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Updating the *Hydraena* Fauna of Turkey (Coleoptera, Hydraenidae)

by M.A. Jäch

Abstract: The distribution of 50 Turkish species of the genus *Hydraena* is shown. Ten new species are described: *Hydraena cappadocica* n. sp., *H. tauricola* n. sp., *H. avuncula* n. sp., *H. ciliciensis* n. sp., *H. wewalkai* n. sp., *H. subgrandis* n. sp., *H. aurita* n. sp., *H. platynaspis* n.sp., *H. lycia* n. sp., *H. carica* n. sp. Two new synonymies are proposed: *Hydraena dentipalpis* Reitter(= *H. trapezuntina* syn. nov.) and *H. helena* d'Orchymont (= *H. bithynica* Janssens syn. nov.). All species are tentatively arranged in phylogenetic groups.

Key words: Coleoptera Hydraenidae – *Hydraena* – Turkey – new species – distribution.

The *Hydraena* fauna of Turkey is still not very well known. Recent publications include d'ORCHYMONT (1945), JANSSENS (1963, 1965, 1968, 1970, 1980) and FERRO (1934). I have attempted to group all known species phylogenetically. This phylogeny is based mainly on aedeagal homologies. No regard is paid to the species of *Haenydra*, which I consider a valid genus (due to the deviating shape of the antennal cupule). Ten new species, collected by G. Wewalka and the author between 1969 and 1983 are described.

I am very much obliged to Dr. L. Baert, Institut royale des Sciences Naturelles de Belgique (Brussels) for sending material of the d'Orchymont and Janssens collection. Thanks are due to Dr. P. Cate for correcting the English of the manuscript.

The scale next to the drawing of the genitalia represents 100 micrometer.

Subgenus **Phothydraena**

Hydraena paganettii Ganglbauer

Found near Istanbul (Jäch), Afyon (Wewalka) and the Taurus mountains (Jäch).

Subgenus *Hydraena****Pygmaea*-group**

This group is sometimes regarded a valid subgenus.

***Hydraena pygmaea* Waterhouse**

I have verified all previous records.

***Pulchella*-group**

Usually small-sized beetles; reddish colours dominate; elytral striae not very regular; aedeagal similarities: phallobasis symmetrical, distal lobe simple and longish; intercoxal sternite small and narrow.

***Hydraena cappadocica* n. sp.**

Fig. 1.

1.9 mm long. Reddish brown, head almost black (frons dark-brown). Sides of Clypeus microreticulate, frons coarsely punctured.

Pronotum strongly cordiform; sides margined, finely denticulate, slightly produced at middle, convergent to anterior angle, sinuately convergent to posterior; disc slightly convex, shining, punctures well impressed, separated by puncture diameter; external foveolae well developed, connected. Elytral punctures large and round, rows irregular; areas behind shoulders shallowly impressed; explanate margin well developed; apices broadly rounded.

Metasternal plaques very small and narrow, separated by about six times their width; middle of metasternum impressed. Middle tibia slightly arcuate and very slightly expanded on inner surface near apex; hind tibia finely denticulate on middle of inner surface.

Aedeagus (Fig. 1): Proximal lobe ca. 380 micrometer long, with two groups of bristles. Parameres wide, their inner surface covered with numerous setae.

Type-locality: River between Pozanti and Camardi (1400 m), southern Turkey.

Holotype ♂: Türkei, Umg. Camardi, 5.IX.1981, M. Jäch, T26 Kilik. Taurus (NHM-Vienna).

Etymology: Cappadocia was the name of the province in Roman times.

Hydraena cappadocica n. sp. is quite distinctive from other members of this group. It differs by the broad (almost truncate) elytral apices, denticulate inner surface of hind tibiae and the relatively broad intercoxal sternite. However there are aedeagal and antennal similarities which prompted me to place *cappadocica* in this species group.

