

## New species of the genus *Hymenalia* Mulsant, 1856 (Coleoptera: Tenebrionidae: Alleculinae) from Palaearctic region

Vladimír NOVÁK

District Museum Prague-East  
Masarykovo nám. 97, CZ-250 01 Brandýs nad Labem  
e-mail: novak@ompv.cz

**Taxonomy, new species, new combinations, description, distribution, key, Coleoptera, Tenebrionidae, Alleculinae, *Hymenalia*, Palaearctic region.**

**Abstract.** *Hymenalia alenae* sp. n. from Yemen, *Hymenalia genuensis* sp. n., *Hymenalia iranica* sp. n. and *Hymenalia lalai* sp. n. from Iran and *Hymenalia jakli* sp. n. from Oman and Yemen are described, keyed and illustrated. New combinations of *Hymenalia brignolii* (Muche, 1974) comb. n. - removed from genus *Allecula* and *H. denticulata* (Muche, 1982) comb. n. - removed from genus *Prionychus* after studying type material. New distributional data of *Hymenalia denticulata* (Muche, 1982) from United Arab Emirates are added.

### INTRODUCTION

In 1856, Mulsant has described new genus *Hymenalia*. Borchmann (1910) in *Coleopterorum Catalogus* listed only 11 species of this genus and 15 species were listed by Mader (1924) in *Catalogus coleopterorum regionis palaearticae*. Till the present time, 31 species of this tenebrionid genus have been described from the Palaearctic region (Novák 2008). In 1975, Dubrovina has described new subgenus *Nikomenalia* and divided the remaining species of the genus into 3 groups. Key to groups and new subgenus according to Dubrovina (1975) is translated from Russian and added. Into first group Dubrovina included the species *Hymenalia badia* Kiesenwetter, 1861, *H. basalis* Faust, 1877, *H. crassicollis* Fairmaire, 1866, *H. elongata* Pic, 1925, *H. obscuriceps* Pic, 1925, *H. obscuripennis* Pic, 1905, *H. reticulata* Seidlitz, 1896 and *H. purkynei* Obbenberger, 1917. All new species from Asia, which belong to the first group by Dubrovina (1975) - *Hymenalia alenae* sp. n. from Yemen, *Hymenalia genuensis* sp. n., *Hymenalia iranica* sp. n. and *Hymenalia lalai* sp. n. from Iran and *Hymenalia jakli* sp. n. from Oman and Yemen, are described, keyed and illustrated. New combinations of *Hymenalia denticulata* (Muche, 1982) comb. n. (removed from the genus *Prionychus* after studying type material) and *Hymenalia brignolii* (Muche, 1974) comb. n. (removed from the genus *Allecula* after studying type material) are added and a new distributional data of the species *Hymenalia denticulata* are given.

### MATERIAL AND METHODS

Collections from Iran (*Hymenalia genuensis* sp. n., *H. iranica* sp. n. and *H. lalai* sp. n.) were obtained during three expeditions of National Museum of Prague between 1970 and 1977.

Part of the material of the species *Hymenalia iranica* sp. n. and *Hymenalia lalai* sp. n. was collected in Iran in 1998, 2002 and 2004 by P. Kabátek. Material of the species *Hymenalia jakli* sp. n. were collected mainly by S. Jákl in Oman in year 2003 and second part in south Yemen 2005 by P. Kabátek. Last, *Hymenalia alenae* sp. n. was collected in south and west Yemen in 2005 by P. Kabátek.

Type specimens of *Hymenalia (Prionychus) denticulata* Mucbe, 1982 comb. n. and *H. (Alleculea) brignolii* Mucbe, 1974 comb. n. were loans from Staatliches Museum für Tierkunde Dresden, Germany.

Specimens of the species *H. denticulata* from United Arab Emirates were collected by A. van Harten.

Two important quotients are used for descriptions of species of subfamily Alleculinae - „ocular index“ dorsally (Campbell & Marshall, 1964) and „pronotal index“ (Campbell, 1965).

Specimens of the presently described species are provided with one red label printed: „*Hymenalia alenae* sp. n. or *Hymenalia genuensis* sp. n. or *Hymenalia iranica* sp. n. or *Hymenalia jakli* sp. n. or *Hymenalia lalai* sp. n. HOLOTYPUS [or PARATYPUS, respectively] V. Novák det. 2007“. Holotypes and paratypes are deposited in author's collection, Prague, Czech Republic and in the collection of National Museum of Prague, Czech Republic.

“Type material” information is taken from recent locality labels.

Localities of the expeditions of National museum of Prague according to Hoberlandt (1974, 1981 & 1983):

Loc. no. 44: Dashte-Arjan (29° 39' N, 51° 58' E), 50 km. W. of Shiraz (river Shur), 5. 7. 1970, Fars, S. W. Iran.

Loc. no. 45: Kazerun (29° 37' N, 51° 38' E), 5.-6. 7. 1970, Fars, S. W. Iran.

Loc. no. 144: Sekand (26° 43' N, 63° 31' E) 27 km. E. N. E. of Sarbaz (26° 39' N, 61° 15' E), 31. 3.-1. 4. 1973, Baluchistan, S. E. Iran.

Loc. no. 146: Rask (26° 13' N, 61° 25' E), about 3 km. N., 2.-3. 4. 1973, Baluchistan, S. E. Iran.

Loc. no. 157: Ghasemabad (27° 10' N, 60° 20' E), valley of the river Bampur (Rud-e Bampur), 10 km. E. of Bampur, 11.-12. 4. 1973, Baluchistan, S. E. Iran.

Loc. no. 163: 30-45 km. N. N. E. of Bazman (28° 05' N, 60° 15' 20' E), on road between Bazman and Deh Pabid, 14. 4. 1973, Baluchistan, S. E. Iran.

Loc. no. 187: Mohammadabad (28° 57' N, 57° 55' E), 35 km. N. N. W. of Sabzevaran (Jiroft), 1600 m., on the road between Deh Bakri and Sabzevaran, 3.-5. 5. 1973, Kerman (province), E. Iran.

Loc. no. 189: 33 km. W. of Sabzevaran (28° 44' N, 57° 28' E), 1100 m., 6.-7. 5. 1973, on the road Sabzevaran – Esefandaqeh, Kerman (province), E. Iran.

Loc. no. 191: Banu-e Charehar (28° 30' N, 57° 00' E), 1800-2000 m., 25 km. N. W. of Sowghan (28° 20' N, 56° 54' E), between Esefandaqeh and Sowghan, 8. 5. 1973, Kerman (province), E. Iran.

Loc. no. 229: 30 km. E. of Kazerun (29° 33' N, 51° 54' E), 1300 m., 8.-10. 6. 1973, Fars, S. Iran.

Loc. no. 234: Tang-e Chogan-e Olia (29° 47' N, 51° 38' E), valley, 10.-11. 6. 1973, Fars, S. Iran.

Loc. no. 257: 30 km. S. of Robate Tork (33° 34' N, 51° 02' E), 24. 6. 1973, Esfahan (province), C. Iran.

Loc. no. 258: Robate Tork (33° 45' N, 50° 51' E), 24.-25.6.1973, Esfahan (province), C. Iran.

Loc. no. 309: Konardan (27° 09' N, 53° 20' E), 36 km. E. of Gav Bandi, 210 m., 23.-24. 4. 1977, Fars, S. Iran.

Loc. no. 317: 25 km. N. E. of Khamir (27° 05' N, 55° 50' E), 26.-27. 4. 1977, Hormozgan, S. Iran.

Loc. no. 318: Kuh-e Genu, 600-1000 m., 15 km. N. W. of Issin (27° 24' N, 56° 11' E), 27.-28. 4. 1977, Hormozgan, S. Iran.

Loc. no. 323: Bagh-e Tang, 6 km. W. of Genu (27° 27' N, 56° 18' E), 410 m., 50 km. N. of Bandar Abbas, 7.-9. 5. 1977, Hormozgan, S. Iran.

Loc. no. 337: Saghdar, 30 km. N. N. E. of Sabzevaran and 6 km. S. of Mohammad-abad (28° 54' N, 57° 55' E), 1650 m., 17.-19. 5. 1977, Kerman province, S. Iran.

Loc. no. 339: Chashmeh-ye Sargaz, 50 km. W of Sabzevaran (28° 40' N, 57° 23' E) on the road Sabzevaran - Esfandagheh, 1650 m., 20.-21. 5. 1977, Kerman province, S. Iran.

Loc. no. 341: 12 km. N. W. of Dowlat-abad (28° 50' N, 57° 09' E), 21. 5. 1977, Kerman province, S. E. Iran.

The following abbreviations are used in the paper:

MTDG Staatliches Museum für Tierkunde, Dresden, Germany;

NMPC National Museum, Prague, Czech Republic;

VNPC collection Vladimír Novák, Prague, Czech Republic.

