

## ***Gonomyia (Gonomyia) lucidula* de Meijere and allies (Diptera: Limoniidae)**

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Starý, J. 2010: *Gonomyia (Gonomyia) lucidula* de Meijere and allies (Diptera: Limoniidae). — Entomol. Fennica 21: 232–242.

*Gonomyia (Gonomyia) lucidula* de Meijere, 1920 and *G. (G.) abscondita* Lackschewitz, 1935 are redescribed, and the lectotypes of both species are designated. Descriptions of another two species are provided, viz. *G. (G.) securiformis* sp. n. (Bulgaria, Czech Republic, Italy, Switzerland) and *G. (G.) undiformis* sp. n. (Slovakia). Male terminalia are illustrated and distributions are outlined for all the species.

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*Received 10 February 2010, accepted 19 April 2010*

### **1. Introduction**

*Gonomyia (Gonomyia) lucidula* de Meijere, 1920 was recorded from many European countries (Oosterbroek 2009). Lackschewitz (1935) described *G. (G.) abscondita*, with emphasis on a close relationship to *G. (G.) lucidula*, but without specially comparing their male terminalia. A distinct pattern on the pleuron was mentioned by him as the only character distinguishing *G. (G.) abscondita* from *G. (G.) lucidula*. Yet the respective descriptions (de Meijere 1920: 83, Figs 82a–b; Lackschewitz 1935: 13–14, Figs 7a–e) and the key by Lackschewitz (1940: 58) to the European *Gonomyia* Meigen, 1818 suggested at least one genital difference between the two species, namely that the parameres are both darkly pigmented in *G. (G.) lucidula*, whereas, in *G. (G.) abscondita*, the right, shorter paramere is pale. The first time since its description, *G. (G.) abscondita* was reported by Starý & Rozkošný (1970) from Slovakia, but its validity was doubted because of possible synonymy with *G. (G.) lucidula*. *G. (G.) abscondita* has since been

regarded as a somewhat doubtful taxon, although mentioned in the literature from time to time, especially, recently, by British authors (e.g. Stubbs 2001, Boardman 2007).

As early as in the 1970's, I had examined the types of both *G. (G.) lucidula* and *G. (G.) abscondita* and found details in the structure of the male terminalia that distinguished the two as valid species. The pigmentation of the parameres proved to be one of several species-specific differences, perhaps the most conspicuous, but by far not the most significant taxonomically. Having examined additional material, however, I discovered a few variant specimens, which destroyed the unperturbed taxonomic situation, as it had appeared initially. As a result, an almost finished manuscript was postponed for further study, and it, in fact, remained somewhat forgotten.

The variants in my collection gradually increased in number, and it eventually turned out that these represent two additional species closely related to *G. (G.) lucidula*. Thus, in the present paper, I redescribe *G. (G.) lucidula* and *G. (G.) abscondita* and designate the lectotypes of both

species. I describe another two species, *G. (G.) securiformis* sp. n. and *G. (G.) undiformis* sp. n. All the species are extremely similar in general appearance and variable in the pleural patterning, so external characters are only briefly mentioned in the descriptions, and emphasis is laid on the structure of the male terminalia (see Figs 1–12). Females are so far indistinguishable and only listed occasionally with syntopic and synchronous males in the Material examined sections. *G. (G.) securiformis* sp. n. is confined to high altitudes, and *G. (G.) undiformis* sp. n. seems to occur on limestone substrates. Although ecological affinities of *G. (G.) lucidula* and *G. (G.) abscondita* were characterized as somewhat different (Boardman 2007), the two species are largely syntopic based on the material available to me. It is likely that additional species may belong to this complex.

The following acronyms of museums and collections are used in the text: BMNH – The Natural History Museum [formerly British Museum (Natural History)], London, England, UK; JSO – Collection of J. Starý, Olomouc, Czech Republic; MMBC – Moravské zemské muzeum, Brno, Czech Republic; NHMW – Naturhistorisches Museum, Vienna, Austria; SDEI – Senckenberg Deutsches Entomologisches Institut, München, Germany; SMOC – Slezské zemské muzeum, Opava, Czech Republic; ZMAN – Zoölogisch Museum, Universiteit van Amsterdam, Amsterdam, The Netherlands; ZMHB – Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

## 2. Descriptions

### 2.1. *Gonomyia (Gonomyia) lucidula* de Meijere, 1920 (Figs 1a–c)

*Gonomyia lucidula* de Meijere 1920: 83 (description), Pl. 10, Figs 82a–b (male terminalia).

*Gonomyia (Gonomyia) lucidula*: Savchenko 1982: 290 (redescription) [not Figs 139/5, 140/5, copied from Edwards 1938]; Savchenko *et al.* 1992: 303 (Palearctic catalogue); Stubbs 2001: 5 (key), Fig. (male terminalia); Oosterbroek 2009 (electronic World catalogue).

*Gonomyia microdentata* Bangerter 1947: 376 (description), Figs 19A–B (male terminalia).

**Redescription.** Male. Small species within *Gonomyia*. Wing length 4.3–5.4 mm. Prescutum brown, pleuron yellow with orange tinge, without any distinct brown pattern, restrictedly patterned with sulphur yellow. Central spot on pleuron, often distinct in both *G. (G.) abscondita* and *G. (G.) securiformis* sp. n., sometimes only indicated as obscure yellow stain. In general resembling small specimens of *G. (G.) recta* Tonnoir, 1920.

Male terminalia (Figs 1a–c). Outer gonostylus pale, flattened laterally, comparatively short, only slightly exceeding inner gonostylus, gradually tapered to subacute tip. Inner gonostylus of complex structure, in general divided into two parts: inner (medial) part pale, not especially broad, with short beak-like projection tipped with a few long setae; outer (lateral) part represented by irregularly bilobed blade, slightly darkened at tips of both lobes and tilted over inner part of inner gonostylus. Sharp dark tooth at outer base of inner gonostylus, provided with basal seta. Both parameres darkly pigmented distally and pointed at tips. Aedeagus flattened laterally in distal part, forming rounded apical portion separated from rest of aedeagus by deep subapical excision ventrally; obtuse low projection proximal to subapical excision (less developed than in *G. (G.) abscondita*). Distal part of aedeagal duct only slightly arched, running along dorsal margin of aedeagus and ending at posterodorsal edge of apical portion.

