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SYSTEMATIC AND FAUNISTIC NOTES ON *NOTERIDAE* AND *DYTISCIDAE* OF THE NEAR EAST
(Coleoptera)

von G. WEWALKA

Abstract

A new species, *Hydrocoptus jaechi*, is described from Israel. Two new subspecies, one from the Dead Sea Area (*phoenix*) and one from the Upper Jordan Valley (*kadmos*) are separated from *Bidessus anatolicus* WEWALKA by differences in the form and the punctuation. *Hydroporus ortali* WEWALKA is placed to *Hydroporus multiguttatus* REGIMBART as junior synonym. After studying the type specimens of *Hydroporus libanus* REGIMBART this species is placed into the subgenus *Sternoporus*. Additionally, *Methles spinosus* SHARP, *Hydrovatus aristidis* LEPRIEUR and *Hydrovatus sordidus* SHARP are recorded as new in Israel.

Since the publication of "New and remarkable Dytiscidae from the Near East" (WEWALKA 1984) and "Zoogeography and Ecology of the Dytiscidae Fauna of the Levant (WEWALKA 1986) some new findings turned out about the *Noteridae* and *Dytiscidae* fauna of the Near East mostly based on collections done by Dr. M. JÄCH (Vienna)in 1985 and 1986.

Hydrocoptus jaechi nov. spec.

Recent collections of Dr. M. JÄCH (Vienna) in northern Israel revealed specimens of the genus *Hydrocoptus* which has been unknown in this area before. The specimens turned out to belong to a new species which is described below.

Length: 2,55 - 2,85 mm, breadth: 1,35 - 1,45 mm, form oblong-oval, moderately convex, subacuminate at the apex.
Head rusty-red, clypeus yellowish; reticulation consisting of small distinct round cells; without punctation. Antenna and palpi testaceous.
Pronotum concolorous with the head, posterior border dark brown; a scarce row of points along the anterior margin and few points near the posterior margin; reticulation similar to that on the head but less distinct.
Elytra dark brown, the lateral border reddish; sometimes with an indistinct reddish longitudinal stripe along the suture; punctuation

consisting of eight moderately regular rows of small points, somewhat larger supplementary points between the second and third, the fifth and sixth and the outer rows; reticulation consisting of small round cells as on the pronotum.
Ventral side and legs testaceous.
Aedeagus as in fig. 1
Pro- and Mesotarsi of male slightly delated.

H. jaechi is similar to *H. africanus* GSCHWENDTNER in size and form and also in the punctuation of the elytra but differs by the less distinct reddish longitudinal stripes along the suture of the elytra and by the form of the aedeagus.

The penis of *H. jaechi* is similar to that of *H. rufulus* MOTSCHULSKY but this species is much smaller.

Species of *Hydrocoptus* occuring closest to the new species are *H. koppi* WEHNCKE known from northern Africa and *H. subvittulus* MOTSCHULSKY known from India.

Type locality: Jordan valley north of Lake Tiberias, Galilee, Israel.

Type material: Holotype ♂: Israel, Upper Jordan Valley, En Yezer, 30 m west of the Upper Jordan River, near the mouth to the Lake Tiberias, 7.4.1986, leg. Dr. M. Jäch, in coll. Wewalka.

Paratypes: 3 ♂♂, 8 ♀♀ from the same locality in coll. Jäch, coll.Wewalka, Nat.hist.Mus. Wien and coll.zool. Museum, Dept. of Zoology, Hebrew University of Jerusalem.

Biology: springfed pool stocked with rush.

Distribution: northern Israel.

Methles spinosus SHARP,
new records in Israel

Methles spinosus SHARP 1882, Sci.Trans.Roy. Dublin Soc. 2(2):489, REGIMBART 1895, Mem. Soc. Ent. Belg. 4:118; ZIMMERMANN 1933, Monogr. paläarkt. Dytisciden 4:41; GUIGNOT 1959, Ann.Mus.Roy. Congo Belg. Tervuren, Ser. 8, 70:56; ALFIERI 1976, Mem.Soc.Ent. Egypt 5:35.

