

**RESULTS OF THE ZOOLOGICAL SCIENTIFIC EXPEDITION  
OF THE NATIONAL MUSEUM IN PRAHA TO TURKEY.**

**6**

**COLEOPTERA I.**

***Carabidae* — *Carabinae*.**

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I give in this paper the working of the first part of the *Coleoptera* of the family *Carabidae* (subfamily *Carabinae*) collected by the Zoological Expedition of the National Museum in Prague to Turkey during the months May — September 1947. The itinerary of the Expedition is published in the paper by L. HOBERLANDT and K. TÁBORSKÝ in the *Acta entomologica Musei Nationalis Pragae*, vol. XXVI, 346, in which are more fully given the geographical and ecological conditions of the different localities mentioned here. The subfamily *Carabinae* was represented in the material brought back by the expedition by eight forms of the genus *Carabus* s. l., among them the new species *Procrustes* (*Lamprostus*) *hozari* m. n. and a new geographical race of the species *Procrustes* (*Lamprostus*) *torosus* FRIV. (*n. hoberlandti* m. n.).

The material brings also some new informations concerning the geographical distribution of the *Carabidae* in Asia Minor, and supplements the faunistic survey of the Carabo-fauna of Asia Minor begun already in the first half of the last century by the Russian entomologists MANNERHEIM, MÉNÉTRIÉS, FISCHER and MOTSCHULSKY, connected with the entomological collections of the Academy of Science, and further by CHAUDOIR in Kijev, who gave the first descriptions of *Carabidae* from Asia Minor in 1823—1850. Thus the beginnings of the survey of the *Carabidae* of Asia Minor are closely connected with the period of powerful development of the Russian entomological science as VICTOR MOTSCHULSKY describes it in his work „Die Coleopterologischen Verhaeltnisse und die Kaefer Russlands”, Moscow 1846.

In the descriptions of the species and forms I follow the pattern of the Academician SEMENOV TJANSHANSKIJ as BREUNING did in his „Monographie der Gattung Carabus”. Also in the classification of lower systematic units than species I use the designations subspecies, natio, morpha in the sense introduced for the genus *Carabus* s. l. by SEMENOV TJANSHANSKIJ.

In the plan of work of the National Museum the present study is linked with the preceding expedition of Dr Štěpán Jureček and Hedvika Jurečková to the area of the Bosphorus, Brussa, and the Olymp of Asia Minor (Ulu dağ), and of Dr. J. V. Staněk and Dr. A. Pilát to the area of Ankara and the Ilgaz-dağ, as well as to the expeditions made by Prague entomologists and scientific workers of the Department of Entomology of the National Museum in Prague to the Balkan Peninsula. The present study thus forms a part of the systematic survey of the Central European and Mediterranean fauna organised and carried out by the Department of Entomology of the National Museum already over a period of thirty years.

***Trachycarabus scabriusculus bulgarus* LAP.**

Two specimens (♀♀) of this geographical race were found in the locality Gorski Izvor, 4. VI. 1947. Length 21—22 mm. In both specimens the characteristic sculpture of the elytra is characteristic for the race *bulgarus* LAP. The primary pits on the elytra are indicated only very indistinctly. This race has not been known earlier from this southeastern part of Bulgaria.

***Trachycarabus maurus hochhuti* CHAUD.**

The two winged specimens (♂♀) derive from Mucur in the central part of Anatolia (22. VII. 1947). In his “Monographie der Gattung Carabus” p. 516, BREUNING places all the specimens of Asia Minor to the race *paphius* REDT. Later however he corrects his opinion (BEHEIM et BREUNING 1943, p. 11), and places the specimens of Asia Minor to the race *hochhuti* CHAUD. described by CHAUDOIR (Enumér. Car. Cauc., 1846, p. 103) from Armenia.

*Carabus maurus* var. *geminatulus* REITTER 1846 described from the vicinity of Amasia is a synonym of this race.

