

Orijinal araştırma (Original article)

**Systematic studies on the genus *Stenus* Latreille,
1796 (Coleoptera: Staphylinidae: Steninae)
species in Ankara province of Turkey¹**

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Summary

In this study, 17 species belonging to the genus *Stenus* Latreille, 1796 (Staphylinidae: Steninae) were determined in Ankara province. Examination material is composed of samples which were collected between May-September 2003, May-September 2008 and April-June 2009. 13 of these species are the first records for Ankara. Genitalia of 15 species, of which males found, were drawn in detail and according to references we have, genitalia of two species, *S. turbulentus* Bondroit, 1912 and *S. turcicus* Bernhauer, 1912, were drawn for the first time. Additionally, entire structure of median lobe of 3 species, *Stenus affaber* Baudi, 1848, *S. bicornis* Puthz, 1972a and *S. callidus* Baudi, 1848; sclerites and parameral setae of five species, *Stenus affaber* Baudi, 1848, *S. argutus* Puthz, 1972, *S. bicornis* Puthz, 1972, *S. callidus* Baudi, 1848 and *S. cordatooides* Puthz, 1972 and clasp structures of three species, *S. argutus* Puthz, 1972, *S. bicornis* Puthz, 1972 and *S. cordatooides* Puthz, 1972 were drawn for the first time. Furthermore, in this study male genital structure key was prepared for 15 species first time.

Key words: *Stenus*, Ankara, Turkey, systematic, male genital structure key

Anahtar Sözcükler: *Stenus*, Ankara, Türkiye, sistematik, erkek genital organ anahtarı

Introduction

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Up to the present, at least 2319 species of the genus *Stenus* have been described in the world Puthz (2008b). According to Herman's 2001 world catalogue, there are 1990 identified *Stenus* species. Studies about Steninae species are limited in Turkey. According to Anlaş's 2009 checklist, Staphylinids of Turkey, there are 117 species belonging to *Stenus* in Turkey. When studies about genus *Stenus* in Turkey evaluated with respect to regions, it could be seen that there are less studies made in Central Anatolian region, thereby in Ankara. Only three species, *S. callidus* Baudi, 1848, *S. maculiger* Weise 1875 and *S. nodipes* Puthz 1972, which have found in this study were recorded before from Ankara. Especially male genital structures of examined species were handled in detail and was evaluated whether the genital structure correspondence with morphologically determine subgenus or not.

Material, Method and Abbreviations

Examination material is composed of samples belonging to 17 species which were collected from Ankara between May-September 2003, May-September 2008 and April-June 2009. These species are: *Stenus affaber* Baudi, 1848, *S. argutus* Puthz, 1972, *S. bicornis* Puthz, 1972, *S. bosnicus* Bernhauer, 1909, *S. callidus* Baudi, 1848, *S. coarcticollis* Eppelsheim, 1890, *S. cordatoides* Puthz, 1972, *S. horioni* Puthz, 1971, *S. hospes* Erichson, 1840, *S. maculiger* Weise, 1875, *S. morio* Gravenhorst, 1806, *S. nodipes* Puthz, 1972, *S. pallitarsis abanticola* Puthz, 1972, *S. providus* Erichson, 1839, *S. similis* Herbst, 1784, *S. turbulentus* Bondroit, 1912 and *S. turcicus* Bernhauer, 1912.

Specimens were collected by aspirator, sifter and aerial net methods. Photographs of identified specimens were taken by Leica MZ-16 A Stereomicroscope. Nikon SMZ-U binocular microscope were used for drawings. Some species were identified and some identified species were checked by Dr. Volker Puthz. Male genitalia identification key of species were also prepared by means of male genital structures of 15 examined species. These specimens are deposited at personal collections.

Abbreviations: cl: clasp, cs: sclerites, ml: median lobe, pa: paramere

Results

Male Genitalia Identification Key of *Stenus* Species

- 1 Parameres longer than median lobe.....2
- Parameres shorter than median lobe5
- 2 Sclerites unified medially; inner margin of parameres with spoon like cavity on anterior.....3