No species of the genus *Methles* has been recorded from Israel so far but it is not absolutely clear to which species the specimens now found in Israel belong to as the *spinosus-cribratellus*-groupneeds revision. Perhaps also *Methles rectus* SHARP described from Mesopotamia belongs to that species group. The author suspects that the *spinosus-cribratellus*-group consists of several subspecies or local variations but this question cannot be solved here. The specimens from Israel are treated here as belonging to *Methles spinosus* SHARP recorded from Zaire, Tanzania, Sudan, Egypt and Syria.

Material studies: Israel, Upper Jordan Valley, En Yezer, 30 m west of Jordan River near the mouth to Lake Tiberias, 27.8.1985, 1 specimen; 7.4.1986, 40 specimens leg. Jäch.

Biology: springfed pool stocked with rush.

Hydrovatus aristidis LEPRIEUR, new records in Israel

Hydrovatus aristidis LEPRIEUR 1879, Ann.Soc.Ent. Fr.Bull. p.82; ZIMMERMANN 1930, Monogr. paläarkt. Dytisciden 1:28; GUIGNOT 1959 Ann.Mus. Roy. Congo Belg. Tervuren, Ser. 8,70:144; ALFIERI 1976, Mem.Soc.Ent. Egypt 5:31.

Hydrovatus aristidis LEPRIEUR is known in Egypt, Sudan, Mauretania and Ivory Coast. It is now found in Israel.

Material studied: Israel, Central Coastal Plain, south of Haifa, Or Aquiva, 5.8.1985, 30 specimens, leg. Jäch; Upper Jordan Valley Bteha, 30.7.1985, 16 specimens, leg.Jäch; Upper Jordan Valley, En Yezer, 27.8.1985, 40 specimens, leg. Jäch; Upper Jordan Valley, Hula nature reserve, 13.4.1986, 2 specimens, leg. Jäch, Upper Jordan Valley, En Mashba, 12.4.1986, 2 specimens, leg. Jäch; Golan, Ein Juwiza 3.8.1985, 1 specimen, leg. Jäch.

Biology: springfed pools with vegetation.

Hydrovatus sordidus SHARP, new records in Israel

Hydrovatus sordidus SHARP 1882, Sci.Trans.Roy. Dublin Soc. 2(2):327; ZIMMERMANN 1930, Monogr. paläarkt. Dytisciden 1:30; GUIGNOT 1959, Ann. Mus.Roy. Congo Belg. Tervuren, Ser. 8, 70:128; ALFIERI 1976, Mem.Soc. Ent. Egypt 5:31.

Hydrovatus sordidus SHARP has been recorded from Egypt (Sinai), Ethiopia, Uganda, Mesopotania, Syria and Arabia. This species is very similar to *Hydrovatus humilis* SHARP therefore it is not certain that all records refer to *H. sordidus*. *H. humilis* has been recorded from Israel before (Wewalka 1986). Now also *H. sordidus* is found in Israel.

Material studied: Israel, Upper Jordan Valley, En Yezer, 30 m west of Jordan River near the mouth to Lake Tiberias, 27.8.1985, 50 specimens, leg. Jäch; Israel, Upper Jordan Valley, Bteha, 30.7.1985, 5 specimens, leg. Jäch.

Biology: springfed pools with vegetation.

Two new subspecies of *Bidessus anatolicus* WEWALKA

B. anatolicus WEWALKA was described from Turkey, province of Antalya and Adana (WEWALKA 1971).

When I first examined specimens of a *Bidessus* closely related to *Bidessus anatolicus* WEWALKA collected by Dr. M. Jäch (Vienna) at the south shore of the Dead Sea near Neót Ha Kikkar I supposed that they must belong to a new species. These specimens from the Dead Sea clearly differ from specimens of *B. anatolicus* from Turkey (prov. Antalya) by the less broadened elytra and the much finer punctuation of the elytra. The study of further specimens of the same species group from northern Israel (Upper Jordan Valley and the Coastal Plain) however, showed transitions of the distinctive features in the different popu-

lations. This induced profound examinations and convinced me to treat the population from the Dead Sea together with the specimens from the Central Coastal Plain of Israel as a subspecies of *B. anatolicus*. Significant differences between the population from the Upper Jordan Valley and these populations on one hand and specimens from Anatolia on the other made it necessary to characterize the population from the Upper Jordan Valley as a second subspecies. This decision is supported by the fact that within the different populations the variation of distinctive characters is small. The main character to differentiate the two subspecies and the nominate form is the relative breadth of the elytra. To characterize the different features the quotient of the breadth of the elytra and the breadth of the pronotum at the base turned out as a good measure (see fig.2). Mean values of this quotients and their standard deviations of different populations are shown in the table. Differences have been tested for significance by the student t-test ($2p < 0,01$).

