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New and little known Palearctic species of the genus *Hydraena* (s.l.) KUGELANN X. Descriptions of four new species from southern Europe, and taxonomic review of the *H. subintegra* species complex (Coleoptera: Hydraenidae)

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Abstract

Four new species of *Hydraena* KUGELANN are described: *H. biltoni* (Montenegro) (*H. riparia* group), *H. malagricola* (Portugal) (*H. bisulcata* group), *H. optica* (Portugal) (*H. rufipes* group), and *H. valentini* (Greece) (*H. gracilis* species group ('*Haenydra* lineage')). The latter is split off from *H. subintegra* GANGLBAUER, which is reviewed taxonomically. *Hydraena aroensis* (FERRO), currently regarded as a subspecies of *H. subintegra*, is formally reinstated as a species propria. A lectotype is designated for *H. homogyna* APFELBECK. *Hydraena isabelae* CASTRO & HERRERA is recorded from Portugal for the first time.

Key words: Coleoptera, Hydraenidae, *Hydraena*, taxonomy, new species, Greece, Montenegro, Portugal.

Introduction

Since the year 2000, a total of 12 new species of *Hydraena* KUGELANN has been described from Europe: *H. arachthi* FERRO & JÄCH, 2000, *H. hortensis* JÄCH & DÍAZ, 2000, *H. mecai* MILLÁN & AGUILERA, 2000, *H. quetiae* CASTRO, 2000, *H. larissae* JÄCH & DÍAZ, 2000, *H. madronensis* CASTRO, GARCÍA & FERRERAS, 2000, *H. imbria* JÄCH & DÍAZ, 2001, *H. isabelae* CASTRO & HERRERA, 2001, *H. marinae* CASTRO, 2004, *H. chersonesica* JÄCH, DÍAZ & PRZEWOŹNY, 2007, *H. diazi* TRIZZINO, JÄCH & RIBERA, 2011, and *H. fosterorum* TRIZZINO, JÄCH & RIBERA, 2011.

Field work in Portugal and Montenegro by D. Bilton and G.N. Foster yielded three unknown species, which are described herein. A fourth species, which was hitherto confounded with *H. subintegra* GANGLBAUER from Greece is also described as new.

Acronyms and Abbreviations:

CBP	Coll. Bilton, Plymouth, U.K.
CDS	Coll. Díaz, Santiago de Compostela, Spain
CFA	Coll. Foster, Ayr [to be deposited in Hunterian Museum, University of Glasgow]
CPL	Coll. Pretner, Ljubljana, Slovenia
CSH	Coll. Skale, Hof/Saale, Germany
MCB	Museu de Ciències Naturals (Museu de Zoologia), Barcelona, Spain
NMW	Naturhistorisches Museum Wien, Austria
TMB	Magyar Természettudományi Múzeum, Budapest [Hungarian Natural History Museum]
PL	Projected Length of aedeagus

Hydraena (s.str.) *biltoni* sp.n.

TYPE LOCALITY (Fig. 12): Hygropetric rock face at Komarnica River, Komarnice Canyon, ca. 900 m a.s.l., ca. 3 km S of Komarnica, 5 km NNW of Šavnik, Montenegro.

TYPE MATERIAL: **Holotype** ♂ (NMW): "MONTENEGRO: Šavnik Komarnica Reka in Kanjon Komarnice ca. 3 km S of Komarnica 27.-28.VI.[20]09, leg. D. Bilton". **Paratypes** (CBP, CFA, NMW): 10 exs. (5 ♂♂, 5 ♀♀): same locality data as holotype; 1 ♂, 10 ♀♀: "MONTENEGRO: Šavnik Bukovica Reka above Šavnik 27.VI.[20]09, leg. D. Bilton"; 1 ♂: "MONTENEGRO: Kolašin small stream beside Biogradsko Jezero 29.VI.[20]09, leg. D. Bilton".

DIFFERENTIAL DIAGNOSIS: Body length: 2.00–2.15 mm. Externally, this species agrees perfectly with *Hydraena morio* KIESENWETTER. We could not find any significant external distinguishing character.

Aedeagus (Fig. 3a–b): The main piece differs from that of *H. morio* (Fig. 4a–b) mainly in the subapical appendage, which is branched and larger than in *H. morio*. In addition, the apex of the main piece is slightly less distinctly excised subapically on the right side. The distal lobe differs from that of *H. morio* in the slightly larger flagellum.

Gonocoxite (Fig. 3c) very similar to that of *H. morio* (Fig. 4c): subtrapezoidal, transverse; sometimes weakly emarginate apically (rather distinctly emarginate in *H. morio*). Cavea large, regularly oval (bean-shaped, posteriorly emarginate in *H. morio*). More material has to be examined to clarify, whether these differences are really significant.

Female tergite X (Fig. 3d) apparently not significantly different from that of *H. morio* (Fig. 4d). Differences in shape and proportion may be due to individual variability.

Spermatheca (Fig. 3e–f) more or less identical with that of *H. morio* (Fig. 4e–f).

NOTE: DNA sequence data of *H. biltoni*, confirming its specific status, are available (see TRIZZINO et al. in press). Voucher specimens are deposited in the MCB.

HABITAT: At the type locality (Fig. 12), all specimens were collected from a hygropetric rock face. The single male from Kolašin was found in organic silt at the margins of a shaded stream in woodland (Fig. 13).

DISTRIBUTION: So far known only from northern/north-central Montenegro (near Dormitor National Park and near Biogradska Gora National Park).

Remarkably, *Hydraena biltoni* and its sibling *H. morio* are sympatric. There are numerous specimens of *H. morio* from Kolašin deposited in the NMW.

ETYMOLOGY: Named for David Bilton (Plymouth), who collected the type specimens and realized that these specimens in fact represent a discrete species.

Hydraena (s.str.) *malagricola* sp.n.

TYPE LOCALITY (Fig. 14): Small stream near Fornalha [Barranco da Corte, acc. to 1:25,000 Carta Militar de Portugal], ca. 5 m wide, ca. 300 m a.s.l., 37°17'54.0"N 8°30'48.5"W, ca. 5.3 km E of Caldas de Monchique, Serra de Monchique, Algarve, Faro Province, southwestern Portugal.

