. Bokova; 2♂♂, 2♀♀, Angarskiy distr., Angarsk, 02.VII.2007, leg. I. Enushchenko; ♂, ♀, Irkutsk, right bank of Irkut riv., Sinyushina Gora, 16.VI.2008, in *Inocybe* sp., leg. I. Enushchenko & A. Frolov; ♂, Katangskiy distr., val. of Nizhnyaya Tunguska riv., Podvoloshino set., 04-09.VIII.2008, leg. A. Shavrin & I. Enushchenko; Buryatia Republic: ♂, Bauntovskiy distr., Bagdarin env., 17.VIII.2010, in *Hebeloma ?versipelle* (FR.) GILLET, leg. I. Enushchenko; 9♂♂, 8♀♀, Eravninskiy distr., Romanovka env., 16.VIII.2010, in *Hebeloma* sp., leg. I. Enushchenko; 9♂♂, 7♀♀, Tunkinskiy distr., right side of Kyngarga riv., Arshan, 26-29.VIII.2009, in *Cortinarius* sp., leg. I. Enushchenko; ♂, ♀, Severo-Baikalskiy distr., left side of Kurkula riv., Vodopadnyy stream, 19.VII.2010, leg. I. Enushchenko & A. Shavrin; ♀, Severo-Baikalskiy distr., left side of Kurkula riv., Peshekhodnyy stream, N 55°05'52" E 108°47'06", h=1013 m, 19.VII.2010, leg. I. Enushchenko & A. Shavrin; ♂, Bauntovskiy distr., Bagdarin set., 17.VIII.2010, in *Hebeloma versipelle* (FR.) GILLET, leg. I. Enushchenko; Chita Area: 5♂♂, 2♀♀, Krasno-Chikoitskiy distr., 8 km NNW Uruk, 19.VIII.1998, leg. A. Shavrin; ♂, Kyrinskiy distr., right side of Aguca riv., Buninda stream, 28.VII.2009, in *Pholiota adiposa* (BATSCH) P. KUMM., leg. A. Shavrin & I. Enushchenko; 2♂♂, 4♀♀, Uletovskiy distr., val. of Ingoda riv., Ashagley, N49°54'367"E111°0 7'952", 18.VII.2009, in *Gymnopus dryophilus* (BULL.) MURRILL and *Hebeloma versipelle* (FR.) GILLET, leg. A. Shavrin & I. Enushchenko; ♂, Kalarskiy distr., val. of Chara riv., Novaya Chara, 22.VIII.2009, leg. A. Boiko.

**D i s t r i b u t i o n :** Europe, including northern part of European Russia, East Siberia.

**B i o n o m i c s :** This species has been collected from *Gymnopus dryophilus* (BULL.) MURRILL, *Cortinarius* sp., *Gymnopilus* sp., *Hebeloma* sp., *H. ?versipelle* (FR.) GILLET, *Inocybe* sp., and *Pholiota adiposa* (BATSCH) P. KUMM.

**C o m m e n t :** New record for the fauna of Siberia.

### ***Gyrophæna (Gyrophæna) pulchella* HEER 1839**

[*glabrella* MOTSCHULSKY].

*Gyrophæna pulchella*: SOLSKY 1871: 236.

*Gyrophæna pulchella*: JACOBSON 1909: 533.

*Gyrophæna pulchella*: SHAVRIN et al. 1999: 32.

**M a t e r i a l e x a m i n e d :** Irkutsk Area: ♀, Vitimskiy reserve, Oron lake, mouth of Polovinka riv., 30.VII.2000, leg. A. Shavrin; ♀, Ust'-Kutskiy distr., Markovo, 08.VIII.2008, leg. A. Shavrin & I. Enushchenko; 3♂♂, 11♀♀, Ust'-Kutskiy distr., 50 km SE Shumilovo, 24-25.VI.2008, leg. A. Shavrin & I. Enushchenko; ♂, Ust'-Kutskiy distr., 18 km N Ust'-Kut valley of Lena riv. 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; 14♂♂, 14♀♀, Cheremkhovskiy distr., Sredniy Bulay, 1.VII.2006, leg. A. Shavrin; 2♂♂, Shelekhovskiy distr., Olkha riv., 29.IX.1992, leg. A.