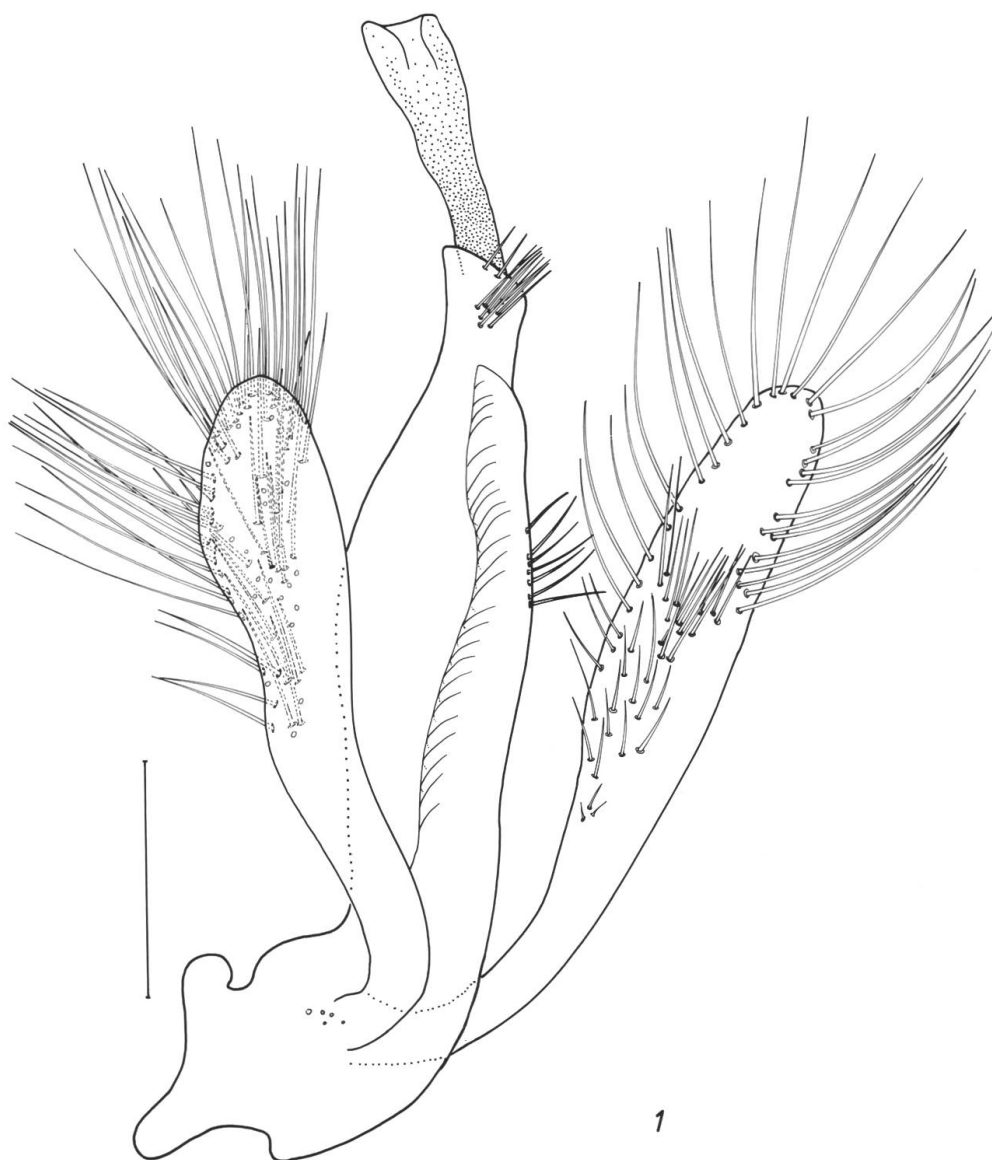


Fig. 1: Aedeagus of *Hydraena cappadocica* n. sp.

Hydraena turcica Janssens

Fig. 10.

The Holotype, ♀, (Fig. 10) is quite similar to the European *H. phassilyi* (acuminate elytral apices), but surface more shining, pronotum and elytra only sparsely punctured. Coloration much darker, pronotum almost entirely black. Explanate sides of elytra more developed.

Hydraena smyrnensis Sahlberg

Found near Behramkale (Wewalka).

Other species: *Hydraena aydini* Janssens, *H. byzantina* Janssens, *H. canakcioglu* Janssens, *H. levantina* Sahlberg, *H. phallerata* d'Orchymont, *H. philyra* d'Orchymont, *H. samia* Jäch (described from Samos, but may occur in Turkey).

Rufipes-group

Elytral striae usually irregular; intercoxal sternite long and narrow, with hind angles markedly produced; phallobasis slightly (*galatica*) or highly (*tauricola*) asymmetrical. In primitiv species (*balearica*) the phallobasis is symmetrical.

Hydraena galatica Janssens

Found recently near Nigde (Jäch) and Afyon (Wewalka).

Hydraena liriope d'Orchymont

Found near Kumluca (Wewalka). Proximal lobe without subapical setae.

Hydraena macedonica d'Orchymont

Collected near Behramkale (Wewalka, 1983). First record for Turkey.

Hydraena tauricola n. sp.

