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Two new species of *Thrypticus* Gerstäcker from Turkey (Diptera, Dolichopodidae), with checklist and key to Palaearctic species

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Abstract

*Thrypticus caeruleus* Naglis & Negrobov sp. nov. and *T. kechevi* Naglis & Negrobov sp. nov. are newly described from Turkey. *Thrypticus viridis* Parent is redescribed and the hypopygium is figured in detail. A revised checklist and key to males of Palaearctic species of the genus *Thrypticus* Gerstäcker including 26 valid species are provided. *Thrypticus paludicola* Negrobov is restored from synonymy with *T. intercedens* Negrobov based on hypopygial differences. *Thrypticus tonsus* Negrobov is regarded as new synonym of *T. subtilis* Negrobov.

Key words: Dolichopodidae, *Thrypticus*, Palaearctic, new species, checklist, key

Introduction

The genus *Thrypticus* Gerstäcker comprises 26 valid species in the Palaearctic Region including the herein newly described species. The latest comprehensive taxonomic work on the Palaearctic species of *Thrypticus* is the revision of the subfamily Medeterinae by Negrobov & Stackelberg (1971–77). Since then two new Palaearctic species of *Thrypticus* have been described: *T. aphroditus* Negrobov & Tsurikov, 1986, and *T. mongoliensis* Negrobov, Selivanova & Maslova, 2019.

The larvae of Palaearctic *Thrypticus* species are plant-miners on Monocotyledons, especially on *Phragmites australis* (Cav.) and *Juncus* sp. (Dyte 1993). Some Neotropical species have been reared from rather soft petioles and stems of Pontederiaceae, especially on *Eichhornia* Kunth and *Pontederia* L., and were studied as potential biological control agents of water hyacinths (Bickel & Hernandez 2004). Females of *Thrypticus* possess a strongly sclerotized, blade-like oviscapt for piercing and ovipositing into plant tissue, a biological behaviour which is unique in the family.

Two new species of *Thrypticus* are herein described and a checklist of Palaearctic *Thrypticus* is provided, including a new synonym and one reinstated species. In addition, a revised key to the Palaearctic species is provided.

Material and methods

The material of the new species was collected by M. Barták and S. Kubík and deposited in the collection of Czech University of Life Sciences Prague (CULSP). The type specimen of *T. viridis* Parent was borrowed from the Senckenberg Deutsches Entomologisches Institut, Müncheberg (SEDI).

The key to males is based primarily on Negrobov & Stackelberg (1971–77), but includes all subsequently and herein newly described species or species removed through synonymy. The checklist includes all known Palaearctic species. All taxonomic and nomenclatorial changes have been considered and errors have been corrected. For each species the original combination with year of publication and page number is provided. Synonyms are listed in
chronological order. Distributional data is mainly according to Yang et al. (2006) and Grichanov (2020) if not otherwise indicated. Countries are listed in alphabetical order, and the distribution in zoogeographical regions outside the Palaearctic is also given.

Body length is measured from the base of the antennae to the tip of abdominal segment 6; wing length from wing base to wing apex. The positions of features on elongate structures such as leg segments are given as a fraction of the total length, starting from the base. The following ratios are used: relative podomere ratios: femur/tibia/tarsomere 1:2:3:4:5; length of crossvein dm-cu to distal section of CuA (= CuAx ratio); distance between veins R_{2,3} and R_{4,5} to distance between R_{4,5} and M at costal margin (= RMx ratio). In describing the hypopygium, dorsal and ventral refer to the position prior to rotation and flexion; i.e., in figures the top is morphologically ventral and bottom is dorsal. Morphological terminology follows McAlpine (1981) except for the male hypopygium where terms of Cumming et al. (1995) and Sinclair (2000) are used.

Unlike many other dolichopodid genera, males of Thrypticus have few secondary sexual characters, and the examination of the male genitalia is usually necessary for reliable identification.

Morphological abbreviations are as follows: ac = acrostichal setae; ad = anterodorsal; dc = dorsocentral setae; ppl = proepisternal seta; pv = posteroventral.

In Negrobov & Stackelberg (1971–77) some different terms of the male genitalia and wing veins are used. For a simplified comparison we give here both terminologies (Table 1).