Shavrin; 5♂♂, 7♀♀, Zhigalovskiy distr., Zhigalovo set., 19.VII.2008, leg. A. Frolov; 13♂♂, 10♀♀, Angarskiy distr., Angarsk, Elovskoe water reservoir env., 29.VII.2010, in *Hygrophorus* sp., *Lyophillum decastes* (FR.) SINGER, leg. I. Enushchenko; ♂, ♀, Khamar-Daban Mts., Vydrinnaya riv., mouth, 13.VIII.2006, leg. A. Shavrin; Buryatia Republic: 6♂♂, 19♀♀, Tunkinskiy distr., 15 km W Tagarkhai, Barun-Khandagai riv., 10.VIII.2010, in *Lepista caespitosa* (BRES.) SINGER, leg. K. Skokova; 10♂♂, 21♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13'' E108°59'34'', h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; 4♂♂, 9♀♀, Tunkinskiy distr., right bank of Kyngarga riv., Arshan, 26-29.VIII.2009, in *Clitocybe inornata* (SOWERBY) GILLET, leg. I. Enushchenko; ♂, 3♀♀, Tunkinskaya val., Zhemchug env., 19.VIII.2006, leg. A. Shavrin; 62 ex., Khamar-Daban Mts., Tayozhniy set., 15-16.VIII.2006, leg. A. Shavrin; 3♂♂, ♀, Pribaikalskiy distr., 5 km N Mostovka, bank of Selenga riv., 31.VII-01.VIII.1997, leg. A. Shavrin; Chita Area: 5♂♂, 16♀♀, Krasno-Chikoiskiy distr., 8 km NNW Urluk, 19.VIII.1998, leg. A. Shavrin.

**D i s t r i b u t i o n** : Europe, including European part of Russia, Caucasus, West and East Siberia.

**B i o n o m i c s** : This species has been collected from *Clitocybe inornata* (SOWERBY) Gillet, *Lepista caespitosa* (BRES.) SINGER, *Lyophillum decastes* (FR.) SINGER, and *Hygrophorus* sp.

**C o m m e n t** : The records for "Nordamerika" (LIKOVSKÝ 1964: 53), "C.[еверная] Амер.[ика]" (TICHOMIROVA 1973: 152) are erroneous. *Gyrophæna pulchella* is here reported from Chita Area for the first time.

### ***Gyrophæna (Gyrophæna) rugipennis* MULSANT & REY 1861**

**M a t e r i a l e x a m i n e d** : Irkutsk Area: ♂, Irkutskiy distr., Irkutsk, left side of Angara riv., Ershovskiy bay, 15.VII.2008, leg. A. Shavrin & I. Enushchenko; Buryatia Republic: 4♂♂, Tunkinskiy distr., val. of Kyngarga riv., Arshan, 26-29.VIII.2009, leg. I.V. Enushchenko; ♀, Tunkinskiy distr., 15 km W Tagarkhai set., Barun-Khandagai riv., 10.VIII.2010, in *Lepista caespitosa* (BRES.) SINGER, leg. K. Skokova.

**D i s t r i b u t i o n** : Europe including European part of Russia, Caucasus, East Siberia, Russian Far East.

**B i o n o m i c s** : This species has been collected in *Lepista caespitosa* (BRES.) SINGER.

**C o m m e n t** : New record for the fauna of Siberia.

### ***Gyrophæna (Gyrophæna) transversalis* A. STRAND 1939 (Figs 10-12)**

**M a t e r i a l e x a m i n e d** : Irkutsk Area: 2♂♂, 4♀♀, Angarskiy distr., Angarsk, right side of Kitoy riv., 02.VII.2007, leg. I. Enushchenko; 7♂♂, 4♀♀, Irkutsk, right side of Irkut riv., Sinyushina Gora, 16.VI.2008, in *Inocybe* sp., leg. I. Enushchenko & A. Frolov.