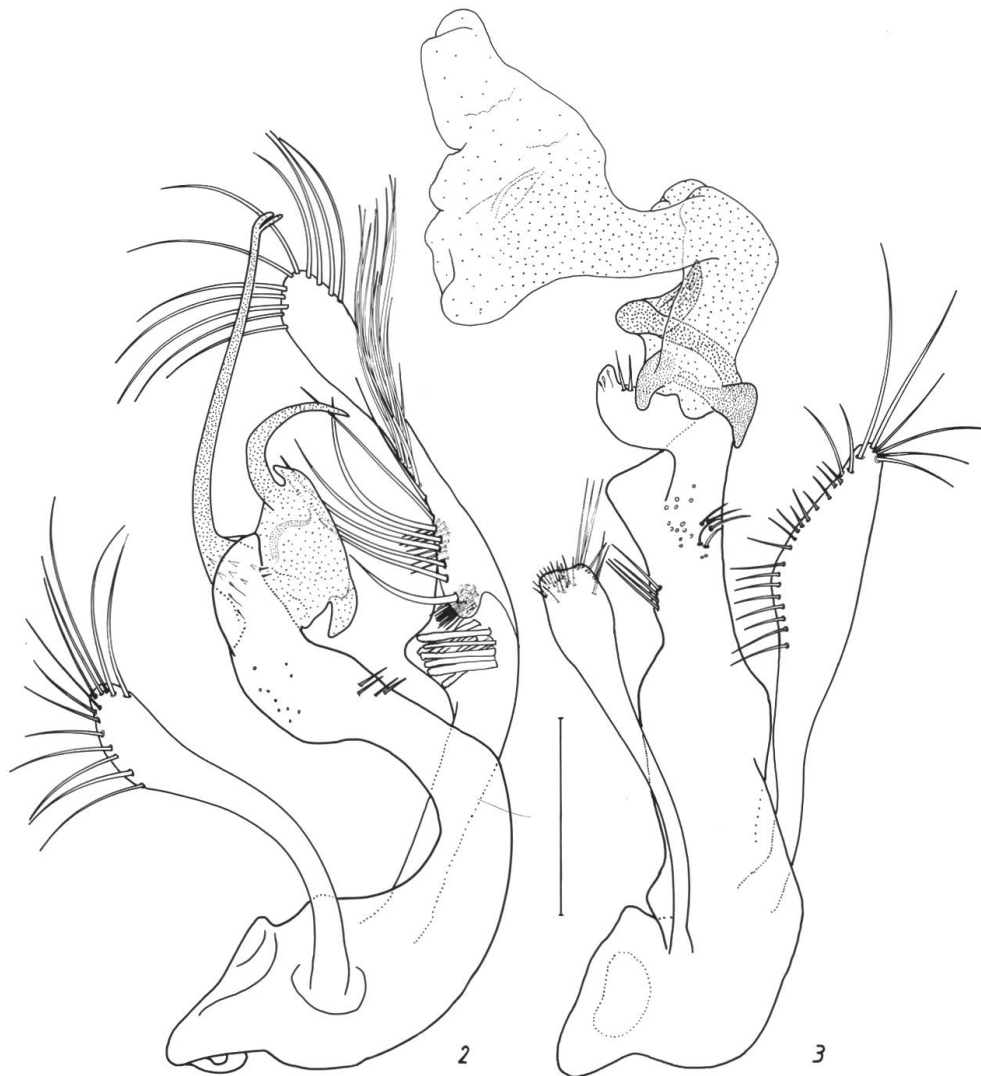
Fig. 2.

1.9–2.1 mm long. Darkbrown to black, legs and palpi testaceous, last segment of palpi apically darkend. Middle portions of clypeus and frons shining. Pronotum cordiform, disc convex and only sparsely punctured; posterointernal foveae usually well developed; sides margined and finely denticulate. Punctures of elytra large; ca. 8 rows between suture and humeral callus; rows somewhat irregular; apices sep-

arately rounded; explanate margin well developed but not very wide. Metasternal plaques large and wide, those of male less wide but slightly longer. Middle tibiae of male arcuate, denticulate on inner surface; hind tibia with spinelike expansion near midlength, in the form of a blunt recurved lamina.

Aedeagus (Fig. 2): Proximal lobe ca. 280 micrometer long, with 4 dorsal and 2 tiny subapical bristles. Distal part with one straight and one curved hook-like process, basis of the first with some short spines. Right paramere long, with numerous differently shaped setae.

Type-locality: Pamuk river between Tarsus and Namrun (ca. 200 m), in southern Turkey.



Figs. 2–3: Aedeagus of: 2, *Hydraena tauricola* n. sp. 3, *Hydraena avuncula* n. sp.

Types: Holotype ♂: Türkei, Umg. Namrun, 28.VII.1981, M. Jäch, T14 Kilik, Taurus (NHM-Vienna). Paratypes: same locality as holotype (9 ex. NHM-Vienna).

Etymology: Taurus plus *icola* (dweller). Refers to the type-locality, the Taurus mountains.

Hydraena tauricola resembles *H. macedonica* d'Orchymont from which it can be distinguished by the metatibia of male.

***Hydraena avuncula* n. sp.**

Fig. 3.

2.2 mm long. Darkbrown, legs and palpi testaceous, last segment of palpi apically darkend. Clypeus and frons shining in middle. Sides of pronotum markedly produced at middle, slightly convergent to posterior angle, sinuate and strongly convergent to posterior; disc convex and shining; foveae distinct. Elytra densely punctured, 8 or 9 rows between suture and shoulder; apices broadly and separately rounded. Metasternal plaques short and wide. Mesotibia slightly arcuate, with few small spines on inner surface; hind tibia enlarged in distal half, reduced apically.

Aedeagus (Fig. 3): Proximal lobe ca. 350 micrometer long, distorted, with 2 short apical setae and two small groups of subapical setae; basis highly asymmetric, right one longer than left one.