**TABLE 1.** Morphologic terminology used in the present paper and in Negrobov & Stackelberg (1971–77).

| Morphologic terminology used in the present work | Morphologic terminology used in Negrobov & Stackelberg (1971–77) |
|--------------------------------------------------|---------------------------------------------------------------------|
| surstylus                                         | Gonopoden                                                           |
| epandrial lobes                                    | Surstyli                                                            |
| M                                                 | M_{1,2}                                                             |
| CuA                                              | M_{3,4}                                                             |

**Descriptions of new species**

**Thrypticus caeruleus** Naglis & Negrobov sp. nov.
(Figs 1–2)

**Type material.** HOLOTYPE ♂: Turkey, 8 km S of Cine, river bank, 68 m, 10–12.ix.2014, 37°32′34″N, 28°03′46″E, Barták & Kubíc (CULSP). PARATYPE: 1 ♂, Turkey, Akyaka, pasture, 4 m, 37°03′08.9″N, 28°20′17.4″E, 16–22.ix.2012, Barták & Kubíc (CULSP).

**Diagnosis.** Antennae black, thorax and abdomen shiny blue-violet, with yellow setae; legs dark with yellow knees; mid tibia without ad seta; scutellum with only 2 strong marginal setae; cercus yellow; surstylus slender, yellow with black apex.

**Description.** Male. Body length (holotype): 1.7 mm, wing length 1.3 mm. **Head:** frons shiny metallic green, with blue reflections and weak brown pruinosity; face shiny blue, with violet reflections and weak grey pruinosity; palpus dark brown, with small brown setae; proboscis brown; antennal segments black; postpedicel roundish, as long as high; arista apical, with microscopic pubescence; postocular setae yellowish-white. **Thorax:** mesonotum metallic bluish green, with violet reflections and weak grey pruinosity; thoracic setae light yellow; 5 pairs of strong dc; 6–7 pairs of short ac; scutellum with 2 strong marginal setae, without lateral setae; 1 small yellow ppl; pleura concolorous with mesonotum. **Legs:** coxae and femora shiny metallic green with violet reflections, apical 1/4 of femora and knees yellow, fore and mid tibiae and tarsomeres yellowish-brown, hind tibia and tarsomeres dark brown, setae and hairs yellow except as noted. Fore leg: coxa anteriorly with small hairs and strong apical setae; remaining leg without major setae; relative podomere ratios: 32/34/16:9:5:4:3. Mid leg: coxa with some small anterior and 2 strong anterolateral setae; femur with strong posterior preapical seta; tibia with 1 strong apical posterior seta; relative podomere ratios: 34/35/20:10:6:4:4. Hind leg: coxa with 2 strong lateral setae; tibia with 1 small posterior apical seta; relative podomere ratios: 39/47/14:16:9:5:5. **Wing:** hyaline, veins light brown; basal section of M shorter than distal section; R_{4,5} and M parallel; M joining costa posteriori of apex; CuAx ratio: 0.4; RMx ratio: 2.6;
lower calypter yellowish white, with pale yellow setae; halter stem brown, knob yellowish white. **Abdomen:** shiny metallic blue, with violet reflections, with pale yellow hairs and setae; tergite 8 dark brown. Hypopygium (Figs 2A, B, C): epandrium dark brown with blue reflections; cercus yellow, as long as surstylus, with small apical projection; surstylus yellow, with black apex, long and slender, parallel sided, with strong ventral and 3 small subapical setae, hypandrium black in basal half, yellow in apical half, with ventral notch; phallus slender; epandrial lobes fused, of different lengths, each bearing strong apical seta. **Female:** unknown.

**Etymology.** The name of the new species refers to its blue shiny thorax and abdomen.

**FIGURE 1.** Thrypticus caeruleus Naglis & Negrobov, sp. nov. A, habitus, left lateral; B, postabdomen, left lateral.
Remarks. Using the key in Negrobov & Stackelberg (1971–77), the new species runs to *T. nigricauda* Wood, but can be distinguished by the characters given in the key below. The male genitalia resemble that of *T. divisus* (Fig. 8B) but the new species is lacking an ad seta on the mid tibia and the apex of the surstylus is almost triangular and without notches.

![Diagram](image-url)
**Thrypticus kechevi** Naglis & Negrobov sp. nov.

Type material. **HOLOTYPE ♂**: Turkey, Akyaka, pasture, 4 m, 37°03′09″N, 28°20′17″E, 23–27.ix.2012, Barták & Kubíc (CULSP). **PARATYPE**: 1 ♂, same data as holotype (CULSP).

