

RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL EXPEDITIONS TO IRAN 1970 AND 1973

Coleoptera : Nitidulidae

JOSEF JELÍNEK

Department of Entomology, National Museum (Nat. Hist.), Praha

Fauna of Nitidulidae of Iran has not yet been appropriately studied. Data about five species only are scattered in the literature, which are discussed below. Recently Kirejtshuk (1977) added five other species to the list of Iranian fauna, based upon older material of the Zoological Institute of the Academy of Sciences of USSR, Leningrad. In the present paper is listed material of Nitidulidae collected during two Czechoslovak-Iranian expeditions to Iran in 1970 and 1973. Additional data have been added by identification of small samples of Nitidulidae collected in Iran by J. Klapperich (received from Hungarian Museum of Natural History, Budapest), C. Holzschuh (Wien) and Dr. W. Wittmer (Natural History Museum, Basel). The older literary data are also commented on, so that the present paper represents a complete list of Nitidulidae hitherto known from the territory of Iran.

It is my pleasant duty to express my thanks to Dr. F. Hieke (Zoological Museum of the Humboldt University, Berlin), Mr. C. Holzschuh (Wien), Dr. Z. Kaszab (Hungarian Museum of Natural History, Budapest) and Dr. W. Wittmer (Natural History Museum, Basel) for the loan of material listed below as well as to Dr. A. M. Easton (Great Bookham) for the loan of the type-specimen of *Meligethes leati* Easton.

CATERETINAE

Kateretes dalmatinus (Sturm, 1844)

Distribution: S. E. Italy, S. E. Europe, Turkey, Iran (patr. n.).

Material examined: N. W. Iran, Sufian, 30 km W. Tabriz, 20.—21. VI. 1970 (loc. n. 27), 1 spec.

Brachyleptus aurosus Reitter, 1885

Distribution: Turkey, Iran (Reitter, 1919).

Material examined: N. Iran, Sultanabad, Bodemeyer lgt., 1 spec. (Zool. Museum, Berlin) — N. Iran, Golhak pr. Tehran, 1400 m, III.—V. 1961, Klapperich lgt., 1 spec. (Hungarian Mus. Nat. Hist., Budapest) — N. E. Iran, 130 km W. Bojnurd, 26. IV. 1974, 1100 m, Holzschuh and Ressler lgt., 1 spec. (coll. Holzschuh, Wien).

MELIGETHINAE

Meligethinus gedrosiacus sp. n.

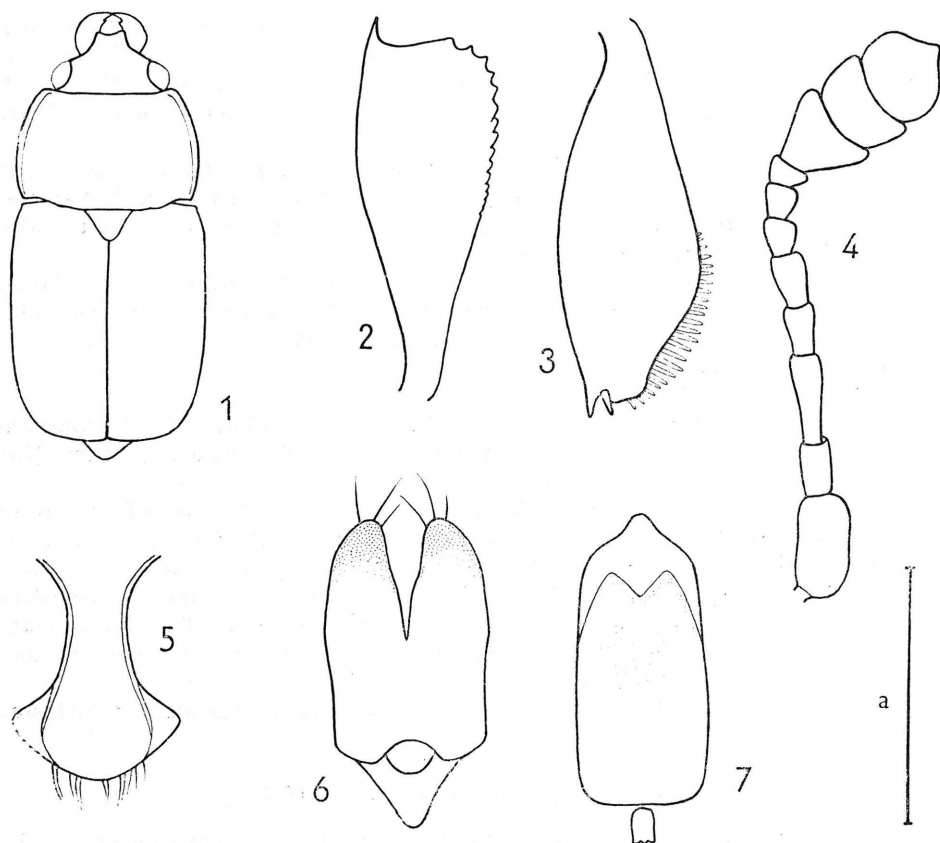
Male: Head with eyes as wide as the anterior margin of pronotum. Anterior margin of clypeus feebly arcuately emarginate, not bordered. Front flat with slightly marked tentorial impressions, finely and closely punctate. Punctures simple, smaller than the eye-facets, separated by nearly one diameter, somewhat more concentrated in the hardly distinct tentorial impressions. Spaces between them feebly shining, with very fine microscopic reticulation, which is visible only under magnification over $50\times$.

Antennae not much prolonged, hardly reaching to the posterior angles of pronotum. Antennal segment I. almost twice as wide as the following one and 1.8 times longer than wide. Segment II. 1.4 times longer than wide, a little wider than the following ones. Segment III. 3.3 times, IV. 1.8 times and V. 1.2 times longer than wide, latter segment slightly wider than the neighbouring ones. Segments VI. and VII. nearly as long as wide, segment VIII. 1.3 times wider than long, not markedly wider than the preceding ones. Antennal club 3-segmented, oblong oval, 2.2 times longer than wide, compact, particular segments not projecting inwards. Terminal segment acutely pointed at the apex (Fig. 4).