***Pachycarabus (Pachystus) graecus morio* MNH.\*).**

In the collections of the expedition this race is represented in three somewhat deviating forms:

1. A smaller and slimmer form with a coarser sculpture of the elytra and a duller surface. 3 ♂♂ Erziyas, 1800 m.; 24. VII. 1947. It forms a weak local mountain form. — 2. A somewhat broader and shinier form, but always with a rather coarse sculpture of the elytra, corresponding to the race *morio* MNH. s. str. 7 ♂♂, 1 ♀ Emir dağ, Kuru dere, 6. IX. 1947. — 3. A shinier and broader form with shorter, more strongly convex

\*) MANNERHEIM described this form in the Bull. Soc. Imp. Mosc. 1830, p. 58, as *Carabus morio* according to specimens from the Kop dağ at Baiburt.

and on the sides more strongly rounded elytra, whose sculpture corresponds almost completely to the sculpture of the elytra in morpha *thessalonicensis* APFB., which was described by APFELBECK as a transition from the race *graeus* to the race *morio* from the area at Salonika. In the material of the Expedition there is a series of 15 specimens (8 ♂♂, 7 ♀♀) collected at Mucur 22. VII. 1947.

***Procrustes (Lamprostus) torosus* FRIV.**

The material collected by the Expedition contains two geographical races of this species, viz. *L. torosus* n. *jani* GEH. from the Emir dağ mountains (Kuru dere 6. IX. 1947, 2 ♂♂, 1 ♀) and *L. torosus* n. *hoberlandti* m. n. from the Erciyas Mountains (2 ♂♂, 1800 m., 24. VII. 47; 1 ♀, 2075 m., 26. VII. 47; 1 ♀ 2700 m., 24. VII. 47).

In the determination of these forms I found that a revision of the synonyms of the geographical races of the species *Procrustes (Lamprostus) torosus* FRIV. as given by BREUNING in his "Monographie der Gattung Carabus", pp. 1343—1346, is urgently needed. BREUNING correctly establishes the conception of the nominate race *L. torosus* n. *torosus* FRIV., which was described by FRIVALDSZKY from European Turkey. It is a race inhabiting the European part of Turkey and the adjacent regions of eastern Bulgaria. In the area of northwestern Asia Minor the race originally described as *Carabus moestus* CRIST. et JAN links up with it; the name of the latter race was later rightly (nomen praeoccupatum) changed by GEHINE into *C. jani* GEH. CRISTOPHORI et JAN described this race from the area on the Bosphorus, and thus it has to be regarded as the westernmost race of Asia Minor. The description refers to a rather small specimen (after LAPOUGE 1914, p. 33, „30 mm."), coloured black, with only the margins of the pronotum and elytra purple. Such specimens distinguished from the European race only by the slimmer shape of the body, by the pronotum being somewhat more narrowed towards the base with slightly deeper basal imprints, and usually also by a smaller size occur in the northwestern part of Asia Minor, especially in mountain regions (e. g. on the Emir dağ); they are in some regions, e. g. at Akşehir, connected by transitions with a larger, more sturdy, predominantly metal-coloured form, which LAPOUGE described as *C. torosus escherichi*. It is a natio which inhabits the lower regions of the northwestern and central part of Asia Minor (see map of distribution). The black specimens from Konya with broader elytra and less rounded shoulders of the elytra were described by LAPOUGE in 1914, pp. 35—36, as *C. torosus bodemeyeri*. This form seems to represent an independent subrace, whose area of distribution lies in the more southerly part of Asia Minor. In the southeastern part of the central plateau of Anatolia and in the area of the Middle Taurus *Lamprostus torosus* is replaced in lower altitudes by other species of the subgenus *Lamprostus*, e. g. at Mucur by the species *L. hozari* m. nov., farther to the east by the species *L. chalconatus* MNH., south of the East Taurus in Syria and Palestine by the species *L. hemprichi* DEJ.; it maintained itself only in the mountainous region, e. g. in the Erciyas dağ, in the Taurus at Bulgarmaden, on the Bulgar dağ, Dumbelek dağ and on the West Taurus, in a smaller and slimmer

race than *n. jani* GEH., to which these specimens had been placed up till now (GANGELBAUER 1906, BREUNING 1932, a. o.), although it certainly deserves its own designation. I designate it as *Lamprostus torosus n. hoberlandti* m. nov. (loc. class. Erciyas and in a slightly different form also in the localities mentioned above in the Taurus).