TYPE MATERIAL: **Holotype** ♂ (NMW): "PORTUGAL: Algarve N 37°17'54.0" W 8°30'48.5" UTM 29S 05432 41280 stream near Fornalha G N Foster 16 October 2007". **Paratypes** (CFA, NMW): 1 ♂: "PORTUGAL: Algarve: 29S 0545 4128 stream 5.3 km E of Rouxinol on road to Formalha [Fornalha] leg. G N Foster 15.iv.2005"; 2 ♂♂: "PORTUGAL: Algarve N 37°20'13.0" W 8°34'27.2" UTM 29S 05379 41326 Barranco dos Piseõs leg. G N Foster 15.10.2007"; 1 ♂: "PORTUGAL: Algarve UTM 29S 05379 41326 Barranco dos Piseõs leg. G N Foster 15.10.2007".

Fig. 1: *Hydraena malagricola*, holotype.

Fig. 2: *Hydraena optica*, holotype.

DIAGNOSIS: Habitus as in Fig. 1. Body length: 1.8–2.0 mm. Externally, this species agrees perfectly with *Hydraena inapicipalpis* PIC. We could not find any significant external distinguishing character.

Aedeagus (Fig. 5a–b): Main piece (PL: ca. 410 µm) in lateral view strongly curved basally, then more or less straight until apex, distinctly attenuate after middle, in dorsal/ventral view apex distinctly curved to right side; dorsal face in apical area with four setae, two very tiny ones just below the tip, and two larger ones with blunt apices further proximal; phallobase more or less symmetrical. Distal lobe rather simple, composed of a long hyaline base with a flat hyaline appendage and a moderately long flagellum. Parameres long and slender, hardly dilated apically, with rows of long, not very densely set setae along apex; right paramere slightly longer than left one, almost reaching tip of main piece.

The aedeagus of *H. inapicipalpis* differs from that of *H. malagricola* in the following characters: Main piece distinctly shorter (PL = ca. 330 µm), apex longer, not curved to right side in dorsal/ventral view; distal lobe inserted more close to apex, hyaline appendage and flagellum shorter.

Female unknown.

VARIABILITY: The dorsum of the holotype and three paratypes of *H. malagricola* is entirely black, in the forth paratype the elytra and the anterior pronotal corners are brown. (The elytra and in most cases the anterior margin of the specimens of *H. inapicipalpis* deposited in the NMW – from eight localities in France, Spain, Portugal – are brownish).

The legs of the holotype are slightly thicker, the meso- and metatibiae are more distinctly curved, and the metatibia is more strongly dilated subapically than in the paratypes.

The elytral punctation in the basal third varies from slightly irregular to strongly and rugosely irregular. In one of the paratypes the elytra are quite distinctly impressed subasally.

FAUNAL ASSOCIATION: *Hydraena malagricola* was collected together with *H. corrugis* ORCHYMONT, *H. isabelae* CASTRO & HERRERA (first record from Portugal), *H. optica*, *H. unca* VALLADARES DÍEZ (all from the type locality), and *Anacaena globulus* (PAYKULL) (Barranco dos Piseõs).

DISTRIBUTION: So far known only from two localities in the Serra de Monchique (southwestern Portugal).

ETYMOLOGY: Malus (Latin: wicked), and agricola (Latin: farmer). Named in memory of a local farmer, who disapproved Garth Fosters collecting activities in the Barranco dos Piseõs.

Hydraena (s.str.) *optica* sp.n.

TYPE LOCALITY (Fig. 14): Small stream near Fornalha [Barranco da Corte, acc. to 1:25,000 Carta Militar de Portugal], ca. 5 m wide, ca. 300 m a.s.l., 37°17'54.0"N 8°30'48.5"W, ca. 5.3 km E of Caldas de Monchique, Serra de Monchique, Algarve, Faro Province, southwestern Portugal.

TYPE MATERIAL: **Holotype** ♂ (NMW): "28/iii/2010 Portugal Algarve Serra do Monchique stream ca. 0.5 km W of Fornalha D.T. Bilton leg.". **Paratypes**: 1 ♂ (CFA): "PORTUGAL: Algarve 29 S 0545 4128 866 ft 5.3 km Foelha [Fornalha] road @ "F Alferce 42" G N Foster 25.4.2005"; 1 ♀ (NMW): "PORTUGAL: Algarve: 29S 0545 4128 stream 5.3 km E of Rouxinol on road to Formalha [Fornalha] leg. G N Foster 15.iv.2005".

Note: Despite deviating label notations all three type specimens were collected in the same stream (D. Bilton, email of 28.IV.2011).

PHYLOGENETIC RELATIONSHIPS: *Hydraena optica* is a member of the *H. angulosa* subgroup, as defined by BERTHÉLEMY et al. (1992: 188). This subgroup of the *H. rufipes* group

includes the following eight species: *H. angulosa* MULSANT, *H. balearica* ORCHYMONT, *H. delia* BALFOUR-BROWNE, *H. rigua* ORCHYMONT, *H. rivularis* GUILLEBEAU, *H. rufipennis* BOSCÁ BERGA, *H. stussineri* KUWERT, and *H. subirregularis* PIC. All these species are more or less characterized by the elytral margin being rather abruptly constricted subbasally.

Only one of these species, i.e. *H. stussineri*, occurs in Portugal (as well as in Spain and France), *H. delia* is known from France and Spain, *H. angulosa* and *H. rufipennis* are wide-spread from Spain to Italy, *H. rigua* and *H. rivularis* occur in the Maghreb States of North Africa. *Hydraena balearica* is endemic to the Balearic Islands, *H. subirregularis* to Italy.

The new species is obviously most closely related with *H. angulosa* and *H. rivularis*.

DIAGNOSIS: Habitus as in Fig. 2. Body length: 1.70 mm.

Due to the variability of the elytral convexity and punctation this species cannot be distinguished easily from *H. angulosa*, *H. delia*, *H. stussineri* and *H. subirregularis* without genital dissection. In *H. rivularis*, and *H. rufipennis* the elytral gutter is usually less strongly explanate (narrower and/or more declivitous), in *H. rigua* the elytra are somewhat more subparallel-sided and convex (in cross-section). *Hydraena balearica* differs from all other species of the subgroup in the regular elytral striae.

Aedeagus (Fig. 6a–b): Main piece (PL: ca. 540 µm) distinctly curved (lateral view) and multisinuous (ventral/dorsal view), very slender, medially with distinct lateral expansion on right side (ventral/dorsal view); dorso-lateral margin with a row of seven stronger setae near middle; apex obliquely truncate (lateral view), more or less rounded (ventral/dorsal view), very densely setose dorsally; phallobase more or less symmetrical. Distal lobe rather simple, tubular, distinctly angulate. Parameres slender, not noticeably dilated apically; apices with long, partly curly setae along margins; right paramere longer than left one, almost reaching base of distal lobe.