Pronotum transverse, 1.53 times wider than long, widest at two fifths of its length (measured from the base forwards), gently more narrowed anteriorly than posteriorly. Posterior angles 1.32 times more apart than the anterior ones. Anterior margin truncate, anterior angles bluntly obtuse, slightly prominent. Sides broadly regularly arcuate, narrowly explanate. The explanate border hardly as wide as antennal flagellum. Base truncate against scutellum, besides it twice extremely shallowly emarginate, posterior angles obtuse, not prominent. Upper surface flatly transversely convex, puncturation and reticulation as on the front. Scutellum rather large, subtriangular, punctate like pronotum.

Elytra at the base as wide as the base of pronotum, widest at their midlength, 1.20 times longer than their combined width, subtruncate at the apex. Sides finely bordered, not explanate, almost straight, subparallel, besides humeral bulges moderately converging towards the obtuse humeral angles, in the apical third moderately arcuate and converging posteriorly. Outer apical angles broadly rounded, sutural ones roundly obtuse. Suture not distinctly bordered. Upper surface in the inner half of elytra deplanate, outer halves of each elytron moderately transversely vaulted. Punctures around scutellum somewhat finer than those of pronotum, close, separated by nearly one diameter, very feebly and obsoletely granulate, becoming gradually finer and more obsolete posteriorly. Spaces between them without distinct reticulation, moderately shining.

Prosternum in the middle transversely convex, prosternal process almost flat, dilated by three fifths behind procoxae, more or less semicircular at the apex (Fig. 5). Punctures in the middle of prosternum and on the prosternal process very fine, rather close, separated by 0.5–1 diameter. Spaces between them almost smooth, shining. Punctures in lateral portions of prosternum larger but shallower, more scattered than those in the middle, spaces between them obsoletely reticulate. Hypomera obsoletely reticulate with rather close, very fine and obsolete, partly feebly granular punctures. Mesosternum in the posterior third between mesocoxae depressed, closely punctate. Metasternum flatly convex, broadly and very shallowly impressed behind the middle,



Figs. 1—7: *Meligethinus gedrosiicus* sp. n.; form of body (fig. 1), anterior tibia (fig. 2), posterior tibia (fig. 3), antenna (fig. 4), prosternal process (fig. 5), tegmen (fig. 6) and aedeagus (fig. 7). Scale a = 0.3 mm (figs. 2—7).

with short median longitudinal line beginning behind the middle and not reaching posterior margin of metasternum. Caudal marginal lines of mesocoxal cavities curved laterocaudad only at their outer ends, axillary spaces of metasternum very small. Punctures of metasternum very fine and close, feebly granular. Spaces between them more or less smooth. Punctuation of abdominal sternites analogous to that of metasternum. Sternite I. without distinct axillary spaces. Hypopygidium strongly transverse, with rounded apex, besides it broadly and shallowly arcuately emarginate.

Femora almost regularly oval, anterior ones 2.1 times, intermediate ones 1.9 times and posterior ones 2.2 times as long as wide. Anterior tibia becoming gradually wider distad, in the apical third then almost parallel-sided and there as wide as two fifths of its length. Its outer edge very finely crenulate, outer apical angle rounded, more distinctly denticulate (Fig. 2). Meso- and metatibiae flat, broad, reaching their maximum width at about four fifths of their length, 2.27 times as long as wide. Their

inner margins broadly regularly arcuate, outer ones simple, in four basal fifths straight, then curved towards the apex. They bear in the posterior half very close pegs becoming gradually longer distad (Fig. 3). Tarsi reaching four fifths of the length of tibiae, terminal segment as long as the two basal ones together. Tarsal claws simple.

Male genitalia as figured (Figs. 6—7). Tegmen with comparatively broad lateral lobes narrowly rounded at the apex and separated by rather narrow, nearly V-shaped excision reaching almost the midlength of tegmen. Aedeagus almost parallel-sided, rounded with short rounded median protuberance at the apex.

Testaceous, meso- and metasternum as well as sides of sternites I.—IV. darker, chestnut brown. Pubescence recumbent, yellow, very thin and close, rather concealing upper surface of body contributing thus to its dull appearance.

Length 2.5 mm, width 1.2 mm.

Female unknown.

Type material: Holotypus, 1 ♂, S. E. Iran (Baluchistan), 13 km S. S. E. Nikshahr, 8.—9. IV. 1973 (Loc. n. 152). Deposited in the National Museum, Praha (Inv. n. 26499).

Differential diagnoses: The genus *Meligethinus* Grouv. (= *Prianella* Reitt.) according to Kirejtshuk (1979) has been hitherto represented in the palaearctic fauna by single west-mediterranean species *M. pallidulus* (Er.) *Meligethinus gedrosiacus* sp. n. differs from it by considerably larger size (*M. gedrosiacus* sp. n. 2.5 mm, *M. pallidulus* Er. 1.0—1.2 mm), distinctly explanate sides of pronotum, elytra flat and little narrowed posteriorly and very small axillary spaces of metasternum. Also the form of male genitalia is very characteristic.

Name derivation: From Gedrosia — ancient Greek name of modern Baluchistan.

***Meligethes persicus* Faldermann, 1837**

Identity of this species, originally described from Iran, remains uncertain. The fact that Faldermann (1837) compared this species with *M. subrugosus* (Gyll.) seems not to be significant, as *M. subrugosus* (Gyll.) has been simply one of very few species of the genus already known in that time. Therefore any close relationship between the two species in the modern sense cannot be automatically presumed. I failed to trace type-specimens of *M. persicus* in the National Museum of Natural History, Paris as well as in the Zoological Institute of Academy of Sciences in Leningrad and Zoological Museum of the State University, Moscow. True identity of the species could therefore not be established.

***Meligethes longulus* Schilsky, 1894**

Distribution: valley of Araxes (perhaps Armenian SSR), Iran (patr. n.).