#### KEY TO THE GROUPS (According to Dubrovina)

- 1 Upper part of body with setation, pronotum semicircular or rounded, sides of pronotum usually regularly narrowed from base in basal part, base of pronotum with same width as base of elytra ..... 2
- Upper part of body glabrous, strongly shining, without setation or setation very short. Pronotum more transverse, basal angles right angled, sides in basal part parallel or pronotum not widest at base, base of pronotum slightly narrower than base of elytron ..... 3
- 2 Body narrow, parallel, head and pronotum with dense punctuation, punctures close together, interspaces between punctures very narrow. Upper part of body more matt ..... 1st group  
*H. alenae* sp. n., *H. badia* Kiesenwetter, 1861, *H. basalis* Faust, 1877, *H. brignolii* (Muche, 1974) comb. n., *H. crassicolis* Fairmaire, 1866, *H. denticulata* (Muche, 1982) comb. n., *H. elongata* Pic, 1925, *H. genuensis* sp. n., *H. iranica* sp. n., *H. jakli* sp. n., *H. lalai* sp. n., *H. obscuriceps* Pic, 1925, *H. obscuripennis* Pic, 1905, *H. purkynei* Obbenberger, 1917, *H. reticulata* Seidlitz, 1896
- Body broadly oval, head and pronotum with normal punctuation ..... 2nd group
- 3 Scutellum longer, metasternum not wider than long, eyes large, close together, fourth antennomere of male more than twice longer than length of third antennomere ..... 3rd group
- Scutellum shorter, metasternum transverse, wider than long, eyes smaller, fourth antennomere shorter than twice length of third antennomere ..... *Nikomenalia* Dubrovina, 1975

#### KEY TO THE SPECIES OF THE FIRST GROUP FROM EUROPE AND ASIA

- 1 Anterior tarsi in both genders distinctly broader ..... *H. badia* Kiesenwetter, 1961
- Anterior tarsi in both genders narrow ..... 2
- 2 Species only from Balcan peninsula and Turkey (*H. brignolii* Muche, 1974, *H. elongata* Pic, 1925, *H. obscuriceps* Pic, 1925, *H. obscuripennis* Pic, 1905, *H. purkynei* Obbenberger, 1917)
- Other species ..... 3
- 3 Body lighter from yellowish brown to light brown ..... 4
- Body darker from brown to blackish brown ..... 5
- 4 Margins of pronotum complete in all sides, pronotum slightly elongate, not quite semicircular .....  
..... *H. jakli* sp. n.
- Margins in apical part of sides not distinct, pronotum more transverse, semicircular .....  
..... *H. reticulata* Seidlitz, 1896
- 5 Species only from Arabic peninsula ..... 6
- Species not from Arabic peninsula ..... 7
- 6 Vertex between eyes distinctly broader than length of first antennomere, posterior angles of pronotum roundly right-angled, base of pronotum distinctly excised ..... *H. alenae* sp. n.
- Vertex between eyes as long as first antennomere, posterior angles of pronotum not rounded, base of pronotum straight ..... *H. denticulata* (Muche, 1982) comb. n.
- 7 Sides of elytra parallel, elytra widest at half ..... *H. basalis* Faust, 1877
- Sides of elytra not parallel, elytra widest at two thirds of elytral length (measured from base) ..... 8
- 8 Pronotum widest at base, posterior angles distinctly right-angled, sides of pronotum from base parallel .....  
..... *H. genuensis* sp. n.

- Pronotum not widest at base, posterior angles slightly obtusely angled, sides of pronotum from base not parallel ..... 9
- 9 Anterior tarsi shorter, anterior tarsomeres from second to fourth distinctly more transverse, shorter species ....  
.....*H. lalai* sp. n.
- Anterior tarsomeres from second to fourth distinctly longer, more robust and longer species  
..... *H. iranica* sp. n.

## DESCRIPTIONS

### *Hymenalia alenae* sp. n.

(Figs 1-5)

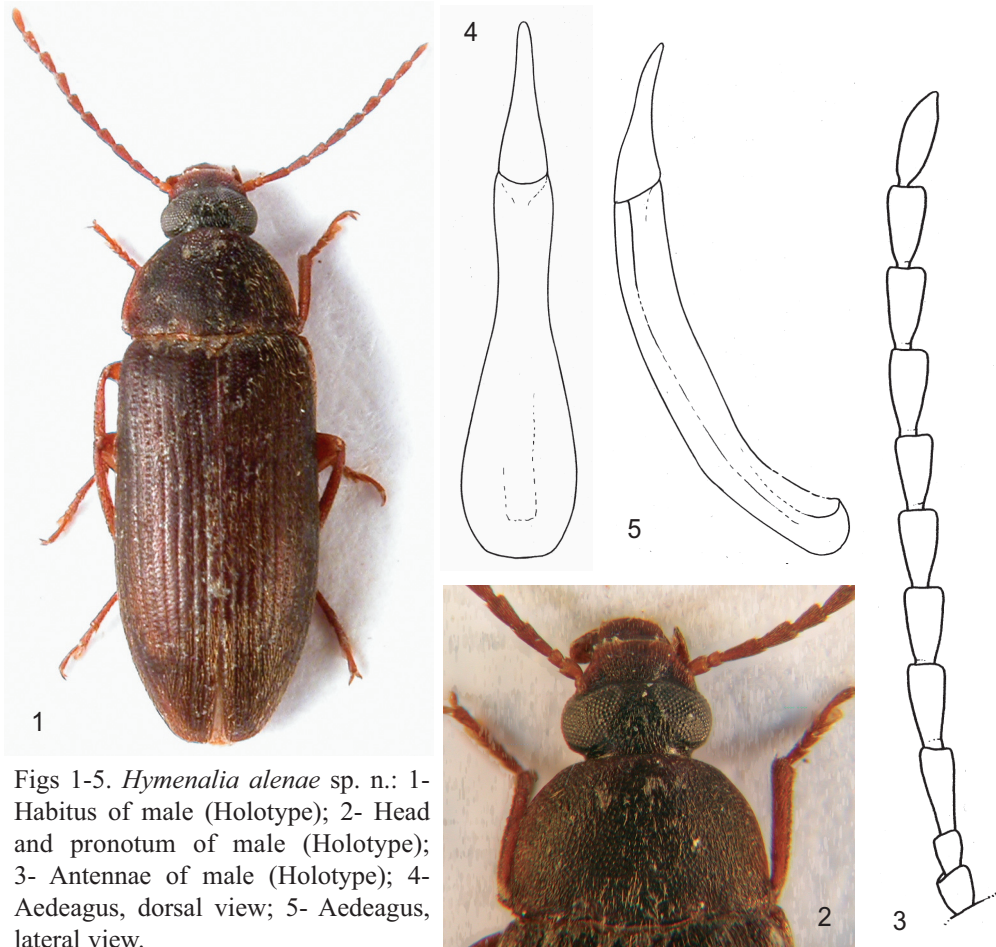
**Type material.** Holotype (1 ♂) labelled: S YEMEN, N of Lahij, N 13°10', E 44°49', 258 m, 23.x.2005, lgt. P. Kabátek, (VNPC); Paratypes: (7 ♂♂, 7 ♀♀): the same data as holotype, (NMPC, VNPC); (1 ♂): S YEMEN, Wādī Daw'an, NW Al Mukallā, N 15°09', E 48°26', 946 m, 20.x.2005, lgt. P. Kabátek, (VNPC); (1 ♂, 3 ♀♀): W YEMEN, Jabal Bura', NEE Al Hadaydah, N 14°52', E 43°24', 225-600 m, 30.x.-1.xi.2005, lgt. P. Kabátek, (VNPC); (1 ♂, 2 ♀♀): W YEMEN, Wādī Ānis, 60 km SW San'ā, N 15°00', E 44°09', 1522 m, 7.x.2005, lgt. P. Kabátek, (VNPC); (1 ♀): W YEMEN, Wādī Surdud, (Sāri') W San'ā, N 15°15', E 43°30', 627 m, 2.xi.2005, lgt. P. Kabátek, (VNPC).

**Description of holotype.** Body length 6.20 mm, longly slightly elongately-oval, dark brown, antennae, maxillary palpus and legs lighter; widest at around two thirds of elytra; 2.93 times longer than wide.

Head (Fig. 2). Brown, apical part slightly lighter, with relatively dense light setation. Eyes large, dark, transverse, excised, vertex between eyes distinctly broader than length of first antennomere. Head widest across eyes 1.02 mm; width (across eyes) approximately 0.58 of pronotal base width. Length of head (visible part) 0.99 mm. Ocular index 26.54. Basal half dark brown, relatively densely punctuated, with shallow and greater punctures. Apical half lighter with relatively sparser smaller punctures.

Antennae (Fig. 3). Shorter (reaching only 0.44 of body length) 2.70 mm, matt, all antennomeres universally light brown, distinctly lighter than head, with relatively shorter and denser light setation. Antennomeres slightly rugose, relatively narrow, second antennomere shortest, from third to tenth antennomeres conspicuously widest at apex, slightly serrate. Eleventh antennomere longest, longer than third one. Ratios of relative lengths of antennomeres from base to apex as follows: 0.50: 0.48: 1.00: 1.00: 0.90: 0.90: 0.85: 1.00: 0.95: 0.95: 1.15. Ratios L/W (length/maximum width) for antennomeres from base to apex as follows: 1.22: 1.40: 2.94: 2.30: 2.00: 2.00: 2.05: 2.22: 2.16: 2.13: 3.19.

Maxillary palpus. Light brown, somewhat lighter than head, with light setation. Palpomeres slightly shining, penultimate palpomere distinctly shorter than second and ultimate palpomere, broadest at apex, ultimate palpomere broadly longely triangular. Palpomeres with light setation, apex of penultimate palpomere with long setae. Ratios of relative lengths of palpomeres from second to fourth ones, from base to apex, as follows: 1.28: 1.00: 2.59. Ratios L/W (length/maximum width) of palpomeres from second to fourth ones, from base to apex, as follows: 2.43: 1.33: 1.32.