The aedeagus of *H. optica* is very similar to those of *H. angulosa* (see JÄCH 1994: Fig. 8) and especially *H. rivularis* (see BERTHÉLEMY et al. 1992: Fig. 4e–h). In *H. angulosa* the lateral expansion of the main piece and the setae of the dorsal margin are further distal; the apex of the main piece is widely rounded instead of obliquely truncate (ventral/dorsal view); the distal lobe is shorter. In *H. rivularis* there is no distinct lateral expansion of the main piece and the setae of the dorsal margin are further distal.

Gonocoxite (Fig. 6c) subquadrate; basal apophyses projecting, pointing laterad; inner plate distinctly protruding basally, forming a distinctly sclerotized, oval ring; cavea moderately large, subcordiform.

Female tergite X (Fig. 6d) wider than long; subsemicircular; disc with about 30–40 squamose multifid setae and about two trichoid setae; subapical fringe with vermiform setae, laterally with a few longer trichoid setae; subapical rim and hyaline margin emarginate medially.

Spermatheca (Fig. 6e–f): proximal portion semi-crescentic, medially wrinkled; distal portion rather small.

VARIABILITY: As in the other species of this subgroup the elytral striae vary from almost regular (holotype) to distinctly irregular (female paratype). The elytra of the holotype are flatter than in the paratypes.

FAUNAL ASSOCIATION: *Hydraena optica* was collected together with *Hydraena corrugis*, *H. isabelae*, *H. malagricola*, and *H. unca*.

DISTRIBUTION: So far known only from the type locality.

ETYMOLOGY: The epithet “optica” is an anagram of Picota (773 m), second highest peak of the Serra de Monchique.

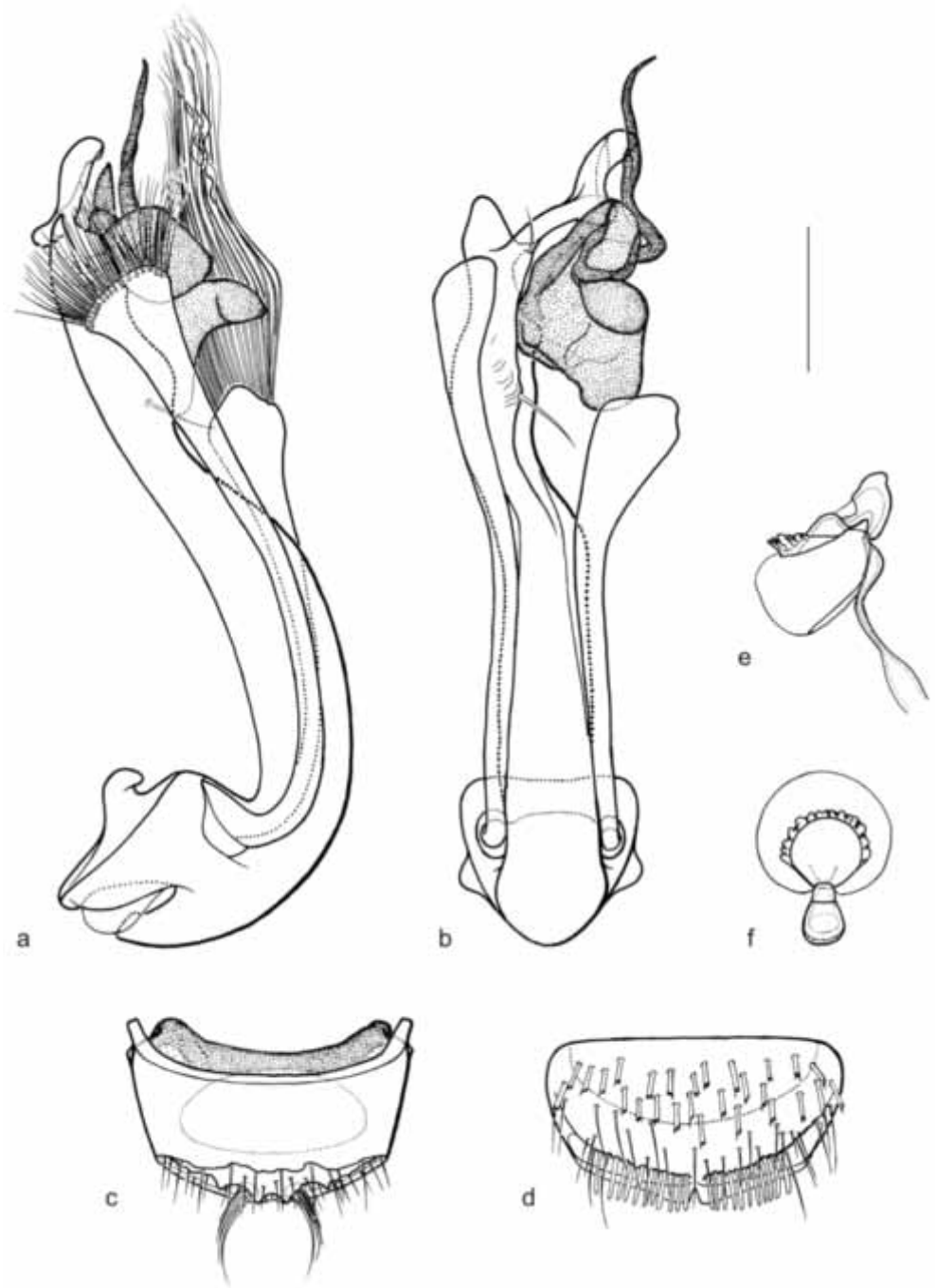


Fig. 3: *Hydraena biltoni*: a–b) aedeagus in lateral view (a) and dorsal view (b: setae of parameres not depicted); c) gonocoxite; d) female tergite X; e–f) spermatheca.