Material examined: N. Iran, Elborz Mts., N. slope of pass Kandavan, 2945 m, 10.—11. VIII. 1970 (Loc. n. 86), 1 spec.

Taxonomic note: Reitter (1919) placed this species in his heterogeneous V. group of species containing mostly species with strongly dentate anterior tibiae. However — as revealed revision of the unique holotype in Zool. Museum of Humboldt University, Berlin — *M. longulus* Schilsky is without any doubt a member of *M. aeneus* species-

group, as it is suggested by truncate anterior margin of clypeus, fine uniform denticulation of anterior tibiae and by the general form of its male genitalia. It may briefly be characterized as follows: Pronotum strongly transverse, 1.76 times wider than long, widest in the posterior half. Anterior angles roundly obtuse, hardly prominent, posterior ones broadly obtuse. Sides rather strongly arcuate, narrowly explanate (explanate zone not wider than the swollen lateral border). Punctures nearly equal in size to eye-facets, close, separated by 0.5–1 diameter. Spaces between them with very feeble traces of reticulation, at the base reticulate. Elytra remarkably long, 1.27 times longer than their combined width, transversely convex, almost parallel-sided, in the apical fifth moderately narrowed posteriorly, simultaneously rounded at the apex. Sides very flatly arcuate, almost straight, in the apical portion arcuately curved towards suture, not explanate. Punctures slightly larger than those of pronotum, separated by 0.5–1 diameter, spaces between them reticulate.

Tegmen with deep and broad V-shaped excision, aedeagus quadrangular, parallel-sided, broadly truncate at the apex (Fig. 8–9).

Black, dull, legs and antennae yellowish brown, antennal club infusate. Disc of elytra with more or less expressed trend to brown coloration (in Iranian specimen almost indistinct).

Length 2.4 mm, width 1.1 mm.

All measurements are taken from the Iranian specimen.

Meligethes subrugosus (Gyllenhal, 1808)

Distribution: N. Africa, Europe, Siberia, Turkey, Jordania, Iran (patr. n.).

Material examined: S. W. Iran, Zagros Mts., Sisakht, 2500–3000 m, 13.–14. VI. 1973 (Loc. n. 241), 1 spec.

Meligethes leati Easton, 1955

Distribution: North Africa (Easton, 1955), Sicily (Audisio, 1976), Caucasus, Iran (Kirejtshuk, 1977).

Material examined: N. Iran, Behshahr, 25. VII. 1970 (Loc. n. 72), 22 spec.

Note: Species only recently described by Easton (1955) from North Africa. As I have observed slight differences between the type specimen from collection Easton and my Iranian specimens, I originally intended to describe them as a new species, which has already been mentioned by Audisio (1976). However, study of additional material as well as recent records of the species by Audisio (1976) and Kirejtshuk (1977) connecting the two distant areas originally known to me lead me finally to the conclusion, that the Iranian population is conspecific with *M. leati* Easton. Apart from that, I have been able to identify 1 ♂ from Azerbaijan SSR, Bezh Barma, Olexa lgt (coll. Nat. Museum, Praha). This record connects Iranian population with Kirejtshuk's (1977) records from Georgian SSR.

Meligethes praestans Kirejtshuk, 1977

Distribution: Iran (Ziarat pr. Gorgan). Described according to single female and unknown to me.

Meligethes nanus Erichson, 1845

Distribution: West and south Europe, Caucasus, Turkey, Cyprus, Syria, Palestina, Iran (patr. n.).

Material examined: N. Iran, Elborz Mts., Damavand E. slope, 3850 m, 22. VII. 1970 (Loc. n. 67), 1 spec. — N. Iran, Elborz Mts., N. slope of pass Kandavan, 2945 m, 10.—11. VIII. 1970 (Loc. n. 86), 3 spec. — S. W. Iran, Zagros Mts., Sisakht, 2500 to 3000 m, 13.—14. VI. 1973 (Loc. n. 241), 2 spec. — N. Iran, Elborz Mts., Kuh-e Tochal, 2000—3500 m, 29.—30. VI. 1973 (Loc. n. 261), 21 spec.

Meligethes pharetra Easton, 1956

Distribution: Afghanistan, USSR-Tadzhik SSR (Kirejtshuk, 1977), Iran (patr. n.).

Material examined: N. Iran, Elborz Mts., Valley Darband Sar, 2500—3000 m, 16. VII. 1970 (Loc. n. 58), 2 spec. — N. Iran, Elborz Mts., Mt. Damavand, Lajran, 2400 m, 23. VII. 1970 (Loc. n. 68), 1 spec. — N. Iran, pass Kandavan, 2545 m, 10.—11. VIII. 1970 (Loc. n. 86), 5 spec. — N. Iran, Elborz Mts., Kuh-e Tochal, 2000—3500 m, 29.—30. VI. 1973 (Loc. n. 261), 1 spec.

Meligethes perceptus Jelínek and Spornraft, 1979

Distribution: West Iran (Zagros Mts.).

Material examined: S. W. Iran, Zagros Mts., Kuh-e Dena, 2500—3000 m, 13. to 14. VI. 1973 (Loc. n. 241), 3 spec. (Holotypus and Paratypes).

Note: Description of this species — apparently closely related to *M. pharetra* Easton — has been included in the recent revision of *Meligethes umbrosus* species-group by Jelínek and Spornraft (1979).

Meligethes incanus Sturm, 1845

Distribution: North Africa, West and south Europe, Caucasus, Kasakh SSR, Iran. From Iran recorded from Gorgan by Kirejtshuk (1977).

Meligethes maurus Sturm, 1845

Distribution: Europe, Caucasus, west Siberia, Turkey, Jordania, Iran (patr. n.).

Material examined: N. W. Iran, 20 km S. E. Marand, 5.—6. VII. 1973 (Loc. n. 266), 7 spec.

Meligethes obscurus Erichson, 1845

Distribution: South and central Europe, Caucasus, Turkey, Iran (patr. n.).

Material examined: N. Iran, Elborz Mts., Kalardasht plain, Rudbarak, 1500 m, 12. VIII. 1970 (Loc. n. 91), 1 spec.

