

Contribution to the knowledge of the genus *Rhagonycha* Eschsch. (Coleoptera, Cantharidae) from Eastern Mediterranean

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Contribution to the knowledge of the genus *Rhagonycha* Eschsch. (Coleoptera, Cantharidae) from Eastern Mediterranean

by V. Švihla

Abstract: New *Rhagonycha* species and subspecies are described and illustrated: *R. lundbergi* n.sp. (Turkey), *R. machulkai* n.sp. (Bulgaria), *R. osellai* n.sp. (Turkey), *R. walteri* n.sp. (Turkey), *R. gillerforsi* n.sp. (Turkey), *R. rambouseki* n.sp. (Macedonia), *R. kronbladi* n.sp. (Turkey), *R. fugax strejceki* n.ssp. (Caucasus), *R. rydhi* n.sp. (Turkey), *R. carolusi* n.sp. (Turkey), *R. catei* n.sp. (Turkey, Bulgaria), *R. vartiani* n.sp. (Syria) and *R. brancuccii* n.sp. (Turkey). Genus *Pseudocratosilis* Moscardini et Sassi is removed from synonymy of *Cratosilis* Motschulsky and is synonymized with *Rhagonycha* Eschscholtz. New synonymies are stated: *R. tripunctata* (Reiche, 1857) = *R. chtaurana* Švihla, 1977, n.syn. and *R. aliena* Dahlgren, 1972 = *R. rassouli* Wittmer, 1981, n.syn. *R. elbursiaca* Wittmer, n.stat. is raised to specific status from *R. delagrangei elbursiaca* Wittmer and *R. kiesenwetteri piciana* Dahlgren, n.stat. is reduced to subspecific level. *R. alagoesa* (Reitter), n.comb., is transferred from *Nastonycha* Motschulsky and *R. osmana* (Wittmer), n.comb., from *Cratosilis* Motschulsky. Aedeagus of *R. alagoesa* (Reitter) and of *R. morvani* Wittmer is illustrated. Species groups of the genus *Rhagonycha* Eschscholtz occurring in Europe excluding the Iberian Peninsula and in Eastern Mediterranean are proposed and new data of distribution of 11 species are given.

Key words: Coleoptera Cantharidae – *Rhagonycha* – taxonomy – distribution – new species – new subspecies – new combinations – new status – new synonymies.

Twenty five years ago DAHLGREN (1968) started to examine thoroughly the species of the genus *Rhagonycha* Eschscholtz. After this first work, he and some other specialists followed with the descriptions of further species and/or by giving other data e.g.: DAHLGREN (1972, 1975, 1976a, b, 1978, 1985a, b), WITTMER (1972a, b, 1974, 1981), KASANTSEV (1992) and ŠVIHLA (1977, 1983, 1990, 1993). Twelve new species and one subspecies from the Eastern Mediterranean are described in this paper and further taxonomic data are given as well as new data of distribution of several species.

Material

Material on which this study is based were borrowed from following institutions and entomologists:

- GG = collection of Mr Gösta Gillerfors, Varberg, Sweden
- IR = collection of Mr Ingvar Rydh, Olofström, Sweden

- NHMB = Naturhistorisches Museum, Basel, Dr. Michel Brancucci
 NMP = Národní Muzeum, Praha, Dr. Josef Jelínek
 SL = collection of Mr Stig Lundberg, Lulea, Sweden
 VS = author's collection, to be deposited in NMP
 WK = collection of Mr Willy Kronblad, Ekenäsön, Sweden.

I am very obliged to all the above mentioned colleagues for the possibility to study the interesting material and for allowing me to keep holotypes in my special collection. I am particularly indebted to Dr. Walter Wittmer, who helped me to assemble the material.

Rhagonycha Eschscholtz

Rhagonycha ESCHSCHOLTZ, 1830, Bull. Soc. Imp. Nat. Moscou 2(1): 64.

Type species: *Cantharis fulva* SCOPOLI, 1763, designated by Delkeskamp, 1977.

Pseudocratosilis MOSCARDINI ET SASSI, 1970, Boll. Soc. Entomol. Ital. 102: 192, n.syn.

Type species: *Pygidia graeca* PIC, 1901, monobasic and original designation, = *R. coreyrea* PIC, 1901.

WITTMER (1972) synonymized the genus *Pseudocratosilis* Moscardini et Sassi with *Cratosilis* Motschulsky. When I examined large material of these genera and of the genus *Rhagonycha* Eschscholtz, I found, in species of the last genus a great transitional variability in the form of the penultimate tergite, from the *Rhagonycha*-like (normally developed) to *Pseudocratosilis*-like (dilated posteriorly). The dilated tergite was found in some species of *R. nigripes*, *R. lutea* and *R. translucida* group, like they are proposed below. On the other hand, no transition was found between strong and distinct punctuation of elytra in *Cratosilis* Motschulsky and transversely wrinkled elytra in *Rhagonycha* Eschscholtz and *Pseudocratosilis* Moscardini et Sassi. Therefore this new synonymy is here stated and species *R. coreyrea* Pic, *R. helleni* Dahlgren and *R. osmana* (Wittmer), n.comb., are replaced or transferred to the genus *Rhagonycha* Eschscholtz.

Species of the genus *Rhagonycha* Eschscholtz, occurring in Europe excluding the Iberian Peninsula and in Eastern Mediterranean, can be grouped according to the form of the aedeagus as follows (some of these groups were already proposed by DAHLGREN, 1968):

1. *R. nigriceps* group: *R. abchasica* Pic, *R. adanensis* Dahlgren, *R. aetolica* (Kiesenwetter), *R. aibgaena* Kasantsev, *R. anapensis* Dahlgren, *R. atriceps* Pic, *R. bernhaueri* Wittmer, *R. caucasica* Wittmer, *R. compacta* Wittmer, *R. consociata* Heyden, *R. cruentata* (Reiche), *R. dahlgreni* Wittmer, *R. diversipes* Pic, *R. duplicata* Wittmer, *R. erevanensis* Dahlgren, *R. flavicornis* Kasantsev, *R. ghilanensis* Dahlgren, *R. gillerforsi* n.sp., *R. gruziana* Wittmer, *R. hetitica* Wittmer, *R. holzschuhi* Wittmer, *R. intermedia* Wittmer, *R. kefallinica* Dahlgren, *R. lundbergi* n.sp., *R. machulkai* n.sp., *R. monticola* Dahlgren, *R. nigriceps* (Waltl), *R. nurdaghensis* Wittmer, *R. osellai* n.sp., *R. pamphylica* Wittmer, *R. peyroni* Marseul, *R. prijutensis* Kasantsev, *R. tridentata* Wittmer, *R. tseiana* Kasantsev, *R. turcica* Wittmer and *R. walteri* n.sp.
2. *R. lutea* group: *R. balcanica* Pic, *R. helleni* Dahlgren, *R. lutea* (Müller) and *R. osmana* (Wittmer).
3. *R. translucida* group: *R. bithynica* Marseul, *R. corcyrea* Pic, *R. decorata* Pic, *R. rambouseki* n.sp., *R. rosti* Pic, *R. translucida* (Krynicky) and *R. viduata* (Küster).
4. *R. limbata* group (I prefer this name for Dahlgren's *R. femoralis* group, because it is not exactly known, which species the name represents): *R. alagoesa* (Reitter), *R. anatolica* Dahlgren, *R. atra* (Linnaeus), *R. bohaci* Švihla, *R. carolusi* n.sp., *R. caspica* Wittmer, *R. circassicola* Reitter, *R. complicans* Dahlgren, *R. drienensis* Dahlgren, *R. fugax* Mannerheim, *R. gallica* Pic, *R. georgiana* Kasantsev, *R. improvisa* Dahlgren, *R. interposita* Dahlgren, *R. kobiensis* Dahlgren, *R. kronbladi* n.sp., *R. kubanensis* Pic, *R. lencoranica* Kasantsev, *R. limbata* Thomson, *R. macedonica* Dahlgren, *R. maculicollis* Märkel, *R. marginithorax* Wittmer, *R. neglecta* Dahlgren, *R. nigripes* Redtenbacher, *R. pedemontana* Baudi, *R. persica* Pic, *R. pseudorosica* Kasantsev, *R. reitteri* Dahlgren, *R. rorida* Kiesenwetter, *R. rossica* Wittmer, *R. roubali* Švihla, *R. rydhi* n.sp., *R. similata* Dahlgren, *R. talyschensis* Khznorjan, *R. testacea* (Linnaeus), *R. tripunctata* (Reiche), *R. vitticollis* (Ménétries) and *R. voriseki* Švihla.
5. *R. morio* group: *R. elongata* (Fallén) and *R. morio* Kiesenwetter.
6. *R. nigrosuta* group: *R. nigrosuta* Fiori.
7. *R. delagrangei* group: *R. approximana* (Fairmaire), *R. brancuccii* n.sp., *R. catei* n.sp., *R. delagrangei* (Pic), *R. elbursiaca* Wittmer,