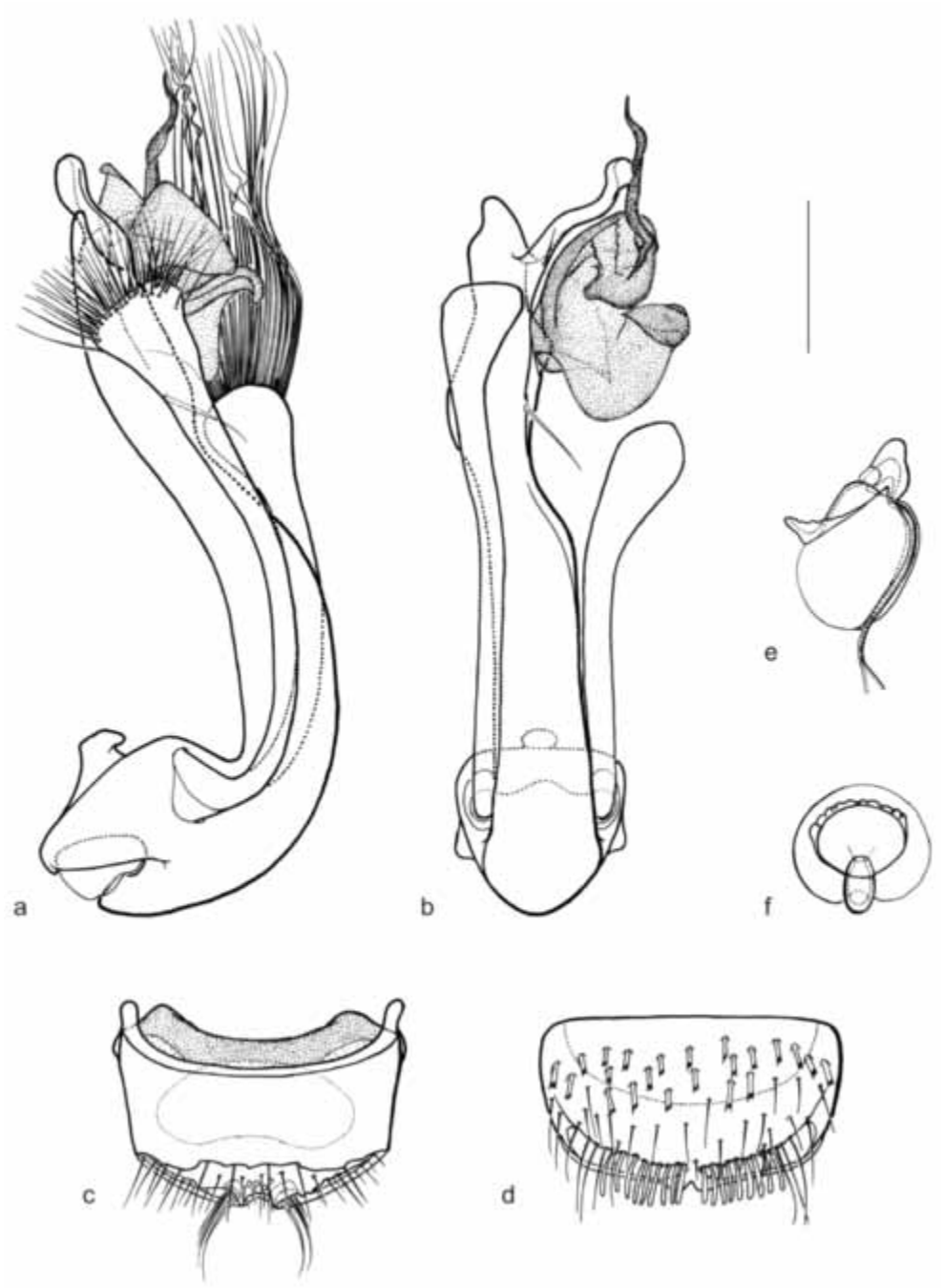


Fig. 4: *Hydraena morio*: a–b) aedeagus in lateral view (a) and dorsal view (b: setae of parameres not depicted); c) gonocoxite; d) female tergite X; e–f) spermatheca.

Fig. 5: *Hydraena malagricola*: a–b) aedeagus in lateral view (a) and dorsal view (b: setae of parameres not depicted).