Meligethes opacus Rosenhauer, 1856

The species is hitherto known from North Africa and southwest Europe. Recent records by Kirejtshuk (1977) from Ukrainian SSR and Iran are rather questionable.

Meligethes discoideus Erichson, 1845

Distribution: Southeast Europe, Kasakh SSR.

Note: *Meligethes discoideus* Er. has been reported from Persia first by Ganglbauer (1899) and then repeatedly by Grouvelle (1913) and Easton (1957). Judging from the available evidence, *M. discoideus* Er. and *M. glaucii* Kol. are vicariant species occurring in the north and/or south of Black Sea and Caucasus respectively (Jelínek, 1968). As Ganglbauer (1899) did not distinguish both species under discussion (for this see also Reitter, 1919), it seems me to be more probable that the above mentioned records from Persia concerned in fact *Meligethes glaucii* Kolenati, occurrence of which in Iran could recently be confirmed (see below).

Meligethes glaucii Kolenati, 1846

Distribution: Caucasus, Turkey, Iraq (patr. n.), Iran (Reitter, 1919 as *M. maculatus* Schilsky). Specimens from Iraq, Baghdad, lgt. Kálalová-Di Lotti in Nat. Museum, Praha.

Material examined: C. Iran, Rafsanjan, 22. III. 1973 (Loc. n. 131), 28 spec.

Meligethes brisouti Reitter, 1871

Hitherto known from North Africa, Spain and France. Recent questionable record from Iran (Tabriz) by Kirejtshuk (1977).

Meligethes lepidii Miller, 1852

Distribution: South and central Europe, Caucasus, Turkey, Syria, Palestina, Iran (patr., n.), Afghanistan.

Material examined: C. Iran, Rafsanjan, 22. III. 1973 (Loc. n. 161), 2 spec. — dtto, 26.—28. IV. 1973 (Loc. n. 181), 1 spec. — N. W. Iran, 20 km S. E. Marand, 5.—6. VII. 1973 (Loc. n. 266), 1 spec. — N. Iran, Golhak pr. Tehran, III.—V. 1961, Klapperich lgt., 1 spec. (Hungarian Museum Nat. Hist., Budapest).

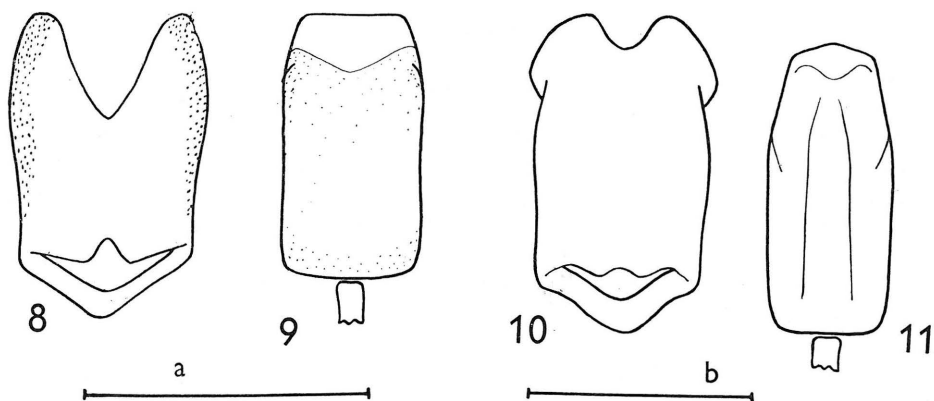
Meligethes funereus Jelínek, 1967

Distribution: Italy, Turkey, Iran (patr. n.).

Material examined: N. Iran, Golhak pr. Tehran, 1700 m, 9.—23. VI. 1961, Klapperich lgt., 1 spec.

Meligethes ahriman sp. n.

Male: Head rather narrow, anterior margin of clypeus broadly and very shallowly arcuately emarginate, not distinctly bordered. Front without tentorial impressions, flatly regularly convex, closely punctate. Punctures almost equal in size to eye-facets, separated by 0.5—1 diameter. Spaces between them smooth and shining. Antennae rather thin, segment II. 1.4 times longer than wide, distinctly narrowed distad; segment III. slender, three times as long as wide, segment IV. slightly longer than wide, V. and VI. as long as wide, subequal, VII. slightly, VIII. distinctly transverse; latter one distinctly wider than the preceding ones. Antennal club oval, almost 1.4 times as long as wide.



Figs. 8--11: Tegmen and aedeagus of *Meligethes longulus* Schilsky, Iran, Kandavan (figs. 8--9) and *Meligethes ahriman* sp. n. (figs. 10--11). Scale a = 0.3 mm (figs. 8--9), scale b = 0.3 mm. (figs. 10--11).

Pronotum widest behind its midlength and there 1.47--1.57 times wider than long, markedly narrowed anteriorly and slightly so posteriorly. Posterior angles 1.66 to 1.77 times more apart than the anterior ones. Anterior margin truncate, anterior angles obtuse, rather strongly prominent. Sides not explanate, very finely bordered, regularly flatly arcuate, in the anterior fourth somewhat more strongly curved towards the anterior angles. Basal margin of pronotum truncate against scutellum, besides it broadly shallowly emarginate, besides posterior angles gently bowed out. Posterior angles bluntly obtuse, not projecting posteriorly. Surface of pronotum especially at the anterior margin strongly transversely convex, closely punctate, along outer parts of basal margin with narrow smooth impunctate zone. Punctures in the posterior half fairly equal in size to eye-facets, separated by nearly one diameter, becoming somewhat closer anteriorly. Spaces between them smooth and shining, at most at the posterior angles with obsolete traces of reticulation. Scutellum roundly subtriangular, very closely punctate with obsolete traces of reticulation.