Type-locality: Stream near Camardi, 1500 m, southern Turkey.

Holotype ♂: Türkei, Umg. Camardi, 6.IX.1981, M. Jäch, T27 Kilik. Taurus (NHM-Vienna)

Etymology: Latin, *avuncula* (aunt). The species has no close relatives in Turkey.

Differs from *macedonica* by its larger size, its more or less regular elytral striae, by its wider pronotum and by the metatibia of male. It can be distinguished from *liriope*, which has similar hind tibiae, by its size and the shape of the pronotum.

Other species: *Hydraena colchica* Janssens and *H. virginalis* Janssens.

Filum-group

No additional material was collected in recent years. The group comprises two turkish species: *Hydraena filum* Sahlberg and *H. finita* d'Orchymont.

Holdhausi-group

Hydraena holdhausi Pretner, the only Turkish member of this group was found near Sungurlu and Kizilchahamam (Wewalka) and on the island of Samos (Jäch).

Riparia-group

This species group is very well characterized by the setal homology of the proximal part of the aedeagus. The pattern of 1 (large dorsal) plus 3 (small subapical) bristles is found throughout this group. In some species however (*subjuncta*, *bulgarica*) there are difficulties to detect two of the three small subapical bristles. Other homologies: Elytral striation usually regular; intercoxal sternite large, rectangular; phallobasis always symmetrical.

***Hydraena ciliciensis* n. sp.**

Fig. 4.

2.1–2.3 mm long. Black, legs and palpi brown, tips of last palpal segment dark. Clypeus and frons smooth in middle, microreticulate laterally. Sides of pronotum convergent to anterior and slightly sinuate and convergent to posterior; disc shining, with punctures more or less well impressed. Punctures of elytra large, well impressed, mostly rectangular; ca. 10 distinct rows between suture and humeral callus; elytral apices of male broadly rounded, almost truncate; apices of female somewhat acuminate, tip with a small excision. Last segment of palps of male expanded upon apical third (like in *H. britteni* Joy). Metasternum of male entirely pubescent, without plaques. Mesotibia of male slightly curved, with ca. 4 recurved spines on inner surface; hind tibia straight, emarginate in posterior half, emargination denticulate.

Aedeagus (Fig. 4): proximal lobe ca. 440 micrometer long; distal lobe bearing a long flagellum.

Type-locality: Pamuk river between Tarsus and Namrun (ca. 200 m), southern Turkey.

Types: holotype ♂: Türkei, Umg. Namrun, 28.VIII.1981, M. Jäch T14 Kilik. Taurus (NHM-Vienna); paratypes same locality as holotype (12 ex., NHM-Vienna); Türkei, Umg. Namrun, 23.VIII.1981, M. Jäch, T9 Kilik. Taurus (11 ex., NHM-Vienna); Türkei, Erdemli, 2.IX.1981, Preuler T20 (2 ex., NHM-Vienna).

Etymology: Cilicia was the name of the Roman province.

Similar to *H. riparia* Kugellan, *H. morio* Kiesenwetter, *pontica* Jans-

sens and *pseudoriparia* d'Orchymont. It differs from *riparia* and *morio* by the pubescent metasternum. *Hydraena pseudoriparia*, which I know only from the description, has a densely punctured pronotum. *Hydraena pontica* differs mainly by the last palpal segment of male, which is less expanded.

Distribution: Taurus mountains in southern Turkey.



Fig. 4: Aedeagus of *Hydraena ciliciensis* n. sp.

Hydraena wewalkai n. sp.

Fig. 5.

2,1 mm long. Dark brown to black, legs brown, palpi yellowish,



Fig. 5: Aedeagus of *Hydraena wewalkai* n. sp., ventral aspect, lateral aspect and right paramere.

last segment of palpi apically darkened. Clypeus (except front margin) microreticulate. Frons and disc of pronotum shining, with well impressed punctures. Elytra with ca. 10 narrow rows of punctures between suture and shoulder; rows distinct and straight; punctures round to rectangular; apices of elytra separately rounded, narrow; explanate margin well developed, beginning at basal third. Maxillary palpus strongly enlarged over middle. Metasternal plaques present in male. Inner surface of middle tibia with ca. 4 small recurved spines.

Aedeagus (Fig. 5): proximal lobe ca. 460 micrometer long; dorsal bristle very strong, subapical bristles more or less equal in length.

Type-locality: Stream near Yatagan, southwestern Turkey.

Holotype ♂: As. min., Yatagan, 27.IV.69, 6. Wewalka, NHM-Vienna.

Etymology: Named for its collector, Dr. G. Wewalka.

The extreme tooth-like expansion of last palpal segment of male separates it from all other species I know.

Hydraena helena d'Orchymont

Hydraena bithynica Janssens, **n. syn.**

I have examined the type-series of *Hydraena bithynica*. All specimens belong to *Hydraena helena*.