According to our present knowledge of the geographical distribution derived from the Museum material we can thus distinguish the following geographical forms of the species *Lamprostus torosus* FRIV. which according to the morphological features on the basis of the geographical-systematical principle I designate as *natio* in the sense of SEMENOV-TIAN-SHANSKIJ.

### 1. *Procrustes (Lamprostus) torosus n. torosus* FRIV.

Length 32—37 mm. Broader, sturdier form. Pronotum broad, basal pits shallow. Coloration above black, at most only the margins of the pronotum and elytra purple or greenish. Elytra more coarsely dotted. European Turkey (FRIV. loc. class.), eastern Bulgaria.

Materialia examinata: 1 ♂ Aitos Burgas Coll. Hanuš; 1 ♂ 2 ♀♀ Kavarna Rumel. Coll. Jureček-Jurečková, coll. Štěrba; 4 ♂♂ 2 ♀♀ Bulg. or. et Rumel. or. Coll. div. Mus. Nat. Pragae; 1 ♀ „Türkei” Coll. Kambersky. BREUNING lists further also Sliven and Burgas.

### 2. *Procrustes (Lamprostus) torosus n. jani* GEH.

Length 30—34 mm. Very similar to and of similar coloration as *n. torosus* FRIV. In typical specimens usually slightly smaller and slimmer; the pronotum more strongly narrowed towards the base. Elytra always more finely dotted. Mountainous regions of the northwestern part of Asia Minor. Loc. class. “Bospore”.

Materialia examinata: 1 ♂ Akşehir Coll. Hanuš; 2 ♂♂ 1 ♀ Emir dağ Kuru dere 6. IX. 47, exp. Nat. Museum.

BREUNING lists besides still Bilecik and Eskişehir.

### 3. *Procrustes (Lamprostus) torosus n. escherichi* LAP.

Length 32—38 mm. Larger and sturdier than the preceding forms. Above usually metal ochreous, more rarely almost black, with purple or greenish borders of the elytra and pronotum. The pits of the shield are usually deeper. It lives at the lowest altitudes, and is in some localities connected by transition specimens with *n. jani*, and at Akşehir with *bodemeyeri* LAP. Loc. class. Sultan dağ.

Materialia examinata: 2 ♂♂ 4 ♀♀ Sultan dağ (Bodemayer lgt. Coll. Hanuš); 3 ♂♂ 1 ♀ Asia min. (Coll. Pečírka, Jureček-Jurečková, Wender, Kambersky).

BREUNING lists besides: Eskişehir, Gök dağ and Emir dağ, where transitions to the *n. jani* GEH. occur.

### 4. *Procrustes (Lamprostus) torosus n. bodemeyeri* LAP.

Length 32—33 mm. Elytra broad, more strongly rounded on the sides than in the other forms, shoulders less rounded, distinct. Coloured

ilke n. *jani*, i. e. black, at most only with a slight purple tinge on the margins of the pronotum and elytra. Loc. class. Konya. This race passes at Akşehir into the area of distribution of n. *escherichi* LAP. (proof specimen in Coll. Štěrba "ab. *bodemeyeri* LAP." det. BREUNING) — in the south-east at Everek it mixes with n. *hoberlandti* (see below).

### 5. *Procrustes (Lamprostus) torosus* n. *hoberlandti* m. nov.

(Fig. 1)

Length 24—30 mm. Smaller and slimmer than the preceding geographical forms, usually completely black, also the margins of the shield and elytra without purple or greenish coloration (specimens from Erciyas), more rarely slightly purple (in some specimens from Dumbelek dağ and Bulgarmaden). Loc. class. Erciyas dağ.

This form has up till now been incorrectly designated as n. *jani* GEH.