Female. Resembles male in general appearance, not reliably distinguished from females of other species.

**Type material examined.** The species was described from an unspecified number of specimens from Valkenburg (L.), Juni; Bunde, Juni; Oldenzaal, Juli; Nieuwersluis, Juni.” (de Meijere 1920: 83). I have examined four male syntypes from ZMAN, of which only one, from the locality Valkenburg, here designated as lectotype, belongs to *G. (G.) lucidula*. The other three specimens (paralectotypes of *lucidula*), one from each remaining locality, proved to be *G. (G.) abscondita* and are listed in the Other material examined under the latter species. The lectotype was listed by de Jong (2000: 122). This, however, is not a

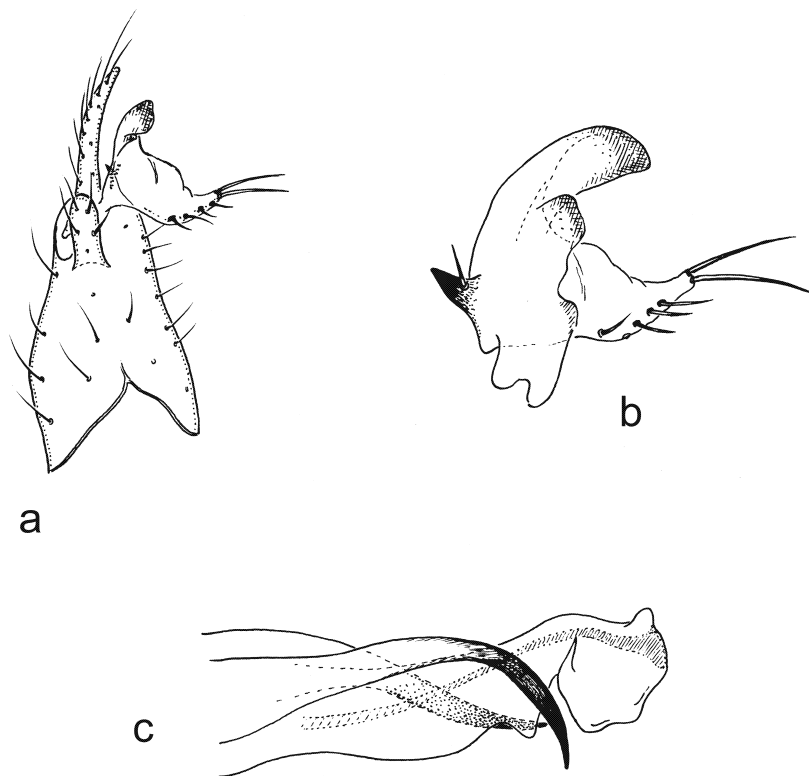


Fig. 1. *Gonomyia* (*Gonomyia*) *lucidula* de Meijere, 1920 (Czech Republic: Moravia), male terminalia.  
 – a. Gonocoxite and gonostyli, dorsal.  
 – b. Inner gonostylus, dorsal.  
 – c. Aedeagus, lateral.

lectotype designation under Article 74.7.3. (ICZN 1999), nor its amended wording in Declaration 44 (BZN 2003: 263). Lectotype ♂ (by present designation): Netherlands, Valkenburg, 15.vi.1919 (J.C.H. de Meijere leg.) (ZMAN), labelled “Valkenburg / 15.VI.19 / de Meijere”. Labelled as lectotype by the present author (“LECTOTYPUS / *Gonomyia* (s. str.) / *lucidula* Meij. ♂ / Starý des. 1973”, red label) (see also de Jong 2000), now also labelled “ZMAN type DIP-T 064.2” by museum staff (Oosterbroek, pers. comm.). The specimen is pinned, in bad condition, somewhat teneral, with right antenna and only left mid and hind legs present (state of 1973). Terminalia dissected by de Meijere and placed in Canada balsam on a celluloid slide, pinned with the specimen. The lectotype is designated here to stabilize the concept of the name with respect to *G. (G.) abscondita* and other closely related species.

*Other material examined* (95 ♂). Bulgaria: Lilianovo nr. Sandanski, 15.vi.1990, 2 ♂, 17.vi.1990, 2 ♂; Bansko env. (1,000 m a.s.l.), 6.vi.1968, 1 ♂ [listed by Krzemiński & Starý

1989] (all J. Starý leg.) (JSO). Czech Republic: Bohemia: Doksy env., Hradčany, 1–2 km W, Ploučnice valley, 17.vi.2005, 1 ♂; Malenice (district Strakonice), Volyňka shores, 4.viii.1994, 1 ♂ [listed by Starý 1996] (all J. Starý leg.) (JSO). Moravia: Hrubý Jeseník Mts (= Jeseníky Mts), Branná, “Dembauda” (900 m a.s.l.), 10.viii.1999, 1 ♂ (at light); Velké Losiny, 13.vii.1977, 1 ♂, 25.vii.1978, 1 ♂; Jívová nr. Olomouc, 28.v.1975, 1 ♂; Hrubá Voda nr. Olomouc, 29.vi.1976, 1 ♂; Nové Oldřůvky, Odra valley, 22.vi.1993, 1 ♂; Vyšní Lhoty, Morávka shores, 26.vii.1999, 1 ♂ (at light); Moravskoslezské Beskydy Mts, Dolní Lomná, 28.vi.2001, 3 ♂; Hrobice nr. Zlín, 14.vii.1982, 2 ♂ (at light); Ochoz nr. Brno, 14.vi.1969, 1 ♂ (all J. Starý leg.) (JSO). Germany: Bayern: Kreuzthal nr. Kempten/Allgäu, 17.–22.vii.1972, 11 ♂, 22.–27.vii.1972, 10 ♂, 27.vii.–3.viii.1972, 2 ♂, 10.–17.viii.1972, 11 ♂, 17.–24.viii.1972, 8 ♂; Eichholz nr. Kempten/Allgäu, 22.vii.–27.viii.1974, 5 ♂; Obergünzburg nr. Kempten/Allgäu, 6.vii.–16.viii.1974, 4 ♂ (all light trap) (all H. Mendl leg.; in ethanol) (JSO). Netherlands: Valkenburg, 15.vi.1923, 2 ♂;