- Sclerites get so close to each other in some parts, not unified; parameres not spoon like4
- 3 Sclerites Y-shaped, almost as long as 1/5 length of median lobe; apical margin of median lobe slightly convex (Figure 1-F)..... **S. nodipes**
- Sclerites collar shaped on posterior, almost as long as 1/2 length of median lobe; apical margin of median lobe slightly bifid (Figure 1-G)..... **S. providus**
- 4 Median lobe with tooth shaped process on lateral margins distally; clasps located behind sclerites anteriorly and π- shaped (Figure 1-B) .. **S. bicornis**
- Median lobe without process distally; clasps located behind sclerites posteriorly and butterfly shaped (Figure 1-E) **S. maculiger**
- 5 Apical of median lobe wide6
- Apical of median lobe thud-acute or acute7
- 6 Inner margins of parameres with spoon like cavity on anterior; median lobe without setae distally; sclerites reverse isosceles triangle shaped, not unified medially, almost as touching as each other; clasps located behind sclerites (Figure 1-A)..... **S. affaber**
- Inner margins of parameres straight on anterior; median lobe with setae distally; sclerites long, slightly concave, not unified medially, distantly separated; clasps located above sclerites (Figure 1-D) **S. callidus**
- 7 Sclerites gradually expanded from base through apical, forming a tusk like structure8
- Sclerites not expanded from base through apical, if expanded not forming a tusk like structure13
- 8 Sclerites unified at medial or medio-distal; clasps narrow, short stick shaped9
- Sclerites not unified; clasps not like above10
- 9 Spoon like cavity on anterior of the inner margin of parameres large, with dense short and long setae horizontally; sclerites unified at a point closed to medial (Figure 2-G)..... **S. turcicus**
- Spoon like cavity on anterior of the inner margin of parameres small, with rare-short setae transversely; sclerites unified on a point where close to distal (Figure 2-F)..... **S. hospes**
- 10 Anterior of inner margin of parameres straight; clasps H-shaped11
- Anterior of inner margin of parameres with a spoon like cavity, clasps r-shaped12

- 11 Basal margin of median lobe narrow and with a deep notch medially; sclerites almost as touching as each other (Figure 2-H) ***S. turbulentus***
- Basal margin of median lobe broad and straight; sclerites distinctly separated at medial (Figure 2-E) ***S. coarcticollis***
- 12 Parameres close to median lobe, slightly curved inwardly at anterior; sclerites distinctly curved at proximal; base of clasps sharp-acute, apex thud-acute (Figure 2-D)..... ***S. cordatoides***
- Parameres distant to median lobe, curved outwardly at anterior; sclerites slightly curved at proximal; basae of clasps thud-acute, apex sharp-acute (Figure 2-C)..... ***S. argutus***
- 13 Median lobe narrowed like finger anteriorly (Figure 1-C) ***S. bosnicus***
- Median lobe not narrowed like finger anteriorly 14
- 14 Sclerites expanded gradually from base through apical; clasps unified to each other behind sclerites; setae on distal of inner margin of parameres long (Figure 2-A)..... ***S. horioni***
- Sclerites sinuate from base through apical; clasps not unified; setae on distal of inner margin of parameres short (Figure 2-B)..... ***S. morio***

***Stenus affaber* Baudi, 1848**

Male Genitalia (Ventral view): Median lobe slightly longer than parameres, basal margin straight, lateral margin extended paralelly from proximal through medial, narrowed medio-distally, weakly narrowed from distal through apical, apex broad, slightly convex; parameres closed to median lobe, weakly narrowing from base through apical, with spoon like cavity at anterior, inner margin and apical with rare long and dense short setae; sclerites very closed to each other and reverse isosceles triangle shaped, not unified; clasps butterfly wing shaped, located at behind and anterior half of sclerites (Figure 1-A).

Material examined: Kalecik, 626 m, 40° 11' 56" N, 33° 34' 39" E, 05.VII.2003, 1 ♂, leg. N. Yanbuluğlu.

***Stenus argutus* Puthz, 1972**

Male Genitalia (Ventral view): Median lobe slightly longer than parameres, basal margin almost straight, lateral margin extending almost paralelly, strongly narrowed from distal to apical, apex thud-acute; parameres thin, curving outwardly at anterior, apical with rare short and 1-2 long setae; sclerites slightly extending outward, not unified, slightly curving outwardly at proximal; clasps r-shaped, basal thud-acute, apical sharp-acute, located in front of sclerites (Figure 2-C).

Material examined: Haymana, 1169 m, 39° 35' 13" N, 32° 33' 37" E, 28.V.2008, 1 ♂, leg. Y. Turan.

***Stenus bicornis* Puthz, 1972**

Male Genitalia (Ventral view): Median lobe shorter than parameres, basal margin concave, lateral margin gradually narrowing from proximal through distal, tooth shaped process at distal, distinctly and strongly narrowed through apical, apex narrow; parameres slightly extended outward, slightly swollen at anterior, with rare short and dense long setae at distal and very long two setae at apical; sclerites transversely located, very closed to each other at apical; clasps π-shaped and located at anterior of sclerites (Figure 1-B).