Table: Quotients of the breadth of elytra and of pronotum at the base in populations of subspecies of *Bidessus anatolicus* (significant differences by t-test).

Locality	subspecies of *Bidessus anatolicus*	number of specimens measured	quotient of breadth of elytra and pronotum $\bar{x}$	±s
Anatolia	*anatolicus*	10	1,252	0,016
			*	
Upper Jordan Valley	*kadmos*	35	1,217	0,014
			*	
Coastal Plain	*phoenix*	15	1,182	0,016
			n.s.	
Dead Sea	*phoenix*	10	1,166	0,011

*: $2p < 0,001$
n.s.: not significant ($2p > 0,01$)

Bidessus anatolicus phoenix nov. ssp.

Length: 1,5 - 1,7 mm, breadth: 0,8 - 0,9 mm, therefore a little smaller and less broad than the nominate form from Anatolia.Form regularly oval (fig. 2a) and not rhombic than in the nominate form (fig. 2c), and *B. anatolicus kadmos* nov. ssp. (fig. 2b). The quotient of breadth of elytra and of pronotum at the base is 1,166 ± 0,011 in the type series from the Dead Sea and 1,182 ± 0,016 in the population from the Coastal Plain of Israel (tab.). Between the populations from the Dead Sea and the Coastal Plain there are slight differences in the form but they are not significant ($2p > 0,01$). On the other hand the differen-

ces in the form between the population of *B. anatolicus phoenix* from the Coastal Plain and of *B. anatolicus kadmos* nov. ssp. from the Upper Jordan Valley are much greater (quotient of breadth of elytra and pronotum: 1,217) and are significant ($2p < 0,001$). The differences in the form are even much more distinct between *B. anatolicus phoenix* and the nominate form from Anatolia (quotient of breadth of elytra and pronotum: 1,252) and are also highly significant ($2p < 0,001$).

B. anatolicus phoenix differs from the nominate form and from *B. anatolicus kadmos* nov. ssp. also by the strength of the elytral punctuation. Especially the punctuation between the elytral striae is much more fine in the type series of *B. anatolicus phoenix* from the Dead Sea. In the population from the Coastal Plain the punctuation is a little stronger but not as robust as in *B. anatolicus anatolicus* and in *B. anatolicus kadmos*.

There are no significant differences in other features as the coloration (fig. 2a) the punctuation of the underside or the male genital (fig. 3) between *B. anatolicus phoenix* and *B. anatolicus anatolicus* on one hand and *B. anatolicus kadmos* on the other.

The population of *B. anatolicus phoenix* at the south shore of the Dead Sea is separated geographically by a distance of about 200 km from other known populations of *B. anatolicus* (fig. 4) and it is most likely that there are no populations existing in between nowadays. It is remarkable that the populations from the Coastal Plain are so closely related to that of the Dead Sea that a systematic separation is not possible while the populations of the Upper Jordan Valley only about 50 km distant are significantly different.

Type locality: Israel, near the south shore of the Dead Sea.

Type material: Holotype ♂; Israel, Dead Sea area, En Tamar near Néot Ha Kikkar, 24.4.1985, leg. Dr. M. Jäch in coll. Wewalka.

Paratypes: 12 specimens from the same locality and same date and 1 specimen 16.3.1985 from same locality in coll. Jäch, coll. Wewalka, Nat.hist.Mus. Wien, and coll. Zool. Museum Dept. of Zoology, Hebrew University of Jerusalem.

Additional material: Israel, Central Coastal Plain, south of Haifa, Or Aquiva, 5.8.1985, 15 specimens, leg. Jäch, Central Coastal Plain, south of Haifa, N. Barqan, 5.8.1985, 1 specimen, leg. Jäch; Central Coastal Plain, Batikh, rainpool, 6.11.1980, 1 specimen, leg. Ashke - nazy, (IES 1963, Col.1472), coll. Zool. Museum, Dept. of Zoology, Hebrew Univ. of Jerusalem; Carmel ridge, N. Daliya, 5.8.1985, 1 specimen, leg. Jäch.