**Diagnosis.** Antennal scape and pedicel yellow, postpedicel black, thorax and abdomen shiny metallic green, with yellow setae; legs entirely yellow; mid tibia with strong ad seta; scutellum with 2 strong marginal setae and 2 smaller lateral setae; surstylus and cercus yellow.

**FIGURE 3. Thrypticus kechevi** Naglis & Negrobov, sp. nov. A, habitus, left lateral; B, head; C, wing, D, postabdomen, left lateral.

**Description. Male.** Body length (holotype): 1.8 mm, wing length 1.7 mm. **Head:** frons shiny metallic green, with blue reflections and weak grey pruinosity; face shiny blue, with violet reflections and dense grey pruinosity; palpus dark brown, with strong yellow setae; proboscis brown; antennal scape and pedicel yellow, postpedicel black, yellow on lateral side, roundish, as long as high; arista apical, with microscopic pubescence; postocular setae yellowish white. **Thorax:** mesonotum metallic green, with blue reflections and dense grey pruinosity; thoracic setae light yellow; 5 pairs of strong dc; 6–7 pairs of short ac; scutellum with 2 strong marginal setae, with 2 small lateral setae; 1 strong yellow ppl; pleura concolorous with mesonotum. **Legs:** coxae yellow, basal half brownish, remaining legs yellow, except tarsomere 5 brown, setae and hairs yellow except as noted. Fore leg: coxa anteriorly with small hairs and strong apical setae; remaining leg without major setae; relative podomere ratios: 32/31/16:7:5:3:4. Mid leg: coxa with some small anterior and 2 strong anterolateral setae; femur with 1 strong posterior preapical seta; tibia with 1 strong brown ad seta at 1/4 and 1 strong brown apical posterior seta; relative podomere ratios: 40/38/20:13:8:5:4. Hind leg: coxa with 2 strong lateral setae; tibia with ventral row of short erect setae and 1 small posterior apical seta; relative podomere ratios: 42/48/10:16:10:5:4. **Wing:** hyaline, veins light brown; basal section
of M shorter than distal section; R₄+₅ and M parallel; M joining costa at apex; CuAx ratio: 0.3; RMx ratio: 2.0; lower calypter yellowish white, with pale yellow setae; halter stem brown infuscated, knob yellowish white. **Abdomen:** shiny metallic green, with blue reflections, with pale yellow hairs and setae; tergite 8 light brown. Hypopygium (Figs 4A, B, C): epandrium dark brown with green reflections; cercus yellow, longer than surstylus, with long, slender apical projection; surstylus yellow, long and slender, parallel-sided, with 1 strong, yellow inwards curved ventral seta and 4 smaller apical setae; hypandrium black in basal half, yellow in apical half, asymmetric; phallus with broadened, flattened apex; epandrial lobes fused, of different length, each bearing strong apical seta. **Female:** unknown.

**Etymology.** The new species is dedicated to the Bulgarian dipterist, Mihail Kechev.

**Remarks.** Using the key in Negrobov & Stackelberg (1971–77), the new species runs to *T. viridis* Parent, but can be distinguished by the characters given in the key below. The new species shows some similarity in the hypopygial characters with *T. pruinosus* (Fig. 9C) (see Remarks under that species) having a cercus with a strong apical projection, but the shape and chaetotaxy of the surstylus is quite different.

**FIGURE 4.** *Thrypticus kechevi* Naglis & Negrobov, sp. nov. **A**, hypopygium apical part, left lateral; **B**, hypopygium, left lateral; **C**, hypopygium, ventral. (Scale bar = 0.1 mm).

**Redescription of Thrypticus viridis Parent, 1932**

(FIG. 5)

**Type material.** HOLOTYPE ♂, labelled: “Thrypticus viridis Par. n. sp. O. Parent Type [white label, handwritten]”; “Berlin Grünewald, 20.6.12 [handwritten] [white label]”; “coll. Oldenberg [white label]”; “Typus [red label]”; “Holoitypus [red label]”; “DEI Müncheberg Dip – 00819 [green label]”; “Gen. Prep. No. SN2020-13 det. S. Naglis 2020 [white label]” (SDEI). Genitalia originally dissected and imbedded in Canada Balsam; now placed in plastic tube filled with glycerin jelly.