R. herbea Marseul, *R. kurdistanana* Švihla, *R. lyncea* Bourgeois, *R. maceki* Švihla, *R. morvani* Wittmer, *R. pseudoconsociata* Dahlgren, *R. richteri* Wittmer, *R. robusticornis* Wittmer, *R. rufopallida* Wittmer, *R. syriaca* Dahlgren, *R. vartiani* n.sp., *R. xanthochroina* Fairmaire and *R. zwicki* Wittmer.

8. *R. fulva* group: *R. aliena* Dahlgren, *R. chevrolati* Marseul, *R. chlorotica* Gené, *R. fulva* (Scopoli) and *R. nigritarsis* Brullé.

9. *R. kiesenwetteri* group: *R. angusta* Marseul, *R. elongatipes* Wittmer and *R. kiesenwetteri* Marseul.

10. *R. lignosa* group: *R. lignosa* (Müller), *R. milleri* Kiesenwetter and *R. straminea* Kiesenwetter.

11. *R. iranica* group: *R. esfandiarii* Wittmer, *R. iranica* Wittmer and *R. reflexa* Wittmer.

Species „incertae sedis“: *R. albanica* Pic, *R. angulatocollis* Costa, *R. femoralis* Brullé, *R. melanodera* (Eschscholtz) and *R. sareptana* Marseul.

***Rhagonycha lundbergi* n.sp.**

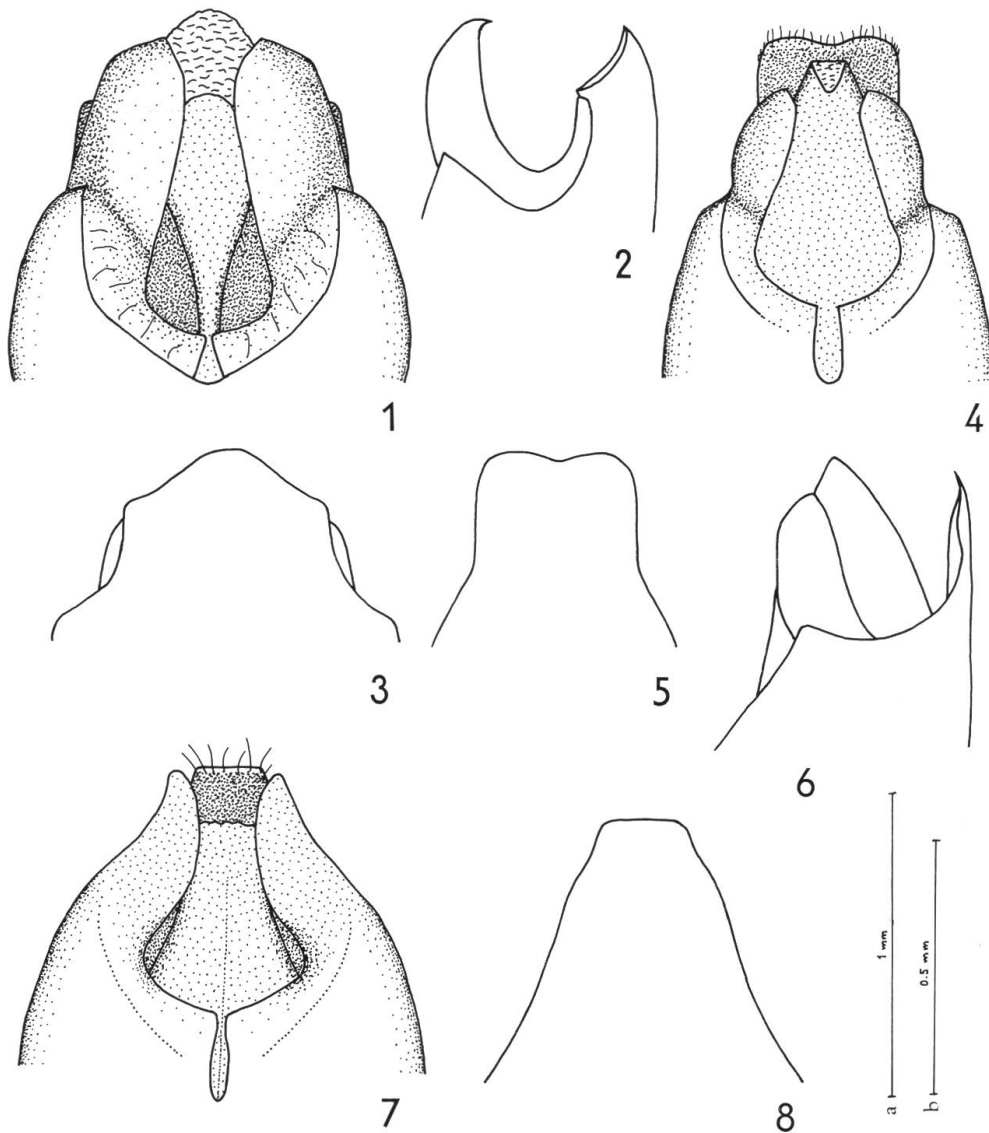
Figs 1–3.

Rhagonycha bergvalli Dahlgren in. litt.*

Head, antennae, pronotum, scutellum, legs and ventral part of body black, mouthparts dark brown, elytra yellowish brown.

Male: Eyes large and convex, head across eyes very slightly wider than pronotum. Antenna reaches 4/5 of elytral length. Surface of head very finely microshagreened, very finely and sparsely punctate and pubescent, matt. Pronotum very slightly wider than long, lateral margins distinctly converging anteriorly, slightly sinuate, anterior margin rounded, both anterior and posterior angles obtusely tapered, posterior margin rounded. Surface of pronotum like the head sculptured and pubescent, matt, excluding pair of longitudinal, semilustrous bulges in posterior half. Elytra moderately wider than pronotum, distinctly enlarged posteriorly. Surface of elytra very finely punctate basally, transversely wrinkled posteriorly, finely and sparsely pubescent, semilustrous, elytral veins hardly visible. Aedeagus as in Figs 1–3.

* Some of the species, described in this paper were named by Dahlgren, but not published.



Figs 1–8: 1–3: *Rhagonycha lundbergi* n.sp.: 1, aedeagus. 2, aedeagus, lateral view. 3, dorsal part of aedeagus. 4–6: *R. machulkai* n.sp.: 4, aedeagus. 5, dorsal part of aedeagus. 6, aedeagus, lateral view. 7–8: *R. osellai* n.sp.: 7, aedeagus. 8, dorsal part of aedeagus. Scale a = Figs 1–5; b = 6–8.

Female: Eyes smaller and less convex and pronotum wider than in male, so that head across eyes is distinctly narrower than pronotum. Antenna reaches elytral midlength, elytra wider than in male.