Material examined: Çamlıdere, 1102 m, 40° 27' 29" N, 32° 22' 41" E, 21.VI.2008, 12 ♂♂, leg. Y. Turan; Elmadağ, 815 m, 39° 49' 39" N, 33° 06' 38" E, 31.V.2009, 3 ♂♂, leg. Y. Turan; Lalahan, 1245 m, 39° 55' 02" N, 33° 08' 09" E, 30.V.2009, 3 ♂♂, leg. Y. Turan; Polatlı, 672 m, 39° 43' 33" N, 31° 56' 57" E, 28.IV.2009, 2 ♂♂, leg. Y. Turan.

***Stenus bosnicus* Bernhauer, 1909**

Male genitalia (Ventral view): Median lobe longer than parameres, basal margin slightly curved inwardly, lateral margin arched from base through medial, firstly narrowed at medio-distal, continued with a acute-shaped projection, strongly narrowed through apical, apical area finger-shapedly protruded; parameres almost parallelly located, with rare short and long setae at distal and one long setae at apical; sclerites slightly transverse and not unified, slightly narrowed from base through apical concavely (Figure 1-C).

Material examined: Ayaş, 1071 m, 40° 01' 43" N, 32° 22' 30" E, 29.V.2008, 1 ♂, leg. Y. Turan; Çubuk, 1138 m, 40° 18' 11" N, 32° 56' 52" E, 24.IV.2009, 1 ♂, leg. Y. Turan; Nallıhan, 1188 m, 40° 14' 18" N, 31° 15' 35" E, 26.IV.2009, 1 ♂, leg. Y. Turan.

***Stenus callidus* Baudi, 1848**

Male genitalia (Ventral view): Median lobe longer than parameres, basal margin straight, lateral margin broadest at proximal, gradually narrowed from proximal through medial, slightly narrowed and almost parallelly extended through distal, gradually narrowed through apical, apex broad, apical margin slightly arched; with short and rare long setae at distal, parameres thin, slightly extending outward, with rare long setae at inner margin and apical; sclerites long, slightly extended concavely, not unified; clasps separated from each other, located above sclerites (Figure 1-D).

Material examined: Çubuk, 1529 m, 40° 24' 39" N, 32° 54' 47" E, 16.VII.2003, 1 ♂, leg. N. Yanbuloğlu.

***Stenus coarcticollis* Eppelsheim, 1890**

Male genitalia (Ventral view): Median lobe slightly longer than parameres, basal margin straight and base broad, lateral margin curved from base through medial, slightly expanded distally, slightly curved through apical inwardly and narrowed distinctly, apical thud-acute; parameres slightly extended outward and expanded through apical, with rare short and 1-2 long setae between distal and apical; sclerites almost parallel, not unified, thinly from base through medial, distinctly thickened through apical and slightly curved outwardly; clasps H-shaped, much less shorter than sclerites and located in front of sclerites (Figure 2-E).

Material examined: Ayaş, 862 m, 40° 08' 33" N, 32° 20' 28" E, 29.V.2008, 1 ♂, leg. Y.Turan.

***Stenus cordatoides* Puthz, 1972**

Male genitalia (Ventral view): Median lobe slightly longer than parameres, basal margin almost straight, lateral margin, concave at medial, convex at anterior and posterior, distinctly narrowed from distal through apical, apex thud-acute; parameres closed to median lobe, curved at anterior, with rare long and short setae at apical; sclerites located parallelly and closed to each other, not unified, curved outward proximal; base of clasps sharp-acute, apical thud-acute, located in front of sclerites at posterior (Figure 2-D).

Material examined: Çubuk, 1264 m, 40° 15' 13" N, 32° 55' 24" E, 25.VI.2003, 1 ♂, leg. N. Yanbuloğlu; Çubuk, 1529 m, 40° 24' 39" N, 32° 54' 47" E, 16.VII.2003, 3 ♂♂, leg. N. Yanbuloğlu.

***Stenus horioni* Puthz, 1971**

Male genitalia (Ventral view): Median lobe slightly longer than parameres, basal margin straight, weakly concave medially, lateral margin slightly curved from proximal through medial, concave medially, slightly curved through medio-distal, distinctly narrowed through apical, apex narrow and thud-acute; parameres extended parallelly and closed to median lobe, inner margin with dense short and rare long setae between distal and apical; sclerites almost parallel, slightly expanded from base through apical, broadest and unified at apical; clasps separated and connected with membranous structure with each other behind sclerites (Figure 2-A).

Material examined: Nallıhan, 484 m, 40° 06' 55" N, 31° 37' 43" E, 14.V.2003, 1 ♂, leg. N. Yanbuloğlu.