Winterswijk, 19.vi.1921, 2 ♂; Ommen, 11.vi.1921, 1 ♂; Lochem, vii.1916, 1 ♂ (all J.C.H. de Meijere leg.) (ZMAN). Slovakia: Šaštín, 16.vi.1978, 1 ♂; Belianske Tatry Mts, Tatranská Kotlina, Belá valley (750 m a.s.l.), 27.vii.1974, 1 ♂, 26.vi.1975, 1 ♂, 19.vi.1977, 1 ♂, 21.vi.1977, 4 ♂, 22.vi.1977, 1 ♂; Poľana Mts, Čierny Potok (700 m a.s.l.), 15.vi.2007, 1 ♂ (at light); Očová nr. Zvolen, Hučava valley (500 m a.s.l.), 22.vi.2004, 1 ♂; Hostovice, Udava shores, 16.vi.1986, 3 ♂; Bukovské vrchy [hills], Ruský Potok, valley, 11.vii.1993, 1 ♂; Bukovské vrchy [hills], Zboj, Zbojský brook, 8.vii.1993, 2 ♂, 10.vii.1993, 1 ♂ [the latter three localities listed by Starý 1995] (all J. Starý leg.) (JSO).

*Discussion.* Externally, *G. (G.) lucidula* can be distinguished from the other related species (except for *G. (G.) undiformis* sp. n.) by a yellow pleuron without any distinct brown pattern. This character, however, is variable to a certain degree and cannot serve as a reliable criterion. The structure of the male terminalia is essential for identifying all the species treated here. The following combination of characters is species-specific for *G. (G.) lucidula* (Figs 1a–c): outer gonostylus short, only slightly exceeding inner gonostylus, gradually tapered to subacute tip; inner gonostylus with distinct tooth at outer base; both parameres darkly pigmented distally and pointed at tips; aedeagus with apical portion generally rounded and aedeagal duct ending at its posterodorsal edge. It should be emphasized that the aedeagus alone clearly distinguishes the species treated here. On the other hand, it appears that the pigmentation of the shorter paramere is less constant and less stable than that of the longer one. In the material of *G. (G.) lucidula* preserved in ethanol, for example, the shorter paramere is rather pale.

The original figures of *G. (G.) lucidula* by de Meijere (1920, Pl. 63, Figs 82a–b) clearly show a distinct tooth at the outer base of the inner gonostylus, although, in the Dutch material, including the type series of *G. (G.) lucidula*, both *G. (G.) lucidula* and *G. (G.) abscondita* are represented (see Material examined of both species). As to the drawings by Edwards (1938, Fig. 20b) assigned to *G. (G.) lucidula*, I have evaluated them and determined that they belong to *G. (G.) abscondita* (see references below under *G. (G.) abscondita*)

based on overall shape of the aedeagus, despite the fact that both parameres were depicted as darkly pigmented; the aedeagal complex was described correctly in the text as having the shorter paramere pale (Edwards 1938: 111). The illustrations under *G. (G.) lucidula* by Coe (1950, Fig. 22b) and Podenas *et al.* (2006, Figs 14.12–14.13) are just copies of the drawings by Edwards (1938). Savchenko distinguished *G. (G.) lucidula* and *G. (G.) abscondita*, copying, however, Edwards's (1938) figures and those of Starý & Rozkošný (1970), respectively (Savchenko 1982, Figs 139/5, 140/5 and 139/6, 140/6), thus, in fact, presenting in both cases, what I think is *G. (G.) abscondita* (see above and Discussion of *abscondita*). Yet his records from Ukraine probably are correct for both species. Stubbs (2001: 5) illustrated some distinguishing characters between *G. (G.) lucidula* and *G. (G.) abscondita*. Based on the figures by Bangerter (1947, Figs 19A–B), *G. (G.) microdentata* Bangerter, 1947 is here confirmed, in accordance with Savchenko *et al.* (1992), as a junior synonym of *G. (G.) lucidula*.

*Distribution.* *Gonomyia (Gonomyia) lucidula* is reported as widely distributed in Europe, ranging to Transcaucasia (Oosterbroek 2009). Based on the material examined here, it is known from Bulgaria, Czech Republic, Germany, Netherlands, and Slovakia. Original figures confirm its occurrence in Switzerland (Bangerter 1947) and Great Britain (Stubbs 2001). Records from Ukraine (Savchenko 1982) likewise are probably correct (see Discussion of *lucidula*). Other records (Savchenko *et al.* 1992, Oosterbroek 2009) need confirmation.

## 2.2. *Gonomyia (Gonomyia) abscondita* Lackschewitz, 1935 (Figs 2a–c)

*Gonomyia abscondita* Lackschewitz 1935: 13 (description), Pl. 3, Figs 7a–d (male terminalia), 7e (wing).

*Gonomyia (Gonomyia) abscondita*: Starý & Rozkošný 1970: 114 (faun. records, note), Figs 63, 66, 69 (male terminalia); Savchenko 1982: 291 (redescription), Figs 139/6, 140/6 (male terminalia) [copied from Starý & Rozkošný 1970];