Biology: in springfed pools and ditches. The type population lives in slightly saline water (1,2 g Cl/l).

Bidessus kadmos nov. ssp.

Length: 1,7 - 1,8, breadth: 0,9 - 1,0, thus of the same size as the nominate form but in its form less rhombic and less broad but not as regularly oval as in *B. anatolicus phoenix* (fig. 2b).

The quotient of breadth of elytra and of pronotum at the base is 1,217 ± 0,014 (tab.) There are significant differences ($p < 0,001$) to the population of *B. anatolicus anatolicus* from Anatolia on one hand and specimens of *B. anatolicus phoenix* from the Dead Sea area as well as from the Coastal Plain on the other.

The elytral punctuation is similar to that of *B. anatolicus anatolicus* and much stronger than in the populations of *B. anatolicus phoenix*. *B. anatolicus kadmos* does not differ from the nominate form and *B. anatolicus phoenix* in other features such as the coloration, the punctuation of the underside and the male genital.

Reasons for the systematic separation of the population of Upper Jordan Valley (*B. anatolicus kadmos*) from *B. anatolicus phoenix* has been discussed above. Though the population of the Upper Jordan Valley looks very similar to specimens from Anatolia, it does not seem reasonable to treat it as the nominate form. The significant differences in the form (tab.) argue against it. Therefore I decided to describe the population of Upper Jordan Valley (fig. 4) as a new subspecies. As long as no populations of the *B. anatolicus* group are known from areas between southern Turkey and the Upper Jordan Valley, nothing can be said about the geographic separation of *B. anatolicus kadmos* from the nominate form.

Type locality: Israel, Galilee, Jordan Valley north of Lake Tiberias.

Type material: Holotype ♂: Israel, Upper Jordan Valley, En Yezer, 30 m west of the Jordan River near the mouth to Lake Tiberias, 7.4.1986 leg. Jäch, in coll. Wewalka.

Paratypes: 17 specimens from the same locality and same date; from same locality, 27.8.1985, 8 specimens; Upper Jordan Valley, Ha Yarden, east of the Jordan River near the mouth to Lake Tiberias, 12.4.1986, 12 specimens, leg. Jäch; En Jalabina, 15.7.1985, 22 specimens, leg. Jäch; Upper Jordan Valley, Bteha, 30.7.1985, 5 specimens, leg. Jäch; Upper Jordan Valley, Ein El-Barred, 1.8.1985, 1 specimen, leg. Jäch; Upper Jordan Valley, Shemurat-Hahula-Peer (IES 1089, Col 1027), 7.6.1976, 1 specimen leg. Margalit; in coll.Jäch, coll. Wewalka, Nat. hist. Mus. Wien and coll. Zool. Mus. Dept. of Zoology, Hebrew Univ. of Jerusalem.

Biology: in springfed pools and ditches.

Hydroporus ortali WEWALKA,
a new synonym of *Hydroporus multiguttatus* REGIMBART

Hydroporus multiguttatus REGIMBART 1877, Ann.Soc.Ent. France (5)7:351; REGIMBART 1882, Mons. L'Abeille 20:85; SHARP 1882 Sci.Trans.Roy. Dublin Soc. 2(2):802; ZIMMERMANN 1920, Coleopt.Catal. 71:93.

Hydroporus multipunctatus REGIMBART, ZIMMERMANN 1931, Monog.paläarkt. Dytisciden 2:33 (unjustified emendation).

Hydroporus ortali WEWALKA 1984, Koleopt. Rundsch. 57:136 (nov.syn.).

The study of two specimens from Damascus (Syria) of the Mus.N.H.N. Paris determined as *H. multiguttatus* REGIMBART by Bedel convinced me that *Hydroporus ortali* recently described by myself (WEWALKA 1984)

is a synonym of *H. multiguttatus*. Though the type specimen of *H. multiguttatus* has not been found and comparison of types had not been possible, there is no doubt for me that *H. ortali* WEWALKA is a junior synonym of *H. multiguttatus* REGIMBART.