***Stenus hospes* Erichson, 1840**

Male Genitalia (Ventral view): Median lobe longer than parameres, basal margin weakly sunken medially, lateral margin extending outwardly from base through medial, curved inwardly through distal, isosceles triangle-shaped between distal and apical, apex thud-acute; parameres closed to median lobe, slightly curved outward and expanded from distal through apical, small spoon shaped cavity at distal area, rare short setae existed above rare long setae at apical; sclerites unified beginning from medio-distal, slightly curved from base through medial, weakly expanded through apical; clasps rectangular and located at anterior of sclerites (Figure 2-F).

Material examined: Çubuk, 1264 m, 40° 15' 13" N, 32° 55' 24" E, 25.VI.2003, 1 ♂, leg. N. Yanbuloğlu.

***Stenus maculiger* Weise, 1875**

Male Genitalia (Ventral view): Median lobe shorter than parameres, basal margin concave, lateral margin gradually narrowed from proksimal through distal and distinctly through apical, apex narrow-acute; parameres slightly extended outward, slightly broadened at anterior half, between medio-distal and apical with rare short and long setae; sclerites almost parallel to each other and not unified, from base through apical extended slightly curving; clasps unified medially and butterfly like, located at posterior half and behind of sclerites (Figure 1-E).

Material examined: Beypazarı, 1407 m, 40° 17' 27" N, 31° 56' 47" E, 15.VI.2008, 1 ♂, leg. Y. Turan; Haymana, 1075 m, 39° 21' 38" N, 32° 26' 26" E, 29.V.2009, 1 ♂, leg. Y. Turan; Nallıhan, 1082 m, 40° 14' 08" N, 31° 07' 03" E, 17.VII.2003, 1 ♂, leg. N.Yanbuloğlu.

***Stenus morio* Gravenhorst, 1806**

Male Genitalia (Ventral view): Median lobe longer than parameres, basal margin straight, lateral margin arched between proksimal and medial, through distal extended parallelly, distinctly narrowed from distal through apical apex narrow-acute; parameres closed to median lobe and extended parallelly, inner margins concave medially, with rare short setae at distal and apical; sclerites long, almost parallel, narrowed at proksimal and medio-distal, broadest at apical and unified; clasps existed behind and at anterior half of sclerites (Figure 2-B).

Material examined: Nallıhan, 484 m, 40° 06' 55" N, 31° 37' 43" E, 14.V.2003, 1 ♂, leg. N. Yanbuloğlu.

***Stenus nodipes* Puthz, 1972**

Male Genitalia (Ventral view): Median lobe slightly shorter than parameres, basal margin slightly curved, lateral margin broadest at medio-proksimal, gradually narrowed through apical, apex broad and slightly curved parameres slightly extended outwardly, inner margin spoon like cavity at anterior, long setae dense, short setae rare; sclerites unified Y-shaped; butterfly like clasps existed behind of sclerites at distal (Figure 1-F).

Material examined: Beypazarı, 1539 m, 40° 20' 33" N, 32° 04' 45" E, 17.VI.2008, 1 ♂, leg. Y. Turan; Nallıhan, 1188 m, 40° 14' 18" N, 31° 15' 35" E, 26.IV.2009, 2 ♂♂, leg. Y. Turan.

***Stenus providus* Erichson, 1839**

Male Genitalia (Ventral view): Median lobe slightly shorter than parameres, basal margin almost straight, lateral margin broadest at proksimal, gradually narrowed through apical, apex broad, sunken medially, with long, short setae; parameres slightly extended outwardly, inner margin spoon like cavity at anterior, long, short setae dense; sclerites unified, posterior ends outwardly pointed extending through the margins of median lobe; clasps existed behind and anterior half of sclerites (Figure 1-G).

Material examined: Çubuk, 1244 m, 40° 14' 23" N, 32° 54' 49" E, 25.VI.2003, 1 ♂, leg. N. Yanbuloğlu.

***Stenus turbulentus* Bondroit, 1912**

Male Genitalia (Ventral view): Median lobe longer than parameres, basal margin deeply notched medially, base narrowed, lateral margin curved gradually expanded from base through medial, weakly narrowed medially, parallel through medio-distal, distinctly narrowed from medio-distal through distal, sunken finger like between distal and apical; parameres extended from basal through apical outwardly, slightly broadened at distal, with dense long and rare short setae at distal and apical; sclerites thin at base, expanded gradually and convexly through apical and not unified; clasps H-shaped, almost same length with sclerites and connected to each other in front of sclerites (Figure 2-H).

Material examined: Çubuk, 1244 m, 40° 14' 23" N, 32° 54' 49" E, 25.VI.2003, 1 ♂, leg. N. Yanbuloğlu.