**Diagnosis.** Antennal scape yellow, pedicel partly yellow, postpedicel black, thorax and abdomen shiny metallic green, with yellow setae; legs entirely yellow; mid tibia with strong ad seta; scutellum with 2 strong marginal setae and 2 smaller lateral setae; surstylus and cercus yellow.

**Redescription. Male.** Body length: genitalia dissected, wing length 2.3 mm. **Head:** frons shiny metallic green, with blue reflections, face shiny blue, with violet reflections, both with weak grey pruinosity; palpus dark brown,
with strong yellow apical seta; proboscis brown; antenna with scape yellow, pedicel yellow with brown apical margin, postpedicel black, roundish, as long as high; arista apical, with microscopic pubescence; all postocular setae yellowish white. **Thorax:** mesonotum metallic green, with grey pruinosity; thoracic setae dark yellow; 5 pairs of strong dc (increasing in length towards scutellum); 7–9 pairs of short ac; scutellum with 2 strong marginal setae, with 2 smaller lateral setae; 2 strong yellow ppl; pleura concolorous (incl. pruinosity) with mesonotum. **Legs:** coxae yellow, basal half brownish, remaining legs yellow, except tarsomere 5 brown, setae and hairs yellow except as noted. Fore leg: coxa anteriorly with small hairs and strong apical setae; remaining leg without major setae; relative podomere ratios: 37/30/13:7:5:3:4. Mid leg: coxa with some small setae; femur without major setae; tibia with 1 strong, brown ad seta at basal 1/4; relative podomere ratios (tarsomeres 2–5 missing): 37/38/18. Hind leg: coxa with 2 strong lateral setae; remaining part of leg missing. **Wing:** hyaline, veins brown; basal section of M shorter than distal section; R_{4+5} and M parallel; M joining costa at apex; CuAx ratio: 0.35; RMx ratio: 2.7; lower calypter yellowish white, with pale yellow setae; halter stem brown infuscated, knob yellow. **Abdomen:** shiny metallic green, with pale yellow hairs and setae. **Hypopygium** (Fig. 5): hypandrium with flattened, leaf-shaped apex; epandrial lobes fused, each with long seta of same length; cercus as long as surstylus, with obtuse apex; surstylus yellow, curved, pyriform, with 1 strong, yellow, inwardly curved ventral seta and 2 smaller apical setae.

**FIGURE 5.** *Thrypticus viridis* Parent holotype, hypopygium apical part, left lateral. (Scale bar = 0.1 mm).

**Checklist of Palaearctic species of Thrypticus**

**altaicus** Negrobov

*Thrypticus altaicus* Negrobov, in Negrobov & Stackelberg, 1971: 254.

**Distribution.** Russia (Siberia Krasnoyarsk Territory, Altay).
**aphroditus** Negrobov & Tsurikov

*Thrypticus aphroditus* Negrobov & Tsurikov, 1986: 15.

**Distribution.** Russia (Siberia, Krasnoyarsk Territory).

**atomus** Frey

*Thrypticus atomus* Frey, 1915: 47.

**Distribution.** Austria, Belgium, Czech Republic, Finland, Hungary, Latvia, Netherlands, Russia (European part, Leningrad region, Siberia, Yakutia), Sweden.

**bellus** Loew

*Thrypticus bellus* Loew, 1869: 303.

*Thrypticus minus* Vanschuytbroek, 1951: 96.

*Thrypticus fennicus* Vanschuytbroek, 1951: 95.

**Distribution.** Palaearctic: Abkhazia, Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, China, Croatia, Czech Republic, Denmark, Egypt, England, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan (Negrobov et al. 2019), Lithuania, Morocco, Netherlands, Poland, Portugal (Pollet et al. 2019), Romania, Russia (from European part to Primorje), Slovakia, Spain, Sweden, Switzerland, Tajikistan (Negrobov et al. 2019), Turkey, Ukraine, Uzbekistan (Negrobov et al. 2019). Afrotropical: DR Congo, Kenya, Ethiopia, Senegal, South Africa, St. Helena, Tanzania.

**caeruleus** Naglis & Negrobov sp. nov.

**Distribution.** Turkey.

**cuneatus** (Becker)

*Submedeterus cuneatus* Becker, 1917: 361.