H. multiguttatus originally was described from Borak (not found on maps). It is known from southwest Syria (southwest and south of Damascus) and northern Israel (Mt. Tabor, Golan, Mt. Hermon) (Wewalka 1984).

The opinion of ZIMMERMANN (1931:33) that *H. inscitus* SHARP could be a synonym of *H. multiguttatus* has been excluded by the study of the type specimen of *H.inscitus*.

Hydroporus (Sternoporus) libanus REGIMBART, new systematic status

Hydroporus libanus REGIMBART 1901, Ann. Soc. Ent. Fr. 70:101; ZIMMERMANN 1931, Monogr. paläarkt. Dytisciden 2:59; ZAITSEV 1953, Fauna SSSR, Coleoptera 6:172.

Type ♂: Lebanon, Broummana, about 10 km east of Beirut, west slope of the Lebanon mountain ridge, 1900 in coll. Pic; Mus. N.H.N. Paris.

In his description REGIMBART (1901) compared *H. libanus* with *H. obsoletus* AUBE. ZIMMERMANN (1931) and ZAITSEV (1953)obviously adopted this description without knowing specimens of *H. libanus*. They suspected *H. libanus* to be a subspecies of *H. obsoletus*.

Studying the type specimen of *H. libanus* it became obvious that the similarity to *H. obsoletus* is only superficial. *H. libanus* belongs to the subgenus *Sternoporus* according to the formation of the metacoxal processes. Therefore *H. libanus* is obviously related to the central and southern European species *H. longulus* MULSANT. *H.libanus* can be distinguished from *H. longulus* by the more parallel and less convex body, by the more dense and less regular punctuation of the elytra as well as by the darkbrown to reddish brown coloration of the surface. The male genital (fig. 5) is similar to that of *H. longulus* but the apex of the penis is more rounded.

H. libanus is also very similar to *H. dobrogeanus* JENISTEA which occurs in Anatolia as well but can be distinguished by the less convex body, the coarser elytral punctuation and the shape of the male genital. It might also be similar to the Caucasean species *H. jacobsoni* ZAITSEV which is not known to the author so far.

H. libanus originally was described from the Lebanon mountains. Recently Dr. M. Jäch, Vienna, collected additional material of this species; one ♂ from Turkey, province of Hatay, Amanus mountains, Soğukoluk 15 km south of Iskenderun,24.5.1987.

Distribution: mountains of Lebanon, southern Turkey (Amanus mountains).

Biology: small springs.

Zusammenfassung

Systematische und faunistische Bemerkungen über *Noteridae* und *Dytiscidae* aus dem Nahen Osten.