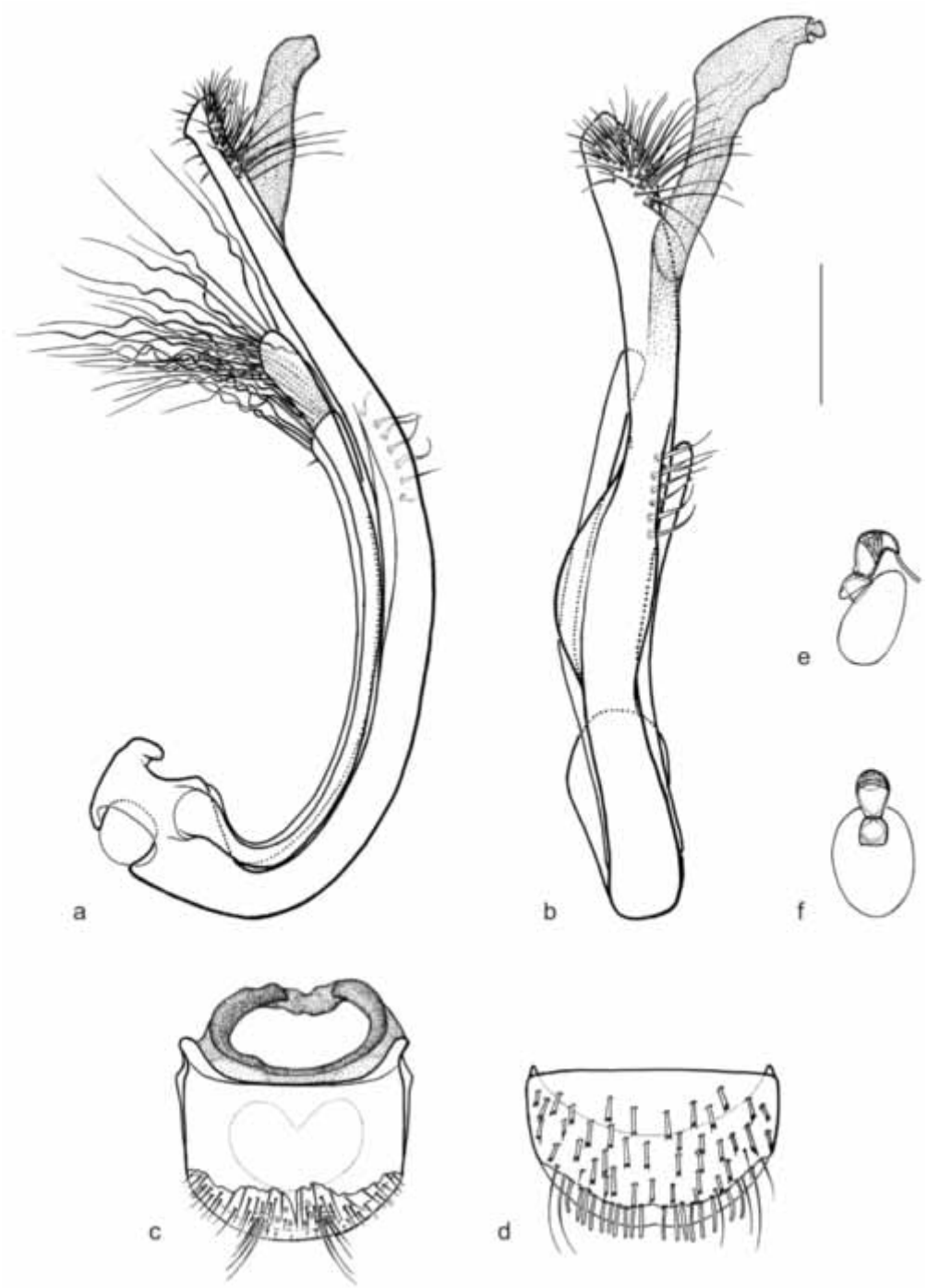


Fig. 6: *Hydraena optica*: a–b) aedeagus in lateral view (a: apical part of distal lobe not seen in this view) and dorsal view (b: setae of parameres not depicted); c) gonocoxite; d) female tergite X; e–f) spermatheca.

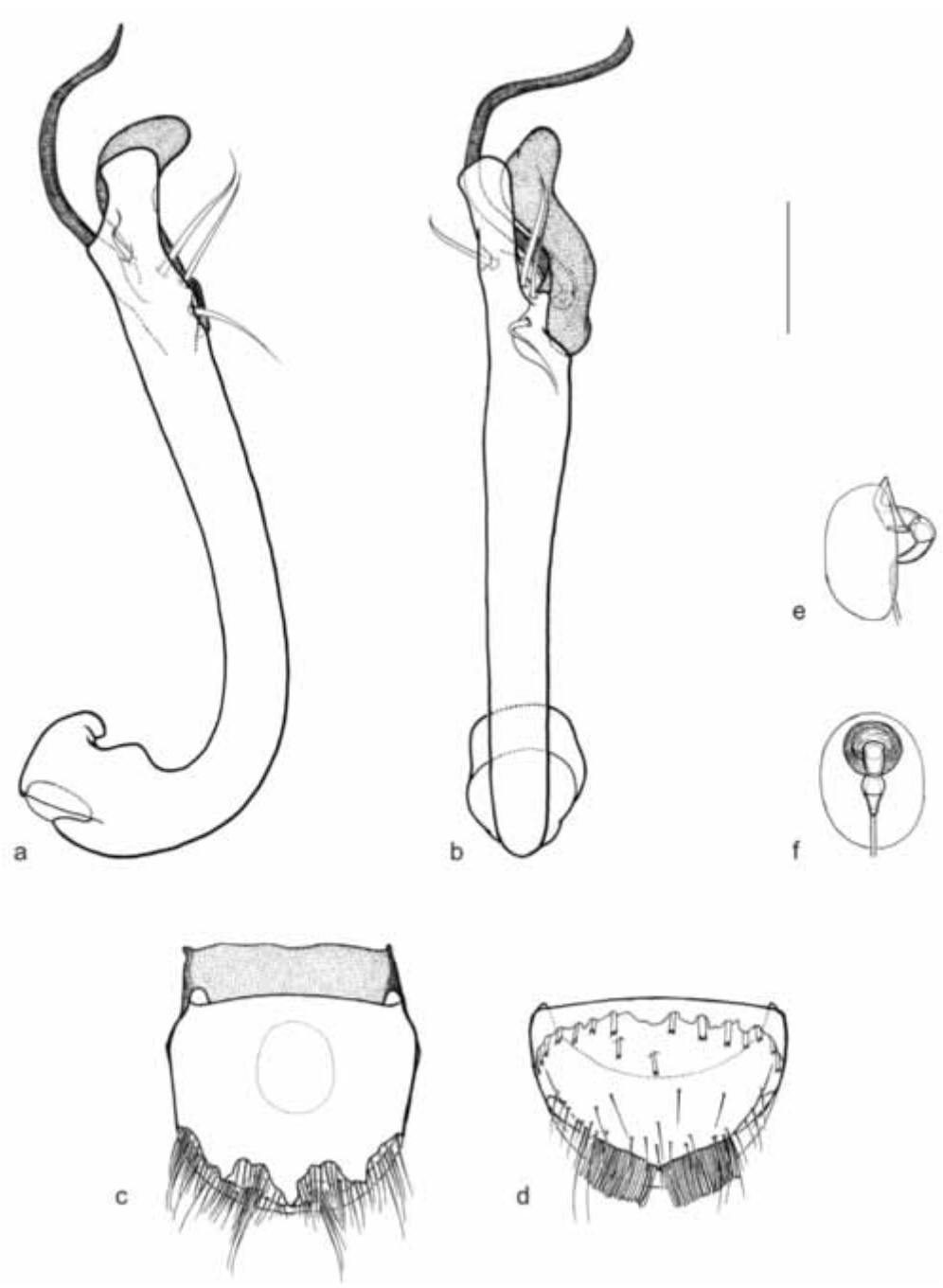


Fig. 7: *Hydraena aroensis*: a–b) aedeagus in lateral view (a) and dorsal view (b); c) gonocoxite; d) female tergite X; e–f) spermatheca.