**Distribution.** Czech Republic, England, Finland, Hungary, Kazakhstan, Norway, Portugal (Pollet et al. 2019), Romania, Russia (European part, Karelia, Voronezh and Leningrad region), Sweden.

**divisus** (Strobl)

*Chrysotus divisus* Strobl, 1880: 58.

*Thrypticus crassiseta* Oldenberg, 1916: 191.

*Thrypticus fennicus* Becker, 1917: 356. Kahanpää & Grichanov (2004) (synonym).

**Distribution.** Austria, Belgium, England, Finland, France, Germany, Ireland (Chandler et al. 2016), Kazakhstan, Russia (European part, Leningrad region), Sweden, Yugoslavia.

**emiliae** Negrobov

*Thrypticus emiliae* Negrobov, in Negrobov & Stackelberg, 1971: 258.

**Distribution.** Mongolia (Negrobov et al. 2019), Russia (Siberia, Yakutia, Altay).

**incanus** Negrobov

*Thrypticus incanus* Negrobov, 1967: 905.

**Distribution.** Russia (European part, Leningrad region).

**intercedens** Negrobov

*Thrypticus intercedens* Negrobov, 1967: 906.

**Distribution.** Finland, France, Mongolia (Negrobov et al. 2019), Norway, Russia (European part, Yaroslav region, Siberia, Sayan Mountains, Yakutia, Khanty-Mansi autonomous region), Sweden, Turkey.

**kechevi** Naglis & Negrobov sp. nov.

**Distribution.** Turkey.
Laetus Verrall
Thrypticus laetus Verrall, 1912: 144.

**Distribution.** Austria, Czech Republic, England, Finland, France, Germany, Russia (European part, Leningrad, Ryazan and Voronezh region), Sweden.

Mongoliensis Negrobov, Selivanova & Maslova
Thrypticus mongoliensis Negrobov, Selivanova & Maslova, 2019: 401.

**Distribution.** Mongolia.

Nigricaluda Wood
Thrypticus nigricaluda Wood, 1913: 268.

**Distribution.** Austria, England, Finland, France, Germany, Hungary, Norway, Portugal (Pollet et al. 2019), Russia (European part, Leningrad region, Siberia, Yakutia), Sweden.

Paludicola Negrobov stat. rev.
Thrypticus paludicola Negrobov, in Negrobov & Stackelberg, 1971: 252.

**Distribution.** Germany, Iran, Russia.

**Remarks.** Jonassen (1990) synonymized T. paludicola with T. intercedens. We herewith restore T. paludicola from synonymy based on reliable differences in the hypopygial and other characters as given in the key.

Politus Negrobov
Thrypticus politus Negrobov, 1967: 904.

**Distribution.** Kazakhstan, Mongolia (Negrobov et al. 2019), Russia (European part, Leningrad region), Ukraine (Kherson region).

Pollinosus Verrall
Thrypticus pollinosus Verrall, 1912: 59.

**Distribution.** China, England, Finland, France, Germany, Netherlands, Russia (European part, Leningrad and Voronezh region), Sweden.

Pruinosus Parent
Thrypticus pruinosus Parent, 1932: 226.

**Distribution.** Belgium, Finland, Sweden.

**Remarks.** The species described in Negrobov & Stackelberg (1971) probably represents a different species and the examination of the type is necessary for confirmation. Unfortunately this is beyond the scope of this study and only the Negrobov & Stackelberg defined species is included in the key below.

Riparius Negrobov
Thrypticus riparius Negrobov, in Negrobov & Stackelberg, 1971: 264 (female only).

**Distribution.** Russia (Far East, Primorye).

Smaragdinus Gerstäcker
Thrypticus smaragdinus Gerstäcker, 1864: 44.

**Distribution.** Austria, Belgium, Croatia, Czech Republic, England, Finland, France, Germany, Hungary, Israel, Netherlands, Russia (Krasnodar Territory), Sweden, Switzerland (Naglis & Bernasconi 2014), Ukraine (Kher son region).

Subtilis Negrobov
Thrypticus subtilis Negrobov, in Negrobov & Stackelberg, 1971: 253.

**Distribution.** Kazakhstan (Karaganda region).

**Remarks.** Thrypticus subtilis was erroneously described as T. tonsus in Negrobov & Stackelberg (1972: 266)
**tarsalis Parent**

*Thrypticus tarsalis* Parent, 1932: 225.