Figs 1-5. *Hymenalia alenae* sp. n.: 1- Habitus of male (Holotype); 2- Head and pronotum of male (Holotype); 3- Antennae of male (Holotype); 4- Aedeagus, dorsal view; 5- Aedeagus, lateral view.

Pronotum (Fig. 2). Dark brown, matt, with light, shorter setation. Setation near sides denser. Slightly narrower than elytron (as wide as elytron at the base), at base 1.72 times wider than head with eyes together. Longest in the middle 1.19 mm; widest at base 1.75 mm. Pronotal index 67.98. Margins complete through their entire length, only in the middle of apex margin not clearly conspicuous, base from both sides and against scutellum distinctly excised. Posterior angles roundly right-angled, margins up to half length (from base to apex) straight, very slightly narrowed, then becoming rounded apically. Anterior angles not conspicuous. Surface densely and shallowly punctuated, punctures large, interspaces very narrow. Punctures inside with slight granulation, pronotum relatively matt.

Ventral side of body. Dark brown, only abdominal sternites from first to third slightly lighter, with short light setation. Abdomen five-segmented, with fine microsculpture and middle-sized shallow punctures, punctuation of prothorax denser.

Elytron. Universally dark brown, with light, relatively dense setation. Length 4.16 mm. Very slightly broader than pronotum, straight, widest approximately at two thirds (from base to apex), at this place width 2.12 mm. Ratio L/W (length/maximum width) 1.96. Surface punctuated, punctures clearly conspicuous in elytral striae. Punctures in elytral striae larger, interspaces between punctures very narrow, punctuation deeper and coarser. Punctures in elytral interspaces smaller and shallow, punctuation sparser than punctuation of pronotum.

Scutellum broadly triangular, dark brown as colour as elytron. Elytral epipleura well developed, dark brown as colour as elytron, with sparse light setation, regularly narrowed in basal half, then from third abdominal sternite in apical half running parallel until reaching fifth abdominal sternite, then narrowed to rounded apex.

Legs. Universally light brown, with dense light setation. Femora relatively strong, tibia narrow, widest at apex, narrowest at base. Penultimate tarsomere of each tarsi with membranous lobes. Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.74: 0.74: 1.10: 1.97; mesotarsus: 1.00: 0.51: 0.20: 0.47: 1.03; metatarsus: 1.00: 0.38: 0.22: 0.52.

Both anterior tarsal claws with 10 visible teeth.

Aedeagus (Figs 4, 5). Universally light yellowish brown, distinctly shining. Basal piece regularly rounded, basal part of basal piece twice broader than apex of basal piece, basal piece regularly narrowed in basal half, then then in apical half running parallel. Apical piece regularly narrowed to narrowly rounded apex, very longely triangular. Ratio of length of apical piece to length of basal piece 1: 2.33.

Male (Figs 1-5). Both anterior tarsal claws with 10 visible teeth.

11 males: length 6.46 mm approximately (ranging from 5.54 to 8.08 mm); head length 1.03 mm approximately (ranging from 0.89 to 1.26 mm); head width 1.06 mm approximately (ranging from 0.89 to 1.30 mm). Ocular index 24.26 approximately (ranging from 19.54 to 27.63). Pronotal length (in middle) 1.27 mm approximately (ranging from 0.98 to 1.64 mm); pronotal width at base 1.86 mm approximately (ranging from 1.46 to 2.46 mm). Pronotal index 68.22 approximately (ranging from 64.66 to 71.14). Elytral length 4.27 mm approximately (ranging from 3.58 to 5.33 mm); elytral width 2.25 mm approximately (ranging from 1.82 to 2.76 mm).

Female. Both anterior tarsal claws with 7 visible teeth. Antennae reaching up only 0.43 of body length. Tenth antennomere shorter than third one.

Ratios of relative lengths of antennomeres from base to apex as follows: 0.46: 0.42: 1.00: 0.94: 0.84: 0.90: 0.89: 0.89: 0.92: 0.87: 1.08.

Ratios L/W (length/maximum width) of antennomeres from base to apex as follows: 1.16: 1.24: 2.69: 2.23: 2.36: 2.55: 2.50: 2.29: 2.28: 2.00: 3.35.

Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.67: 0.48: 0.59: 1.48; mesotarsus: 1.00: 0.39: 0.25: 0.30: 0.91; metatarsus: 1.00: 0.36: 0.26: 0.51.

13 females: lengths 6.85 mm approximately (ranging from 5.14 to 7.47 mm); head lengths 1.08 mm approximately (ranging from 0.81 to 1.40 mm); head width 1.14 mm approximately (ranging from 0.91 to 1.25 mm). Ocular index 24.01 approximately (ranging from 20.62 to 26.79). Pronotal length (in middle) 1.35 mm approximately (ranging from 0.96 to 1.47 mm); pronotal width at base 2.02 mm approximately (ranging from 1.42 to 2.24

mm). Pronotal index 67.04 approximately (ranging from 64.19 to 68.93). Elytral length 4.50 mm approximately (ranging from 3.58 to 4.91 mm); elytral width 2.44 mm approximately (ranging from 1.82 to 2.56 mm).

**Differential diagnosis.** (for details see the key above). *Hymenalia alenae* sp. n. clearly differs from related species *Hymenalia denticulata* (Muche, 1982) mainly by having space between eyes distinctly broader than length of first antennomere and by aedeagus. *H. denticulata* with apical piece of aedeagus distinctly narrower than *H. alenae* sp. n.

**Name derivation.** The new species is dedicated to my mother Alena.

***Hymenalia brignolii* (Muche, 1974) comb. n.**

*Allecula brignolii* Muche, 1974: 219.

**Material examined.** *A. brignolii*: holotype (♀), first white label, black printed: „TURCHIA vill. Çanakkale, Intepe 31.vii.67, Sbordoni leg.“ and handwritten „LUCE“; second red label, black printed: „det. Muche 19“ and handwritten: „Holotypus, Allecula brignolii n. 74“; coll. Muche (MTDG).

**Remarks.** Species of the genus *Hymenalia* Mulsant, 1856, mainly 1st group (according to Dubrovina 1975), differ by having relatively narrow, flat and matt body, by semicircular or nearly semicircular, regularly rounded pronotum, by antennae reaching near half of body length and by relatively flat elytral interspaces. Species of the genus *Allecula* Fabricius, 1801 differ by having relatively lustrous body, having pronotum not regularly rounded with parallel sides at basal half, by having longer antennae and with distinctly more oval elytral interspaces. In all aspects this species belongs to the genus *Hymenalia* Mulsant, 1856.

***Hymenalia denticulata* (Muche, 1982) comb. n.**

(Figs 6-7)

*Prionychus denticulatus* Muche, 1982: 122.

**Material examined.** *P. denticulatus*: paratype (♀), first white label, black printed: Dhofar, Oman, x.1979, TB Larsen; second red label, black printed: *Paratypoid*; third white label, black printed: 1981, *Prionychus denticulatus* nov., W. Heinz MUCHE.

**Additional material examined:** UEA (United Arab Emirates) Sharjah x Khor Kalba, 24° 59' N, 56° 09' E, 16.-31.i.2006, (2 ♂♂, 7 ♀♀), 7.-22.iii.2006, (4 ♂♂, 21 ♀♀), 24.-30.v.2006, (2 ♂♂, 6 ♀♀), 31.V.-7.vi.2006, (3 ♂♂, 2 ♀♀), in light traps, A. van Harten lgt.; UEA Wadi Safat, 31.i.-21.ii.2006, (3 ♂♂, 2 ♀♀), 21.ii.-4.iii.2006, (5 ♂♂, 5 ♀♀), 17.-24.vi.2006, (1 ♀), 1.-8.vii.2006, (1 ♀), in light traps, 2.-26.i.2006, (1 ♀), in yellow & white water traps, A. van Harten lgt.



Figs 6-7. *Hymenalia denticulata* (Muche, 1982) comb. n.: 6- Habitus of male; 7- Head and pronotum of male.

**Distribution.** Species known from Oman and Saudi Arabia (Muche, 1982), new to United Arab Emirates.

**Remarks.** Species of the genus *Hymenalia* Mulsant, 1856 mainly 1st group (according to Dubrovina 1975) differ by having relatively narrow, flat and matt body, by semicircular or nearly semicircular pronotum, by antennae reaching near half of body length and by large and transverse eyes with relatively narrow space between them. Species of the genus

*Prionychus* Solier, 1835 differ by having broadly oval body, with pronotum broader and more transverse than semicircular, by short antennae only slightly reaching over base of pronotum and by relatively smaller eyes with broader space between eyes. In all aspects this species belongs to the genus *Hymenalia* Mulsant, 1856.

***Hymenalia genuensis* sp. n.**

(Figs 8-12)

**Type material.** Holotype (♂) labelled: Loc. no. 317: S Iran, 25 km NE Khamir, 26.-27.iv.1977, Exped. Nat. Mus. Praha, (NMPC); Paratypes: (2 ♂♂, 1 ♀): the same data as holotype (NMPC, VNPC); (1 ♀): Loc. no. 146: SE Iran, Rask vall. R. Sarbáz, 3.-4.iv.1973, Exp. Nat. Mus. Praha (NMPC); (1 ♂): Loc. no. 187: E Iran, Mohammadabad, 1600 m, 3.-5.v.1973, Exp. Nat. Mus. Praha (VNPC); (6 ♂♂, 9 ♀♀): Loc. no. 318: S Iran, Kuh-e Geno Mts., 600-1000 m, 27.-28.iv.1977, Exped. Nat. Mus. Praha (NMPC, VNPC); (4 ♀♀): Loc. no. 323: S Iran, 6 km W Geno, 400 m, 7.-9.v.1977, Exped. Nat. Mus. Praha (NMPC, VNPC).