***Stenus turcicus* Bernhauer, 1912**

Male Genitalia (Ventral view): Median lobe longer than parameres, basal margin slightly convex, lateral margin broadened slightly curved from

basal through prokso-medial, extended through medial, weakly broadened again through medio-distal, isosceles triangle shaped between distal and apical, apex broad, thud-acute; parameres like arched, thinned between medial and distal, large spoon like cavity at distal, short long setae extended horizontally; sclerites slightly curved from basal through medial, sclerites unified nearly to medial; clasps rectangular shaped and existed at medial of sclerites (Figure 2-G).

Material examined: Nallıhan, 1082 m, 40° 14' 08" N, 31° 07' 03" E, 17.VII.2003, 1 ♂, leg. N. Yanbuloğlu.

Discussion

In this study, 13 species, *Stenus affaber*, *Stenus argutus*, *Stenus bicornis*, *Stenus bosnicus*, *Stenus coarcticollis*, *Stenus cordatoides*, *Stenus horioni*, *Stenus hospes*, *Stenus morio*, *Stenus pallitarsis abanticola*, *Stenus providus*, *Stenus turcicus*, *Stenus turbulentus*, are the first records for Ankara. Looking at species belonging to *Stenus* (s. str.) subgenus, a common descriptive subgenus character couldn't be determined among male genitalia of examined species. It is seen that there are two groups formed; with *S. bicornis*, *S. maculiger*, *S. nodipes* and *S. providus* species in which parameres are longer than median lobe and with *S. bosnicus*, *S. affaber* and *S. callidus* species in which parameres are shorter than median lobe. *S. providus* is different from other species with apical margin of median lobe is sunken medially. Clasps are different in all species. *S. bosnicus*, *S. affaber* and *S. callidus* are compared by mentioned characters and following difference or similarities are found. *S. bosnicus* could be differentiated from *S. affaber* and *S. callidus* with the apex of median lobe being finger shapedly protruded while in *S. affaber* and *S. callidus* it is broad. *S. callidus* is differentiated from other species in *Stenus* (s. str.) in which clasps are above sclerites and broad. Anterior of median lobe and parameres of *S. bicornis* were drawn by Puthz (1972). Male genital structure of *S. bosnicus*, *S. maculiger* and *S. nodipes* were drawn by Puthz (1970), Assing (2005) and Bordoni (2004), respectively. Clasps and distal of median lobe of *S. callidus* were drawn by Puthz (2008a). Findings of our study about these species show correspondence with these studies.