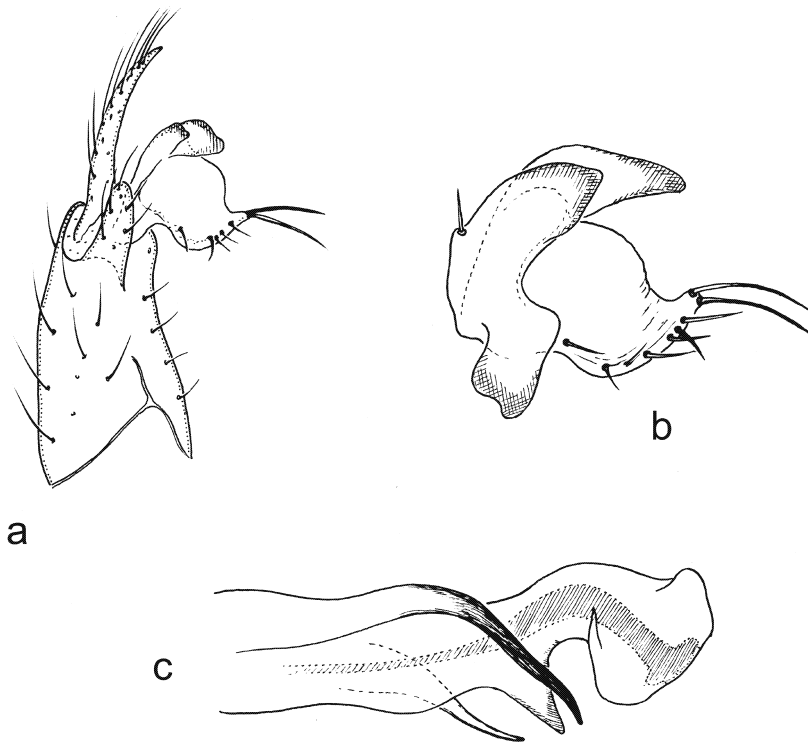


Fig. 2. *Gonomyia (Gonomyia) abscondita* Lackschewitz, 1935 (Czech Republic: Moravia), male terminalia. – a. Gonocoxite and gonostyli, dorsal. – b. Inner gonostylus, dorsal. – c. Aedeagus, lateral.

Savchenko *et al.* 1992: 301 (Palearctic catalogue); Stubbs 2001: 5 (key), Figs (male terminalia, antenna); Podenas *et al.* 2006: 96, Figs 14.1–14.2 (male terminalia) [copied from Starý & Rozkošný 1970]; Oosterbroek 2009 (electronic World catalogue).

*Gonomyia (Gonomyia) lucidula*: Edwards 1938: 111 (diagnosis), Text-fig. 20b (male terminalia); Coe 1950: 50 (key), Fig. 22b (male terminalia) [copied from Edwards 1938]; Savchenko 1982 [figures only], Figs 139/5, 140/5 (male terminalia) [copied from Edwards 1938]; Podenas *et al.* 2006: 97, Figs 14.12–14.13 (male terminalia) [copied from Edwards 1938].

*Gonomyia sulphurea* Agrell 1945: 24 (description), Fig. 2 (male terminalia).

**Redescription.** Male. Small species within *Gonomyia*. Wing length 4.4–6.2 mm. Prescutum brown appearing slightly darker than that of *G. (G.) lucidula*. Pleuron pale yellow to sulphur yellow, often patterned with brown, with distinct central spot on upper part of katepisternum, spot

slightly spreading upwards to adjacent areas; another spot on lower part of katepisternum, in cases extending over mid coxa to meron. Sometimes pleuron yellow throughout, with respective places only tinged with obscure yellow. In general resembling *G. (G.) tenella* (Meigen, 1818).

Male terminalia (Figs 2a–c). Outer gonostylus pale, flattened laterally, only slightly longer than that of *G. (G.) lucidula*, gradually tapered to subacute tip. Inner gonostylus with inner (medial) part slightly broader than that of *G. (G.) lucidula*; outer (lateral) part of inner gonostylus somewhat variable in shape, bilobed as in *G. (G.) lucidula*, but somewhat broader. Outer base of inner gonostylus with only tiny pale bump with projecting seta. Left, longer paramere darkly pigmented distally; right, shorter one pale throughout, slightly more slender than that of *G. (G.) lucidula*; both parameres pointed at tips. Aedeagus with apical portion rather broad, rounded, and ventral excision well-developed, as well as projection proximal to it. Distal part of aedeagal duct bent downwards, running through middle of apical portion and ending in middle of its posterior margin or still more ventrally.



Female. Resembles male in general appearance, not reliably distinguished from females of other species.

*Type material examined.* The species was described from three specimens that were listed by Lackschewitz (1935: 14) as follows: “Waliser Alpen, Macugnaga, 6.VIII.00. 3 ♂♀ (Typus!) leg. Oldenberg.” This phrase, however, with the “Typus” (singular), does not make it possible to distinguish whether one, and which one, or all specimens were considered by Lackschewitz to be the “types”. In 1973, I examined one male from ZMHB with corresponding collecting data, labelled by Lackschewitz as “Type”, now confirmed as being the single specimen of the type series of *G. (G.) abscondita* in ZMHB (J. Ziegler, pers. comm.). Recently, three additional, badly damaged specimens were traced in SDEI, from the same locality but with different dates of collection (“20.7.00” and “5.8.00”), all labelled by Lackschewitz as “Type” (F. Menzel and J. Ziegler, pers. comm.). Despite various discrepancies it is now clear that Lackschewitz had considered equally several specimens (some possibly in error) to be the types of *G. (G.) abscondita*. Hence, the specimens listed by him in his description (Lackschewitz 1935: 14) are to be regarded as syntypes, and the one examined by me is designated here as lectotype. Lectotype ♂ (by present designation): Italy, Piemonte, Macugnaga, 6.viii.1900 (L. Oldenberg leg.) (ZMHB), labelled “Macugnaga / Oldenberg / 6.8.00”, “coll. Oldenberg”, “*G. abscondita* / Type nov. sp. / det. Lacksch.” (red label). Labelled as lectotype by the present author (“LECTOTYPE / *Gonomyia* (s. str.) / *abscondita* Lacksch. ♂ / J. Starý 2009”, red label). The specimen is pinned, in bad condition, without legs and with right wing glued to the pin (state of 1973). Terminalia dissected by Lackschewitz and placed in Canada balsam between celluloid slides, pinned with the specimen. The lectotype is designated here to stabilize the concept of the name with respect to *G. (G.) lucidula* and other closely related species.