11



12



9

10

Figs 8-12. *Hymenalia genuensis* sp. n.: 8- Habitus of male (Holotype); 9- Head and pronotum of male (Holotype); 10- Antennae of male (Holotype); 11- Aedeagus, dorsal view; 12- Aedeagus, lateral view.

**Description of holotype.** Body elongately oval; length 5.03 mm, 2.81 times longer than wide; widest at two third of elytral length.

Head (Fig. 9). Brown, clypeus somewhat lighter. Eyes large, broadly transverse, dark and strongly excised, vertex between eyes narrow. Widest across eyes 0.89 mm (0.63 of pronotal base width). Length of head (visible part) 0.87 mm. Ratio L/W (length/maximum width) 0.98. Ocular index 15.27. Head with relatively sparse short light setation, only after eyes near base setation darker, setation of clypeus longer. Densely and shallowly punctuated; punctures large, with microsculpture, matt; apical part of head and interspaces of clypeus shiny.

Antennae (Fig. 10). Shorter (reaching only 0.46 of body length) 2.31 mm. All antennomeres universally light brown, matt, only antennomeres first and second slightly shining. Second antennomere shortest, eleventh antennomere longest, from fourth to tenth antennomeres distinctly serrate and mostly longer than third antennomere. Antennomeres

with light setation, slightly rugulose and with light punctures. Ratios of relative lengths of antennomeres from base to apex as follows: 0.61: 0.48: 1.00: 1.08: 1.06: 1.10: 1.04: 0.94: 0.97: 1.04: 1.32. Ratios L/W (length/maximum width) for antennomeres from base to apex as follows: 1.42: 1.50: 2.72: 2.15: 2.13: 2.08: 1.61: 1.72: 1.93: 2.00: 3.24.

Maxillary palpus. Light brown, as colour as antennae, palpomeres with light setation, slightly shining. Ultimate palpomere broadly longely triangular, penultimate and ultimate palpomeres distinctly broadest on apex, narrowest at base. Penultimate palpomere distinctly shorter than second and ultimate ones. Ratios of relative lengths of palpomeres from second to fourth from base to apex as follows: 1.65: 1.00: 3.76. Ratios L/W (length/maximum width) of palpomeres from second to fourth from base to apex as follows: 2.75: 1.06: 1.19.

Pronotum (Fig. 9). Brown, matt, slightly transverse, slightly elongate, not quite semicircular, with light setation directed backwards. Slightly narrower than elytra, longest through the middle 1.01 mm. Widest at base 1.42 mm. Pronotal index 71.38. Pronotal margins conspicuous and complete at all sides. Pronotal base slightly excised in outer thirds, straight against scutellum. Posterior angles right-angled, anterior angles not distinct. Sides of pronotum straight at basal half, in apical half regularly rounded. Surface densely and shallowly punctuated, punctures large and close together, interspaces very narrow. Pronotum matt, spaces inside punctures rugosed. Scutellum triangular, brown, as colour as elytra and pronotum.

Ventral side of body. Thorax brown, as colour as elytron, with light setation and middle-sized punctuation. Abdomen five segmented, lighter than thorax, with very fine microsculpture, sparser light setation, without distinct punctuation.

Elytron. Universally brown with light, relatively short and dense setation, setae directed backwards. Slightly broader at base than pronotum, very slightly longely oval. Elytral length 3.13 mm. Widest at about two thirds of its length, measured from base; at this place elytral width 1.79 mm. Elytra 1.75 times longer than wide. Elytral striae not clearly conspicuous, diameter of punctures in elytral striae larger than diameter of punctures in elytral interspaces. Punctures not as dense as those of pronotum. Surface with microsculpture, only very slightly shining, rather matt. Elytral epipleura somewhat lighter brown (as elytron itself), well developed; in basal half parallel, thence regularly narrowed to first abdominal sternite. In apical half parallel again and then rounded apically. Epipleura with small sparse punctures bearing light setae each; in apical part setation denser and setae as long as on elytra. Row of large punctures at basal half of epipleura present, at apical half larger punctures absent.

Legs. Longer, universally light brown, lighter as elytron covered with short and relatively dense setation. Femora strong, tibia very narrow; widest at apex, narrowest at base. Penultimate tarsomere of each tarsus with membranous lobes as wide as tibia at apex. Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.63: 0.51: 0.82: 2.01; mesotarsus: 1.00: 0.46: 0.30: 0.49: 0.86; metatarsus: 1.00: 0.39: 0.28: 0.60.

Aedeagus (Figs 11, 12). Light yellowish brown, slightly shining, basal piece regularly narrowed to apex. Apical piece longely triangular with very narrow rounded apex. Ratio of length of apical piece to length of basal piece 1: 2.44.

Male (Figs 8-12). Both anterior tarsal claws with 10 visible teeth.

10 males: length 5.21 mm approximately (ranging from 4.87 to 5.89 mm); head length 0.89 mm approximately (ranging from 0.79 to 1.09 mm); head width 0.94 mm approximately

(ranging from 0.84 to 1.09 mm). Ocular index 16.48 approximately (ranging from 13.33 to 21.10). Pronotal length (in middle) 1.04 mm approximately (ranging from 0.89 to 1.09 mm); pronotal width at base 1.44 mm approximately (ranging from 1.31 to 1.84 mm). Pronotal index 72.97 approximately (ranging from 69.38 to 77.67). Elytral length 3.28 mm approximately (ranging from 3.05 to 3.79 mm); elytral width 1.81 mm approximately (ranging from 1.65 to 2.18 mm).

Female. Both anterior tarsal claws with 6 visible teeth.

Ratios of relative lengths of antennomeres from base to apex as follows: 0.55: 0.39: 1.00: 1.00: 0.82: 0.85: 0.97: 1.03: 1.00: 1.09: 1.52.

Ratios L/W (length/maximum width) of antennomeres from base to apex as follows: 1.29: 1.09: 2.54: 2.54: 1.93: 1.87: 2.46: 3.09: 2.54: 2.25: 2.63.

Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.63: 0.46: 0.65: 2.04; mesotarsus: 1.00: 0.54: 0.17: 0.28: 0.95; metatarsus: 1.00: 0.38: 0.15: 0.62.

15 females: length 6.39 mm approximately (ranging from 5.36 to 7.50 mm); head length 1.03 mm approximately (ranging from 0.80 to 1.20 mm); head width 1.06 mm approximately (ranging from 0.88 to 1.22 mm). Ocular index 16.53 approximately (ranging from 13.47 to 19.38). Pronotal length (in middle) 1.23 mm approximately (ranging from 1.01 to 1.46 mm); pronotal width at base 1.72 mm approximately (ranging from 1.46 to 2.07 mm). Pronotal index 71.20 approximately (ranging from 64.53 to 80.10). Elytral length 4.07 mm approximately (ranging from 3.38 to 4.75 mm); elytral width 2.22 mm approximately (ranging from 1.78 to 2.67 mm).

**Differential diagnosis.** (for details see the key above). *Hymenalia genuensis* sp. n. is clearly different from related species *Hymenalia iranica* sp. n. and *Hymenalia lalai* sp. n. mainly by posterior angles, sides and shape of pronotum.

**Name derivation.** According to its type locality Genu mountains.

### *Hymenalia iranica* sp. n.

(Figs 13-18)

**Type material.** Holotype (♂) labelled: S Iran, Pro Kermān, 2231 m, 45 km NNE Sabzvārān (Jiroft), N 28° 58', E 57° 54', 19.vii.2004, leg. Petr Kabátek (VNPC); Paratypes (7 ♂♂, 1 ♀): the same data as holotype (VNPC); (8 ♂♂, 14 ♀♀): Loc. no. 187: E Iran, Mohammadabad, 1600 m, 3.-5.v.1973, Exp. Nat. Mus. Praha (NMPC, VNPC); (3 ♀♀): Loc. no. 189: E Iran, 33 km W Sabzevaran, 1100 m, 6.-7.v.1973, Exp. Nat. Mus. Praha (NMPC, VNPC); (2 ♂♂): Loc. no. 191: E Iran, Banue-Charehar, 1800-2000 m, 8.v.1973, Exp. Nat. Mus. Praha (NMPC, VNPC); (1 ♂): Loc. no. 257: N Iran, 30 km S Robate Tork, 24.vi.1973, Exp. Nat. Mus. Praha (NMPC), (4 ♀♀): Loc. no. 258: N Iran, Robate Tork, 24.-25.vi.1973, Exp. Nat. Mus. Praha (NMPC, VNPC); (2 ♀♀): Loc. No. 337: C Iran, 30 km N Sabzevaran, 1650 m, 17.-19.v.1977, Exped. Nat. Mus. Praha (NMPC); (5 ♂♂, 5 ♀♀): Loc. no. 339: C Iran, Chasmeh-ye Sargaz, 1650 m, 20.-21.v.1977, Exped. Nat. Mus. Praha (NMPC, VNPC); (2 ♂♂, 9 ♀♀): Loc. no. 341: C Iran, 12 km NW Dowlatabad, 21.v.1977, Exped. Nat. Mus.