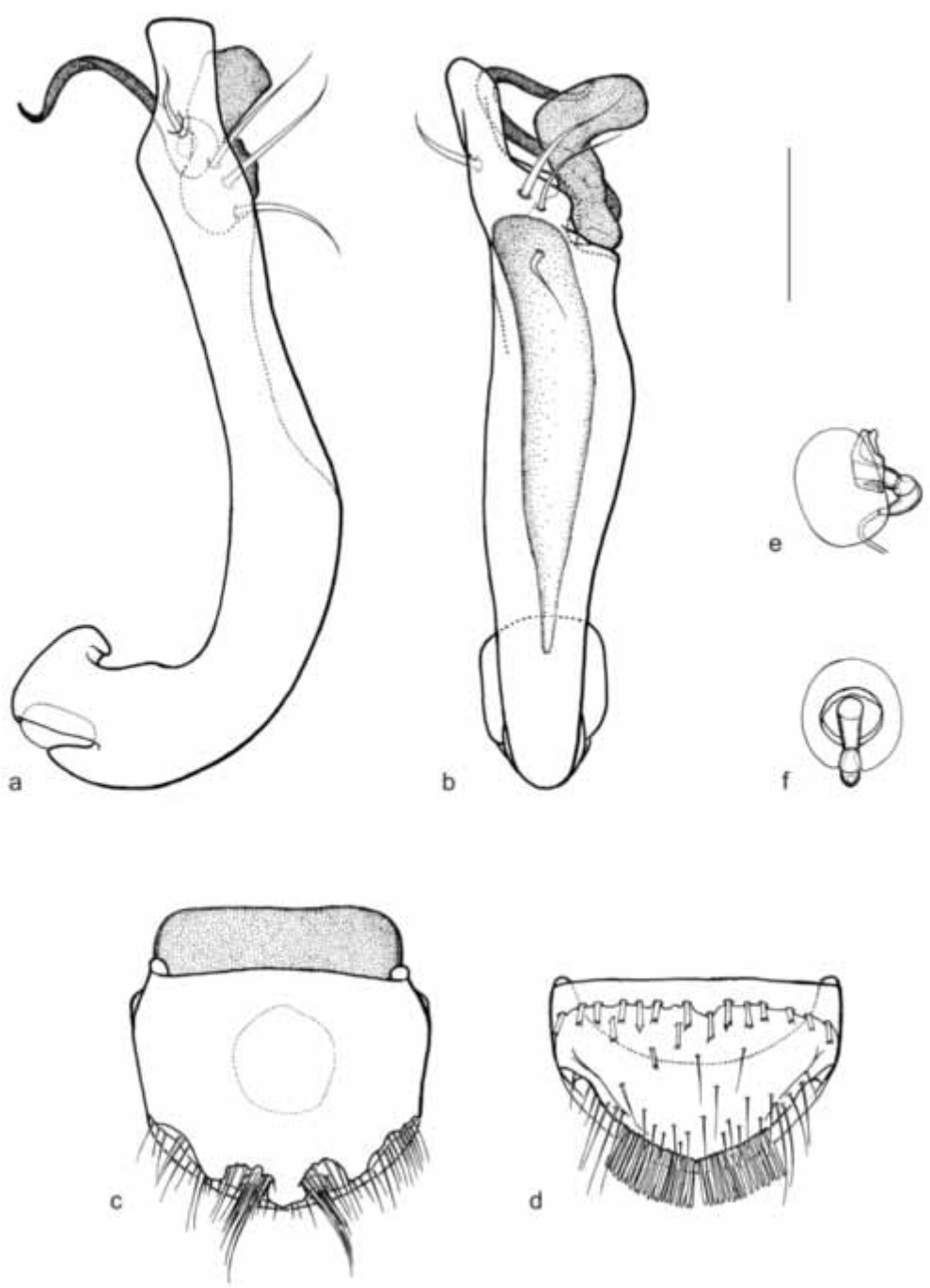


Fig. 8: *Hydraena subintegra*, specimens from Montenegro: a–b) aedeagus in lateral view (a) and dorsal view (b); c) gonocoxite; d) female tergite X; e–f) spermatheca.

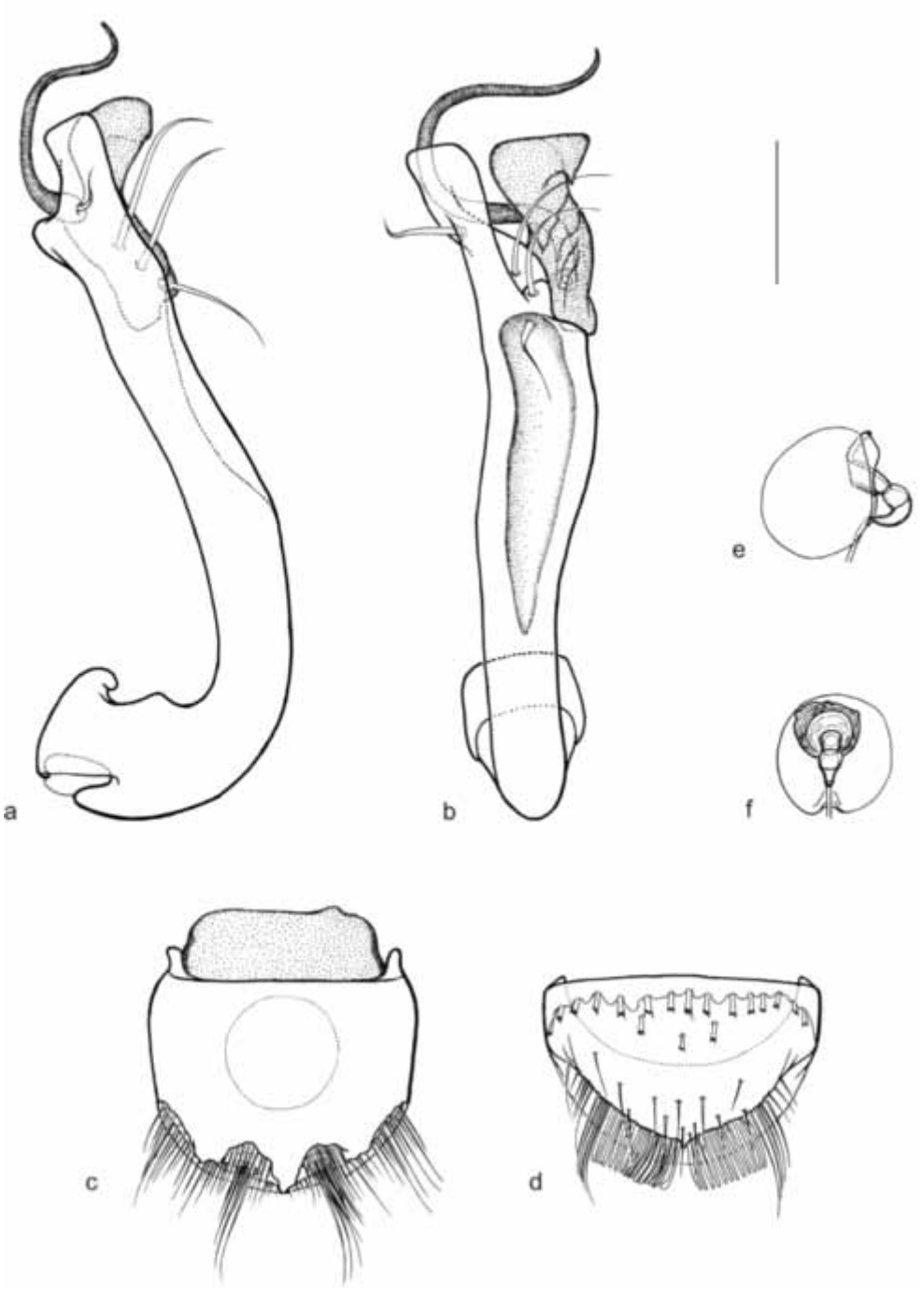


Fig. 9: *Hydraena valentini*, paratypes from type locality: a–b) aedeagus in lateral view (a) and dorsal view (b); c) gonocoxite; d) female tergite X; e–f) spermatheca.