*Other material examined* (141 ♂, 1 ♀). Austria: Oberösterreich: Hammern nr. Freistadt, 28.vi.1874, 1 ♂, 25.vii.1875, 2 ♂ [all listed as *lucidula* by Lackschewitz 1940 and Franz 1989] (J. Mik leg.) (NHMW). Bulgaria: Lilianovo nr. Sandanski, 15.vi.1990, 1 ♂ (J. Starý leg.) (JSO).

Czech Republic: Bohemia: Doksy env., Obora, wetlands, 12.vii.2007, 1 ♂; Šumava Mts, Borová Lada, 8.vii.1992, 1 ♂ (all J. Starý leg.) (JSO). Moravia: Hrubý Jeseník Mts (= Jeseníky Mts), Branná, Klepáčský brook (700 m a.s.l.), 18.vii.2006, 1 ♂ (at light), “Dembauda” (900 m a.s.l.), 8.viii.1972, 1 ♂, 18.vii.1973, 1 ♂, 14.vii.1999, 2 ♂ (at light), 21.vii.1999, 2 ♂, 1 ♀ (at light), 9.vii.2002, 2 ♂ (at light); Hrubý Jeseník Mts, Kouty nad Desnou, Divoká Desná valley, “Zámčisko” (970 m a.s.l.), 26.vi.2003, 2 ♂ (at light), 8.vii.2004, 2 ♂ (at light), 14.ix.2004, 1 ♂ (at light); Hrubý Jeseník Mts, Vidly, “Skalní potok” (700 m a.s.l.), 20.vi.2000, 2 ♂ (at light), 3 ♂, 28.vi.2000, 1 ♂ (at light), 21.vi.2001, 4 ♂ (at light), 2.vii.2002, 3 ♂ (at light); Hrubý Jeseník Mts, Praděd (900–1,050 m a.s.l.), 26.vii.1994, 2 ♂; Hrubý Jeseník Mts, Filipovice (750 m a.s.l.), 17.viii.1982, 1 ♂; Velké Losiny, 13.vii.1977, 1 ♂, 10.viii.1977, 1 ♂; Malá Morávka, Moravice shores, 28.viii.1997, 1 ♂; Moravičany, 1.vii.1972, 1 ♂; Jívová nr. Olomouc, 14.vi.1978, 1 ♂; Smilov nr. Olomouc, 18.vi.1972, 1 ♂; Hrubá Voda nr. Olomouc, 12.vii.1977, 1 ♂; Krčmaň nr. Olomouc, 30.vi.1977, 1 ♂, 2.viii.1978, 1 ♂; Slatinice, Kosíř, 3.vii.1974, 1 ♂; Nový Dvůr nr. Opava, 12.vi.1967, 1 ♂; Kletné nr. Suchdol nad Odrou, 25.vii.1971, 1 ♂, 21.viii.1977, 1 ♂, 11.viii.1978, 1 ♂; Nové Oldřůvky, Odra valley, 22.vi.1993, 2 ♂; Libavá env., Stará Voda, 27.viii.1978, 1 ♂; Libavá env., Slavkov, 17.vii.1997, 1 ♂; Nýdek, Hlučová valley, 20.vi.1996, 1 ♂; Tichá nr. Frenštát pod Radhoštěm, 30.vi.1994, 1 ♂; Moravskoslezské Beskydy Mts, Košařiska, 26.vi.1997, 1 ♂ (at light); Moravskoslezské Beskydy Mts, Tanečnice (900–1,000 m a.s.l.), 24.vii.1984, 1 ♂, 12.vii.1990, 1 ♂; Moravskoslezské Beskydy Mts, Prostřední Bečva (500–600 m a.s.l.), 30.vii.1992, 1 ♂, 18.vi.1993, 1 ♂, 23.vi.1993, 2 ♂, 30.vi.1994, 1 ♂; Moravskoslezské Beskydy Mts, Malinová (700–800 m a.s.l.), 12.vii.1990, 2 ♂, 24.vii.1990, 2 ♂, 13.viii.1990, 1 ♂; Hostýnské vrchy [hills], “Valaška” (500–600 m a.s.l.), 23.vii.1992, 1 ♂; Hrobice nr. Zlín, 14.vii.1982, 5 ♂ (at light); Lešná nr. Zlín, 19.vii.1977, 1 ♂ (all J. Starý leg.) (JSO); Adamov [Adamstal], 3.vii.1914, 1 ♂; Brno, Říčka valley [Rzickatal], 25.vii., 1 ♂ (both K. Czižek leg.) [both listed as *lucidula* by Starý 1971] (MMBC); Brno-Bystrc, “Kočičí žleb”,