Length ♂ ♀: 8.3–11.2 mm.

Holotype ♂ (SL): Turkey: Yarpuz, 1200 m, 17.V.1988, S. Lundberg. Paratypes: the same data, 2♂ 2♀ (VS); 1♂ 3♀ (SL); the same locality, 2.V.1988, S. Lundberg, 1♀ (SL) and 3.V.1990 1♂(VS);

24.V.1988, W.Kronblad, 1♂(WK); 10.V.1990, G. Gillerfors, 1♀(GG); Geris, 24.V.1988, Bergvall, 1♂(SL).

Distribution: SW Turkey.

Name derivation. Named after one of the collectors Mr Stig Lundberg, to whom I am very obliged for the possibility to study the very interesting material from Turkey.

R. lundbergi n.sp. belongs to the *R. nigriceps* group. It is similarly colored like *R. adanensis* Dahlgren, *R. peyroni* Marseul and *R. duplicata* Wittmer, from which and from other species of the group it differs by the different form of the aedeagus.

***Rhagonycha machulkai* n.sp.**

Figs 4–6.

Head black, mouthparts and antennae brown, pronotum and elytra yellowish brown. Legs brown, ventral part of body dark brown to black.

Male: Eyes large and convex, head across eyes very slightly wider than pronotum. Antenna reaches 4/5 of elytral length. Surface of head very finely microshagreened, very finely and sparsely punctate and pubescent, matt. Pronotum very slightly wider than long. Lateral margins converging anteriorly, slightly sinuate. Anterior margin and anterior angles rounded, posterior angles obtusely tapered, posterior margin rounded. Surface of pronotum like the head sculptured and pubescent, matt. Elytra moderately wider than pronotum, very slightly enlarged posteriorly. Surface of elytra very finely and sparsely punctate basally, transversely wrinkled posteriorly, very finely pubescent, semilustrous. Elytral veins hardly visible. Aedeagus Figs 4–6.

Length ♂: 9.5 mm.

Holotype ♂ (NMP): Bulgaria: Bačkovo, V. Machulka.

Distribution: S Bulgaria.

Name derivation. This species is named in memory of its collector, Ing. Václav Machulka (1889–1949), specialist in the families Pselaphidae and Scydmaenidae.

R. machulkai n.sp. is closely related and very similar to *R. dahlgreni* Wittmer, from which it differs by slightly longer elytra, the wider paramera and the dorsal part of aedeagus (cf. WITTMER, 1972). It belongs to the *R. nigriceps* group.

Rhagonycha abchasica Pic

Rhagonycha abchasica PIC, 1900, Bull. Soc. Zool. France 1900: 183.

Material examined: Caucasus, Araxesthal, Leder, Reitter, 2 ex.; Dagestan, Umg. Rutull, 2300–3000 m, 21.–24.VI.1992, Below, 2 ex. (all NHMB).

Hitherto known only from Georgia (WITTMER, 1972), new species for Azerbaijan and Armenia.

Rhagonycha gruziana Wittmer

Rhagonycha gruziana WITTMER, 1972, Mitt. Schweizer. Entomol. Ges. 45: 69.

Material examined: Türkei (Gümüşhane), Zigana-P., 17.VII.1973, Wewalka, 1 ex. (NHMB).

Described from Georgia, new species for Turkey.

Rhagonycha osellai n.sp.

Figs 7–9.

Head black, between and before eyes including mouthparts yellowish brown. Antennae, legs and elytra yellowish brown, scutellum darkened basally. Pronotum yellowish brown with central, longitudinal, not sharply delimited brown spot. Ventral part of body dark brown, last two abdominal segments yellowish brown.

Male: Eyes large and strongly convex, head across eyes slightly wider than pronotum. Antenna reaches 4/5 of elytral length. Surface of head very finely microshagreened, very finely and sparsely punctate and pubescent, matt. Pronotum very slightly longer than wide, its lateral margins converging anteriorly, moderately sinuate. Anterior margin and anterior angles rounded, posterior angles obtusely tapered, posterior margin rounded. Surface of pronotum very finely punctate and pubescent, lustrous. Elytra slightly wider than pronotum, moderately enlarged posteriorly. Surface of elytra finely and sparsely punctate basally, transversely wrinkled posteriorly, sparsely and finely pubescent, lustrous, elytral veins slightly developed. Aedeagus Figs 7–9.

Female unknown.

Length ♂: 7.5–8.5 mm.

Holotype ♂ (NHMB): Turkey: Soümela (Trabzon), 14.VI.1969, G. Osella; paratype ♂ (VS): Anatolien or., Waldzone unterh. Murgul-yayla, 1100–1300 m, 6.–7.VII.1983, Heinz.

Distribution: NE Turkey.

Name derivation. Named after one of its collectors, Dr. Giuseppe Osella, well-known specialist of the family Curculionidae.

R. osellai n.sp. is closely related to *R. atriceps* Pic, *R. flavicornis* Kasantsev and *R. aibgaena* Kasantsev, from which it differs by the flat paramera in lateral view (cf. Figs 9–10 and KASANTSEV, 1992). It belongs to the *R. nigriceps* group.

***Rhagonycha walteri* n.sp.**

Figs 11–13.

Head black, mouthparts and antennae dark brown. Pronotum orange yellow, legs dark brown, scutellum, elytra and ventral part of body black.

Male: Eyes small but convex, head across eyes approximately as wide as pronotum. Antenna reaches 4/5 of elytral length. Surface of head very finely microshagreened, very finely and sparsely punctate and pubescent, matt. Pronotum slightly wider than long, lateral margins moderately converging anteriorly, slightly emarginate before posterior angles. Anterior margin of pronotum rounded, anterior angles very obtusely tapered, posterior angles less obtusely tapered, posterior margin almost straight. Surface of pronotum very finely punctate and pubescent, very finely microshagreened, semilustrous to lustrous. Elytra very slightly wider than pronotum, almost parallel-sided. Surface of elytra very finely and sparsely punctate basally, transversely wrinkled posteriorly, sparsely and finely yellow pubescent, lustrous, elytral veins not developed. Penultimate tergite slightly enlarged posteriorly, its posterior angles rounded. Aedeagus Figs 11–13.