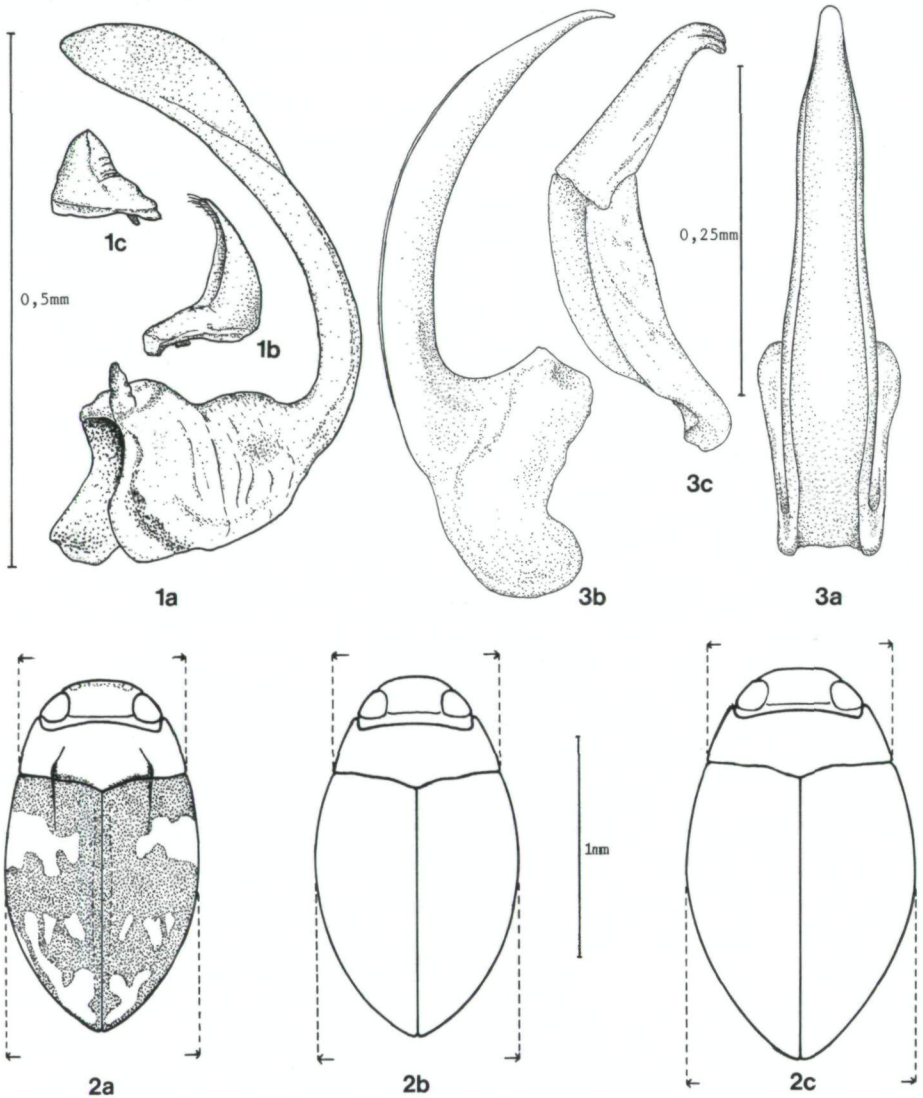

Fig. 1: Aedeagus of *Hydrocoptus jaechi* nov. spec; a: penis, b: right paramere; c: left paramere.

Fig. 2: Shape of *Bidessus anatolicus* subspecies (breadth of elytra and breadth of pronotum at the base). a: *B.a.phoenix* nov.ssp. with different elytral markings; b: *B.a.kadmos* nov.ssp.; c:*B.a.anatolicus* WEWALKA.

Fig. 3: Aedeagus of *Bidessus anatolicus phoenix* nov.ssp.; a: penis, dorsal view; b: penis, lateral view; c: left paramere, lateral view.