4.ix.1981, 1 ♂; Brno, Bobrava valley, 29.vi.1974, 2 ♂ (all J. Starý leg.) (JSO); Vranov nad Dyjí [Frain], 2.ix.1883, 1 ♂ (A. Handlirsch leg.) [listed as *lucidula* by Lackschewitz 1940 and Franz 1989] (NHMW); Rohatec nr. Hodonín, 8.vi.1976, 1 ♂, 4.viii.1976, 1 ♂; Rohatec nr. Hodonín, Pánov, 8.vii.1977, 1 ♂; Radějov, Lučina, 8.ix.1978, 1 ♂; Bílé Karpaty Mts, Javorník, “Machová”, 1.vii.1993, 1 ♂; Bílé Karpaty Mts, Suchovské Mlýny, Jamný, 5.vii.1994, 1 ♂ (all J. Starý leg.) (JSO). Germany: Baden-Württemberg: Greffern, Rheinaue, 19.vi.1995, 1 ♂, 20.vi.1995, 1 ♂, 27.vi.1995, 1 ♂, 7.vii.1995, 2 ♂ (J. Starý leg.) (JSO). Bayern: Kreuzthal nr. Kempten/Allgäu, 17.–22.vii.1972, 5 ♂, 22.–27.vii.1972, 4 ♂, 27.vii.–3.viii.1972, 1 ♂, 10.–17.viii.1972, 2 ♂, 17.–24.viii.1972, 2 ♂; Eichholz nr. Kempten/Allgäu, 22.vii.–27.viii.1974, 1 ♂; Obergünzburg nr. Kempten/Allgäu, 6.vii.–16.viii.1974, 2 ♂ (all light trap) (all H. Mendl leg.; in ethanol) (JSO). Great Britain: Scotland: Angus, R. Isla, Den of Airlie, 4.vii.1977, 1 ♂ (A.M. Hutson leg.) (JSO). England: Oxford, Sfk., 14.vii.1908, 1 ♂ (J.J.F.X. King leg.); S. Devon, Dartmouth, 28.–31.v.1920, 1 ♂; Westmorland, Staveley, vi.1929, 1 ♂ (both F.W. Edwards leg.) (BMNH). Wales: Flintshire, Ffrith, 7.–9.vi.1919, 2 ♂ (F.W. Edwards leg.) (BMNH, JSO). Netherlands: Bunde, 16.vi.1919, 1 ♂; Nieuwersluis, 8.vi.1919, 1 ♂; Oldenzaal, 28.vi.1917, 1 ♂ [paralectotypes of *lucidula*; see de Meijere 1920]; Winterswijk, 17.vi.1921, 1 ♂; ‘s Hage, vii.1903, 1 ♂ (all J.C.H. de Meijere leg.) (ZMAN). Slovakia: Stankovany, brook, 9.viii.1989, 1 ♂; Chočské vrchy [hills], Kvačianska dolina [valley], 24.vi.1998, 1 ♂; Poľana Mts, Kyslinky, Hučava valley (750 m a.s.l.), 18.vi.2003, 1 ♂ (at light); Poľana Mts, “Hrončekový grúň” (800–900 m a.s.l.), 10.vi.1999, 1 ♂, 12.vi.1999, 3 ♂; Poľana Mts, Hronček valley, (700 m a.s.l.), 12.vi.1999, 1 ♂; Poľana Mts, Čierny Potok (700 m a.s.l.), 3.vii.2000, 3 ♂ (at light), 4.vii.2000, 2 ♂ (at light), 6.vii.2000, 1 ♂ (at light), 7.vii.2000, 2 ♂ (at light), 13.vi.2007, 1 ♂ (at light); Bukovské vrchy [hills], Ruské, Cirocha shores, 7.vi.1985, 1 ♂; Bukovské vrchy [hills], Ruský Potok, valley, 10.vi.1985, 1 ♂ [the latter two localities listed under *lucidula* by Starý 1995] (all J. Starý leg.) (JSO). Sweden: Sk., Kullaberg, Djupadal, 1 ♂ (B. Tjeder leg.) (JSO).

*Discussion.* *Gonomyia (Gonomyia) abscondita* is distinctive in having the pleuron patterned with brown, with mostly a distinct central spot on the upper part of the katapisternum. This character, not well pronounced in commonly occurring teneral specimens, moreover variable in extent of the patterning, is, however, also shared by *G. (G.) securiformis* sp. n. The following combination of characters is decisive for *G. (G.) abscondita* (Figs 2a–c): outer gonostylus short, only slightly exceeding inner gonostylus, gradually tapered to subacute tip; inner gonostylus with only tiny bump at outer base; both parameres pointed at tips, left one longer, darkly pigmented distally, right shorter and pale; aedeagus with apical portion generally rounded and aedeagal duct ending in middle of its posterior margin.

The original figures of *G. (G.) abscondita* by Lackschewitz (1935, Figs 7a–d) depict the characteristic shape of the aedeagus, but the outer gonostyli appear rather long in Figs 7b–c. The dissected terminalia of the lectotype, mounted between celluloid slides (see Type material examined), show, however, the outer gonostyli of the correct shape and length. The figures by Starý & Rozkošný (1970, Figs 63, 69) under *G. (G.) abscondita* belong to that species based on the aedeagus and parameres. The illustrations given under *G. (G.) abscondita* by Podenas *et al.* (2006, Figs 14.1–14.2) were copied from Starý & Rozkošný (1970), as were those in Savchenko (1982, Figs 139/6, 140/6) (see Discussion of *lucidula*). The figure by Agrell (1945, Fig. 2), based mainly on the aedeagus, clearly indicates that *G. (G.) sulphurea* Agrell, 1945 is identical with *G. (G.) abscondita*, and the former is here confirmed, in accordance with Savchenko *et al.* (1992), as a junior synonym of the latter.

*Distribution.* Based on the material examined here, *G. (G.) abscondita* is known from Austria, Bulgaria, Czech Republic, Germany, Great Britain, Italy, Netherlands, Slovakia, and Sweden. The data from Bulgaria and the Netherlands may be considered new country records. The record from Ukraine (Savchenko 1982) is probably correct. Other records (Savchenko *et al.* 1992, Oosterbroek 2009) need confirmation.

### 2.3. *Gonomyia (Gonomyia) securiformis* sp. n. (Figs 3a–c)

*Description.* Male. Medium-sized species within *Gonomyia*. Wing length 5.3–8.0 mm. Prescutum deeply dark brown. Pleuron sulphur yellow, with distinct dark brown pattern. In general resembling *G. (G.) abscondita*, but larger and with darker body colouration.

Male terminalia (Figs 3a–c). Outer gonostylus pale, comparatively long, exceeding inner gonostylus by nearly half its length, flattened laterally in proximal part, becoming flattened dorsoventrally in distal part, latter slightly expanded in dorsal aspect; apex of outer gonostylus rounded or obliquely truncate, with short inner point. Inner gonostylus generally as in other species, with its inner (medial) part slightly broader and outer (lateral) part more slender than those of *G. (G.) lucidula*. Sharp dark tooth at outer base of inner gonostylus, provided with basal seta (tooth sometimes smaller and less pigmented than in *G. (G.) lucidula*). Both parameres darkly pigmented

distally and pointed at tips, stouter and more undulated than those of *G. (G.) lucidula*; right, shorter paramere sometimes less pigmented. Aedeagus with apical portion conspicuously extended to both sides in lateral aspect, giving apex of aedeagus axe-shaped or cleaver-shaped appearance; ventral subapical excision wide; no distinct projection proximal to it. Distal part of aedeagal duct considerably downcurved, ending at posteroventral edge of apical portion.