Praha (NMPC, VNPC); (1 ♀): S Iran, prov. Hormozgān, 35 km SE Mināb (E Bandar-e Abbās), 29.iv.2002, lgt. P. Kabátek (VNPC).

**Description of holotype.** Body elongately oval; length 7.62 mm, slightly shiny, from brown to dark brown 2.78 times longer than wide; widest at two thirds of elytral length, measured from base.

Head (Fig. 14). Brown, apical part of head and clypeus somewhat lighter. Eyes large, broadly transverse, dark and strongly excised, vertex between eyes narrow. Widest across eyes 1.27 mm (0.58 of pronotal base width). Length of head (visible part) 1.15 mm. Ratio L/W (length/maximum width) 0.91. Ocular index 20.00. Head with very sparse and very short light setation. Densely and shallowly punctuated, punctures large, with microsculpture, interspaces slightly shiny, clypeus without clearly distinct punctuation, with microsculpture.

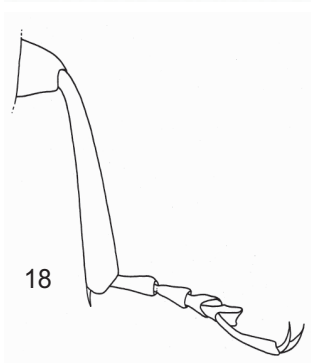
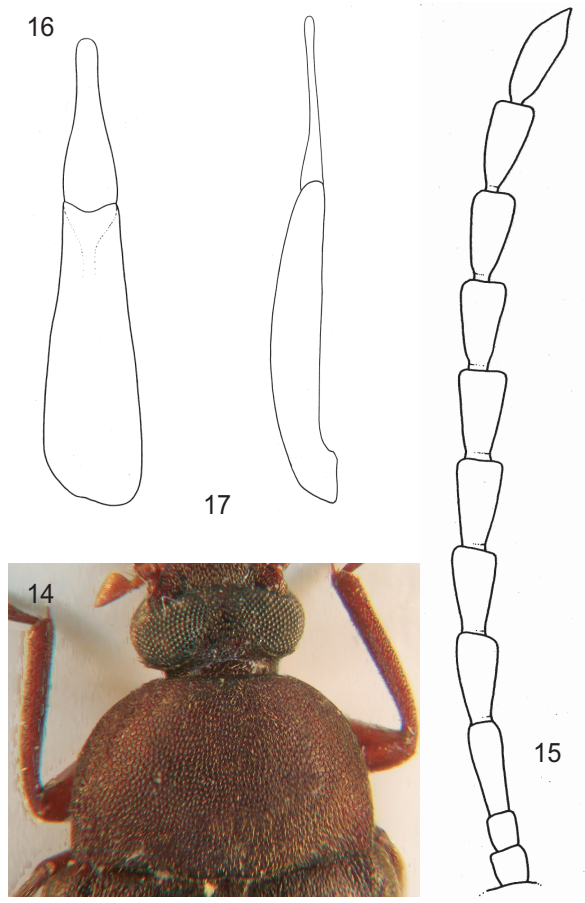
Antennae (Fig. 15). Shorter, reaching up only 0.46 length of body (length of antennae 3.50 mm). All antennomeres univesally brown, matt, only antennomeres first and second slightly shining. First and second antennomere shortest, eleventh antennomere longest, from fourth to tenth antennomeres conspicuously serrate. Antennomeres with light setation, slightly rugulose and with small light punctures. Ratios of relative lengths of antennomeres from base to apex as follows: 0.39: 0.41: 1.00: 1.00: 0.94: 0.98: 0.98: 0.97: 0.98: 0.98: 1.20. Ratios L/W (length/maximum width) for antennomeres from base to apex as follows: 1.02: 1.33: 2.83: 2.32: 2.00: 1.98: 1.92: 2.02: 2.07: 2.27: 3.21.

Maxillary palpus. Light brown, lighter than antennae, palpomeres with light setation, with fine microsculpture, slightly shining. Ultimate palpomere broadly longely triangular, second, penultimate and ultimate palpomeres broadest at apex, narrowest at base. Penultimate palpomere short, with long light setae at apex. Ratios of relative lengths of palpomeres from second to fourth ones, from base to apex, as follows: 1.54: 1.00: 4.50. Ratios L/W (length/maximum width) of palpomeres from second to fourth ones, from base to apex, as follows: 2.07: 0.81: 1.13.

Pronotum (Fig. 14). Universally dark brown, slightly shiny, with shorter light setation directed backwards. Setation near sides denser. Slightly narrower than elytra, longest through the middle 1.48 mm. Widest near half of sides, width at base 2.18 mm. Pronotal index 67.86. Pronotal margins conspicuous and complete at all sides. Pronotal base slightly excised in outer thirds and against scutellum. Posterior angles slightly obtusely angled, anterior angles not conspicuous. Sides of pronotum in apical half regularly rounded. Surface densely and shallowly punctuated, punctures middle sized and close together, interspaces very narrow and shiny, spaces inside punctures rugulose. Scutellum broadly triangular, dark brown, as colour as elytra and pronotum, with light setae and microsculpture.

Ventral side of body. Abdomen brown, five-segmented, with sparse, short and light setation, with fine microsculpture, more matt, without distinct punctuation. Prosternum with middle sized punctuation, mesosternum with a few large punctures. Thorax with short light setation.

Elytron. Universally dark brown with shorter light and dense setation, setae directed backwards. Slightly broader at base than pronotum, slightly longely oval. Elytral length 5.11 mm. Widest at about two thirds of its length, measured from base; at this place elytral width



Figs 13-18. *Hymenalia iranica* sp. n.: 13- Habitus of male (Holotype); 14- Head and pronotum of male (Holotype); 15- Antennae of male (Holotype); 16- Aedeagus, dorsal view; 17- Aedeagus, lateral view; 18- Anterior tarsi of male (Holotype)

2.74 mm. Elytra 1.87 times longer than wide. Rows of punctures in elytral striae clearly conspicuous, diameter of punctures larger than diameter of punctures in elytral interspaces. Punctures not as dense as that of pronotum. Surface with microsculpture, slightly shining.

Elytral epipleura dark brown (as elytron itself), well developed; in basal half regularly narrowed to first abdominal sternite, then parallel to third abdominal sternite. In apical half from third abdominal sternite becoming rounded apically. Epipleura at basal half with row of relatively large punctures, at apical half larger punctures absent. Epipleura with sparse, light setation.

Legs (Fig. 18). Longer, dark brown, tarsi, femora and anterior tibia lighter, with short, light and relatively dense setation covered. Femora strong, tibia very narrow; widest at apex, narrowest at base. Penultimate tarsomere of each tarsus with membranous lobes as wide as tibia at apex. Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.71: 0.66: 0.70: 1.35; mesotarsus: 1.00: 0.49: 0.34: 0.46: 0.93; metatarsus: 1.00: 0.44: 0.30: 0.62. Ratios L/W (length/maximum width) of anterior tarsomeres from base to apex as follows: 2.78: 2.03: 1.65: 2.00: 4.91.

Both anterior tarsal claws with 10 visible teeth.

Aedeagus (Figs 16, 17). Light yellowish brown, only slightly shining. Basal third of basal piece strongly rounded and linear, then basal piece only slightly rounded, regularly narrowed to apex. Apical piece flat, regularly longely triangular, apex rounded, base of apical piece approximately twice broader than apex. Ratio of length of apical piece to length of basal piece 1: 1.70.

Male (Figs 13-18). Both anterior tarsal claws with 10 visible teeth.

26 males: length 7.01 mm approximately (ranging from 6.01 to 8.14 mm); head length 1.21 mm approximately (ranging from 1.01 to 1.46 mm); head width 1.18 mm approximately (ranging from 1.04 to 1.33 mm). Ocular index 19.43 approximately (ranging from 14.29 to 24.15). Pronotal length (in middle) 1.37 mm approximately (ranging from 1.07 to 1.61 mm); pronotal width at base 1.99 mm approximately (ranging from 1.67 to 2.24 mm). Pronotal index 67.61 approximately (ranging from 62.69 to 72.93). Elytral length 4.54 mm approximately (ranging from 3.45 to 5.30 mm); elytral width 2.60 mm approximately (ranging from 2.02 to 3.04 mm).

Female. Both anterior tarsal claws with 7 visible teeth.

Ratios of relative lengths of antennomeres from base to apex as follows: 0.63: 0.41: 1.00: 1.02: 0.93: 0.96: 0.93: 1.02: 0.98: 1.00: 1.20.

Ratios L/W (length/maximum width) for antennomeres from base to apex as follows: 1.40: 1.15: 2.33: 3.00: 2.60: 2.70: 2.60: 2.48: 2.20: 2.24: 3.20.

Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.61: 0.55: 0.75: 1.33; mesotarsus: 1.00: 0.43: 0.34: 0.49: 0.88; metatarsus: 1.00: 0.37: 0.46: 0.56.