**D i s t r i b u t i o n** : Central Europe and European part of Russia, East Siberia.

**B i o n o m i c s** : This species has been collected from *Inocybe* sp.

**C o m m e n t** : Aedeagus as in Fig.10. This species is characterized by the variably shaped apical margin of tergite VIII: some specimens from the same fungus (in our material) may have one small bump between two long lateral teeth (Fig. 12), while others have two small bumps (Fig. 11). This variability was previously reported by LIKOVSKÝ (1964) and LOHSE (1974). This species is here reported from Siberia for the first time.

***Gyrophæna (Gyrophæna) williamsi* A. STRAND 1935**

**M a t e r i a l e x a m i n e d :** Irkutsk Area: ♀, Slyudyanskiy distr., SW Baikal, Bolshie Koty, 13.VI-10.VII.1993, leg. A. Shavrin; Buryatia Republic: 12♂♂, 20♀♀, Tunkinskiy distr., val. of Kyngarga riv., Arshan, 26-29.VIII.2009, in *Tricholomopsis rutilans* (SCHAEFF.) SINGER, leg. I. Enushchenko; Chita Area: ♂, 2♀♀, Kyrynskiy distr., right side of Agutsa riv., Buninda stream, 28.VII.2009, in *Pholiota adiposa* (BATSCH) P. KUMM., leg. A. Shavrin & I. Enushchenko.

**D i s t r i b u t i o n :** North and central Europe, European part of Russia, East Siberia.

**B i o n o m i c s :** This species has been collected from *Tricholomopsis rutilans* (FR.) SING and *Pholiota odiposa* (FR.) KUMM. According to RUSCH (1990) and VOITENKOVA (2009), this species prefers *Tricholomopsis rutilans* (FR.) SING.

**C o m m e n t :** This species is here reported from Siberia for the first time.

***Gyrophæna (Leptarthrophæna) affinis* MANNERHEIM 1830**

[*amabilis* LACORDAIRE 1835; *diversa* MULSANT & REY 1870; *inconspicua* CASEY 1906; *lacustris* CASEY 1906; *subpunctata* CASEY 1906].

*Gyrophæna affinis*: SOLSKY 1871: 236.

*Gyrophæna affinis*: JACOBSON 1909: 533.

*Gyrophæna affinis*: SHAVRIN et al. 1999: 32.