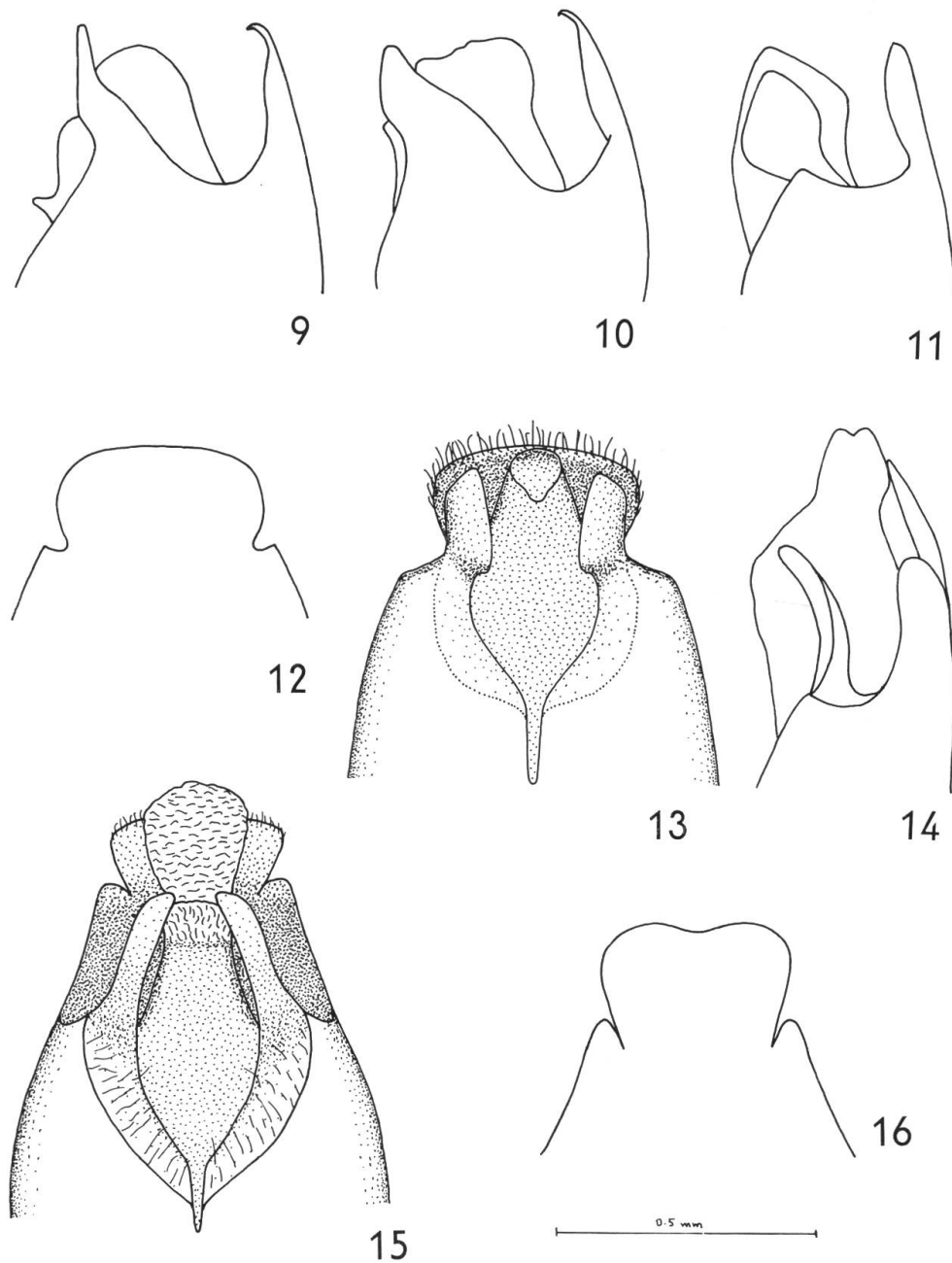
Female: Eyes smaller than in male, head across eyes much narrower than pronotum, which is about 1/3 shorter than wide, antenna hardly reaches elytral midlength. Elytra wider, moderately enlarged posteriorly.

Length ♂♀: 4.5–7.0 mm.

Holotype ♂ (VS): Turkey: Prov. Antalya, Yarpuz, 1200 m, 29.V. to 9.VI.1989, I. Rydh; paratypes: the same locality, 17.–25.V.1988, I. Rydh, 2♂ (IR); 24.V.1988, S. Lundberg, 1♂ (SL); W. Kronblad, 2♂ (WK), 1♀ (VS); 2.VI.1989, G. Gillerfors, 1♂ (GG); Termessos, 400 m, 29.V.1989, S. Lundberg, 1♂ (VS); Tekebeg, 37°13' N/31°45' E, 12.VI.1985, Rausch, 1♂ (NHMB).

Distribution: SW Turkey.

Name derivation. This species is named after Dr. Walter Wittmer, well-known specialist of the families Cantharidae and Malachiidae, to whom I am very obliged for his great help by obtaining material for this study.



Figs 9–16: 9, *Rhagonycha osellai* n.sp., aedeagus, lateral view. 10, *R. atriceps* Pic, aedeagus, lateral view. 11–13: *R. walteri* n.sp.: 11, aedeagus, lateral view. 12, dorsal part of aedeagus. 13, aedeagus. 14–16: *R. gillerforsi* n.sp.: 14, aedeagus, lateral view. 15, aedeagus. 16, dorsal part of aedeagus.

This species according to the form of the aedeagus belongs to the *R. nigriceps* group. Due to its coloration it cannot be confused with any other species of this group.

Rhagonycha gillerforsi n.sp.

Figs 14–16.

Head and antennae black, mouthparts dark brown. Pronotum orange yellow with central, longitudinal, black stripe, lateral margin of which is sinuate. Legs, scutellum, elytra and ventral part of body black.

Male: Eyes small but convex, head across eyes distinctly narrower than pronotum. Antenna reaches elytral midlength. Surface of head very finely misroshagreened, very finely and sparsely pubescent, matt. Pronotum distinctly longer than wide, lateral margins converging anteriorly, shallowly emarginate before posterior angles. Anterior margin rounded, anterior angles obtusely tapered, posterior ones less obtusely tapered, posterior margin rounded. Surface of pronotum similarly like the head sculptured and pubescent, semilustrous. Elytra slightly wider than pronotum, enlarged posteriorly. Surface of elytra very sparsely and finely punctate basally, transversely wrinkled posteriorly, finely pubescent, semilustrous to lustrous, elytral veins almost invisible. Penultimate tergite enlarged posteriorly, its posterior angles rounded. Aedeagus Figs 14–16.

Female unknown.

Length ♂: 6.9–7.5 mm.

Holotype ♂ (VS): Turkey: prov. Antalya, 20 km S Elmali, 1200 m, 23.V.1991, G. Gillerfors; paratype ♂ (GG): 50 km S Elmali, 1300 m, 24.V.1991, G. Gillerfors.

Distribution: SW Turkey.

Name derivation. Named after its collector, Mr Gösta Gillerfors, to whom I am very grateful for the possibility to examine the very interesting material from Turkey and for giving me the holotype for my special collection.

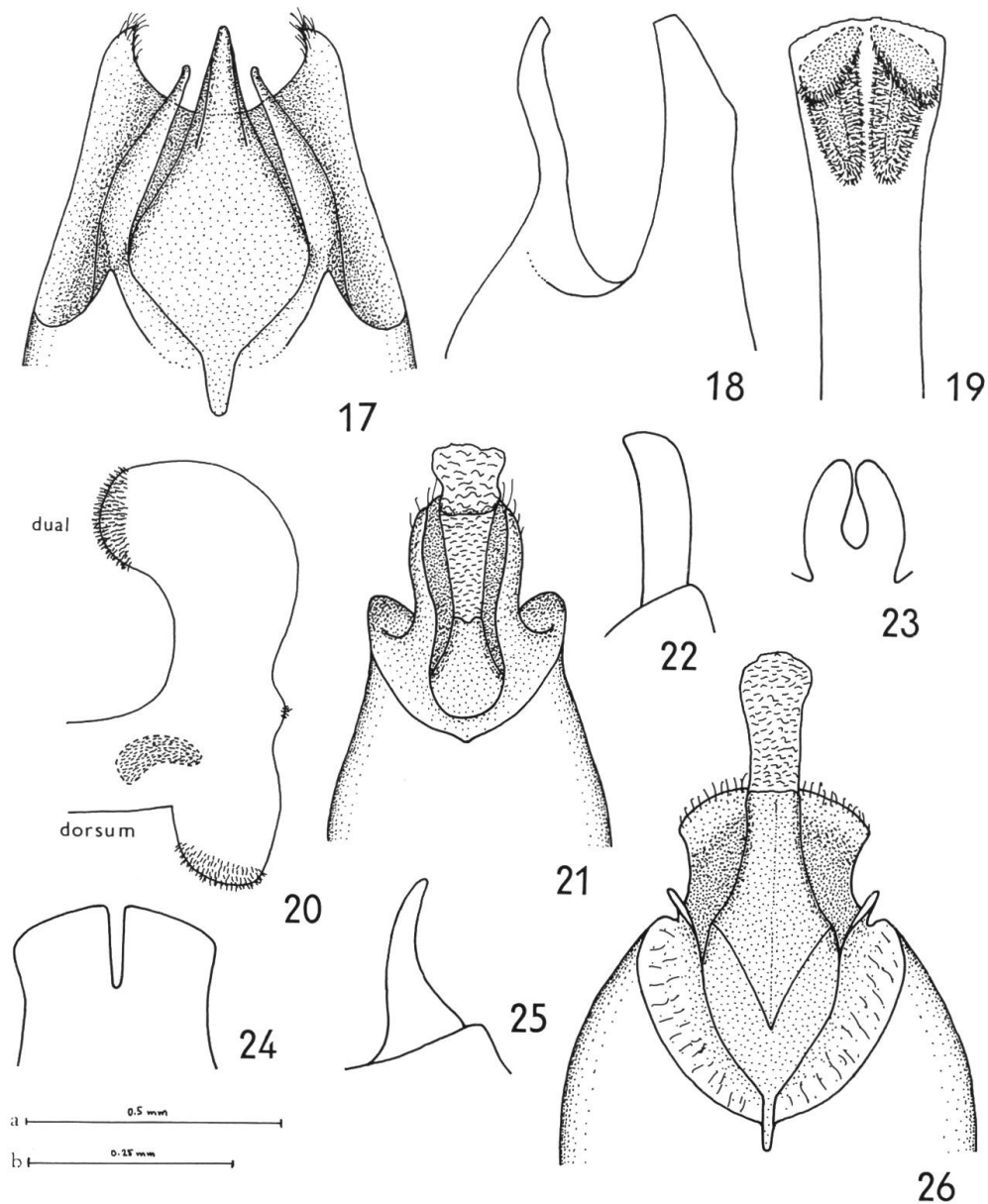
R. gillerforsi n.sp. is closely related to *R. walteri* n.sp., from which it differs by the different coloration of the pronotum and by the form of the aedeagus. It belongs to the *R. nigriceps* group.