Found near Truva, Behramkale, Kale, Kumluca (Wewalka), Erdemli and Namrun (Jäch).

Hydraena dentipalpis Reitter

Hydraena trapezuntina Janssens, **n. syn.**

After comparing the monotype of *H. dentipalpis* with the type series of *H. trapezuntina* I have no doubt that they all belong to one species. Thus I consider *H. trapezuntina* a junior synonym of *H. dentipalpis*.

Hydraena sublamina d'Orchymont

Found near Kumluca (Wewalka).

Hydraena sublapsa d'Orchymont

Found near Mugla and Kumluca (Wewalka).

Other species: *Hydraena bulgarica* Breit, *H. morio*, *H. pontica*, *H. pseudoriparia*, *riparia* and *H. speciosa* d'Orchymont.

Grandis-group

An inhomogeneous group of usually large beetles; intercoxal sternite very large, square; elytral rows distinct and regular; phallobasis highly asymmetric; aedeagal setae, if present, reduced to small groups of subapical bristles.

Janssens erected a *gnatella*-group on account of the long aedeagal flagellum. This is somewhat problematic, because development of a flagellum is a common event (morphocline) in various species groups.

***Hydraena subgrandis* n. sp.**

Fig. 6.

2.9–3.0 mm (male) and 2.5–2.7 mm (female) long. Externally diffi-



Fig. 6: Aedeagus of *Hydraena subgrandis* n. sp.

cult to distinguish from *H. grandis* Reitter with which I found it consociate in a stream near Camardi (T28). Males of *grandis* are usually larger (3.3 mm); elytral apex more truncate in *grandis*; other characters more or less identical.

Females of *grandis* and *subgrandis* can be distinguished from the similar *platynaspis* n. sp. by the elevated frons which forms a characteristic round tubercel.

Aedeagus (Fig. 6): proximal part ca. 560 micrometer long; aedeagus differs from that of *grandis* by smaller size and especially by the vertical branch of the distal lobe; this appendage is more robust in *subgrandis* and bears a spinelike process near midlength.

Type-locality: Small stream near Namrun, southern Turkey.

Types: Holotype ♂: Türkei, Umg. Namrun, 26.VIII.1981, M. Jäch T11 Kilik. Taurus (NHM-Vienna); Paratypes: same locality as holotype (22 ex.); Türkei, Umg. Namrun, 28.VIII.1981, M. Jäch, T14 Kilik. Taurus (4 ex.); Türkei, Namrun, 23.VIII.1981, E. Preuler, T9 (3 ex.); Türkei, Umg. Ciftehan, 4.IX.1981, M. Jäch, T25 Kilik. Taurus (3 ex.). Türkei, Umg. Camardi, 6.IX.1981, M. Jäch, T28 Kilik. Taurus (1 ex.). All in NHM-Vienna and Inst. R. Sci. Nat. Belgique, Brussels.

Etymology: Latin *sub* (almost, near) plus *grandis*. Refers to the close relationship with *grandis*.

Distribution: Southern Turkey.

Hydraena aurita n. sp.

Fig. 7

2.4–2.6 mm (male) and 2.2–2.4 mm (female) long. Dark brown, head and pronotum almost black, legs and palpi light brown. Clypeus microreticulate, except at anterior margin; frons laterally microreticulate. Disc of pronotum shining, convex, punctures well impressed. Elytra parallel-sided, large, disc with 10 straight rows of punctures; punctures small, rectangular; explanate margin well developed, but not wide; elytral apices, in dorsal aspect, slightly truncate in both sexes. Metasternal plaques of male narrower than in female; area between plaques depressed in male. Femora of males enlarged. Middle tibia of male arcuate, with a small apical enlargement and brush of setae on inner surface; hind tibia with a large spine-like tooth on inner surface before middle, with long stiff setae between the spine's tip and the distal end.

Aedeagus (Fig. 7): proximal part ca. 580 micrometer long, without bristles. Distal part inconspicuous and not clearly separated from the proximal lobe. Left paramere sinuate, with two groups of setae.

Type-locality: Small streamlet near Namrun (ca. 1100 m), southern

Turkey.

Types: Holotype ♂: Türkei, Umg. Namrun, 26.VIII.1981, M. Jäch, T11 Kilik. Taurus (NHM-Vienna); Paratypes: same locality as holotype (1 ex., NHM-Vienna); Türkei, Umg. Namrun, 28.VIII.1981, M. Jäch, T14 Kilik. Taurus (10 ex., NHM-Vienna); Türkei, Prov. Mersin, Umg. Erdemli, 31.VIII.1981, M. Jäch, T18 (2 ex., NHM-Vienna); Türkei, Prov. Mersin, Umg. Erdemli, M. Jäch, T20 (3 ex., NHM-Vienna); Türkei, Namrun, 23.VII.1981, T), E. Preuler (1 ex., NHM-Vienna).

Etymology: Latin, *auritus* (with ears). In reference to the ear-like apex of the penis.