Materialia examinata: 1 ♂ *holotype*: Erciyas 1850 m., 24. VII. 47; 1 ♀ *allotype*: Erciyas 2075 m., 24. VII. 47. 1 ♂ and 1 ♀ *paratypes*: detto; 7 ♂♂ and 3 ♀♀ *paratypes*: Bulgarmaden; 4 ♂♂ *paratypes*: Dumbelek dağ; 1 ♂ *paratype*: Bulgar dağ 1 ♂ and 2 ♀♀. Everek, transition to n. *bodemeyeri* LAP., but much smaller, 27—29 mm.

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#### *Lamprostus torosus* n. *hoberlandti* m. n.

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*calley jani* Lap., 1914, Misc. Ent. p. 33 (sep.), partim.  
*torosus escherichi* m. *jani* BREUN., (nec GÉH.), 1935, Monogr., p. 1343—1346.

***Procrustes (Lamprostus) hozari* sp. n.**

(Fig. 3)

Shape oval. Head rather broad, eyes protruding. Mandibula of medium length, above very finely and rather sparsely dotted. Tooth on the mentum at the end rather broadly roundedly truncate, about as long as the lateral lobes. Frontal grooves on the clypeus very deep, farther on shallower, but always extending distinctly to the anterior margin of the eye. Head above almost smooth, shiny, only with very fine scattered spots and fine wrinkles. Pronotum more than  $1\frac{1}{2}$  times broader than long, broadest anterior to the middle or almost in the middle, towards the base more strongly roundedly narrowed than towards the front, on the sides with only a very narrow ridge-like hem. Basal angles obtuse, rounded, almost not elongated posteriorly. Basal pits distinct, deep, closely dotted, and also the somewhat depressed base of the pronotum is on both sides more or less dotted. The anterior margin of the pronotum is distinctly indented. Median line distinct. Dorsally the pronotum is arched, strongly shiny, smooth, only at the base and from the base on the sides dotted and quite finely wrinkled. Elytra oval, considerably arched, with slightly indicated scapulae; margin of the elytra narrow. Epipleurae of the elytra in front very broad. At the end of the meta-episternum their width is almost equal to the width of the posterior part of the meta-episternum (as in *L. chalconatus*). The elytra are dorsally considerably arched, distinctly, rather strongly and closely dotted in irregular rows, smooth, with the primary interstitia distinctly indicated and slightly raised. On the sides and at the end of the elytra the dotting turns into a fine, granular sculpture. The primary pits in the apical part are distinct; sometimes they are distinct already from the middle of the elytra. Meta-episternum slightly broader than long, smooth or only with some fine scattered dots. Abdominal grooves in the middle of the sternites deep, sharply incised, shortened on the margins. Legs strong, femurs, especially the posterior ones, in the apical part distinctly and nearer to the base only flatly grooved. Penis similar as in *chalconatus*, however, the point of the penis is more strongly bent. From above always metal-coloured, reddish to coppery purple, or greenish, or dark olive to blackish, margins lighter, golden greenish, bluish green to purple. Below the epipleurae of the elytra and the sternum metal-coloured, abdomen blackish, shiny, usually without a metal tinge. Length 23—29 mm.

Systematically this species stands very close to the species *Lamprostus torosus* FRIV., with which it is connected also geographically at the eastern limit of the latter's geographical distribution. In its whole habitus it resembles however more the species *Lamprostus chalconatus* MNNH., (fig. 2)., which has its area of distribution farther to the east. From *Lamprostus torosus* it is distinguished by the shape of the middle tooth on the

mentum, which is broader, gently rounded at the end. The pronotum is more arched, smoother and shinier, its lateral border is much narrower, its posterior angles almost do not run out at all posteriorly. The elytra are more arched, much shinier, brightly metal-coloured. The epipleurae are in the anterior part distinctly broader, at the end of the metaepisternum almost as broad as the latter. From *L. chalconatus* this new species is distinguished by the pronotum being less narrowed towards the base, by the elytra being more symmetrically rounded on the sides and with more distinct scapulae. Dorsally the elytra are more coarsely but at the same time more sparsely dotted. The median tooth on the mentum is at the end as wide as in *chalconatus*, but always distinctly rounded, therefore not truncate as in *chalconatus*. The point of the penis is more strongly bent.