Female. Resembles male in general appearance, not reliably distinguished from females of other species, just larger.

*Type material.* Holotype ♂: Czech Republic, Moravia, Hrubý Jeseník Mts (= Jeseníky Mts), Velká kotlina (over 1,200 m a.s.l.), 15.vi.1988 (J. Starý leg) (SMOC). The specimen is glued onto a triangular cardboard point, with only left mid leg missing; apex of abdomen cut off. Terminalia dissected by the present author and placed in a sealed plastic tube with glycerine, pinned with the specimen. Paratypes (36 ♂, 16 ♀): Bulgaria: Vitosha Mt., (upper tree limit), 10.vi.1984, 1 ♂ (W.

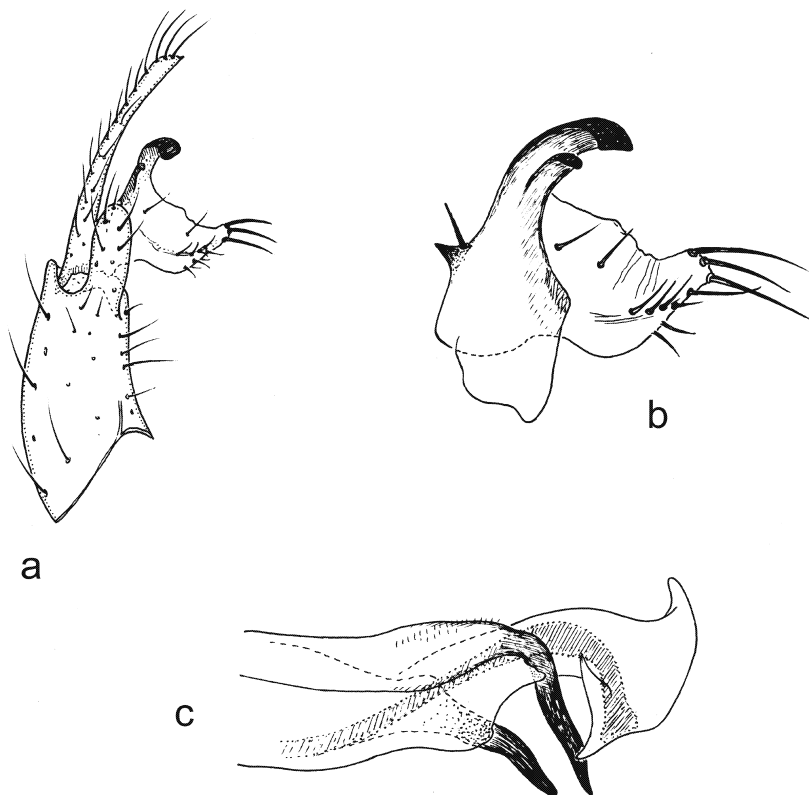


Fig. 3. *Gonomyia (Gonomyia) securiformis* sp. n. (paratype, Czech Republic: Moravia), male terminalia.  
– a. Gonocoxite and gonostyli, dorsal.  
– b. Inner gonostylus, dorsal. – c. Aedeagus, lateral.



Krzemiński leg.) (JSO). Czech Republic: Bohemia: Krkonoše Mts, Bílé Labe (1,250 m a.s.l.), 14.–21.vi.2007, 1 ♂ (Malaise trap) (M. Barták & J. Vaněk leg.) (JSO). Moravia: Hrubý Jeseník Mts, Branná, “Dembrauda” (900 m a.s.l.), 15.vii.1972, 1 ♂; Hrubý Jeseník Mts, Kouty nad Desnou, Divoká Desná valley, “Zámčisko” (970 m a.s.l.), 2.vi.2003, 7 ♂, 3 ♀, 26.vi.2003, 3 ♂, 8.vii.2004, 1 ♂, 1 ♀, 27.vii.2006, 8 ♂, 1 ♀ (all at light); Hrubý Jeseník Mts, Velká kotlina (over 1,200 m a.s.l.), 15.vi.1988, 4 ♂, 1 ♀, 2.vii.2002, 5 ♂, 10 ♀; Hrubý Jeseník Mts, Vidly, “Jelení bučina” (900 m a.s.l.), 20.vi.2000, 1 ♂, 21.vi.2001, 1 ♂ (all J. Starý leg.) (JSO). Italy: Prali (TO), Ribba, Miande Bont du Col (1,750 m a.s.l.), 3.vii.1998, 1 ♂ (G.B. Delmastro leg.); Castelmagno (CN), V.ne Siboleti (1,770 m a.s.l.), 8.vi.2001, 1 ♂ (G.F. & G.B. Delmastro leg.) (JSO). Switzerland: Canton Valais: Aletschwald, Teiffenwald (1,800 m a.s.l.), 4.vii.1996, 1 ♂ (J. Starý leg.) (JSO).

*Etymology.* The name of this new species, *securiformis* (= axe-shaped), refers to the shape of its aedeagus. An adjective in nominative singular.

*Discussion.* *Gonomyia (Gonomyia) securiformis* sp. n. most resembles *G. (G.) abscondita* in general appearance in having the pleuron distinctly patterned with brown. It may be distinguished from the latter, as well as from the other species, by its larger size, but this character varies considerably, and the sizes overlap to a certain degree. The following combination of characters is species-specific for *G. (G.) securiformis* sp. n. (Figs 3a–c): outer gonostylus long, exceeding inner gonostylus by nearly half its length, slightly expanded distally, rounded or obliquely truncate at apex; inner gonostylus with distinct tooth at outer base; both parameres darkly pigmented distally and pointed at tips; aedeagus with apical portion axe-shaped and aedeagal duct ending at its posteroventral edge.

*Distribution.* Bulgaria, Czech Republic, Italy, Switzerland. In the Czech Republic, the species was found to be syntopic with both *G. (G.) lucidula* and *G. (G.) abscondita* at the locality Hrubý Jeseník Mts, Branná, “Dembrauda” (see Material examined).