Hydraena subintegra species complex

AUDISIO et al. (1996) concluded about *Hydraena subintegra* that "an obvious north-south cline exists, as regards the shape of the genitalia of this in fact widespread and relatively common species". Accordingly, they synonymized *H. aroensis* with *H. subintegra*. However, examination of additional material from Greece enables a better understanding of the variability within and between populations. As a matter of fact, *H. aroensis* is here re-established as a discrete species, and a new species, *H. valentini*, is described.

Given the interpopulational aedeagal variability of *H. subintegra* (in the strict sense) and *H. valentini*, even more siblings may have to be split off in the future (see below).

Hydraena aroensis (FERRO, 1992)

Haenydra aroensis FERRO 1992: 220 (orig. descr.).
Hydraena (*Haenydra*) *subintegra aroensis* (FERRO): AUDISIO et al. 1996; HANSEN 1998; JÄCH & AVTZIS 1999.
Hydraena (s.str.) *subintegra aroensis* (FERRO): JÄCH 2004.
Hydraena (s.str.) *aroensis* (FERRO): TRIZZINO et al. in press.

TYPE LOCALITY: Kato Ahaia (Κάτω Αχαΐα) [SW of Patras (Pátra, Πάτρα)], western part of department of Ahaia (Αχαΐα), northwestern Peloponnese (Peloponissos, Πελοπόνησος), southern Greece.

TAXONOMY: Due to its aedeagal morphology, *Hydraena aroensis* is here reinstated as a good species.

DIAGNOSIS: Aedeagus (Fig. 7a–b): Main piece (PL: ca. 470 µm) distinctly more slender than in *H. subintegra* and *H. valentini*; subapically very slightly produced, angulate (lateral view); dorsal face flattened, not deeply hollowed out. Flagellum of distal lobe slightly longer.

Gonocoxite, female tergite X, and spermatheca as in Fig. 7c–f.

DISTRIBUTION: Endemic to the northern Peloponnese.

Hydraena subintegra GANGLBAUER, 1901

Hydraena (*Haenydra*) *gracilis* var. *subintegra* GANGLBAUER 1901: 326 (orig. descr.); KNISCH 1924; PRETNER 1970.
Hydraena (*Haenydra*) *subintegra* GANGLBAUER: PRETNER 1931 [= *H. belgica* ORCHYMONT]; JÄCH 1990; AUDISIO et al. 1996; HANSEN 1998.
Hydraena (s.str.) *subintegra* GANGLBAUER: JÄCH et al. 2000; JÄCH 2004; RIBERA et al. 2011; TRIZZINO et al. in press.

Hydraena (*Haenydra*) *homogyna* APFELBECK 1909: 498 (orig. descr.); APFELBECK 1912; KNISCH 1924; PRETNER 1970; JÄCH 1990.
Haenydra homogyna (APFELBECK): IENIŞTEA 1978.
Hydraena (s.str.) *homogyna* APFELBECK: JÄCH 2004.

TYPE LOCALITY: Krupa Valley, southwest of Sarajevo, Bosnia and Hercegovina.

SYNONYMY: *Hydraena homogyna* APFELBECK, 1909 (first published by PRETNER 1970, formally established by JÄCH 1990).

TYPE LOCALITY: Krupa Valley, near Pazarić [southwest of Sarajevo], Bosnia and Hercegovina.

TYPE MATERIAL: The total number of syntypes was not specified in the original description, where only one locality is listed (see also APFELBECK 1912[1]: 659). **Lectotype** ♂ (NMW), by present designation: "Apfelbeck Pazarić \ homogyna Typ. Apf. [handwritten]". **Paralectotypes**: 36 exs. (NMW: 12, CPL: 17,

[1] Remarkably, the formal description of *H. homogyna* was published twice by the same author: The "original" description (APFELBECK 1909: 498) is compiled in Latin and Serbian, whereas the "second" description (APFELBECK 1912: 659) is printed in Latin and German and, in addition, includes an illustration of the aedeagus.

TMB: 7) labelled: "Pazarić Krupa-Th.", plus various handwritten original type- or identification labels. Additional syntypes are probably deposited in other European museums, e.g. the Zoologische Staatssammlung München, Germany.

The paralectotypes deposited in the CPL and TMB have unwarrantedly been provided with "holotype"-, "paratype"-, and "cotype"-labels by former curators.

DIAGNOSIS: Aedeagus (Figs. 8a–b, 10): Main piece (ca. 450–500 µm long), with three moderately long subapical setae and one on right face at base of apical appendage; in lateral view strongly curved near base, then more or less straight or very slightly curved ventrad, very rarely slightly bisinuous; ventral margin subapically straight or more or less strongly produced ventrad; dorsal side deeply hollowed out between basal 0.35 up to subapical part; apical appendage in lateral view about 70 µm long (somewhat variable in width), laterally flattened, slightly longer than wide, ventral margin concave; main piece in ventral view somewhat sinuous, left margin usually with short emargination before subapical angle. Distal lobe small and inconspicuous, hyaline and cylindrical, with a moderately long flagellum.

Three different aedeagal morphs, which are geographically separated, can be roughly discerned:

Morph "A" (Fig. 10a) occurs in former Yugoslavia (except eastern Macedonia) and Albania. Although we have not seen specimens from West Makedonía (Kastoría, Flórina) in Greece, it is expected to occur there. The main piece (PL: ca. 450–480 µm) is characterized in lateral view by the ventral margin being subapically rather distinctly produced ventrad.

Morph "B" (Fig. 10b) occurs in eastern Macedonia, Bulgaria and Greece (northern Makedonía). Main piece (PL: ca. 500 µm) in basal 0.3 usually wider than in morph "A" and ventral margin subapically usually not projecting.

Morph "C" (Fig. 10c): In the single male examined (NMW; Greece, southwestern Makedonía: Pieria Mts., Katerini, Agios Dimitrios, 800 m, VII.1990, leg. Schuh & Zabransky), the distal half of the main piece (PL: ca. 460 µm) is wider than in the two other morphs, and the ventral margin is very slightly produced subapically. Unfortunately, R. Schuh was not able to collect any additional specimen when he visited the same place in May 2011.

Gonocoxite, female tergite X, and spermatheca as in Fig. 8c–f.