**M a t e r i a l e x a m i n e d :** Irkutsk Area: ♀, Slyudyanskiy distr., S Baikal, Khamar-Daban Mts., mid. fl. Babkha riv., 27.VI.2006, leg. A. Shavrin; ♀, Olkhonskiy distr., Baikal lake, Olkhon island, pad' Idiba, near stream, 24.VIII.2005, leg. A. Shavrin; 26♂♂, 27♀♀, Ziminskiy distr., 20 km SE Zima, Glinka env., 24-25.VII.2010, in *Rhodocollybia maculata* (ALB. & SCHWEIN.) SINGER (= *Collybia maculata* (ALB. & SCHWEIN.) P. KUMM.), *Inocybe* sp., leg. A. Frolov; 16♂♂, 8♀♀, Taishetskiy distr., Shitkino, val. of Biryusa riv., N 65°22'435" E 98°21'123", 17.VI.2009, leg. A. Shavrin; ♀, Kachugskiy distr., Baikalo-Lenskiy reserve, Pokoinickaya bay, 23-30.VI. 1998, leg. A. Shavrin; 6♂♂, 7♀♀, Nukutskiy distr., Tabarsuk env., 26.VI.2009, in *Pleurotus pulmonarius* (FR.) QUÉL., leg. A. Shavrin; ♂, ♀, Ust'-Kutskiy distr., 18 km N Ust'-Kut, val. of Lena riv., 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; 3♂♂, ♀, Irkutsk, left side of Angara riv., 02.VII.2009, in *Tricholoma* sp., I. Enushchenko; ♂, 3♀♀, Cherekmovskiy distr., Sredniy Bulay, 01.VII.2006, leg. A. Shavrin; 3♀♀, Shelekhovskiy distr., Olkha riv., 05.VII.2009, in *Gymnopus confluens* (PERS.) ANTONÍN, HALLING & NOORDEL. (= *Collybia confluens* (PERS.) P. KUMM.), leg. E. Vedernikova; ♂, Ziminskiy distr., 3 km SE Preezd, val. of Oka riv., 20-21 VI 1998, leg. A. Shavrin; 9♂♂, 14♀♀, Slyudyanskiy distr., Sukhoy Ruchey env., 09.VII.2009, in *Lentinus cyathiformis* (SCHAEFF.) BRES., leg. I. Enushchenko & A. Shavrin; 2♂♂, 2♀♀, Slyudyanskiy distr., SW Baikal, Bolshie Koty, 03, 06-10.VII.1993, leg. A. Shavrin; 3♂♂, ♀, Angarskiy distr., Angarsk, Elovskoe water reservoir env., 08.VII.2009, in *Hebeloma* sp., *Neolentinus lepideus* (FR.) REDHEAD & GINNS, leg. I. Enushchenko; 20♂♂, 11♀♀, Zhigalovskiy distr., Zhigalovo set., 19.VII.2008, in *Gymnopus dryophilus* (BULL.) MURRILL, leg. A. Frolov; 2♂♂, 2♀♀, Irkutsk, left side of Angara riv., Ershovskiy bay, 15.VII.2008, leg. A. Shavrin & I. Enushchenko; Buryatia Republic: 9♂♂, 6♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., N55°04'13" E108°59'34", h=624 m, 28.VII.2010, leg. I. Enushchenko & A. Shavrin; 8♂♂, 7♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Peshekhodnyi stream, N 55°05'52" E 108°47'06", h=1013 m, 19, 28.VII.2010, in *Amanita muscaria* (L.) LAM., *Polyporus tuberaster* (JACQ. ex PERS.) Fr., leg. I. Enushchenko & A. Shavrin; 2♀♀, Severo-Baikalskiy distr., left side of Kurkula riv., Vodopadnyi stream, 19.VII.2010, leg. I. Enushchenko & A. Shavrin; 19♂♂, 36♀♀, Bargusinskiy distr., Dukhovoe lake, N53°16'45" E108°50'51", 5.VII.2010, in *Pluteus cervinus* (SCHAEFF.) P. KUMM., leg. I. Enushchenko; ♂, Eravninskiy distr., Romanovka, 16.VIII.2010, in *Hebeloma* sp., leg. I. Enushchenko; 3♂♂, ♀, Tunkinskiy distr., East Sayan, upper of Kyngarga riv., 18-23.VII.1995, leg. A. Shavrin; ♂, Kabanskiy distr., Khamar-Daban Mts., Bolshoy Mamay riv., 19.VIII.2006, leg. A. Shavrin; 4♂♂, 6♀♀, Kabanskiy distr., Khamar-Daban Mts., Tankhoy, Osinovka riv., 24.VII.1995, leg. A. Shavrin; Chita Area: 8♂♂, 3♀♀, Kyrenskiy distr., val. of Zolotoy Klyuch riv. (right tributary of Agutsa riv.), N49°45'353" E111°11'670", 25.VII.2009, in *Gymnopus dryophilus* (BULL.) MURRILL, leg. A. Shavrin & I. Enushchenko; 97 ex., Kyrynskiy



distr., right side of Aguca riv., Buninda stream, 28.VII.2009, in *Gymnopus dryophilus* (BULL.) MURRILL, *G. fuscopurpureus* (PERS.) ANTONÍN, HALLING & NOORDEL., *Mycena laevigata* GILLET, *Pholiota adiposa* (BATSCH) P. KUMM., leg. A. Shavrin & I. Enushchenko; 70 ex., Uletovskiy distr., val. of Ingoda riv. Ashagley, N49°54'367'' E111°07'952'', 18.VII.2009, in *Gymnopus dryophilus* (BULL.) MURRILL, *Flammulina velutipes* (CURTIS) SINGER, *Fomes fomentarius* (L.) J. KICKX f., *Hebeloma ?versipelle* (FR.) GILLET, leg. A. Shavrin & I. Enushchenko.