Hydraena aurita n. sp. differs from *gressa* d'Orchymont, the only species with similar hind tibiae by the mesotibia.

Distribution: Southern Turkey.

***Hydraena platynaspis* n. sp.**

Fig. 8.

3.0–3.1 mm (male) and 2.7–2.9 mm (female) long. Closely related to *H. platysoma* Janssens. It differs from the latter by its size (the holotype ♂ of *platysoma* measures 2.6 mm), larger eyes, longer elytra; expla-



Fig. 7: Aedeagus of *Hydraena aurita* n. sp., ventral and lateral aspect.

nate sides of elytra less developed, enlargement on inner surface of middle tibia of male smaller.

Aedeagus (Fig. 8): proximal part ca. 440 micrometer long, stout and wide, with a subapical group of inconspicuous setae and a group of short spines near the insertion of the distal lobe. Distal lobe with a short vertical branch, probably homologous to the structure seen in *grandis*.

Type-locality: Cehennem Derese, river near Namrun, southern Turkey.

Types: Holotype ♂: Türkei, Umg. Namrun, 23.VIII.1981, M. Jäch, T9 Kilik. Taurus (NHM-Vienna); Paratypes: same locality as holotype (7 ex., NHM-Vienna); Türkei, Umg. Namrun, 21.VIII.1981, M. Jäch, T7 Kilik. Taurus (4 ex., NHM-Vienna); Türkei, Umg. Namrun, 26.VIII.1981, M. Jäch, T11 Kilik. Taurus (1 ex., NHM-Vienna); Türkei, Umg. Ciftehan, 4.IX.1981, M. Jäch, T25 (3 ex., NHM-Vienna); Türkei, Umg. Ciftehan, 3.IX.1981, M. Jäch, T22 (1 ex., NHM-Vienna).

Etymology: Greek, *platyno* (I enlarge) plus *aspis* (shield). Refers to the wide pronotum.

Distribution: Known only from the Taurus.



Figs. 8–9: Aedeagus of: 8, *Hydraena platynaspis* n. sp., lateral view, right paramere, dorsal aspect of apex. 9, *Hydraena lycia* n. sp., ventral aspect and right paramere.

Hydraena lycia n. sp.

Fig. 9.

2.4–2.6 mm (male) and 2.3–2.4 mm (female) long. Darkbrown or black, legs and palpi light brown; distal half of last palpal segment black. Clypeus dull, microreticulate; frons microreticulate laterally, densely punctured in the middle, area between punctures smooth. Pronotum densely punctured, all parts except interstices on disc microreticulate. Elytra parallel-sided in males, obovate in females, apices almost truncate in male, slightly rounded in female; with 10 distinct and straight rows of well impressed rectangular punctures; intervals gently elevated, shining. Metasternal plaques of female narrow, reduced to fine carinae in male. Hind femora of male strongly enlarged; middle tibia curved, distal half covered with setae on inner surface; hind tibia with a large bluntly rounded tooth over middle, distal half sparsely clothed with setae.

Aedeagus (Fig. 9): proximal part with ca. 5 short setae; border between proximal and distal part not well defined. Left paramere with a peculiar emargination.

Type-locality: Small stream (ca. 100 m) between Dalaman and Fethiye, southern Turkey.

Holotype ♂: Türkei (Fethiye) Dalaman, Fethiye, 25.VII.1983, G. Wewalka (NHM-Vienna); Paratypes: same locality as the holotype (15 ex., NHM-Vienna).

Etymology: Lycia was the name of the province in Roman times.

Hydraena griphus d'Orchymont and *H. carica*, the only other Turkish species with similar hind tibiae, differ by their larger size and by the middle tibiae.

Hydraena carica n. sp.

Fig. 11.

2.6 mm (male) and 2.3 mm (female) long. Very similar to *H. griphus*, from which it differs by shorter body length, middle and hind tibiae of male (fig. 11) and the aedeagus, which I have not figured here (the specimen is very teneral).

Female without frontal callosity.

Type-locality: Stream between Mugla and Kale (ca. 1300 m), southwestern Turkey.

Types: Holotype ♂: Türkei, Mugla, Kale-Mugla, Bach, 24.VII.1983, G. Wewalka (NHM-Vienna); Paratype ♀: same locality as holotype (NHM-Vienna).

Etymology: Caria was the name of the Roman province.