Rhagonycha helleni Dahlgren

Rhagonycha helleni DAHLGREN, 1968, Entomol. Blätter 64: 119.

Material examined: Turkey: Prov. Kirklareli, Demirkoy, 20.VI.1989, Barries et Cate, 9 ex.; Prov. Düzce, Mont Tal, 8.VI.1988, Barries et Cate, 1 ex. (all VS); Izmit-Yaloma, 28.V.1970, W. Wittmer, 1 ex. (NHMB).

Described from southern Bulgaria, new species for Turkey.



Figs 17–26: 17–18: *Rhagonycha rambouseki* n.sp.: 17, aedeagus. 18, aedeagus, lateral view. 19, *R. kronbladi* n.sp., endophallus, ventral view. 20, *R. fugax* Mannerheim, endophallus, lateral view. 21–23: *R. rydhi* n.sp.: 21, aedeagus. 22, paramera, lateral view. 23, dorsal part of aedeagus. 24–26: *R. carolusi* n.sp.: 24, dorsal part of aedeagus. 25, paramera, lateral view. 26, aedeagus. Scale a = Figs 17–21, 23–24; b = 22, 25.

***Rhagonycha rambouseki* n.sp.**

Figs 17–18.

Head, antennae, prothorax, scutellum and legs yellow. Elytra yellow with lateral, longitudinal brown stripe on each elytron, which started from humeral part and enlarge posteriorly, lateral margin of

elytron remains narrowly yellow (similar coloration like in *Armidia signata* Germar).

Male: Eyes strongly convex, however head across eyes distinctly narrower than pronotum. Antenna reaches 3/4 of elytral length. Surface of head finely microshagreened and sparsely pubescent, matt. Pronotum distinctly wider than long, lateral margins converging anteriorly, before posterior angles very slightly emarginate, anterior angles and anterior margin rounded, posterior margin slightly rounded, posterior angles obtusely tapered. Surface of pronotum very finely and sparsely punctate and pubescent, lustrous. Elytra slightly wider than pronotum, moderately enlarged posteriorly. Surface of elytra very finely and sparsely punctate basally, transversely wrinkled posteriorly, finely pubescent, lustrous, elytral veins slightly developed. Aedeagus Figs 17–18.

Female unknown.

Length ♂: 7.7 mm.

Holotype ♂ (NMP): Macedonia: Jablanica plan., VII. 1930, F. Rambousek.

Distribution: Macedonia.

Name derivation. This species is named in the memory of its collector, Dr. František Rambousek (1886–1931), well-known specialist in Staphylinoidea.

This species is related to *R. translucida* (Krynicky), from which it differs by the coloration of the elytra and by the different form of the aedeagus. It belongs to the *R. translucida* group.

Rhagonycha decorata Pic

Rhagonycha decorata PIC, 1912, l'Echange 28: 57.

Material examined: Gr., Hania, 10 km ö. Volos, 1.VI.1977, Wewalka, 2 ex. (NHMB).

Described from Montenegro, new species for Greece.

Rhagonycha corcyrea Pic

Rhagonycha corcyrea PIC, 1901, l'Echange 17: 50.

Material examined: Bulgaria, Sandanski, V. 1974, J. Strejček, 1 ex. (VS); Gr., Naxos, S. Koronis, 630 m, 21.V.1975, Malicky, 1 ex. (NHMB).

Distribution: Montenegro, Macedonia, Greece (DAHLGREN, 1968). New species for Bulgaria and for Aegean islands.

Rhagonycha kronbladi n.sp.

Fig. 19.

Head, pronotum and scutellum black, mouthparts brown, first three antennal segments yellow, segments 4 and 5 brown with light basal portion, following segments darkening to black terminally. Anterior femora yellow with black bases, middle and posterior ones black with yellow knees, tibiae yellow, tarsi brown. Elytra yellow, ventral part of body black.

Male: Eyes small but convex, head across eyes approximately as wide as pronotum. Antenna does not reach elytral midlength. Surface of head very finely microshagreened, very finely and sparsely punctate and pubescent, lustrous. Pronotum very slightly wider than long, lateral margins converging anteriorly, slightly emarginate before posterior angles. Anterior margin, anterior angles and posterior margin rounded, posterior angles obtusely tapered. Surface of pronotum like the head punctate and pubescent, lustrous. Elytra moderately wider than pronotum, moderately enlarged posteriorly. Surface of elytra finely and sparsely punctate basally, transversely wrinkled posteriorly, finely and sparsely pubescent, lustrous. Endophallus (not completely extruded) Fig. 19.

Female: Eyes smaller than in male, antenna slightly shorter, pronotum and elytra wider.

Length ♂ ♀: 5.0–6.0 mm.

Holotype ♂ (VS): Turkey: Prov. Antalya, Elmali, 23.V.1991, G. Gillerfors; paratypes: the same data, 1♂ 1♀ (VS), 1♂ 3♀ (GG); 30 km S Elmali, 1200 m, 21.–28.V.1991, I. Rydh, 1♂ (VS), 1♂ (IR); 35 km S Elmali, 1200 m, 24.V.1991, G. Gillerfors, 1♀ (GG); W. Kronblad, 1♂ (VS); 30 km S Elmali, 1400 m, 23.V.1991, W. Kronblad, 1♂ (WK).

Distribution: SW Turkey.

Name derivation. Named after one of its collectors, Mr Willy Kronblad, whom I am very obliged for the possibility to examine the very interesting material from Turkey.

This species belongs to the *R. limbata* group. Aedeagus and paramera are quite the same as in *R. limbata* Thomson and other nearly related species. Unfortunately I did not succeed to extrude the endophallus completely in any male at my disposal. However it seems, that there are two apical cushions of thorns and two ventrolateral ones, similar to *R. improvisa* Dahlgren (cf. DAHLGREN, 1976a), but without any other ones, which is unique in this group.

Rhagonycha fugax strejceki n.ssp.

Fig. 20.

This new subspecies differs from the nominotypical one only by the coloration of the pronotum, which is not completely black, but yellow with a central, longitudinal, not sharply delimited brown spot. Aedeagus, paramera and endophallus (Fig. 20) like in *R. fugax fugax* Mannerheim from Switzerland.