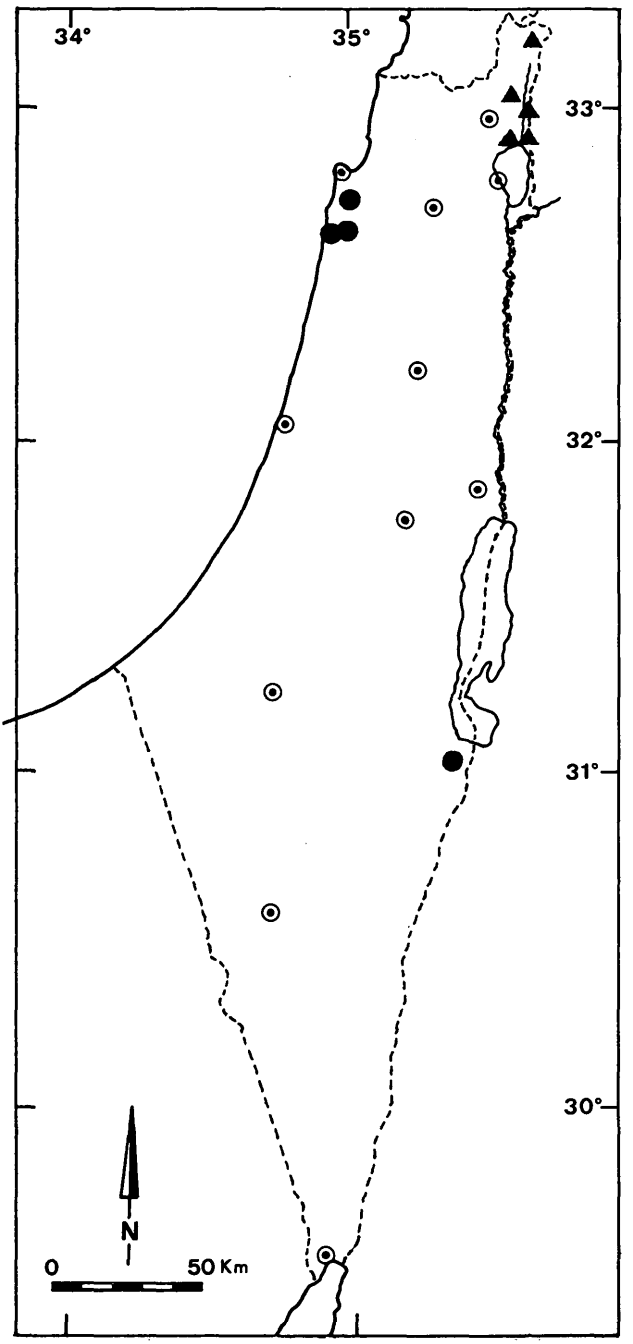

Fig. 4: Distribution of *Bidessus anatolicus phoenix* nov.ssp. (●) and *Bidessus anatolicus kadmos* nov. ssp. (▲) in Israel.

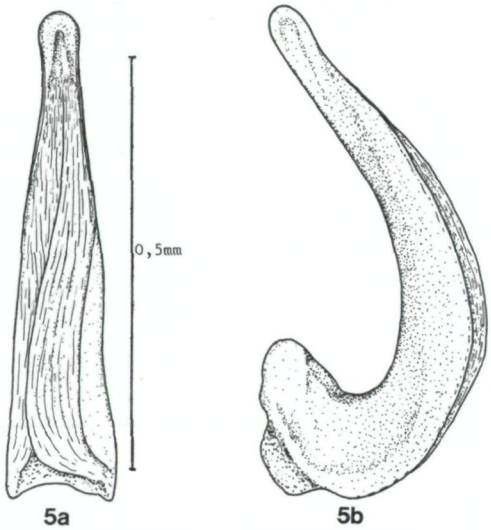

Fig. 5: Aedeagus of *Hydroporus libanus* REGIMBART
Holotype ♂; a: penis, dorsal view; b: penis, lateral view.

Eine neue Art, *Hydrocoptus jaechi*, wird von Israel beschrieben. Von *Bidessus anatolicus* WEWALKA werden zwei neue Subspezies, eine vom Toten Meer (*phoenix*) und eine zweite vom Oberen Jordantal (*kadmos*) aufgrund der unterschiedlichen Form und Punktierung abgetrennt. *Hydroporus ortali* WEWALKA wird als jüngeres Synonym zu *Hydroporus multiguttatus* REGIMBART gestellt. Aufgrund der Untersuchung der Typen wird *Hydroporus libanus* REGIMBART dem Subgenus *Stenoporus* zugeordnet. Weiters werden Neufunde von *Methles spinosus* SHARP, *Hydrovatus aristidis* LEPRIEUR und *Hydrovatus sordidus* SHARP für Israel gemeldet.

References

REGIMBART, M. 1901: Description d'un *Hydroporus* du Liban, Bull. Soc. Ent. Fr. 70:101-102.

WEWALKA, G. 1971: Eine neue Art der Gattung *Bidessus* SHARP aus Kleinasien. Ztschr. Arbeitsgem. österr. Entom. 23:72-73.

- " - 1974: Neue und bemerkenswerte Schwimmkäfer aus dem Nahen Osten. Koleopt. Rundsch. 57:129-140.

- " - 1986: Zoogeography and Ecology of the Dytiscidae Fauna of the Levant. Entomologica Basiliensia 11:273-288.

ZAITSEV, F.A. 1953: Fauna USSR, Coleoptera 4, *Amphizoidae, Hygrobiidae, Haliplidae, Dytiscidae, Gyrinidae*. Academy of Sciences of USSR, p 1-401.

ZIMMERMANN, A. 1931: Monographie der paläarktischen Dytisciden II, reprint of Koleopt. Rundsch. 17:1-63.

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Author's address: Univ.-Doz.Dr.Günther Wewalka, Kandlgasse 19-21, A-1070 Vienna, Austria.