Elytra 1.03--1.08 times longer than their combined width, at the base slightly wider than that of pronotum, widest at about one third of their length, from there moderately narrowed posteriorly and separately rounded at the apex. Humeral angles roundly obtuse, sides not explanate, finely bordered, flatly arcuate, in the apical third distinctly more converging posteriorly. Surface of elytra rather strongly transversely convex, less convex besides the basal half of suture. Punctures slightly larger than those of pronotum, separated by 0.5--1 diameter, being conspicuously concentrated at the base and -- on the contrary -- becoming somewhat finer towards the apex. Spaces between them rather shining, very feebly transversely strigose and with very feeble traces of reticulation. Almost entire suture finely bordered.

Prosternum in the middle rather strongly transversely convex, as well as the basal portion of prosternal process closely and coarsely, rather rugosely punctate. Hypomera concave, rather shining, very obsoletely microscopically reticulate, without distinct punctures. Prosternal process rather dilated posteriorly, widest very near its subtruncate apex and there by one fourth wider than anterior tibia, behind

procoxae flat, smooth and shining with sparser punctures separated by nearly one diameter. Metasternum between metacoxae in the posterior half with deep, roughly semicircular impression, besides it moderately transversely convex, in the median third with fine raised median longitudinal ridge and with small raised tubercle at the posterior margin. Punctures in the middle larger than eye-facets, separated by 0.5–1 diameter, becoming much finer anteriorly and — moreover — very obsolete, hardly distinct along caudal marginal lines of mesocoxae. Spaces between punctures smooth and shining in the middle, reticulate laterally. Rather wide zone at the posterior margin between metacoxae impunctate, smooth and strongly shining. Caudal marginal lines of mesocoxae deviating soon from the posterior margin of coxal cavities, run in very flat arch laterocaudad as to reach metasternopleural suture in its posterior half. First abdominal sternite between metacoxae smooth and shining, distinctly more finely and sparsely punctate than metasternum, in lateral portions puncturation very obsolete, almost indistinct and surface finely reticulate. Caudal marginal lines follow closely posterior margins of metacoxal cavities except in their outermost portion. Hypopygidium with strongly raised transverse ridge placed nearly in the midlength of sternite and nearly as wide as anterior tibia. The ridge has shallow, broadly V-shaped excision, so that its outer ends are distinctly more prominent in the ventral view. In the lateral view the ridge slopes gradually and almost equally both anteriorly and posteriorly, posterior slope with broad impunctate and strongly shining patch reaching posterior margin of sternite. Rest of sternite with fine granular punctures and feeble traces of reticulation, moderately shining.

Anterior tibia in basal half becoming wider distad, in apical half parallel-sided, its outer margin with series of close sharp pectinate teeth, the first and the penultimate of which are larger, markedly prominent. Anterior tarsi moderately dilated, reaching three fourths of the width of anterior tibiae. Mesotibia rather broad, widest at its midlength, metatibia more slender, widest in two thirds of its length. Their outer edges bearing rather fine, long and very close pegs. Tarsal claws simple.

Deeply black, the first antennal segment, intermediate and posterior legs chestnut to pitchy blackish brown, the second antennal segment somewhat lighter. Pubescence of normal length, fine, recumbent, dark, inconspicuous.

Male genitalia as figured (Figs. 10–11). Tegmen oblong, with small arcuate terminal excision which is nearly as deep as wide. Lateral lobes bluntly pointed, widely obtusely sinuate laterally. Aedeagus in two basal thirds parallel-sided, in the apical third moderately gradually narrowed towards the broadly obtusangulate apex. Its dorsal surface with two blunt raised longitudinal ridges, which are parallel in the basal half and converging towards the apex in the apical half.

Length 2.0–2.4 mm, width 1.1–1.3 mm.

Female: in general appearance corresponding with male, but metasternum only flatly depressed behind the middle, as well as hypopygidium without raised ridges and tubercles. Anterior tarsi hardly dilated.

Type material: Holotypus, 1 ♂, S. Iran, Djabal Barez Mts., Deh Bakri, 1700 to 1750 m, 30. IV.—3. V. 1973 (Loc. n. 186). In National Museum, Praha (Inv. n. 26500). Allotypus, 1 ♀, W. Iran, Eskandari, 2000 m, 1. VII. 1970 (Loc. n. 36). In National Museum, Praha (Inv. n. 26501). Paratypes: W. Iran, Eskandari, 2000 m, 1. VII. 1970 (Loc. n. 36), 32 spec. — S. Iran, Djabal Barez Mts., Deh Bakri, 1700–1750 m, 30. IV.—3. V. 1973 (Loc. n. 186), 3 spec. — S. W. Iran, Miyan Jangal, 30. V. to 5. VI. 1973 (Loc. n. 223), 4 spec. — S. W. Iran, Bishapur, Tang-e Chogan, 1050 to

1200 m, 10.—11. VI. 1973 (Loc. n. 234), 4 spec. Paratypes in National Museum, Praha (Inv. n. 26502—26526), Plant Pests and Diseases Research Institute, Tehran, Zoological, Institute, Academy of Sciences, Leningrad, coll. Audisio, Roma and coll. Spornraft, Penzberg.

Differential diagnoses: Member of *Meligethes lugubris* species-group, *M. ahriman* sp. n. belongs to the complex of very similar and closely related species including european species *M. lugubris* Sturm and *M. gagathinus* Er. as well as *M. rebmanni* Easton and *M. klapperichi* Easton from Afghanistan and Middle Asia. Secondary sexual characters in the male, especially the shape and position of the transverse ridge on hypopygidium correspond with this in *M. lugubris* Sturm. From that species *M. ahriman* sp. n. differs by generally larger body (*M. lugubris* Sturm 1.6—2.1 mm, *M. ahriman* sp. n. 2.0—2.4 mm), larger apical excision and different shape of lateral lobes of tegmen. Comparatively longer pronotum more narrowed anteriorly and tegmen with larger apical excision suggest closer relationship of *M. ahriman* sp. n. to both species from Afghanistan. Form of lateral lobes of tegmen is almost the same as in *M. klapperichi* Easton, however the apical excision of tegmen is distinctly deeper than wide in the latter species.

Bionomy: The new species has repeatedly been collected in flowers of unidentified species of *Mentha* along streams and irrigation channels. Species of the same botanical genus are also hostplants of some related species of *M. lugubris* species-group.