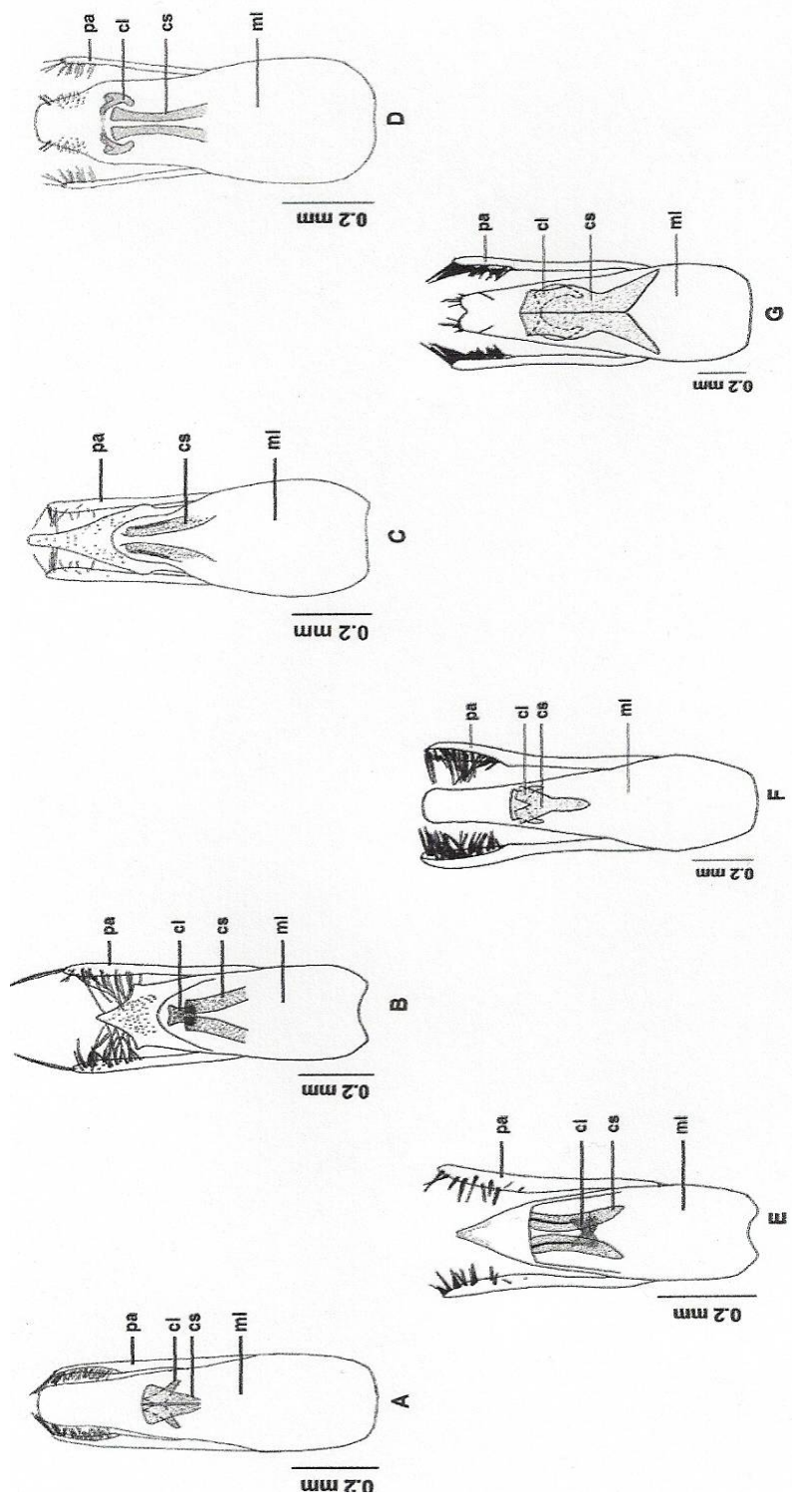


Figure 1. Aedeagus, ventral view: A. *Stenus affaber* Baudi, 1848, B. *Stenus bicornis* Puthz, 1972, C. *Stenus bosnicus* Bernhauer, 1909, D. *Stenus callidus* Baudi, 1848, E. *Stenus maculiger* Weise, 1875, F. *Stenus nodipes* Puthz, 1972, G. *Stenus providedus* Erichson, 1839.