Materialia examinata: 1 ♂, *holotype* and 1 ♀, *allotype*, 7 ♂♂ and 10 ♀♀, *paratypes*. — Mucur, Anatolia cent. 22. VII. 1947.

***Procrustes (Procrustes) chevrolati chevrolati* CRIST. et JAN**

The specimens of this form brought back by the expedition derive from the Erciyas dağ, in which locality this species had not been ascertained before (1800 m., 24. VII. 1947, 2 ♂♂, 1 ♀). The specimens are elongated and more parallel than most specimens of the typical form of the Museum collection from Amasya, Merzifon, Ankara and Ilgaz dağ, and approach in the shape of the body the ssp. *thirki* CHAUD., but the sculpture of their elytra is as in the typical *chevrolati*, with which this form agrees also in the length of the antennae and legs. The pronotum is almost smooth in the middle, its posterior angles are rounded and project only a little posteriorly. The labrum is distinctly trilobate with a strongly developed middle lobe, approximately as it is developed in most specimens of the race *thirki* CHAUD. But this character is variable also in the typical form, and there are specimens in which this middle lobe is almost lacking, and on the other hand there are also specimens in which it is almost as strongly developed as in the form from Erciyas. The tip of the penis is somewhat narrower than in most specimens of the nominate race, but also in the nominate race this character shows a certain degree of individual variability so that it is insufficient for establishing a local race.

*Procrustes chevrolati* CRIST. et JAN is a strongly plastic species evidently inclined to form geographical races and local forms, but their taxonomic evaluation is made difficult by the great individual variability and morphological instability of these races; we can often consider these races as being in statu nascendi. Their taxonomic evaluation is also made difficult by their present areas of distribution not being separated by barriers so that mutual penetration and interbreeding certainly occur.

BREUNING distinguished three principal races:

1. ssp. *thirki* CHAUD., which is characterised by distinctly rib-like, raised primary and secondary interstices of the elytra. The antennae of this form are usually slimmer than those of the following races.

2. ssp. *chevrolati* CRIST. et JAN with the interstices of the elytra flat or only indistinctly slightly convex. It is a race very variable in the shape

of the body and pronotum and in the sculpture of the elytra, in which the posterior angles of the shield are always more or less elongated posteriorly. BREUNING combined with this race as an individual variety also the forms described by CRISTOPHOR and JAN as *C. assimilis* (= *persimilis* CSIKI) and *widemanni* (= *surejae* CSIKI).

3. ssp. *korbi* BREUN. with the interstices of the elytra similarly configured as in ssp. *chevrolati*, but with the posterior angles of the shield not running out posteriorly, strongly rounded. Large sturdy race, reaching a length of 33—35 mm.