Name derivation: Ahriman is zoroastrian personification of evil and darkness. Chosen because of overall dark coloration of the beetle.

Meligethes egenus Erichson, 1845

Distribution: Europe, Caucasus, Siberia, Turkey, Jordania, Libanon, Iran (patr. n.).

Material examined: N. Iran, Darband pr. Tehran, 2000 m, 17. VI. 1960, Klapperich lgt., 1 spec. (Hungarian Museum Nat. Hist., Budapest).

Meligethes egenus ssp.?

Material examined: N. Iran, Elborz Mts., Veresk, 800 m, 2. VIII. 1970 (Loc. n. 81), 5 ♂♂, 23 ♀♀.

Beetles correspond with *Meligethes egenus* Sturm in all characters except the form of tegmen. It has distinctly shorter lateral lobes with narrowly rounded tips, practically of the same form as in north african *M. otini* Easton. The latter species, however, differs from *M. egenus* Er. also in the form of metasternum, which is less impressed in male, with posterior corners opposing posterior trochanters hardly raised in males and not at all raised in females. On the contrary, the iranian form does not differ from *M. egenus* Er. in the shape of metasternum, having posterior corners raised strongly in males and lightly but distinctly in females. Deviating form of tegmen is constant in all males in the sample, which has been collected in the same mountains only some 150 km eastward from the locality, where typical *M. egenus* Er. (male) has been established (see above). I prefer to let this form unnamed until further findings will make more correct taxonomic evaluation of it possible.

CARPOPHILINAE

Carpophilus (Urophorus) humeralis (Fabricius, 1798)

Distribution: Almost cosmopolitan pest of stored products, apparently of the Old World origin. New for Iran.

Material examined: S. Iran, Minab, 19.—20. V. 1973 (Loc. n. 203), 1 spec.

Carpophilus obsoletus Erichson, 1843

Distribution: Oriental and Ethiopian regions, Micronesia, North and South America. Pest of stored products. New for Iran.

Material examined: S. E. Iran, Bahu Kalat, 3.—4. IV. 1973 (Loc. n. 147), 1 spec. — S. E. Iran, 9 km S. Espakeh, 10. IV. 1973 (Loc. n. 155), 1 spec.

Carpophilus hemipterus (Linné, 1758)

Distribution: Cosmopolitan. New for Iran.

Material examined: S. E. Iran, Tis, 6.—7. IV. 1973, (Loc. n. 150), 1 spec.

Carpophilus delkeskampii indicus Hisamatsu, 1963

Distribution: India, Ceylon, Iran (patr. n.).

Material examined: S. Iran, Abad Geno, 40 km N. Bandar Abbas, 7. IV. 1972, Ressler lgt., 2 spec. (coll. Holzschuh, Wien) — S. Iran, Tis, 6.—7. IV. 1973 (Loc. n. 150), on rotting banana in garden, 4 spec. — S. E. Iran, Khash, 15.—16. IV. 1973 (Loc. n. 166), 2 spec. — S. Iran, 16 km N. Jask, 22.—23. V. 1973 (Loc. n. 208), 1 spec.

Carpophilus mutilatus Erichson, 1843

Distribution: Cosmopolitan. New for Iran.

Material examined: S. E. Iran, Tis, 6.—7. IV. 1973 (Loc. n. 150), on rotting banana in garden, 47 spec.

NITIDULINAE

Epuraea guttata (Olivier, 1811)

Distribution: Central and South Europe, Iran (Sjöberg, 1939).

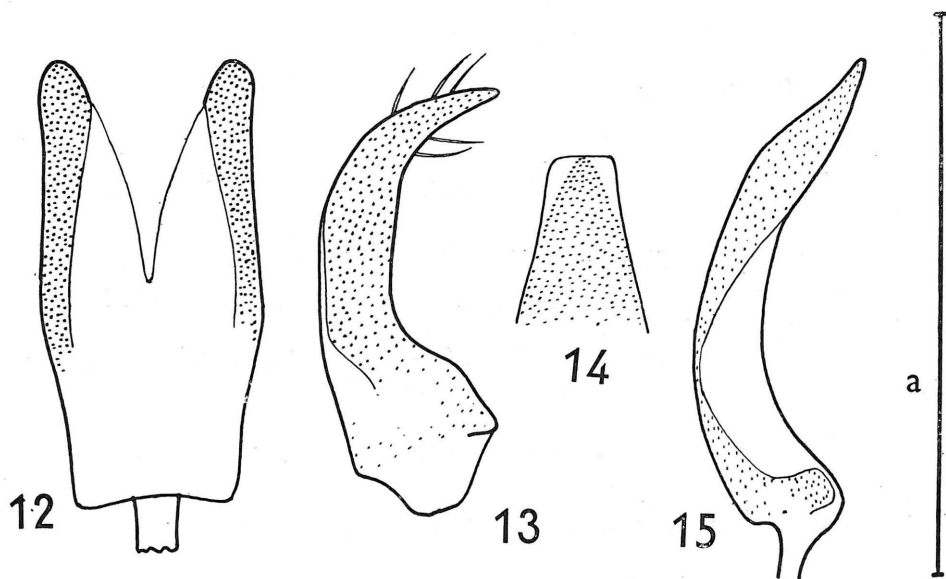
I do not know any specimen from Iran, but occurrence of this species in forests on the Caspian coast or in Zagros Mts. is possible.

Epuraea marseuli Reitter, 1872

Distribution: Italy, Caucasus, Iran (patr. n.).

Material examined: N. Iran, "Gole Lovae" (forest Gol-e Loveh pr. Minudasht), 750—1400 m, 3. V. 1970, Wittmer lgt., 1 spec. (Natural History Museum, Basel).