**Distribution.** Belgium, England, Finland (Kahanpää 2006), Netherlands, Norway, Russia (European part, Leningrad region), Sweden.

**tsacasi Negrobov**

*Thrypticus tsacasi* Negrobov, in Negrobov & Stackelberg, 1971: 253.

**Distribution.** Russia (Siberia, Amur region).

**vestitus Negrobov**

*Thrypticus vestitus* Negrobov, in Negrobov & Stackelberg, 1971: 252.

**Distribution.** Kazakhstan (Akmolinsr region).

**virescens Negrobov**

*Thrypticus virescens* Negrobov, 1967: 906.

**Distribution.** Russia (European part, Leningrad and Voronezh region), north Caucasus.

**viridis Parent**

*Thrypticus viridis* Parent, 1932: 224.

**Distribution.** France, Germany, Israel, Netherlands, Turkey.

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**Key to males of Palaearctic species of *Thrypticus***

*Thrypticus riparius* Negrobov, 1971 was described based on a female, but has been tentatively included in the key based on the known female characters. *Thrypticus pruinosus* Parent is included in the key in the sense of Negrobov & Stackelberg (1971) but the species probably represents a different species.

1. Scutellum with 6–8 strong marginal setae; hypandrium without swelling or notch; surstylus with numerous strong setae; hypopygium Fig. 6A. .......................................................... **smaragdinus** Gerstäcker
   - Scutellum with 2 strong marginal setae, sometimes with 2 additional small lateral setae; surstylus not as above; hypandrium usually with swelling or notch .............................................. 2
2. Scutellum with 2 small lateral setae in addition to the strong marginal setae; tibiae usually yellow ................................. 3
   - Scutellum without small lateral setae in addition to the strong marginal setae; tibiae usually dark (tibiae yellowish in *T. politus*, *T. riparius* and *T. virescens*) .......................................................... 12
3. Femora mainly yellow ......................................................... 4
   - Femora mainly dark .......................................................... 7
4. At least antennal scape yellow .............................................. 5
   - Antenna entirely black ........................................................ 6
5. Antennal scape yellow, pedicel partly brown; cercus as long as surstylus, without projection; surstylus curved, pyriform, without apicodorsal notch; hypopygium Fig. 5. .......................................................... **viridis** Parent
   - Antennal scape and pedicel yellow; cercus longer than surstylus, with slender projection; surstylus straight, parallel-sided, with apicodorsal notch; hypopygium Figs 4A, B, C .................................................. **kechevi** sp. nov.
6. Surstylus straight, with 6 setae and hairs at apex; hypopygium Fig. 6C. .......................................................... **atomus** Frey
   - Surstylus curved, with more than 40 setae and hairs; hypopygium Fig. 6D. .......................................................... **mongoliensis** Negrobov, Selivanova & Maslova
7. Antennal scape and pedicel yellow; hypopygium Fig. 6E. .......................................................... **aphroditus** Negrobov & Tsurikov
   - Antennal segments entirely dark ............................................. 8
8. Surstylus entirely yellow; surstylus slender and parallel-sided; hypopygium Fig. 6F. .......................................................... **incanus** Negrobov
   - Surstylus with black apex ...................................................... 9
9. Apical setae of epandrial lobes on almost same level; surstylus apically pointed; hypopygium Fig. 7A. .......................................................... **poliniosus** Verrall
   - Apical setae of epandrial lobes on different levels; surstylus apically rounded .......................................................... 10
10. Surstylus apically pointed in ventral view, with small teeth; hypopygium Fig. 7B. .......................................................... **vestitus** Negrobov
   - Surstylus apically rounded in ventral view, without small teeth .......................................................... 11
11. Femora entirely metallic green, surstylus mainly black; phallus apicoventrally with triangular projection; hypopygium Fig. 7C. .......................................................... **intercedens** Negrobov
   - Femora metallic green and apical ¼ yellow; surstylus only black in apical part; phallus apicoventrally with finger-like projection; hypopygium Fig. 7D. .......................................................... **paludicola** Negrobov
TWO NEW SPECIES OF *THRYPTICUS* GERSTÄCKER FROM TURKEY

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### FIGURE 6. *Thrypticus* species, hypopygia left lateral. A, *T. smaragdinus* Gerstäcker; B, *T. viridis* Parent; C, *T. atomus* Frey; D, *T. mongoliensis* Negrobov, Selivanova & Maslova; E, *T. aphroditus* Negrobov & Tsurikov; F, *T. incanus* Negrobov. (Figs A-C, F from Negrobov & Stackelberg (1971–77); Fig. D from Negrobov et al. (2019); Fig. E from Negrobov & Tsurikov (1986)).