The Museum material confirms also from a geographical point of view the justification of this division into geographical forms, of which the first, ssp. *thirki* CHAUD., described originally from Ararat, occurs according to BREUNING at Erzerum, Trapezunt, in the Kolat dağ and at Sinope. Proof specimens from all these localities are found in the collections of the National Museum. BREUNING regards the locality Sinope as uncertain, as it lies near the region already inhabited by the race *chevrolati* CRIST. et JAN. But the Museum material includes six specimens of the coll. Fleischer and two other specimens of the coll. Duchoň of the race *thirki* from the Zonguldak, i. e. from an area lying still farther away on the NW coast than Sinope. These specimens do not differ at all from the specimens of Trapezunt, and all of them have distinct characters of the race *thirki*. Thus it seems that this race inhabits connectedly the area from Ararat along the northern slope of the coastal mountains of Anatolia to the west as far as to the area of Zonguldak. Some specimens from Amasya from the coll. J. Hanuš have also to be transferred to the race *thirki*, though they come from an area from which the nominate form ssp. *chevrolati* CRIST. et JAN has been described. This nominate form occurs abundantly also at lower altitudes, at Merzifon, Tokat, on the Elma dağ, around Ankara; it is especially abundante in the Ilgaz dağ, where it goes up also to considerable altitudes. In the SW this race reaches to the Erciyes dağ (proof from the expedition of the National Museum) and was found by BODEMEYER even in the Middle Taurus (BODEMEYER 1927, p. 74). According to BREUNING the two specimens found here by BODEMEYER in the Çakıt valley do not differ from the specimens from northern Anatolia, and belong to the race *chevrolati*. The differentiation of these two races took place probably in the Ice Ages, when the race *thirki* defined itself north of the ridges of the North Anatolian Rampart and south of these ridges the race *chevrolati* defined itself, which in the Ice Ages spread also farther to the south into the area of Erciyes and the Middle Taurus, where today only populations in mountain regions have maintained themselves. The great variability in the area of the North Anatolian distribution of this species might well be explained by the fact that the races defined in the Ice Ages enlarge in postglacial time their area of distribution and often mix and interbreed. In the area around Amasya, Merzifon and Kopet dağ it obviously comes to such a penetration of the race *thirki* into the area of distribution of the race *chevrolati*.

The third race, ssp. *korbi* BREUN. (originally described after two females found by Korb in the area at Achalzik and after a further specimen from Röschke's collection designated formerly by REITTER as



*Carabus orientalis* Osc.) occurs according to BREUNING in the regions of Kars (Sarakamis) and Olta (proof specimen in the museum in Lenin-grad). In the Museum material this race is unfortunately not represented. The geographical distribution of the different races is given in the apend-  
ed map.

***Procrustes (Procrustes) coriaceus kindermanni* WALTZ.**

The only specimen of this race inhabiting eastern Bulgaria, Euro-  
pean Turkey and the western part of Asia Minor was collected at  
Edirne, 8. VI. 1947. This is a new locality and the most western one  
of this race described by WALTZ from around Istanbul. I discuss its  
geographical distribution more in detail in the paper „On the Geographi-  
cal Distribution and Forms of the Species *Procrustes coriaceus* L.”.

***Procrustes (Procrustes) coriaceus cerisyi* m. *bodemeyerianus* MAŘAN.**

Two speciemens of this morpha were collected in Sultan dağ,  
2000 m, 4. IX. 47 (1♂) and in Yeniköy, Middle Taurus, 2. IX. 47  
(1♀) by the Expedition of National Museum.

*Procrustes coriaceus cerisyi* m. *bodemeyerianus* MAŘAN<sup>†</sup> is nomen no-  
vum for var. *bodemeyeri* LAP., 1924 [nom. praeocc. for *Procrustes (Lam-  
prostus) torosus bodemeyeri* LAP., 1914.]