Holotype ♂ (NHMB): Zentralkaukasus, Tscheget-Basis, 2200 m, 12.VII.1971, H. Muche; paratypes: same data, 1♀; same locality, 2100–2300 m, 7.VII.1971, H. Muche, 1♂ (all NHMB); Caucasus centr., Teberda, 1500 m, 11.–14.VI.1986, J. Strejček, 1♂ 1♀ (VS).

Distribution: S Russia: Caucasus Mts.

Name derivation. It is named after one of its collectors, Dr. Jaromír Strejček, well-known specialist in the family Bruchidae.

Rhagonycha maculicollis Märkel

Rhagonycha maculicollis MÄRKEL, 1852, Ann. Soc. Entomol. France 9: 607.

Material examined: Greece, Prov. Drama, 70 km N Drama, 15.VII.1989, Barries et Cate, 2 ex. (VS).

Distribution: E France, N Italy, Switzerland, SE Austria, Slovakia, Romania, Bulgaria (DAHLGREN, 1968). New species for Greece.

Rhagonycha rydhi n.sp.

Figs 21–23.

Rhagonycha rydhi DAHLGREN in litt.

Head black, mouthparts dark brown, antennae blackish brown. Pronotum orange yellow with three brown to blackish brown spots: pair of semicircular, closely behind anterior angles, which does not reach lateral margins and with one central, oval, longitudinal spot, which does not reach both anterior and posterior margin. Scutellum, elytra and legs blackish brown to black, prosternum and abdomen yellowish orange, meso and metasternum black.

Male: Eyes small but convex, head across eyes very slightly wider than pronotum. Antenna moderately exceeds elytral midlength. Surface of head very finely microshagreened, very finely and sparsely punctate and pubescent, matt. Pronotum as long as wide, almost parallel-sided, anterior margin and anterior angles rounded, posterior angles very obtusely tapered, posterior margin very slightly rounded. Surface of pronotum like the head sculptured and pubescent, matt. Elytra slightly wider than pronotum, very moderately

enlarged posteriorly. Surface of elytra very finely and sparsely punctate basally, transversely wrinkled posteriorly, finely and sparsely pubescent, lustrous, elytral veins slightly developed. Aedeagus Figs 21–23.

Female: Eyes less convex than in male, head across eyes narrower than pronotum, which is moderately wider than long. Antenna reaches 1/3 of elytral length. Elytra wider than in male.

Length ♂ ♀: 5.5–7.1 mm.

Holotype ♂ (VS): Turkey: Prov. Antalya, Gündogmus, 9.V.1990, G. Gillerfors; paratypes: the same data, 1♂1♀ (GG); the same data, S. Lundberg, 1♀ (SL); the same locality, 8.–14.V.1987, I. Rydh, 1♂ (IR); Prov. Antalya, Yarpuz, 1200 m, 17.–26.V.1988, I. Rydh, 1♂ (VS); the same locality, 3.V.1990, G. Gillerfors, 1♀ (VS); Turkey, N. Geris, 14.V.1987, S. Lundberg, 1♀ (VS).

Distribution: SW Turkey.

Name derivation. Named after one of the collectors, Mr Ingvar Rydh, to whom I am very grateful for the possibility to examine the very interesting material from Turkey and for giving me the holotypes for my special collection.

This species is by its coloration similar to *R. tripunctata* (Reiche), from which it differs by completely dark antennae and legs and by the different form of the aedeagus. It belongs to the *R. limbata* group.

Rhagonycha tripunctata (Reiche)

Telephorus tripunctatus REICHE, 1857, Ann. Soc. Entomol. France 5: 175.

Rhagonycha chtaurana ŠVIHLA, 1977, Acta Entomol. Bohemoslov 74: 182, n.syn.

Distribution: Syria, Israel, Jordan, Lebanon.

Holotype of *R. chtaurana* Švihla was compared with large material from NHMB and no differences were found, so that the synonymy must be established.

Rhagonycha alagoesa (Reitter) n.comb.

Figs 27–29.

Nastonycha alagoesa REITTER, 1893, Wien. Entomol. Zeit. 12: 111.

Material examined: Caucasus, Armen. Geb., Leder, Reitter, 5 ex. (NMP).

This species differs from other *Rhagonycha* species only by the absence of wings and by the slightly different form of the pronotum, caused by secondary apterism. A *Rhagonycha* subspecies with shortened elytra, *R. kobiensis alexeevi* Kasantsev was recently described

and it forms a transition to *R. alagoesa* (Reitter). Secondary apterism or shortened elytra in mountain species can be found also in the genera *Cantharis* Linnaeus and *Themus* Motschulsky. It is necessary to examine material of the type species (*N. brachyptera* Motschulsky) to solve the complete synonymisation of the genus *Nastonycha* Motschulsky. According to the form of aedeagus (Figs 27–29), *R. alagoesa* (Reitter) undoubtedly belongs to the *R. limbata* group.

Rhagonycha carolusi n.sp.

Figs 24–26.

Head black, mouthparts and antennae dark brown. Pronotum yellowish brown with central, dark brown stripe, which is not sharply delimited and it is lighter in anterior portion and darker, enlarged laterally, behind pronotal midlength. Femora dark brown, tibiae brown, darkened terminally, tarsi brown. Elytra yellowish brown, humera, sutural stripe and posterior half of elytra brown. Ventral part of body brown to dark brown.

Male: Eyes convex, head across eyes as wide as pronotum, antenna reaches 4/5 of elytral length. Surface of head very finely microshagreened, finely and sparsely punctate and pubescent, matt. Pronotum slightly wider than long, parallel-sided. Anterior margin and anterior angles rounded, posterior angles obtusely tapered, posterior margin moderately sinuate. Surface of pronotum like the head sculptured and pubescent, matt. Elytra slightly wider than pronotum, almost parallel-sided. Surface of elytra very finely and sparsely punctate basally, transversely wrinkled posteriorly, very finely and sparsely pubescent, lustrous, elytral veins almost invisible. Aedeagus Figs 24–26.

Female unknown.

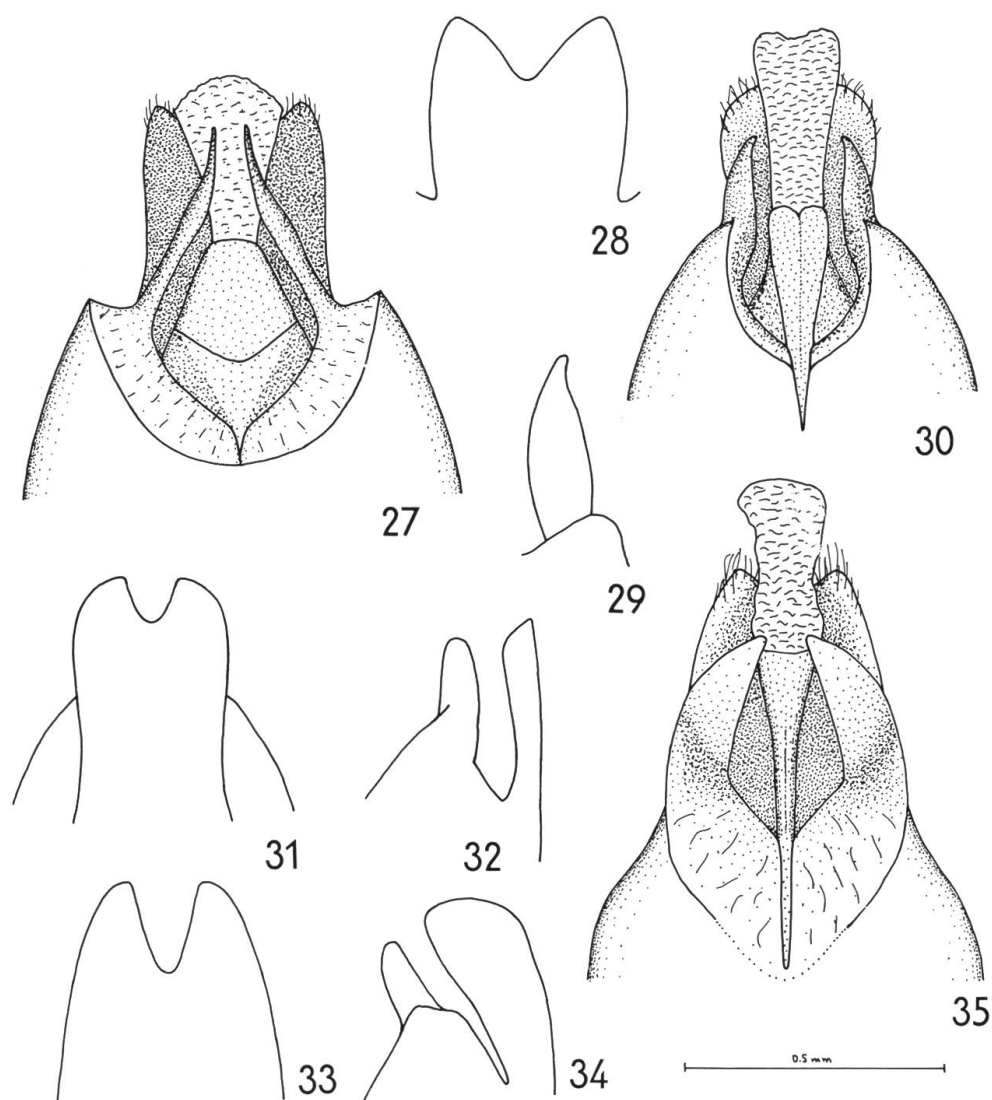
Length ♂: 6.0 mm.