**D i s t r i b u t i o n :** Holarctic species.

**B i o n o m i c s :** The species has been collected from *Amanita muscaria* (L.) LAM., *Gymnopus confluens* (PERS.) ANTONÍN, *G. dryophilus* (BULL.) MURRILL, *G. fuscopurpureus* (PERS.) ANTONÍN, HALLING & NOORDEL., *Rhodocollybia maculata* (ALB. & SCHWEIN.) SINGER, *Flammulina velutipes* (CURTIS) SINGER, *Fomes fomentarius* (L.) J. KICKX f., *Hebeloma* sp., *H. ?versipelle* (FR.) GILLET, *Inocybe* sp., *Lentinus cyathiformis* (SCHAEFF.) BRES., *Neolentinus lepideus* (FR.) REDHEAD & GINNS, *Mycena laevigata* GILLET, *Pleurotus pulmonarius* (FR.) QUÉL., *Pholiota adiposa* (BATSCH) P. KUMM., *Pluteus cervinus* (SCHAEFF.) P. KUMM., *Polyporus tuberaster* (JACQ. ex PERS.) FR. and *Tricholoma* sp.

**C o m m e n t :** *Gyrophaga affinis* is here reported from the Chita Area for the first time.

### [*Gyrophaga (Phaenogyra) polita* (GRAVENHORST 1802)]

[*brevicornis* Mulsant & Rey 1870].

*Gyrophaga polita*: EPPELSHEIM 1893: 40.

*Gyrophaga polita*: JACOBSON 1909: 533.

**D i s t r i b u t i o n :** Europe, East Siberia.

### *Gyrophaga (Phaenogyra) strictula* ERICHSON 1839

[*glacialis* HOCHHUTH 1849; *laevigata* HEER 1839].

**M a t e r i a l e x a m i n e d :** Irkutsk Area: ♂, 2 ♀♀, Nizhneudinskiy distr., val. of Yaga riv., 20 km N Yaga, 30.VI.1999, leg. A. Shavrin; 2 ♂♂, 5 ♀♀, Ziminskiy distr., right side of Oka riv., opposite Bargaday, 19-20.VI.1998, leg. A. Shavrin; ♀, Ust'-Kutskiy distr., 18 km N Ust'-Kut, val. of Lena riv., 26-28.VII.2008, leg. A. Shavrin & I. Enushchenko; 60 ex., Angarskiy distr., Angarsk, right side of Malaya Elovka riv., Elovskoye water reservoir env., 07.VI.2009, in *Fomes fomentarius* (L.) J. KICKX f., *Trametes gibbosa* (PERS.) FR., *?Hirchioporus* sp., leg. I. Enushchenko; 2 ♂♂, ♀, Angarskiy distr., Angarsk, 12, 29.VIII.2010, in *Armillaria mellea* (Vahl) P. Kumm., *Trametes trogii* BERK., leg. I. Enushchenko; Buryatia Republic: 2 ♂♂, 2 ♀♀, Tunkinskiy distr., val. of Kyngyrga riv., Arshan, 26-29.VIII.2009, in *Fomitopsis pinicola* (SW.) P. Karst., leg. I. Enushchenko; ♂, ♀, Tunkinskaya val., Zhemchug, 19.VIII.2006, leg. A. Shavrin; Chita Area: ♂, Uletovskiy distr., upper of Lukovaya riv. (right tributary of Ingoda riv.), N49°50'207'' E111°10'825'', 18.VII.2009, leg. A. Shavrin & I. Enushchenko.

**D i s t r i b u t i o n :** Europe, inclding European part of Russia, West and East Siberia.

**B i o n o m i c s :** This species has been collected from *Armillaria mellea* (VAHL) P. KUMM., *Fomes fomentarius* (L.) J. KICKX f., *Fomitopsis pinicola* (SW.) P. KARST., *?Hirchioporus* sp., *Neolentinus lepideus* (FR.) REDHEAD & GINNS, *Trametes gibbosa* (PERS.) FR., and *Trametes trogii* BERK. This species has been observed on *Trametes gibbosa* (PERS.) Fr. in high population densities.