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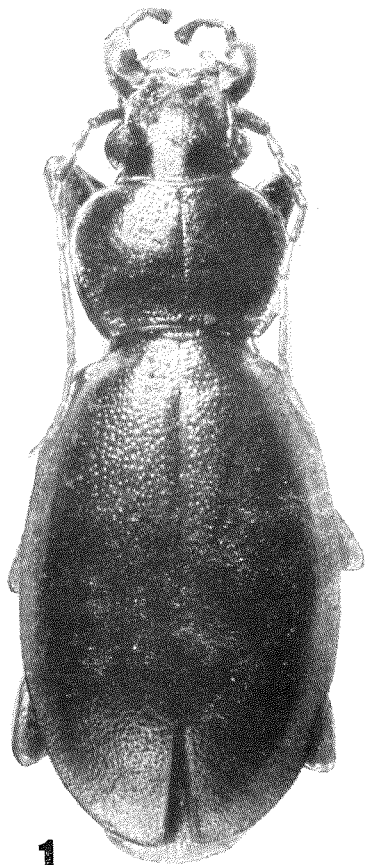
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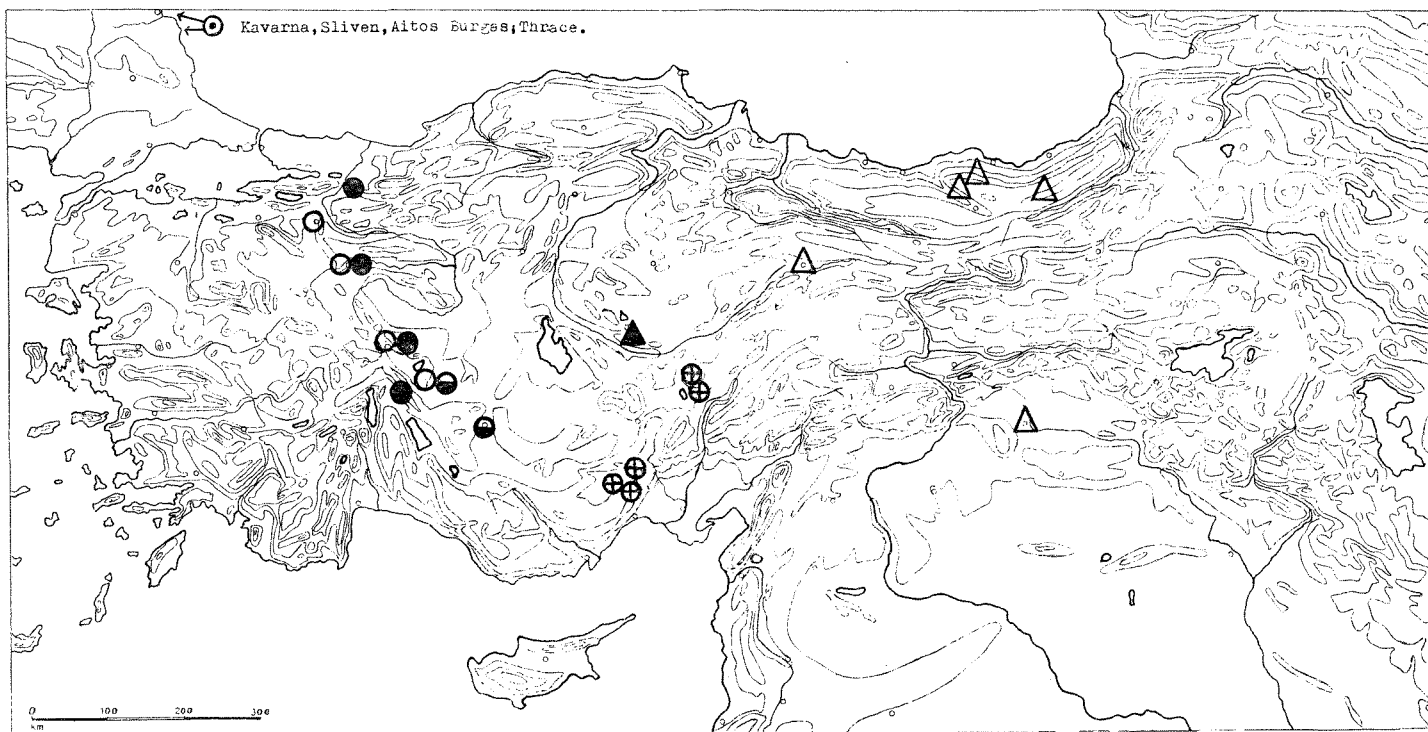
**1**  
Fig. 1: *Procrustes (Lamprostus) torosus* n.  
*hoberlandti* m. n.



**2**  
Fig. 2: *Procrustes (Lamprostus) chalcognatus* MNH.



**3**  
Fig. 3: *Procrustes (Lamprostus) hozari*  
sp. n.



○● *Procrustes torosus torosus* FRIV.

● *Procrustes torosus escherichi* LAP.