12. Tip of arista white; legs entirely yellow; basal antennal segments yellow (male unknown) .................. *riparius* Negrobov
- Arista entirely black; legs partly dark; antennal segments usually black ......................................... 13
13. Fore tibia ventrally with thin apical seta, longer than diameter of tibia; fore basitarsus with 1 ventral and 1 apical seta, twice as long as diameter of tarsomere; legs black, knees dark brown; surstylus and cercus black; hypopygium Fig. 7E .......................... *emiliae* Negrobov
- Fore tibia and tarsomeres lacking setae as above; knees usually yellow (except *T. cuneatus* and *T. nigricauda*) ........................................... 14
14. Mid tibia without ad seta at basal third ................................................................................... 15
- Mid tibia with ad seta at basal third .......................................................................................... 17
15. Wing shape cuneiform, R<sub>4+5</sub> and M diverging, basal section of CuA longer than distal section (Fig. 9F); hypopygium Fig. 7F . .......................................................................................................................... *cuneatus* Becker
- Wing shape ovate, R<sub>4+5</sub> and M parallel; basal section of CuA shorter than distal section ........ 16
16. Thorax and abdomen shiny metallic green; surstylus and cercus black; surstylus at middle three times as broad as basally; hypopygium Fig. 8A ........................................................................... *nigricauda* Wood
- Thorax and abdomen shiny metallic blue violet; surstylus and cercus yellow; surstylus at middle as broad as basally; hypopygium Figs 2A, B, C .......................... *caeruleus* sp. nov.
17. Arista pubescent, almost uniformly thickened throughout its length; clypeus about as high as broad; surstylus slender, apically broadened, with several apical protrusions; hypopygium Fig. 8B .................................................. *divisus* Strobl
- Arista almost bare, thin; clypeus considerably higher than broad ............................................. 18
18. Veins R<sub>4+5</sub> and M distally diverging; surstylus apically with pointed protrusion; hypopygium Fig. 8C .......................... *laetus* Verrall
- Veins R<sub>4+5</sub> and M distally parallel ................................................................................... 19
19. Surstylus and cercus mainly dark; ventral margin of surstylus almost straight ............................ 20
- Surstylus and cercus mainly yellow; ventral margin of surstylus distinctly bowed.
- Surstylus apicolaterally curved in almost right angle in ventral view; hypopygium Fig. 8D
  - *Thrypticus altaicus* Negrobov
- Surstylus apicolaterally rounded in ventral view; hypopygium Fig. 8E
  - *Thrypticus virescens* Negrobov
- Surstylus more than twice as long as wide in ventral view
- Surstylus at most twice as long as wide in ventral view
- Surstylus apically with strong U-shaped excavation; cercus with slender apical projection; hypopygium Fig. 8F
  - *Thrypticus politus* Negrobov
- Surstylus apically without strong U-shaped excavation.

**FIGURE 7.** *Thrypticus* species, hypopygia; A, C, D, E F: left lateral; B: ventral. A, *T. pollinosus* Verrall; B, *T. vestitus* Negrobov; C, *T. intercedens* Negrobov; D, *T. paludicola* Negrobov; E, *T. emiliae* Negrobov; F, *T. cuneatus* Becker. (Figs from Negrobov & Stackelberg (1971–77)).

23 Surstylus with lateral margin parallel in ventral view; inner and outer setae of epandrial lobes crossing each other in ventral view; hypopygium Fig. 9A
  - *Thrypticus subtilis* Negrobov
- Surstylus with lateral margin curved in ventral view; inner and outer setae of epandrial lobes divergent in ventral view hypopy-
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FIGURE 9. *Thrypticus* species, A–E: hypopygia, left lateral; F: wing. A, *T. subtilis* Negrobov; B, *T. tarsalis* Parent; C, *T. pruniosus* Parent sensu Negrobov & Stackelberg; D, *T. bellus* Loew; E, *T. tsacasi* Negrobov; F, *T. cuneatus* Becker. (Figs from Negrobov & Stackelberg (1971–77)).

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