Taxonomic note: I prefer to give here some complementary data to the description of this little known species, based on the Iranian specimen: Length 2.9 mm. Pronotum rather long, 1.48 times wider than in the middle long, widest somewhat behind the middle and there moderately narrower than elytra. Anterior margin is rather deeply



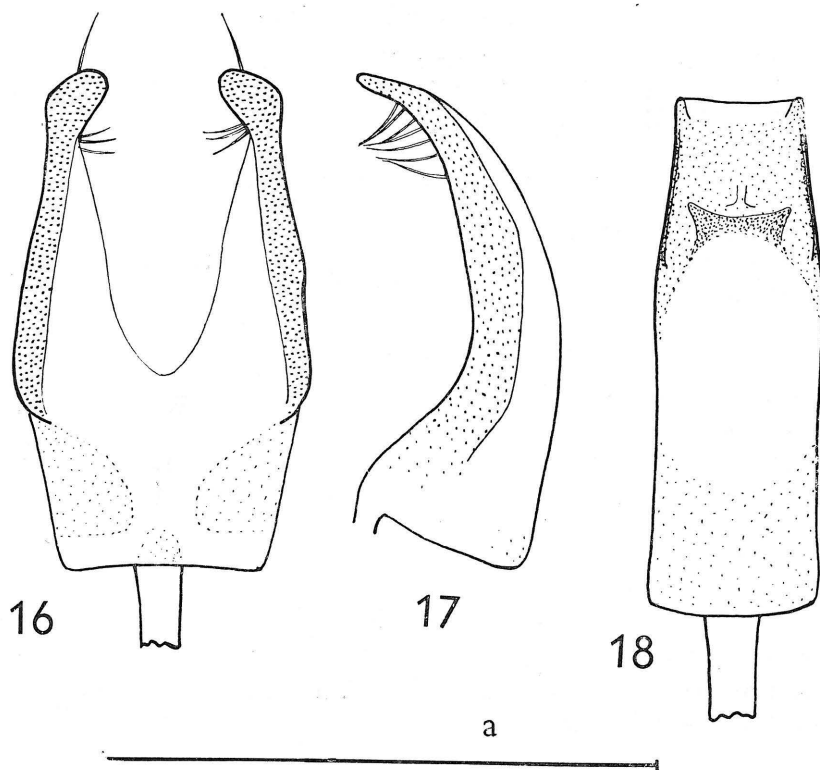
Figs. 12–15: *Epuraea drapeta* Reitt., Iran, env. Yasudj: dorsal and lateral view of tegmen (figs. 12–13), ventral view of the tip of aedeagus (fig. 14), and lateral view of aedeagus (fig. 15). Scale a = 0.5 mm.

arcuately emarginate, nearly as deeply as the eye length. Explanate border of sides as wide as anterior tibia, slightly narrowed in the middle and not markedly dilated at the posterior angles. Sides flatly regularly arcuate, somewhat more converging anteriorly than posteriorly, posterior angles 1.29 times more apart than the anterior ones.

Elytra reaching their maximum length near suture, 1.30 times longer than their combined width, moderately and regularly transversely vaulted. Explanate lateral border of elytra very narrow, distinctly narrower than antennal flagellum, not as wide as given by Sjöberg (1939).

Pitchy blackish brown, all borders of pronotum and elytra, scutellum, legs and entire antennae reddish brown. Pubescence pale, short, particular hairs not reaching over the base of the following ones. Antennal club pale, oval, 1.5 times as long as wide.

Epuraea marseuli Reitt. resembles *E. pygmaea* (Gyll.) by coloration, short pubescence, form of elytral apex and dilated intermediate tibiae in males. It differs from it by markedly narrower and longer pronotum, with explanate lateral borders not dilated posteriorly. Especially in the form of pronotum it is very similar to *E. angustula* Strm., from which it differs by light antennal club, distinctly more deeply emarginate anterior margin of pronotum (and consequently more prominent anterior angles), pronotum widest in the posterior half and less narrowed posteriorly, elytra shorter, reaching their maximum length closely at suture, less strongly and more regularly transversely convex as well as by dilated intermediate tibiae in the male. Upper surface is distinctly more coarsely punctate than in *E. angustula*, too. Male genitalia as figured (Figs. 16–18).



Figs. 16—18: *Epuraea marseuli* Reitt., Iran, Gol-e Loveh: dorsal and lateral view of tegmen (figs 16—17) and dorsal view of aedeagus (fig. 18). Scale a = 0.5 mm.

***Epuraea drapeta* Reitter, 1909**

Distribution: Middle Asia (Turkmen, Tadzhik and Uzbek SSR), Iran (patr. n.).

Material examined: S. W. Iran, Zagros Mts., 29 km E. Yasuj, 2300 m, 16.—17. VI. 1973 (Loc. n. 245), 1 spec.

Note: The Iranian specimen (male) corresponds with female from Tadzhik SSR, Kulyab, in National Museum, Praha, as well as with original description by Reitter (1909). Male genitalia as figured (fig. 12—15), weakly sclerotized.

***Epuraea unicolor* (Olivier, 1790)**

Distribution: Europe, Caucasus.

Material examined: N. Iran, "Gole Lovae" (forest Gol-e Loveh pr. Minudasht), 750—1400 m, 3. V. 1970, Wittmer lgt., 1 spec. (Nat. Hist. Museum, Basel).

***Epuraea deleta* Sturm, 1844**

Distribution: Central Europe, Caucasus, Iran (patr. n.).

Material examined: N. Iran, Elborz Mts., Kelardasht plain, Rudbarak, 1850 to 2400 m, 13. VIII. 1970 (Loc. n. 92), 1 spec.

***Nitidula carnaria* (Schaller, 1783)**

Distribution: Palaearctic region.

Material examined: N. Iran, Golhak pr. Tehran, 1400 m, III.—V. 1961, Klapperich lgt., 28 spec. (Hungar. Mus. Nat. Hist., Budapest).

***Nitidula flavomaculata* Rossi, 1790**

Distribution: North Africa, south Europe, Turkey, Cyprus, Palestine, Iran, Middle Asia, Afghanistan.

Material examined: W. Iran, Luristan, Bodemeyer lgt., 10 spec. (Nat. Mus. Praha) — N. Iran, Elborz Mts. ("Persien, Elbrus Geb."), Reitter, 1 spec. (Nat. Mus. Praha) — N. Iran, Golhak pr. Tehran, 1400 m, III.—V. 1961, Klapperich lgt., 1 spec. (Hungar. Mus. Nat. Hist., Budapest).