**C o m m e n t :** The record of this species for "Nordamerika" (LIKOVSKÝ 1964: 54) is erroneous. The record of this species fom Caucasus (LIKOVSKÝ 1964: 54) needs confirmation. This species is here reported from Eastern Siberia for the first time.



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### Zusammenfassung

Die Arten der Gattung *Gyrophæna* MANNERHEIM 1830 (Coleoptera: Staphylinidae: Aleocharinae) aus der Baikalg Region wurden revidiert. Es gelang der Nachweis von 21 Arten, für 18 Arten lagen eigene Aufsammlungen vor. *Gyrophæna (Gyrophæna) aedugena* ENUSHCHENKO nov.sp. aus der Region Irkutsk wurde beschrieben und illustriert. Als neue Synonymisierung ergab sich *Gyrophæna (G.) joyi* WENDELER 1924 = *G. joyi asiatica* WÜSTHOFF 1937 syn. nov. Neufunde für Sibirien stellen folgende Taxa dar: *G. (G.) obsoleta* GANGLBAUER 1895, *G. (G.) pseudonana* A. STRAND 1939, *G. (G.) rugipennis* MULSANT & REY 1861, *G. (G.) transversalis* A. STRAND 1939 und *G. (G.) williamsi* A. STRAND 1935. *Gyrophæna (G.) poweri* CROTCH 1867 ist ein Neunachweis für Sibirien und den Fernen Osten. *G. (Phaenogyra) strictula* ERICHSON 1839 ist neu für Ostsibirien, *G. (Leptarthrophaena) affinis* MANNERHEIM 1830, *G. (G.) congrua* ERICHSON 1837, *G. (G.) gentilis* ERICHSON 1839, *G. (G.) manca* ERICHSON 1839 und *G. (G.) pulchella* HEER 1839 sind neu für das Gebiet Chita, *G. (G.) joyi* WENDELER ist ein Neunachweis für Irkutsk und das Gebiet Chita, *G. (G.) orientalis* A. STRAND 1938 für die Republik Burjatien und die Regionen Irkutsk und Chita. Für *G. joyi*, *G. manca*, *G. orientalis* und *G. transversalis* werden die Genitalstrukturen abgebildet. Für 16 Arten wurden bionomische Daten angegeben.