Holotype ♂ (NHMB): Turkey: Prov. Hakkari, E Uludere, Tanin Tanin gec., 2000 m, 7.VI.1978, C. Holzschuh.

Distribution: SE Turkey.

Name derivation. Named after its collector Mr Carolus Holzschuh, well-known specialist of the family Cerambycidae.

R. carolusi n.sp. belongs to the *R. limbata* group. From other species it differs by the form of the aedeagus and by the coloration of the elytra.



Figs 27–35: 27–29: *Rhagonycha alagoesa* (Reitter): 27, aedeagus. 28, dorsal part of aedeagus. 29, paramera, lateral view. 30–32: *R. catei* n.sp.: 30, aedeagus. 31, dorsal part of aedeagus. 32, aedeagus, lateral view. 33–35: *R. vartiani* n.sp.: 33, dorsal part of aedeagus. 34, aedeagus, lateral view. 35, aedeagus.

***Rhagonycha catei* n.sp.**

Figs 30–32.

Head, pronotum and scutellum black, mouthparts brown, antennae brown to dark brown, first two segments yellow. Femora brown to dark brown, tibiae and tarsi light brown, terminal portion of hind tibiae darkened. Elytra yellow, ventral part of body black.

Male: Eyes convex, head across eyes distinctly wider than pronotum. Antenna slightly exceeds elytral midlength. Surface of head very finely microshagreened, sparsely and finely pubescent, matt.

Pronotum slightly wider than long, lateral margins moderately converging anteriorly, slightly emarginate before posterior angles, anterior margin almost straight, posterior one widely rounded, anterior angles rounded, posterior ones obtusely tapered. Surface of pronotum like the head punctate and pubescent, matt. Elytra slightly wider than pronotum, moderately enlarged posteriorly. Surface of elytra very finely punctate basally, transversely wrinkled posteriorly, finely and sparsely pubescent, semilustrous, elytral veins not developed. Aedeagus Figs 30–32.

Female unknown.

Length ♂: 5.6–6.2 mm.

Holotype ♂ (VS): Turkey: Prov. Bolu, Abanttal, 13.VII.1989, Barries et Cate; paratypes (VS): Turkey: Prov. Kirklareli, Vildiz Daglari, 400 m, Demirköy, 7.VI.1988, Barries et Cate, 1♂; Bulgaria: Charmanli, 3.V.1973, Čáp, 1♂ (erroneously reported by myself (ŠVIHLA, 1993) as *R. lyncea* Bourgeois).

Distribution: S Bulgaria, northern part of Asian Turkey.

Name derivation. This species is named after one of its collectors, my friend, Dr. Peter Cate, specialist of the family Elateridae.

It is similar to *R. anatolica* Dahlgren, from which it differs by the lighter femora, by the longer antennae and especially by the different form of the aedeagus. It belongs to the *R. delagrangei* group.

Rhagonycha syriaca Dahlgren

Rhagonycha syriaca DAHLGREN, 1968, Entomol. Blätter 64: 110.

Material examined: Syria c.occ., Krak d. Chevaliers, 750 m, 28.IV.1982, O. Brodský, 1 ex.; Syria, coastal Mts., 1000 m, vill. Jobet Borghal, 20.–27.VI.1987, Kodym, 1 ex. (all VS); Jordan, Dehbcen b. Jerash, 14.IV.1965, Klapperich, 8 ex. (NHMB, VS).

Described from Lebanon, new species for Syria and Jordan.

Rhagonycha approximana (Fairmaire)

Telephorus approximanus FAIRMAIRE, 1884, Ann. Soc. Entomol. France 4: 169.

Material examined: Syria, Homs, 5.IV.1982, Heinz, 1 ex.(VS).

Reported from S Turkey (Akbés, type locality of it, now belongs to Turkey) and Lebanon (DAHLGREN, 1968). The occurrence in Syria is to be confirmed.

Rhagonycha vartiani n.sp.

Figs 33–35.

Head black, mouthparts dark brown, basal portion of antenna yellow, following segments darkening to dark brown terminally. Prothorax and legs yellow, scutellum, rest of ventral part of body and elytra blackish brown.

Male: Eyes convex, head across eyes distinctly wider than pronotum, antenna slightly exceeds 3/4 of elytral length. Surface of head very finely microshagreened, sparsely and finely pubescent, matt. Pronotum very slightly longer than wide, lateral margins converging anteriorly, very slightly emarginate before posterior angles. Anterior margin including anterior angles widely rounded, posterior margin moderately rounded, posterior angles obtusely tapered. Surface of pronotum very sparsely and finely punctate and pubescent, lustrous. Elytra slightly wider than pronotum, very slightly enlarged posteriorly. Surface of elytra very finely and sparsely punctate basally, transversely wrinkled posteriorly, finely white pubescent, semilustrous, elytral veins slightly developed. Aedeagus Figs 33–35.

Female unknown.

Length ♂: 6.5 mm.

Holotype ♂ (NHMB): Syria: 25 km W v. Damaskus, 15.–16.V.1961, Kasy et Vartian.

Distribution: Syria.

Name derivation. Named after one of its collectors.

It is very similar to *R. xanthochroina* Fairmaire, from which it differs by the form of the aedeagus. It belongs to the *R. delagrangei* group.

Rhagonycha herbea Marseul

Rhagonycha herbea MARSEUL, 1864, Abeille 1: 82.

Material examined: Syria, Jaffa, 1 ex.(NHMB).

Reported from Algeria and Tunisia (DAHLGREN, 1972), new species for Syria.

Rhagonycha morvani Wittmer

Figs 36–38.

Rhagonycha morvani WITTMER, 1974, Fragm. Entomol. 10(1): 2.

Described after a single female. The male differs from the female by more convex eyes, head across eyes slightly wider than the pro-

notum, by longer antenna, which almost reaches $2/3$ of elytral length and by the more slender pronotum and elytra. Aedeagus Figs 36–38.

Variability. One male with identical aedeagus differs from the description as follows: Pronotum completely yellow, elytra yellow, only scutellum dark.

Material examined: holotype ♀: Iran Zagros, Kurang, 2800 m, VI. 1970, Morvan; Iran, Bakhtiyari, barrage de Kuhrang, $32^{\circ}26'N/50^{\circ}06'E$, 18.VI.1974, Senglet, 2♂ 3♀ (all NHMB).