***Pocadius ferrugineus* (Fabricius, 1775)**

Distribution: Europe, Iran (patr. n.).

Material examined: N. Iran, Gorgan, 1. V. 1970, 200—600 m, Wittmer lgt., 1 spec. (Nat. Hist. Mus. Basel).

Conclusions

In the present paper are listed 34 species of Nitidulidae hitherto known or reported from Iran. Among them, the identity of *Meligethes persicus* Fald. could not be established. Data about three species (*Meligethes discoideus* Er., *M. opacus* Rosenh. and *M. brisouti* Reitt.) seem to me to be rather questionable and could not be verified.

Most Nitidulidae are rather bound to mesophytic environment and consequently most of them occur in marginal territories of Iran avoiding central desert and semi-desert zone. Among the marginal territories the southernmost zone of sindho-sahelian savanna — so called Garmsir — has rather distinct position. Apart from one species hitherto known only from that zone (*Meligethinus gedrosiicus* sp. n.), only 5 species of *Carpophilus* have been hitherto established here. They are at least occasional pests of various stored products and foods and some of them became more or less cosmopolitan. In most tropical and subtropical countries they succeeded in establishing themselves also in free nature, so that their original range can hardly be established. Nevertheless — judging from their taxonomic affinities — they are of the Old World origin and at least *C. humeralis* (F.) and *C. obsoletus* Er. may probably be considered as originally oriental species. Together with oriental *C. delkeskampii indicus* Hisamatsu they suggest tropical affinities of Nitidulid fauna of this zone. In this essentially arid environment they apparently prefer irrigated gardens, fields and human seats with more convenient microclimate and food supply.

On the rest of territory (especially north and west Iran) prevail widely distributed holomediterranean or european species. Only few of them have eurosiberian distribution (*Meligethes subrugosus* (Gyll.), *M. maurus* Strm., *M. egenus* Er. and *Nitidula carnaria* (Schall.)). Only five of the hitherto known Iranian species are eastmediterranean (*Kateretes dalmatinus* (Strm.), *Brachyleptus aurosus* Reitt., *Meligethes glaucii* Kol., *M. longulus* Schilsky and *M. lepidii* Mill.). Fauna of Middle Asia is represented only by 2 species (*Meligethes pharetra* East., *Eपुरaea drapeta* Reitt.). Three species are hitherto known only from Iran (*Meligethes praestans* Kirejtshuk, *M. perceptus* Jelínek et Spornraft, and *M. ahriman* sp. n.). Of them the two latter ones show apparent affinities rather to species from Middle Asia (*M. perceptus* to *M. pharetra* East., *M. ahriman* to *M. klapperichi* East.). These findings confirm an essentially mediterranean character of the Nitidulid fauna of Iran.

Literature

- Audisio P., 1976: Note su alcune specie italiane del genere *Meligethes* Steph. (Coleoptera, Nitidulidae). *Boll. Assoc. Romana Ent.* **30** (1975): 2—16.
- Easton A. M., 1952: A review of the *Meligethes* (Col. Nitidulidae) associated with the labiate *Marrubium vulgare* L. *Bull. Soc. Sci. nat. Maroc* **32**: 181—192.
- Easton A. M., 1954: A revision of the lugubris complex in the genus *Meligethes* Stephens (Coleoptera: Nitidulidae). *Trans. R. ent. Soc. Lond.* **105**: 373—392.
- Easton A. M., 1955: The *Meligethes* of North Africa (Coleoptera, Nitidulidae). *Mem. Soc. Sci. nat. phys. Maroc* (Zoologie) **2**: 1—71.
- Easton A. M., 1957: A revision of the rotundicollis and lepidii species-groups in the genus *Meligethes* Stephens (Coleoptera: Nitidulidae). *Ann. Mag. nat. Hist.* (12) **10**: 85—96.
- Ganglbauer L., 1899: Die Käfer von Mitteleuropa. Vol. 3. iii + 1046 pp. Gerold's Sohn Verl., Wien.
- Grouvelle A., 1913: Byturidae, Nitidulidae. In: Junk W. et Schenkling S. (eds.): *Coleopterorum Catalogus* vol. 56, 223 pp. W. Junk, Berlin.
- Hisamatsu S., 1963: *Carpophilus hemipterus* (Linné) and its allied species (Col., Nitidulidae). *Entom. Rev. Japan* **15**: 59—62.
- Jelínek J., 1968: Die warmliebenden *Meligethes*-Arten in Mitteleuropa und ihre Ursprung. 2. Entomolog. Symposium über die Probleme der faunist. Erforschung der Tschechoslowakei und Mitteleuropas, Opava 1968 (1966): 155—160.
- Jelínek J. and Spornraft K., 1979: Die westpaläarktischen Arten der umbrosus-Gruppe der Gattung *Meligethes* Steph. *Mitt. Münch. Ent. Ges.* **68**: 1—11.
- Kirejtshuk A. G., 1977: New and little known species of subfamily Meligethinae (Coleoptera, Nitidulidae) in the palaearctic fauna. *Ent. Obozr.* **56**: 625—643.
- Kirejtshuk A. G., 1979: Two new genera and new species of the subfamily Meligethinae (Coleoptera, Nitidulidae) from Vietnam. *Ent. Obozr.* **58**: 355—368.
- Reitter E., 1909: Neun neue Coleopterenarten und -Varietäten aus der paläarktischen Fauna. *Wien. ent. Ztg.* **28**: 99—103.
- Reitter E., 1919: Bestimmungstabelle der Coleopterenfamilien: Nitidulidae und Byturidae aus Europa und der angrenzenden Ländern. *Verh. naturf. Ver., Brünn* **56**: 1—104 (separ.).
- Sjöberg O., 1939: Beitrag zur Kenntnis der Gattung *Eपुरaea* Er. (Col. Nitidulidae). *Ent. Tidskr.* **60**: 108—126.