#### 2.4. *Gonomyia (Gonomyia) undiformis* sp. n. (Figs 4a–c)

*Description.* Male. Small species within *Gonomyia*. Wing length 5.2–6.1 mm. Prescutum brown. Pleuron pale yellow, without any distinct brown pattern, but obscure yellow stains sometimes apparent. In general resembling *G. (G.) lucidula*.

Male terminalia (Figs 4a–c). Outer gonostylus shorter than that in *G. (G.) securiformis* sp. n., exceeding inner gonostylus by about one-third its length, otherwise much as in the latter species, pale, slightly expanded distally in dorsal aspect, apex rounded or obliquely truncate, with short inner point. Inner gonostylus with its inner (medial) part similar to others; outer (lateral) part strongly pigmented, with longer lobe produced into sharp curved black hook and shorter lobe very broad. Outer base of inner gonostylus with tiny pale bump with projecting seta, similar to *G. (G.) abscondita*. Left, longer paramere darkly pigmented distally and pointed at tip; right, shorter paramere pale, very stout and obtuse at tip. Aedeagus different from those of other species, not expanded apically, nor excised ventrally, or very shallowly so, rather parallel-sided and irregularly undulate, with numerous microscopic setulae dorsally near tip, discernible at higher magnifications. Distal part of aedeagal duct not reaching posterior margin of aedeagus.

Female. Resembles male in general appearance, not reliably distinguished from females of other species.

*Type material.* Holotype ♂: Slovakia, Červený Kláštor, Dunajec valley, 30.v.2000 (J. Starý leg.) (SMOC). The specimen is glued onto a triangular cardboard point, with only right mid and hind legs missing; apex of abdomen cut off. Terminalia dissected by the present author and placed in a sealed plastic tube with glycerine, pinned with the specimen. Paratypes (3 ♂, 1 ♀): Slovakia: Belianske Tatry Mts, Tristárska dolina [valley], 26.vi.1975, 1 ♂; Červený Kláštor, Dunajec valley, 30.v.2000, 2 ♂, 1 ♀ (all J. Starý leg.) (JSO).

*Etymology.* The name of this new species, *undiformis* (= undulate), refers to the shape of its aedeagus. An adjective in nominative singular.

*Discussion.* This new species most resembles

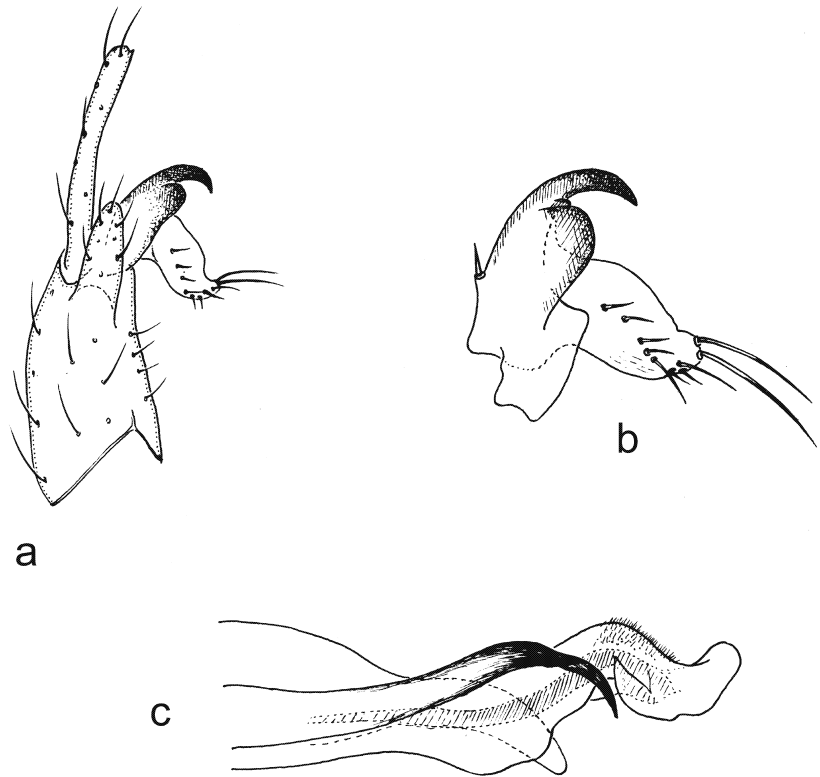


Fig. 4. *Gonomyia (Gonomyia) undiformis* sp. n. (paratype), male terminalia. – a. Gonocoxite and gonostyli, dorsal. – b. Inner gonostylus, dorsal. – c. Aedeagus, lateral.

*G. (G.) lucidula* in general appearance, sharing with it an almost unpatterned pleuron. The following combination of characters is species-specific for *G. (G.) undiformis* sp. n. (Figs 4a–c): outer gonostylus moderately long, exceeding inner gonostylus by about one-third its length, slightly expanded distally, rounded or obliquely truncate at apex; inner gonostylus with only tiny bump at outer base; left, longer paramere darkly pigmented distally, pointed at tip, right, shorter one pale and obtuse at tip; aedeagus not expanded apically, rather undulate, with aedeagal duct not reaching its posterior margin.

*Distribution.* Slovakia.

*Acknowledgements.* I am deeply indebted to those who helped me in the initial phase of the preparation of this paper by providing specimens for examination: R. Contreras-Lichtenberg (then NHMW), A.M. Hutson (then BMNH), the late H. Mendl (Kempten/Allgäu, Germany), H. Schumann (then ZMHB), J. Stehlík and P. Lauterer (then MMBC), and the late T. van Leeuwen (then ZMAN). The following were of help to me recently: M. Barták (Česká zemědělská univerzita, Praha, Czech Republic), G.B. Delmastro (Museo Civico di Storia Naturale, Carmagnola,

Italy), F. Menzel (SDEI), P. Oosterbroek (ZMAN), P. Štys (Karlova univerzita, Prague, Czech Republic), and J. Ziegler (ZMHB). F. Brodo (Ottawa, Canada) kindly checked and improved the English. The work was supported by grant No. MSM6198959212 from the Czech Ministry of Education and by specific research project No. 913104021 from the Palacký University, Olomouc, Czech Republic.

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