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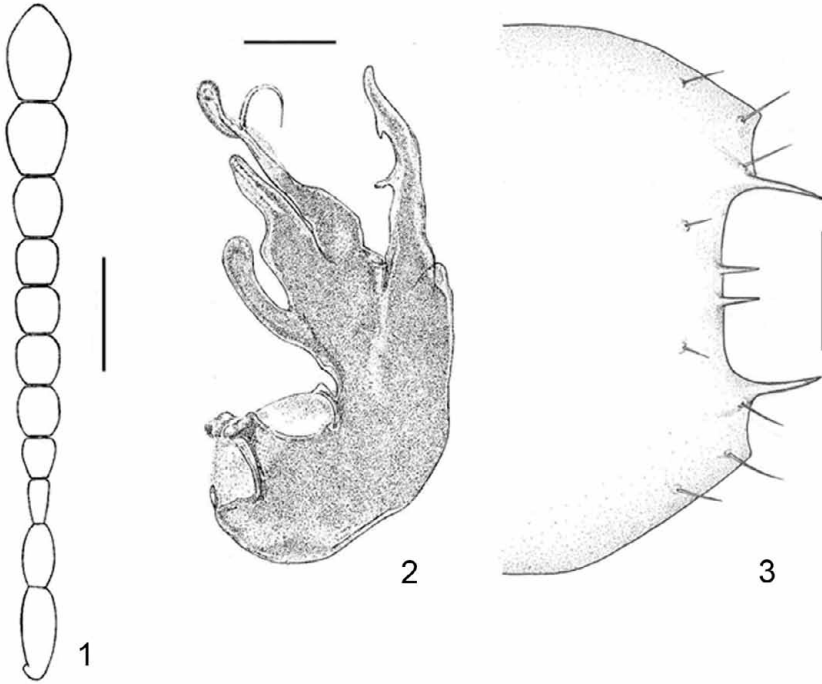
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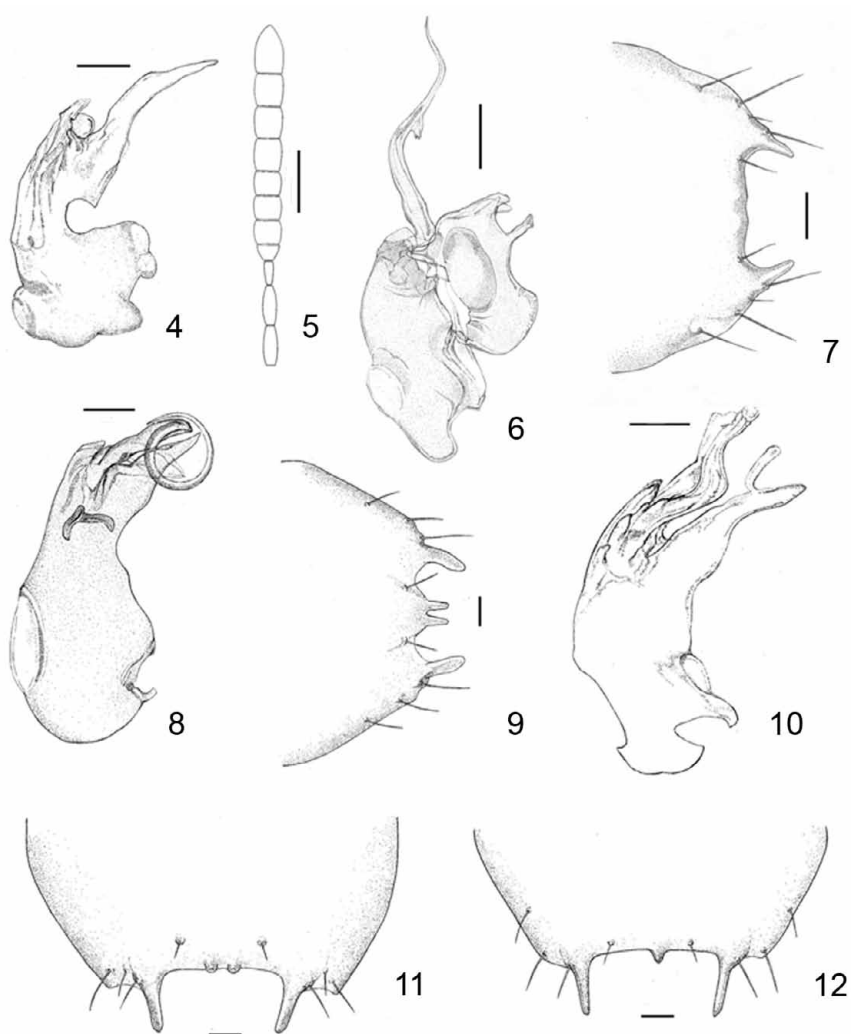
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**Figs 1-3:** *Gyrophaena aedugena* sp. nov.: (1) antenna; (2) aedeagus, lateral view; (3) tergite VIII. Scale bars: 1: 0.1 mm, 2-3: 0.05 mm.



**Figs 4-12:** *Gyrophaena*: (4) *G. joyi* WENDELER (Erbogachyon): aedeagus, lateral view; (5-7) *G. manca* ERICHSON (Staro-Shelekhovo env.): (5) antenna; (6) aedeagus, lateral view; (7) tergite VIII; (8-9) *G. orientalis* A. STRAND (18 km N Ust'-Kut): (8) aedeagus, ventral view; (9) tergite VIII; (10-12) *G. transversalis* A. STRAND (Irkutsk): (10) aedeagus, ventral view; (11-12) tergite VIII. Scale bars: 5: 0.01 mm; 6-12: 0.05 mm.