38 females: length 7.81 mm approximately (ranging from 5.95 to 8.91 mm); head length 1.21 mm approximately (ranging from 1.07 to 1.35 mm); head width 1.24 mm approximately (ranging from 0.98 to 1.36 mm). Ocular index 20.62 approximately (ranging from 14.80 to 26.32). Pronotal length (in middle) 1.43 mm approximately (ranging from

1.17 to 1.71 mm); pronotal width at base 2.13 mm approximately (ranging from 1.67 to 2.44 mm). Pronotal index 66.92 approximately (ranging from 61.63 to 71.83). Elytral length 5.12 mm approximately (ranging from 3.74 to 5.87 mm); elytral width 2.82 mm approximately (ranging from 2.07 to 3.25 mm).

**Differential diagnosis.** (for details see the key above). *Hymenalia iranica* sp. n. clearly differs from the species *Hymenalia lalai* sp. n. mainly by anterior tarsomeres (2-4) - their ratios of length/width and by the shape of aedeagus. *H. iranica* sp. n. with tarsomeres (2-4) distinctly longer than wide.

**Name derivation.** Named after the country of its distribution – Iran.

***Hymenalia jakli* sp. n.**

(Figs 19-23)

**Type material:** Holotype (♂) labelled: OMAN, Dzhophar prov., Wadi 10 km of AL MUCHSAYL, 1.-2.x.2003, 20 m, St. Jakl lgt., (VNPC); Paratypes: (5 ♂♂, 16 ♀♀): the same data as holotype (NMPC, VNPC); (1 ♀): OMAN, Dzhophar prov., JEBEL SAMHAN Mts., 23.-25.ix.2003, 900-1150 m, St. Jakl lgt., (VNPC); (1 ♂, 2 ♀♀): S YEMEN, Lawdar NE, Adan, N 13°53', E 45° 48', 1145 m, 22.x.2005, lgt. P. Kabátek, (VNPC); (1 ♀): S YEMEN, Ghayl Ba Wazīr, NE Al Mukallā, N 14°49', E 49°25', 126 m, 18.x.2005, lgt. P. Kabátek, (VNPC); (3 ♀♀): S YEMEN, Wādī Surdud (Sāri‘) W San‘ā‘, N 15°15', E 43°30', 627 m, 2.xi.2005, lgt. P. Kabátek, (VNPC).

**Description of holotype.** Body length 5.41 mm, longly, slightly elongately - oval, from yellowish brown to brown, matt, only elytra slightly shining; 2.73 times longer than wide.

Head (Fig. 20). Light brown, relatively small, without shine, matt, with longer light setation, eyes broadly transverse, dark and strongly excised, vertex between eyes very narrow, shortest diameter of space between eyes narrower than length of second antennomere. Widest across eyes 0.91 mm (0.65 of pronotal base width). Length of head (visible part) 0.90 mm. Ocular index 12.03. Punctuation very shallow, relatively dense, but not clearly conspicuous, head with fine granulation, matt.

Antennae (Fig. 21). Shorter (reaching only 0.41 of body length) 2.24 mm, matt, all antennomeres universally yellowish brown. Antennomeres relatively narrow, longer than at apex wide, from fourth to tenth antennomeres slightly serrate, second antennomere shortest. All antennomeres with short light setation, conspicuously finely granulated, from fourth to eleventh shallowly punctuated. Ratios of relative lengths of antennomeres from base to apex as follows: 0.63: 0.44: 1.00: 1.19: 1.13: 1.25: 1.25: 1.28: 1.28: 1.31: 1.50. Ratios L/W (length/maximum width) for antennomeres from base to apex as follows: 1.33: 1.21: 2.35: 2.07: 1.96: 2.22: 2.11: 2.07: 2.28: 2.28: 3.43.

Maxillary palpus. Yellowish brown, as colour as antennomeres, somewhat lighter than head, with short light setation and microsculpture, slightly shining. Second palpomere with a few long setae at apex. Ultimate and penultimate palpomere distinctly broadest at apex,

ultimate palpomere broadly triangular. Ratios of relative lengths of palpomeres from second to fourth from base to apex as follows: 1.03: 1.00: 2.41. Ratios L/W (length/maximum width) of palpomeres from second to fourth from base to apex as follows: 1.83: 1.39: 1.28.

Pronotum (Fig. 20). Light brown, matt, slightly transverse with light setation, widest at base 1.41 mm, as wide as elytron base width; narrower than maximum elytral width (two thirds from base to apex); at base 1.55 times wider than head with eyes together. Longest in the middle 1.08 mm. Pronotal index 76.57. Margins conspicuous through their entire length, base from both sides and against scutellum slightly excised. Posterior angles right-angled, margins up to third (from base to apex) linear, than regularly becoming rounded apically. Anterior angles not conspicuous. Surface not clearly conspicuously but densely and shallowly punctuated, punctures relatively large, interspaces very narrow. Punctures and interspaces with granulation, pronotum matt.

Ventral side of body. Light brown, thorax including episternum with short light setation and relatively dense large-sized punctures. Abdomen five-segmented, with sparse, longer light setation, denser punctuation, punctures middle-sized and shallow with microsculpture.

Elytron. Universally yellowish brown, with light setation. Length 3.42 mm; widest at its two thirds (from base to apex) 1.98 mm. Ratio L/W (length/maximum width) 1.73. Elytron with punctuation, rows of punctures in elytral striae clearly conspicuous. Punctures more coarse and not as dense as that of pronotum. Punctures in rows larger and closed together, elytral interspaces slightly granulated, punctures not closed together, punctures of elytral interspaces smaller than that of punctures present in rows in elytral striae. Scutellum yellowish brown, regularly triangular, granulated, matt, shallow punctures and sparse light setation present.

Legs. Universally yellowish brown, with short light and dense setation. Femora relatively strong, tibia very narrow, narrowest at base, widest at apex. Penultimate tarsomere of each tarsus with membranous lobes. Ratios of relative length of tarsomeres from base to apex as follows: protarsus: 1.00: 0.84: 0.75: 0.98: 2.16; mesotarsus: 1.00: 0.46: 0.41: 0.49: 0.98; metatarsus: 1.00: 0.30: 0.29: 0.53.

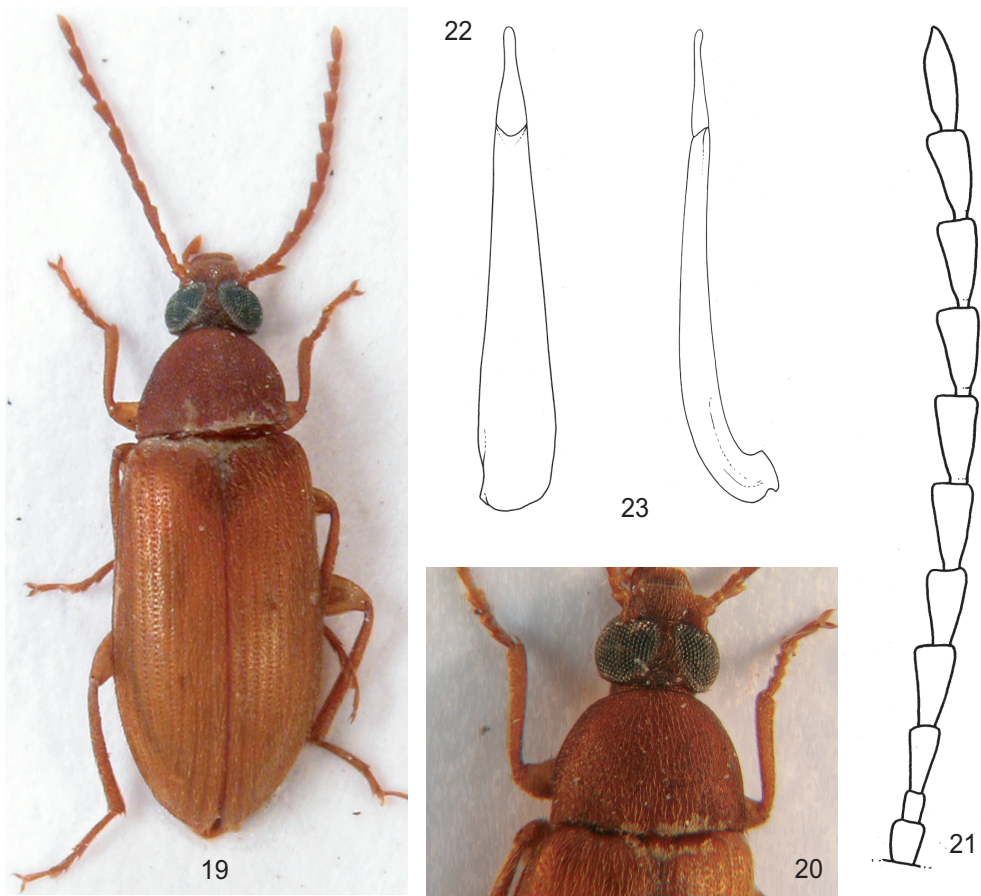
Both anterior tarsal claws with 13 visible teeth.

Aedeagus (Figs 22, 23). Light yellowish brown, slightly shining. From lateral view basal half of basal piece regularly rounded, apical half of basal piece approximately straight. From dorsal view basal piece regularly narrowed from base to apex. Apical piece relatively short, regularly narrowed from base to rounded apex, longely triangular. Ratio of length of apical piece to length of basal piece 1: 3.42.

Male (Figs 19-23). Both anterior tarsal claws with 13 visible teeth.