Hydraena gnatella d'Orchymont

Collected near Mugla (Wewalka)

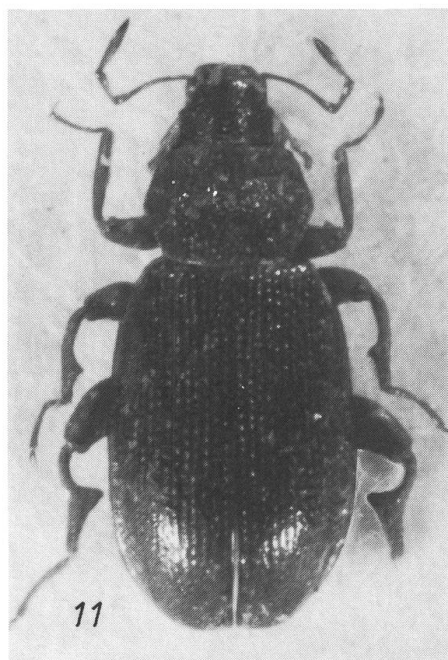
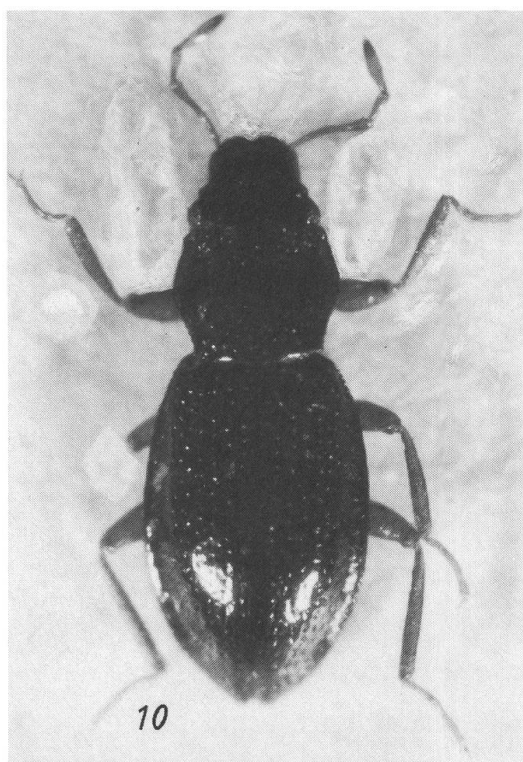
Hydraena grandis Reitter

Collected near Corum, Kizilchahamam, Afyon, Kumluca (Wewalka) and Nigde (Jäch).

Hydraena eucnemis Janssens

Collected near Namrun and Nigde (Jäch). Aedeagus with short flagellum.

Other species: *Hydraena carducha* Janssens, *H. gnatelloides* d'Orchymont, *H. grata* d'Orchymont, *H. gregalis* d'Orchymont, (known from Lesbos only), *H. gressa* d'Orchymont, *H. griphus* d'Orchymont, *H. platysoma* Janssens.



Figs. 10–11: Habitus of: 10, *Hydraena turcica* Janssens, holotype ♀. 11, *Hydraena carica* n.sp., holotype ♂. Fotos: H. Wappl.

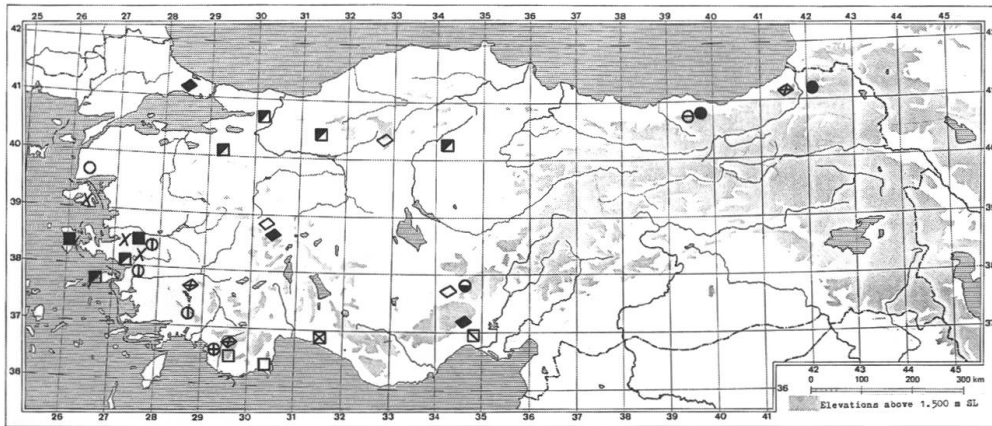


Fig. 12: Distribution of: *Hydraena paganettii* (◆), *H. pygmaea* (⊠), *H. holdhausi* (▣), *H. filum* (×), *H. finita* (■), *H. attaleiae* (⊞), *H. avuncula* (⊖), *H. colchica* (●), *H. galatica* (◇), *H. liriopae* (□), *H. macedonica* (○), *H. tauricola* (◻), *H. virginalis* (⊖), *H. gnatella* (⊕), *H. gnatelloides* (⊕).