Rhagonycha elbursiaca Wittmer n.stat.

Rhagonycha delagrangi elbursiaca WITTMER, 1972, Verhandl. Naturf. Ges. Basel 82: 195.

A large material of this species was examined (NMP, NHMB) and it was found, that *R. elbursiaca* Wittmer is a distinct species, which differs from related species especially by the form of the dorsal part of the aedeagus.

Distribution: W Iran.

Rhagonycha brancuccii n.sp.

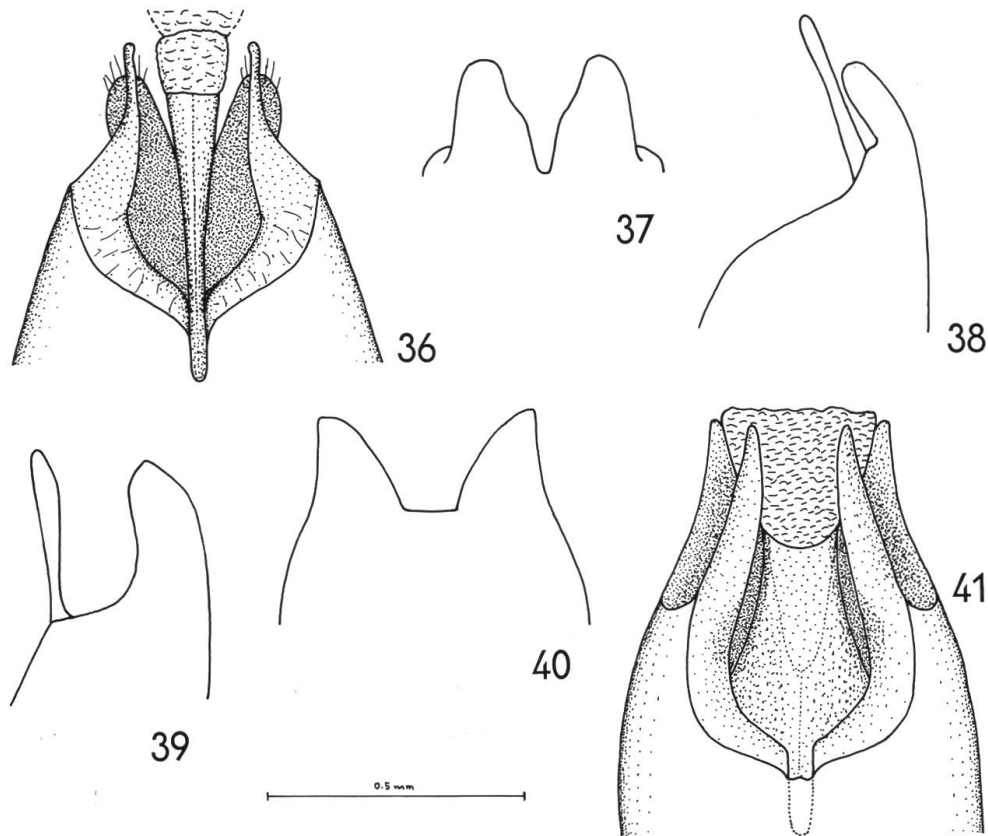
Figs 39–41.

Head black, mouthparts dark brown, antennae black. Pronotum yellow with central, longitudinal, blackish brown stripe, which is the most narrow behind the middle and slightly enlarged both anteriorly and posteriorly. Legs blackish brown, scutellum, elytra and ventral part of body black.

Male: Eyes convex, head across eyes distinctly narrower than pronotum. Antenna reaches $2/3$ of elytral length. Surface of head finely microshagreened, sparsely punctate and pubescent, matt. Pronotum almost about $1/3$ wider than long, lateral margins converging anteriorly, slightly emarginate before posterior angles. Both anterior and posterior margin very slightly rounded, anterior and posterior angles obtusely tapered. Surface of pronotum very finely to not microshagreened, sparsely and finely punctate and pubescent, semilustrous. Elytra very slightly wider than pronotum, moderately enlarged posteriorly, their surface finely and sparsely punctate basally, transversely wrinkled posteriorly, white pubescent, semilustrous, elytral veins slightly developed. Aedeagus Figs 39–41.

Female unknown.

Length ♂: 6.2 mm.



Figs 36–41: 36–38: *Rhagonycha morvani* Wittmer: 36, aedeagus. 37, dorsal part of aedeagus. 38, aedeagus, lateral view. 39–41: *R. brancuccii* n.sp.: 39, aedeagus, lateral view. 40, dorsal part of aedeagus. 41, aedeagus.

Holotype ♂ (VS): Turkey: Prov. Antalya, Yazir, 30.IV.–6.V.1990, I. Rydh.

Distribution: SW Turkey.

Name derivation. This species is named after my friend, Dr. Michel Brancucci from the Naturhistorisches Museum, Basel, whom I am very obliged for the kind loan of a large material.

By its coloration and body form it is very similar to *R. pamphylica* Wittmer and *R. gillerforsi* Švihla, but both these species have the penultimate tergite dilated posteriorly, also the aedeagus is of a different type. *R. brancuccii* belongs to the *R. delagrangei* group.

Rhagonycha aliena Dahlgren

Rhagonycha aliena DAHLGREN, 1972, Entomol. Blätter 68: 131.

Rhagonycha rassouli WITTMER, 1981, Entomol. Basiliensia 6: 406, n.syn.

Material examined: holotype ♂, Sitak Sul (Iraq), 2.VII.1967, Rassoul; paratypes: the same data, 1♂; Shaklawa (Iraq), 4.VII.1967, Rassoul, 1♀ (all NHMB).

Distribution: S Turkey, Samos, Rhodos, Cyprus, Syria, Iraq, Algeria (ŠVIHLA, 1993).

According to the form of the paramera, *R. rassouli* Wittmer is identical with *R. aliena* Dahlgren. It is necessary to mention, that both paramera and dorsal part of aedeagus are more or less variable in species of the *R. fulva* group.

Rhagonycha chevrolati Marseul

Rhagonycha chevrolati MARSEUL, 1864, Abeille 1: 80.

Material examined: Turkey, Prov. Düzce, Mont Tal, 8.VI.1988, Barries et Cate, 2 ex.(VS).

Distribution: Syria, Israel, Cyprus, S Russia (DAHLGREN, 1968), new species for Turkey.

Rhagonycha kiesenwetteri piciana Dahlgren n.stat.

Rhagonycha piciana DAHLGREN, 1975, Entomol. Blätter 71: 105.

Material examined: Israel: Jerusalem, 28.V.1957, Werner, 1♂; 30.III.1958, Weissmann, 1♂; 23.VI.1956, Klapperich, 3♂ 1♀ (NHMB, VS).

Distribution: Syria, Israel.

R. kiesenwetteri piciana Dahlgren differs from the nominotypical subspecies by the yellow coloration of elytra, the apex of them is sometimes darkened. The aedeagus is identical in both subspecies. *R. kiesenwetteri kiesenwetteri* Marseul is distributed in Southern Turkey and Cyprus.

Rhagonycha straminea Kiesenwetter

Rhagonycha straminea KIESENWETTER, 1859, Berl. Entomol. Zeitschr. 3: 27.

Material examined: Kreta, 3 km E v. Sisses, 50–100 m, 29.IV.1984, Malicky, 2 ex. (NHMB, VS).

Hitherto reported only from Greece, new species for the fauna of Crete.

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Addenda and Corrigenda

In volume 15 of Entomologica Basiliensia, in my paper on Cantharidae from Soviet Central Asia it is necessary to make the following corrections:

p. 293, line 2 – add **C. schoeni** n.sp.

p. 308 in *C. kugertensis* Bar. – change number of Figs to 34–35.