7 males: length 5.73 mm approximately (ranging from 4.89 to 6.54 mm); head length 1.02 mm approximately (ranging from 0.92 to 1.11 mm); head width 0.95 mm approximately (ranging from 0.83 to 1.04 mm). Ocular index 10.27 approximately (ranging from 7.49 to 12.51). Pronotal length (in middle) 1.09 mm approximately (ranging from 0.87 to 1.23 mm); pronotal width at base 1.46 mm approximately (ranging from 1.15 to 1.73 mm). Pronotal index 74.54 approximately (ranging from 69.59 to 76.99). Elytral length 3.70 mm approximately (ranging from 3.18 to 4.22 mm); elytral width 2.04 mm approximately (ranging from 1.73 to 2.21 mm).





Figs 19-23. *Hymenalia jakli* sp. n.: 19- Habitus of male (Holotype); 20- Head and pronotum of male (Holotype); 21- Antennae of male (Holotype); 22- Aedeagus, dorsal view; 23- Aedeagus, lateral view.

Female. Both anterior tarsal claws with 6-7 visible teeth.

Ratios of relative lengths of antennomeres from base to apex as follows: 0.75: 0.64: 1.00: 1.17: 1.08: 1.22: 1.25: 1.28: 1.25: 1.20: 1.44.

Ratios L/W (length/maximum width) of antennomeres from base to apex as follows: 1.69: 1.53: 2.25: 2.33: 1.95: 2.31: 1.96: 2.19: 2.05: 2.05: 2.89.

Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.66: 0.66: 0.72: 1.78; mesotarsus: 1.00: 0.46: 0.34: 0.42: 1.00; metatarsus: 1.00: 0.41: 0.28: 0.65.

23 females: length 5.90 mm approximately (ranging from 4.78 to 7.54 mm); head length 1.01 mm approximately (ranging from 0.86 to 1.17 mm); head width 0.99 mm approximately (ranging from 0.82 to 1.15 mm). Ocular index 12.60 approximately (ranging

from 8.78 to 15.87). Pronotal length (in middle) 1.14 mm approximately (ranging from 0.94 to 1.39 mm); pronotal width at base 1.54 mm approximately (ranging from 1.27 to 1.93 mm). Pronotal index 74.12 approximately (ranging from 70.15 to 77.84). Elytral length 3.82 mm approximately (ranging from 3.15 to 4.92 mm); elytral width 2.05 mm approximately (ranging from 1.70 to 2.62 mm).

**Differential diagnosis.** (for details see the key above). *Hymenalia jakli* sp. n. clearly differs from related species *Hymenalia reticulata* Seidlitz, 1896 mainly by margins of pronotum. *H. jakli* sp. n. with distinct margins through their entire length.

**Name derivation.** Dedicated to the collector of type material Stanislav Jákl.

***Hymenalia lalai* sp. n.**

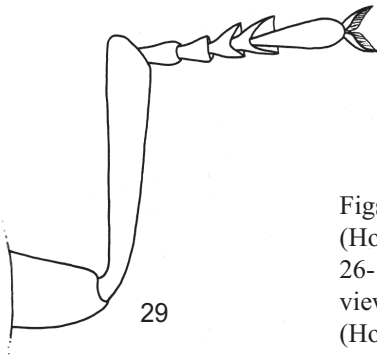
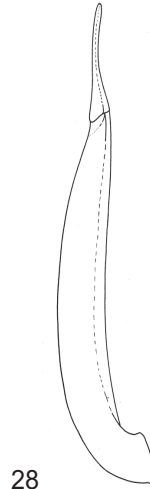
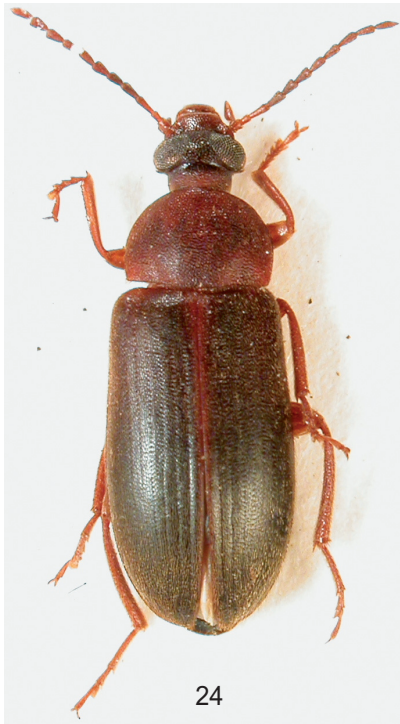
(Figs 24-29)

**Type material.** Holotype (♂) labelled: Loc. no. 229: S Iran, 30 km E Kazerun, 1300 m, 8.-10.vi.1973, Exp. Nat. Mus. Praha (NMPC). Paratypes: (6 ♂♂, 9 ♀♀): the same data as holotype (NMPC, VNPC); (1 ♂): Loc. no. 44: SW Iran, Dasht-e Arzhan (Shur), 5.vii.1970, Exp. Nat. Mus. Praha (NMPC, VNPC); (1 ♂, 3 ♀♀): Loc. no. 45: SW Iran, Kazerun, 5.-6.vii.1970, Exp. Nat. Mus. Praha (NMPC, VNPC); (1 ♀): Loc. no. 144: SE Iran, Sekand, 27 km ENE Sarbáz, 31.iii.-1.iv.1973, Exp. Nat. Mus. Praha (NMPC), (1 ♀): Loc. no. 157: SE Iran, Chasemabad, 10 km E Bampur (vall.), 11.-12.iv.1973, Exp. Nat. Mus. Praha (NMPC); (1 ♂, 2 ♀♀): Loc. no. 163: SE Iran, 30-45 km NNE Bazman, 14.iv.1973, Exp. Nat. Mus. Praha (NMPC, VNPC); (1 ♂, 3 ♀♀): Loc. no. 234: S Iran, Bishapur, Tangé Chogan, 1050-1200 m, 10.-11.vi.1973, Exp. Nat. Mus. Praha (NMPC, VNPC); (3 ♂♂, 1 ♀): Loc. no. 309: S Iran, Kanardan, 36 km E Gav Band, 23.-24.iv.1977, Exped. Nat. Mus. Praha (NMPC, VNPC); (1 ♂): IRAN, Húzestán prov., Simli, 31 91'31''N, 49 24'12''E, 300 m, 11.-12.x.1998, P. Kabátek leg., (1 ♂): IRAN, Húzestán prov., Choqa Zanbil, 32 00'42''N, 48 31'34''E, 70 m, 15.-16.x.1998, P. Kabátek leg.

**Description of holotype.** Body slightly longely elongately oval, from brown to blackish brown. Length 6.37 mm; 2.87 times longer than wide, widest at two thirds of elytral length.

Head (Fig. 25). Relatively small, colour brown. Eyes large, dark, transverse, deeply excised. Width across eyes approximately 0.63 of pronotal base width. Length of head (visible part) 1.15 mm. Head width (across eyes) 1.10 mm. Ratio L/W (length/maximum width) 1.04. Ocular index 21.90. Head with relatively sparse and short light setation, densely and shallowly punctuated; setation of clypeus somewhat longer.

Antennae (Fig. 26). All antennomeres slightly shining, with light setation, brown, antennomeres from first to third somewhat lighter. Antennomeres from fourth to tenth slightly serrate. Antennae relatively short, length 2.48 mm, reaching up only 0.39 of body length. Ratios of relative lengths of antennomeres from base to apex as follows: 0.50: 0.40: 1.00: 0.91: 0.76: 0.76: 0.79: 0.76: 0.86: 0.81: 1.13. Ratios L/W (length/maximum width) of



Figs 24-29. *Hymenalia lalai* sp. n.: 24- Habitus of male (Holotype); 25- Head and pronotum of male (Holotype); 26- Antennae of male (Holotype); 27- Aedeagus, dorsal view; 28- Aedeagus, lateral view; 29- Anterior tarsi of male (Holotype).

antennomeres from base to apex as follows: 1.44: 1.56: 3.03: 2.51: 1.88: 1.55: 1.94: 1.88: 1.89: 1.78: 3.58.

Maxillary palpus. Light brown, with short light setation, slightly shining, penultimate palpomere with a few longer light setae. Ultimate and penultimate palpomere distinctly broadest at apex, ultimate palpomere broadly triangular. Ratios of relative lengths of palpomeres from second to fourth ones from base to apex as follows: 1.33: 1.00: 2.67. Ratios L/W (length/maximum width) of palpomeres from second to fourth ones from base to apex as follows: 2.57: 1.13: 1.33.

Pronotum (Fig. 25). Brown, lighter than elytron, same colour as head, very slightly shining, more transverse, with sparse, short, light setation. At base 1.58 times wider than head with eyes together. Longest through the middle 1.20 mm; width at base 1.78 mm. Pronotal index 67.52. Base very slightly excised in outer third; against scutellum straight. Posterior angles roundly obtusely angled; margins complete, but very finely conspicuous, only in middle of apex not clearly conspicuous. Pronotum broadest near its half, then regularly rounded to apex. Anterior angles not conspicuous. Densely and shallowly punctuated, punctures large, interspaces very narrow, shining.

Ventral side of body. Abdomen five-segmented dark brown with sparser, short light setation and punctuation, punctures middle-sized, shallow and relatively dense, interspaces with fine microsculpture, slightly shining. Thorax distinctly lighter.