○ *Procrustes torosus jani* GÉH

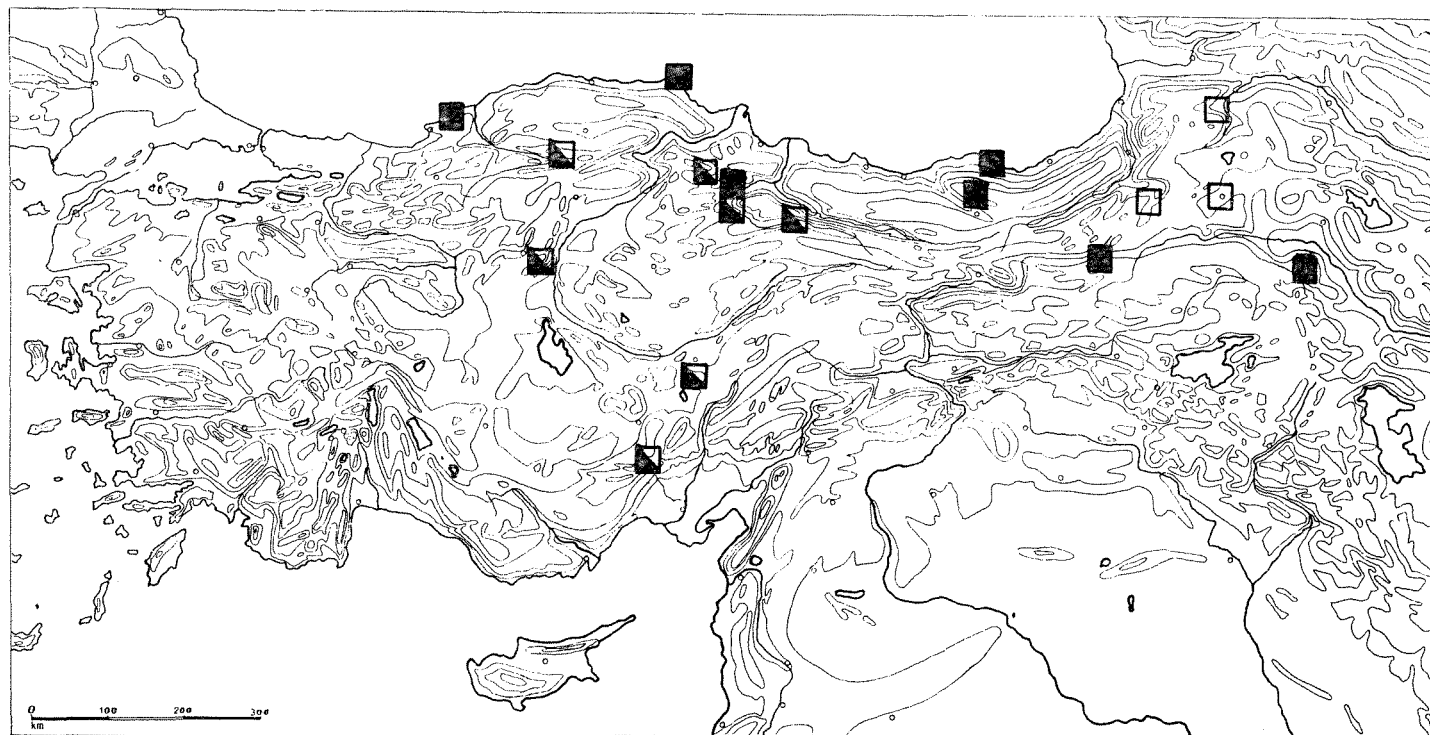
● *Procrustes torosus bodenmeyeri* LAP.

⊕ *Procrustes torosus hoberlandti* n. nov.

△ *Procrustes chalconatus* MNH.

▲ *Procrustes hozari* sp. n.

Geographical distribution of *Procrustes torosus* FRIV., *Procrustes chalconatus* MNH. and *Procrustes hozari* sp. n.



■ *Procrustes chevrolati thirki*  
CHAUD.

▣ *Procrustes chevrolati chevrolati*  
CRIST. et JAN.

□ *Procrustes chevrolati korbi* BREUN.

Geographical distribution of *Procrustes chevrolati* CRIST. et JAN.