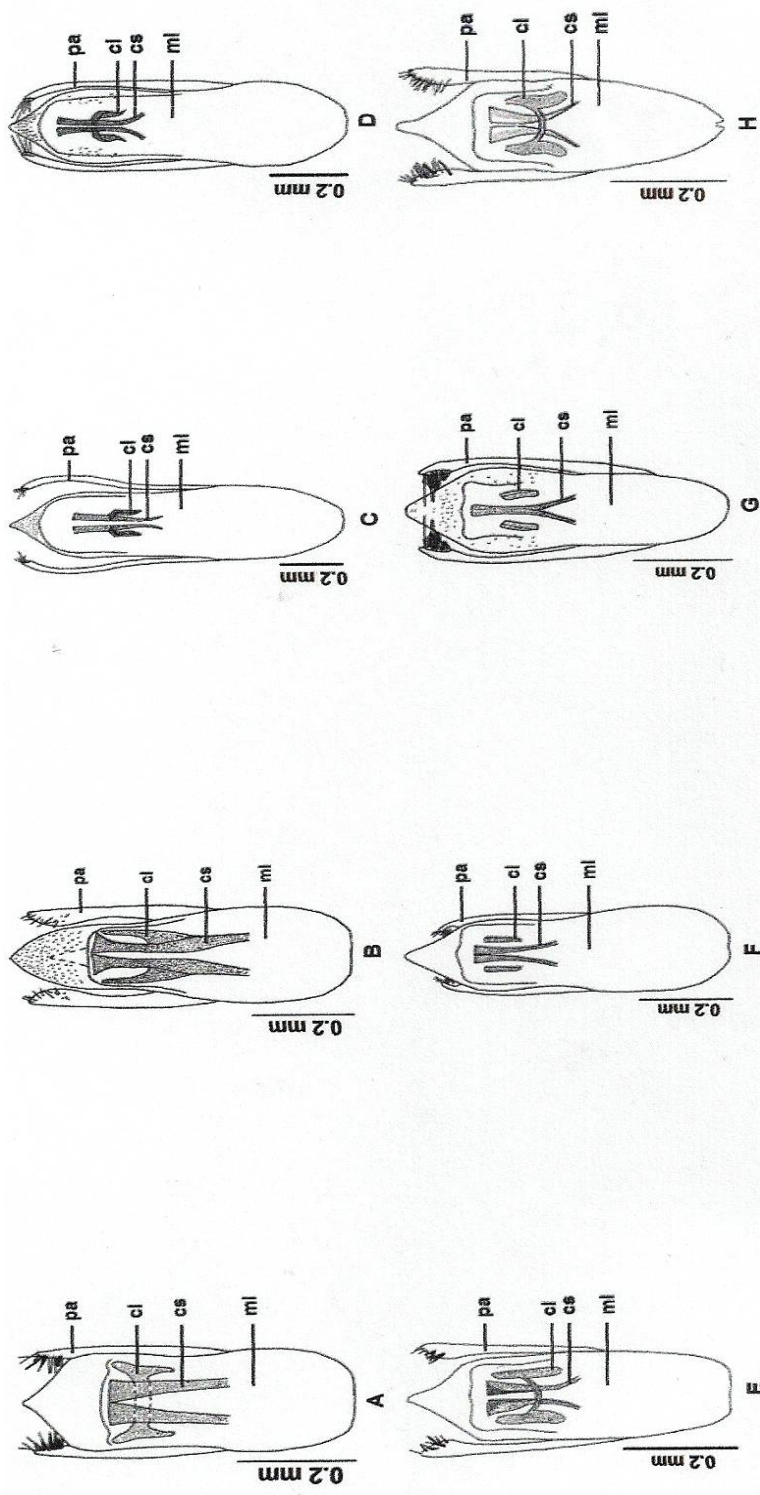


Figure 2. A. *Stenus horioni* Puthz, 1971, B. *Stenus morio* Gravenhorst, 1806, C. *Stenus argutus* Puthz, 1972, D. *Stenus cordatooides* Puthz, 1972, E. *Stenus coarcticolis* Eppelsheim, 1890, F. *Stenus hospes* Erichson, 1840, G. *Stenus turcicus* Bernhauer, 1912, H. *Stenus turbulentus* Bondroit, 1912.

In other subgenus *Nestus*, male genital structure of *Stenus horioni* and *S. morio* were examined. It's similar that parameres are shorter than median lobe and apex of median lobe is narrowed in two species. Clasps are different in two species. In *S. horioni* clasps are connected behind sclerites, while in *S. morio* they are located behind and at anterior half of sclerites. *S. horioni* were drawn by Puthz (1965 & 1971). Findings of our study about this species show correspondence with these studies.

Male genital structures of *Stenus cordatooides*, *S. argutus* and *S. coarcticollis* belonging to *Parastenus* subgenus were examined. *S. (Parastenus) cordatooides* and *S. argutus* species are closely related by having long and oval shaped median lobe and thin formed paramere. *S. coarcticollis* is differentiated by rectangular shaped median lobe and parameres distinctly broadened at distal with other two species. Location of parameres, length of setae and shapes of sclerites and clasps are the determined differences between *S. cordatooides* and *S. argutus*. *S. coarcticollis* is in partial similarity by the shape of sclerites with other two species, but it is differentiated by clasps having distinct H-shape. Median lobe and paramere structure of *S. argutus* and *S. cordatooides* were drawn by Puthz (1972b). Findings of our study about these species show correspondence with this study.

Parameres of *Stenus hospes*, *S. turcicus* and *S. turbulentus* belonging to *Hemistenus* subgenus are also shorter than median lobe. It is seen that *S. (hospes)* and *S. turcicus* species are closely related with the characters median lobe narrowing at anterior similarly, distal of paramere being spoon shaped and the structures of clasps, with respect to *S. turbulentus*. Median lobe being finger shapedly protruded from distal and not having a cavity on distal of paramere are determined as important differences in *S. turbulentus*. This species is also different from other two species with sclerites distinctly broadened from base through apical. *S. hospes* and *S. turcicus*, which are seen more closely related, are separated with differences in joints of sclerites. *S. turbulentus* is differentiated from other two species by H-shaped clasps. Male genital structure of *S. hospes* were drawn by Bordoni (2004). Median lobe structure, parameres and clasp structures in our study are correspondent with findings of Bordoni's study, but sclerites are unified from medio-distal in our study, as they are separated from each other in Bordoni's study (2004).

Undoubtedly, with this study it's impossible to make interpretations about genus with male genital structures of 15 examined species. On the other hand, with the acquired data this study allows us to make pre assessments.

In this study, it is evaluated that whether subgenus taxons which are constituted by means of morphologic structures are in correspondence with

male genital structure or not. According to species, which examined in terms of the shape of median lobe and parameres, no distinctive subgenus character is determined. However, sclerites are partially different among subgenus. 6 species belonging to *Hemistenus* and *Parastenus* are closely related with sclerites forming tusk like structure and being gradually broadened from base through apical.

Consequently, according to median lobe and paramere structure of male genitalia which diversifies mostly at species level, a descriptive subgenus character/characters could not be determined with respect to present data. For this reason, the male genitalia identification key of species is prepared at genera level. Evaluations should be carefully handled, as the study was made with less amount of species. With extensive studies and using diverse methods in the future, more reliable results would possibly be obtained.