DISCUSSION: The taxonomy of *Hydraena subintegra* (in the strict sense) is still not solved satisfactorily. More material, especially from Macedonia and north-central parts of Greece (West-Makedonía, western parts of Makedonía, northeastern Thessalia) is needed, to find out whether the three aedeagal morphs are genetically isolated or whether there are intermediates.

DNA sequence data are already available for Morph "B" (TRIZZINO et al. in press).

DISTRIBUTION: Croatia, Bosnia and Hercegovina, Serbia (incl. Kosovo), Montenegro, Albania, Macedonia, Bulgaria, Greece (so far confirmed only for Makedonía).

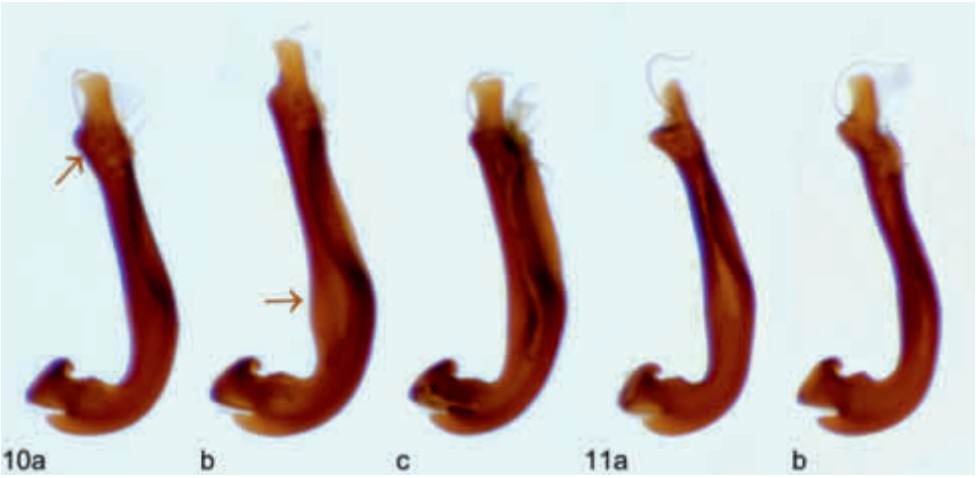
One female, labelled: "KERKYRA [Corfu] Valle Ropa [Ropa Valley] *Ropa bout de la Route* [handwritten, not clearly legible] 23 iv 1930 d'Orchym." is deposited in the Institut royal des Sciences naturelles de Belgique, Bruxelles. It very probably belongs to *H. subintegra*. However, in the absence of males it is not possible to identify this specimen with certainty. The senior author vainly searched for *H. subintegra* in Corfu in 2009.

Hydraena (s.str.) *valentini* sp.n.

TYPE LOCALITY: River, 5–10 m wide, shaded, with cold water, flowing through forest (*Pinus*, *Fagus*), substrate crystalline, 3 km NNE Grevenníti, 39°49.7'N 21°00.8'E, ca. 950 m a.s.l., department of Ioánnina, Ípiros, northwestern Greece.

TYPE MATERIAL: **Holotype** ♂ (NMW): "GR - Ioannina: 29.4.2000 NE Ioannina, 3 km NNE Grevenniti 39°49.7'N 21°00.8'E ca. 950 m, leg. Komarek, Schillhammer, Schönmann (23)". **Paratypes**: 17 exs. (CDS, CSH, NMW), same locality data as holotype; 1 ♂ (NMW): "GR Trikal[i]a, 23.9.1999 27 km E Ioannina, 590m [1170 m, acc. to M. Hess and U. Heckes, pers. com.] 39.67810 N 21.17560 E [Mt. Lakomos, ca. 2 km WSW Haliki] leg. Hess & Heckes (6)".

ADDITIONAL MATERIAL EXAMINED: 1 ♂, 1 ♀ (NMW): "Grecia, Evritania [Stereá Ellas] 5 km N Krikello m 1450 20.VIII. 1992 Audisio & De Biase leg"; 1 ♂, 1 ♀ (NMW): "GR - 92478 [east of] Chania [southeastern Thessalia, Magnisía, Pílion Mts., 930 m, 39°25'N 23°06'E] X.80 leg.Malicky".



Figs. 10–11: *Hydraena subintegra* complex, aedeagi; 10) *H. subintegra*, a) morph "A", Kosovo (Šar Planina), b) morph "B", Bulgaria (Rila Monastery), c) morph "C", Greece (southwestern Makedonía: Pieria Mts.); 11) *H. valentini*, a) Greece (southeastern Thessalia: Pílion Mts.), b) Greece (type locality). Arrows in Fig. 10 show diagnostic characters.

DIAGNOSIS: Externally, *Hydraena valentini* cannot be distinguished from *H. subintegra*.

Aedeagus (Figs. 9a–b, 11): Main piece (PL: ca. 456–464 µm) more slender than in *H. subintegra* (ventral and lateral view); subapically rather strongly produced ventrad (lateral view); distal lobe, incl. flagellum slightly longer.

Gonocoxite (Fig. 9c) very similar to those of *H. aroensis* (Fig. 7c) and *H. subintegra* (Fig. 8c). Possibly they can be distinguished by the basal condyles of the outer plate, which are longer and more lateral in the new species.

Female tergite X (Fig. 9d) not significantly different from those of *H. aroensis* (Fig. 7d) and *H. subintegra* (Fig. 8d).

Spermatheca (Fig. 9e–f): Proximal portion wrinkled as in *H. aroensis* (smooth in *H. subintegra*).

VARIABILITY: No notable variability was observed in the types. However, the males listed under "Additional material examined" deviate to some extent from the type material.

Figs. 12–13: Habitats of *H. biltoni*: 12) type locality, 13) small stream near Biogradsko Jezero, Kolašin, Montenegro.
Fig. 14: Type locality of *H. malagricola* and *H. optica*.

The male from Evritania (see AUDISIO et al. 1996: Figs. 29–30) differs very slightly from the type specimens in the apical process of the main piece being slightly narrower and the subapical ventral convexity being (hardly noticeably) less strongly produced (lateral view).

The male from Magnisía, Pílion Mountains (see Fig. 11a) differs rather markedly from the type specimens in the following aedeagal characters (lateral view): main piece wider (especially in basal 0.3) and more straight, subapically more strongly produced ventrad.

While the Evritania specimens may well belong to *H. valentini*, the specimens from Magnisía (Pílion Mts.) may represent a closely related, undescribed species. DNA sequencing as well as morphological examination of additional material will be necessary to elucidate this problem.

DISTRIBUTION: Greece. So far confirmed with certainty for the following provinces and departments: Ípiros (Ioánnina), Thessalia (Tríkala).

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