Elytron. Darker, blackish brown; scutellum, base of elytron and suture somewhat lighter, as colour as pronotum. With dense light setation, setae directed backwards. Length 3.91 mm; widest at about two third of its length, measured from base; at this place elytral width 2.22 mm. Ratio L/W (length/maximum width) 1.76. Rows of punctures in elytral striae clearly conspicuous. Elytral interspaces shallowly punctuated with microsculpture, clearly granulated, very slightly shining. Elytral epipleura as colour as elytron present with sparser light setation, regularly narrowed to first abdominal sternite, then parallel and becoming rounded apically.

Scutellum smaller, regularly broadly triangular.

Legs (Fig. 29). Shorter, universally brown, as colour as pronotum, entire legs covered in shorter, denser light setation. Femora relatively strong, tibia relatively narrow; narrowest at base, broadest at apex. Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.71: 0.68: 0.88: 1.88; mesotarsus: 1.00: 0.41: 0.32: 0.52: 0.92; metatarsus: 1.00: 0.36: 0.31: 0.56. Penultimate tarsomeres of each tarsus with membranous lobes. Ratios L/W (length/maximum width) of anterior tarsomeres from base to apex as follows: 2.07: 1.37: 1.06: 1.22: 4.18.

Both anterior tarsal claws with 10 visible teeth.

Aedeagus (Figs 27, 28). Light yellowish brown, relatively short, slightly shining. Basal piece laterally rounded, basal third strongly, dorsally regularly narrowed to apex. Apical piece strongly narrowed from base to narrow and rounded apex, longely triangular, dorsally flat. Ratio of length of apical piece to length of basal piece 1: 2.87.

Male (Figs 24-29). Both anterior tarsal claws with 10 visible teeth.

16 males: length 5.93 mm approximately (ranging from 4.87 to 7.17 mm); head length 1.00 mm approximately (ranging from 0.84 to 1.16 mm); head width 1.05 mm approximately (ranging from 0.83 to 1.34 mm). Ocular index 19.21 approximately (ranging from 14.22 to 23.04). Pronotal length (in middle) 1.14 mm approximately (ranging from 0.91 to 1.34 mm); pronotal width at base 1.64 mm approximately (ranging from 1.32 to 2.16 mm). Pronotal index 69.31 approximately (ranging from 66.50 to 72.99). Elytral length 3.79 mm approximately (ranging from 3.09 to 4.58 mm); elytral width 2.10 mm approximately (ranging from 1.68 to 2.57 mm).

Female. Both anterior tarsal claws with 6 visible teeth.

Ratios of relative lengths of antennomeres from base to apex as follows: 0.56: 0.49: 1.00: 0.92: 0.80: 0.83: 0.78: 0.91: 0.91: 0.94: 1.20.

Ratios L/W (length/maximum width) of antennomeres from base to apex as follows: 1.16: 1.25: 2.46: 1.74: 1.76: 1.83: 1.39: 1.61:1.57: 1.75: 2.33.

Ratios of relative lengths of tarsomeres from base to apex as follows: protarsus: 1.00: 0.61: 0.61: 0.70: 1.72; mesotarsus: 1.00: 0.40: 0.25: 0.31: 0.80; metatarsus: 1.00: 0.32: 0.29: 0.62.

20 females: length 6.13 mm approximately (ranging from 5.36 to 7.47 mm); head length 1.03 mm approximately (ranging from 0.85 to 1.20 mm); head width 1.07 mm approximately (ranging from 0.96 to 1.23 mm). Ocular index 21.14 approximately (ranging from 17.20 to 29.42). Pronotal length (in middle) 1.16 mm approximately (ranging from 0.99 to 1.31 mm); pronotal width at base 1.68 mm approximately (ranging from 1.43 to 2.03 mm). Pronotal index 68.88 approximately (ranging from 65.59 to 73.45). Elytral length 3.96 mm approximately (ranging from 3.51 to 4.82 mm); elytral width 2.16 mm approximately (ranging from 1.84 to 2.55 mm).

**Differential diagnosis.** (for details see the key above). *Hymenalia lalai* sp. n. clearly differs from related species *Hymenalia iranica* sp. nov. mainly by anterior tarsomeres (2-4) - their ratios of length/width, and by the shape of aedeagus. *H. lalai* sp. n. with tarsomeres distinctly more transverse.

**Name derivation.** Dedicated to my father Vladimír, named after his nickname Lála.

ACKNOWLEDGEMENTS. Sincere thanks are given to Josef Jelínek (NMPC) for loaning Iranian material of Alleculinae for study. I am also grateful to Stanislav Jákl and Petr Kabátek (both Prague) for their interesting material of Alleculinae from Oman, Yemen and Iran and Anthonius van Harten for new material of *Hymenalia denticulata* (Muche, 1982) comb. n. from United Arab Emirates. I wish to thank Olaf Jäger for loaning type material of *Hymenalia (Allecula) brignoli* (Muche, 1974) comb. n. and *Hymenalia (Prionychus) denticulata* (Muche, 1982) from Staatliches Museum für Tierkunde, Dresden, Germany. Special thanks are extended to Luboš Dembický (Brno, Czech Republic) for his digital photographs and to Zuzana Čadová for her wonderful drawings.

## REFERENCES

- BORCHMANN F. 1910: *Pars 3: Alleculidae*. Pp.: 1-80. In: JUNK W. & SCHENKLING S. (eds.): *Coleopterorum Catalogus*. Berlin: W. Junk, 80 pp.
- CAMPBELL J. M. 1965: A revision of the genus *Charisius* (Coleoptera: Alleculidae). *The Coleopterist's Bulletin* 19: 43-56.
- CAMPBELL J. M. & MARSHALL J. D. 1964: The ocular index and its application to the taxonomy of the Alleculidae (Coleoptera). *The Coleopterist's Bulletin* 18: 42.
- DUBROVINA M. I. 1975: A new subgenus and new species of pollen beetles of the genus *Hymenalia* Muls. (Coleoptera, Alleculidae) from Mongolia and from adjacent regions of China. *Nasekomye Mongolii* 3: 165-172.
- FAIRMAIRE L. 1866: [new taxa]. In: FAIRMAIRE L. & COQUEREL C.: *Essai sur les Coléoptères de Barbarie*. Quatrième partie. *Annales de la Société Entomologique de France* 6: 17-74.
- FAUST J. 1877: Beiträge zur Kenntniss der Käfer des Europäischen und Asiatischen Russlands mit Einschluss der Küsten des Kaspischen Meeres. *Horae Societatis Entomologicae Rossicae* 12: 300-330.

- HOBERLANDT L. 1974: Results of the Czechoslovak-Iranian entomological expedition to Iran 1970. *Acta Entomologica Musei Nationalis Pragae* Supplementum 6: 9-20.
- HOBERLANDT L. 1981: Results of the Czechoslovak-Iranian entomological expedition to Iran. Introduction to the Second expedition 1973. *Acta Entomologica Musei Nationalis Pragae* 40: 5-32.
- HOBERLANDT L. 1983: Results of the Czechoslovak-Iranian entomological expedition to Iran. Introduction to the Third expedition 1977. *Acta Entomologica Musei Nationalis Pragae* 41: 5-24.
- KIESENWETTER E. A. H. von 1861: Beiträge zur Käferfauna Griechenlands. Siebentes Stück: Tenebrionidae, Cistelidae, Lagriariae, Pedilidae, Anthicidae, Mordellonae, Meloidae, Oedemeridae. *Berliner Entomologische Zeitschrift* 5: 221-252.
- MADER L. 1924: *Alleculidae*. Pp.: 901-913. In: WINKLER A. (ed.): *Catalogus coleopterorum regionis palaearticae*. Wien: Winkler & Wagner, 1698 pp.
- MAŘAN J. 1935: De novis Alleculidarum speciebus formisque regionis palaearticae. *Sborník Entomologického oddělení Národního Muzea v Praze* (118) 13: 141-146.
- MUCHE W. H. 1974: Eine neue *Allecula* aus Anatolien (Coleoptera, Alleculidae). *Fragmenta Entomologica* 10: 210-222.
- MUCHE W. H. 1982: Insects of Saudi Arabia Coleoptera: Fam. Alleculidae. *Fauna of Saudi Arabia* 4: 116-123.
- MULSANT M. E. 1856: *Histoire naturelle des Coléoptères de France. Pectinipèdes*. Paris: L. Maisson, 96 pp.
- NOVÁK V. 2008: *Alleculinae*. In: LÖBL I. & SMETANA A. (eds.): *Catalogue of Palaearctic Coleoptera* 5. Apollo Books, Stenstrup, (in press).
- OBENBERGER J. 1917: II. Beitrag zur Kenntnis der palaearktischen Käferfauna. *Archiv für Naturgeschichte* 82: 9-45.
- PIC M. 1905: Coléoptères nouveaux Provenant de France, Grèce, Algérie et Turquie d'Asie. *L'Échange, Revue Linnéenne* 21: 161-163.
- PIC M. 1925: Notes diverses, descriptions et diagnoses. *L'Échange, Revue Linnéenne* 41: 1-3.
- SEIDLITZ G. C. M. von 1896: Alleculidae. Pp. 1-305. In: ERICHSON W. F. et al. (eds.): *Naturgeschichte der Insecten Deutschlands, I. Abt., Bd. 5, 2. Hälfte*. Berlin: Nicolaische Verlags-Buchhandlung R. Stricker, 305 pp.
- SOLIER M. 1935: Prodrôme de la famille des Xystropides. *Annales de la Société Entomologique de France* 4: 229-248.