Özet

Ankara ili *Stenus* Latreille, 1796 (Coleoptera: Staphylinidae: Steninae) cinsi türleri üzerinde sistematik çalışmalar

Bu çalışmada Ankara ilinde *Stenus* Latreille, 1796 (Staphylinidae: Steninae) cinsine ait 17 tür tespit edilmiştir. Araştırma materyalini, 2003 Mayıs-Eylül, 2008 Mayıs-Eylül ve 2009 Nisan-Haziran ayları arasında toplanmış örnekler oluşturmaktadır. Bu türlerden 13'ü Ankara ili için ilk kayıt olma özelliği taşımaktadır. Erkek birey bulunan 15 türün genital organ yapıları ayrıntılı olarak çizilirken, elde mevcut literatüre göre 2 türün (*S. turbulentus* Bondroit, 1912 and *S. turcicus* Bernhauer, 1912) genitelyası ilk defa çizilmiştir. Ayrıca 3 türün, *Stenus affaber* Baudi, 1848, *S. bicornis* Puthz, 1972 and *S. callidus* Baudi, 1848, median lob yapısının tümü; 5 türün *Stenus affaber* Baudi, 1848, *S. argutus* Puthz, 1972, *S. bicornis* Puthz, 1972, *S. callidus* Baudi, 1848 and *S. cordatooides* Puthz, 1972 kitinize skleritleri ile paramer kılları ve 3 türün de, *S. argutus* Puthz, 1972, *S. bicornis* Puthz, 1972 and *S. cordatooides* Puthz, 1972, toka yapıları ilk defa çizilmiştir. Ayrıca bu çalışmada 15 tür için ilk defa erkek genital organ anahtarı hazırlanmıştır.

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References

- Anlaş, S., 2009. Distributional checklist of the Staphylinidae (Coleoptera) of Turkey, with new and additional records. **Linzer biologische Beiträge**, **41** (1): 215-342.
- Assing, V., 2005. On the taxonomy and biogeography of *Stenus* (s. str.) *erythrocnemus* Eppelsheim and related species (Insecta: Coleoptera: Staphylinidae). **Bonner zoologische Beiträge**, **53**: 303-310.
- Bordoni, A., 2004. Atlante degli edeagi degli *Stenus* della fauna italiana (Coleoptera Staphylinidae). **Bollettino della Società Entomologica Italiana**, **136** (2): 101-140.
- Herman, L. H., 2001. Catalog of the Staphylinidae (Insecta: Coleoptera). 1758 to the end of the second millennium Volumes I-VII. **Bulletin of The American Museum of Natural History**, **265**: 1-4218.
- Puthz, V., 1965. Nomenklatorische, systematische u. faunistische Bemerkungen über paläarktische Steninen (Col., Staphylinidae). 6. Beitrag zur Kenntnis der Steninen. – **Mitteilungen der Deutschen Entomologischen Gesellschaft**, **24**: 25–30.
- Puthz, V., 1970. *Stenus* (s. str.) *anatolicus* nov. spec. aus der Türkei (Coleoptera, Staphylinidae) 87. Beitrag zur Kenntnis der Steninen. **Mitteilungen der Deutschen Entomologischen Gesellschaft**, **29**: 22-24.
- Puthz, V., 1971. Kritische Faunistik der bisher aus Mitteleuropa bekannten *Stenus*-Arten nebst systematischen Bemerkungen und Neubeschreibungen (Coleoptera, Staphylinidae). 80. Beitrag zur Kenntnis der Steninen. **Entomologische Blätter für Biologie und Systematik der Käfer**, **67** (2): 74–121.
- Puthz, V., 1972a. Zur Staphylinidenfauna Des Balkans: Die Bisher Aus Jugoslawien Und Angrenzenden Landern Bekannten Steninen (Coleoptera, Staphylinidae), 123. Beitrag zur Kenntnis der Steninen. **Wissenschaftliche Mitteilungen des Bosnisch – herzegovinischen Landesmuseums**, **C II**: 167-179.
- Puthz, V., 1972b. Zur Staphylinidenfauna Des Balkans: Die Bisher Aus Jugoslawien Und Angrenzenden Landern Bekannten Steninen (Coleoptera, Staphylinidae), 83. Beitrag zur Kenntnis der Steninen. **Wissenschaftliche Mitteilungen des Bosnisch – herzegovinischen Landesmuseums**, **C I**: 239-292.
- Puthz, V., 2008a. *Stenus* Latreille und die segenreiche Himmelstochter (Coleoptera, Staphylinidae). **Linzer biologische Beiträge**, **40** (1): 137-230,
- Puthz, V., 2008b. Six new *Stenus* species of the *cirrus* group (Coleoptera, Staphylinidae) from China with a key to species of the group. **Zootaxa**, **1745**: 1–18.