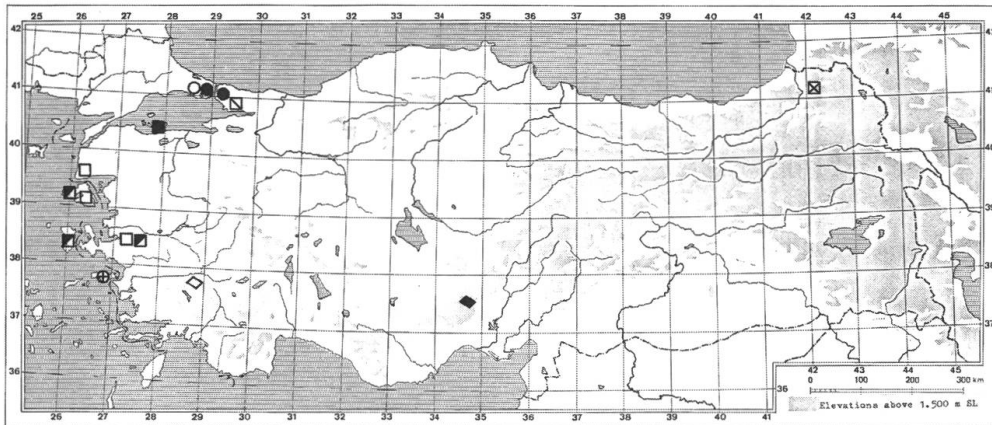


Fig. 13: Distribution of: *Hydraena aydini* (⊠), *H. byzantina* (○), *H. canakcoglu* (▣), *H. cappadocica* (◆), *H. levantina* (▣), *H. phallerata* (●), *H. philyra* (■), *H. samia* (⊕), *H. smyrnensis* (□), *H. turcica* (◇).

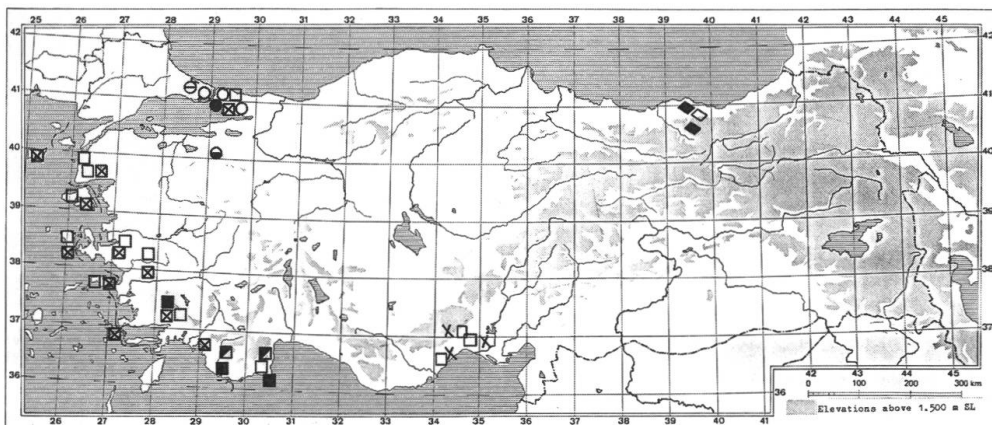


Fig. 14: Distribution of: *Hydraena bulgarica* (⊖), *H. ciliciensis* (×), *H. dentipalpis* (◆), *H. helena* (□), *H. morio* (●), *H. pontica* (◇), *H. pseudoriparia* (⊖), *H. riparia* (○), *H. speciosa* (⊠), *H. sublamina* (▣), *H. sublapsa* (■), *H. wewalkai* (⊠).

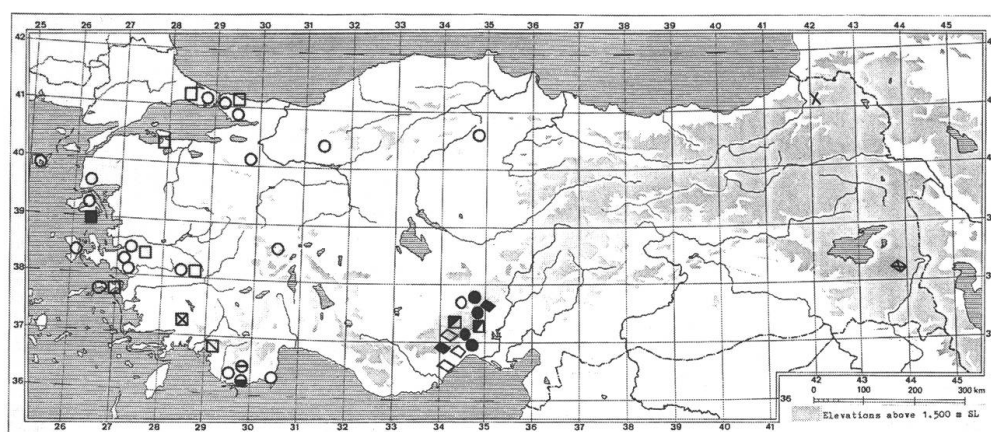


Fig. 15: Distribution of: *Hydraena aurita* (◇), *H. carducha* (⊠), *H. carica* (⊠), *H. eucnemis* (◆), *H. grandis* (○), *H. grata* (□), *H. gregalis* (■), *H. gressa* (⊙), *H. griphus* (⊙), *H. lycia* (□), *H. platynaspis* (◻), *H. platysoma* (⊠), *H. subgrandis* (●).

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