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Seven new species of dance flies of the subgenus *Polyblepharis* Bezzi, 1909 (Diptera: Empididae) from Mongolia and East Siberia

Семь новых видов мух-толкунчиков подрода *Polyblepharis* Bezzi, 1909 (Diptera: Empididae) из Монголии и Восточной Сибири

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КЛЮЧЕВЫЕ СЛОВА. Diptera, Empididae, *Empis*, новые виды, Монголия, Россия.

ABSTRACT. Seven new species of the subgenus *Polyblepharis* Bezzi, 1909 of the genus *Empis* Linnaeus, 1758 are described from Mongolia and the East Siberia of Russia: *Empis* (*Polyblepharis*) *bylyrensis* **sp.n.** (Russia (Buryatia, Zabaykalskiy Territory)); *E*. (*P*.) *mongolica* **sp.n.** (Mongolia); *E*. (*P*.) *subcurta* **sp.n.** (Mongolia); *E*. (*P*.) *subdepilis* **sp.n.** (Mongolia, Russia (Amurskaya Province, Buryatia, Zabaykalskiy Territory)); *E*. (*P*.) *subhaemi* **sp.n.** (Mongolia, Russia (Zabaykalskiy Territory)); *E*. (*P*.) *subtransbaicalica* **sp.n.** (Mongolia, Russia (Buryatia, Irkutskaya Province, Yakutia)); *E*. (*P*.) *tuvinica* **sp.n.** (Russia (Tuva)). The subgenus *Polyblepharis* is recorded for the first time from Mongolia.

РЕЗЮМЕ. Семь новых видов подрода *Polyblepharis* Bezzi, 1909 рода *Empis* Linnaeus, 1758 описываются из Монголии и Восточной Сибири России: *Empis* (*Polyblepharis*) *bylyrensis* **sp.n.** (Россия (Бурятия, Забайкальский край)); *E*. (*P*.) *mongolica* **sp.n.** (Монголия); *E*. (*P*.) *subcurta* **sp.n.** (Монголия); *E*. (*P*.) *subdepilis* **sp.n.** (Монголия, Россия (Амурская область, Бурятия, Забайкальский край)); *E*. (*P*.) *subhaemi* **sp.n.** (Монголия, Россия (Забайкальский край)); *E*. (*P*.) *subtransbaicalica* **sp.n.** (Монголия, Россия (Бурятия, Иркутская область, Якутия)); *E*. (*P*.) *tuvinica* **sp.n.** (Россия (Тува)). Подрод *Polyblepharis* указывается впервые из Монголии.

Introduction

The subgenus *Polyblepharis* Bezzi, 1909 (with *E. albicans* Meigen, 1822 as type species) is one of the largest subgenera of the genus *Empis* Linnaeus, 1758 comprising 93 species distributed in the Holarctic (Palaearctic — 86 species, Nearctic — 7 species) [Shamshev, 2023a, 2023b]. Species of *Polyblepharis* prefer open areas and the subgenus is especially diverse in warm steppe or forest-steppe biotopes of the Asiatic part of the Palaearctic [Chvála, 1999]. Totally, 25 species of *Polyblepharis* are currently known from the East Asia: China — 1, Japan — 3, Mongolia — 0, Russia — 21 [Chvála, 1999; Shamshev, 2016, 2018, 2019; Yang *et al*., 2010]. However, many new species remain undescribed. The present paper includes the descriptions of seven new species of the subgenus *Polyblepharis*, which were collected from Mongolia as well as from the Eastern Siberia and the Far East of Russia. Therefore, now *Polyblepharis* comprises 100 species, of which 93 species are recorded in the Palaearctic.

Material and Methods

This study is based on material deposited in the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZISP), the Canadian National Collection of Insects, Ottawa, Canada (CNC) and Department of Entomology, the Academy of Natural Sciences, Philadelphia, Pennsylvania, USA (ANSP). The photographs were taken using a Canon EOS 11 40D camera using a Canon MP-E 65 mm objective, with multiple layers combined using the Helicon Focus 5.3.14 software. To facilitate observations, the terminalia were macerated in cold 10% KOH, then immersed for a short period in 85% lactic acid and viewed in glycerine. Terms used for adult structures follow those of Cumming & Wood [2017]. Label data for primary types are cited in full with original spelling, punctuation, and date. Label lines are delimited by a slash (/) and the data from each label are separated by two slashes (//).

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Additional information to label data (e.g., current name of an old place name, affiliation to a present-day country, geographical coordinates, English translations, etc.) is included in square [ ] brackets. Secondary type data are abridged. The repository of specimens is given in parentheses (ZISP, when omitted). Male body length was measured from antennal base to the tip of genitalia and female body length from base of antennae to the tip of cerci. Thoracic setae are counted on one side of the body (except scutellars).

Taxonomic account

Class Insecta Linnaeus, 1758
Order Diptera Linnaeus, 1758
Suborder Brachycera Macquart, 1834
Superfamily Empidoidea Latreille, 1804
Family Empididae Latreille, 1804
Genus *Empis* Linnaeus, 1758
Subgenus *Polyblepharis* Bezzi, 1909

Empis (*Polyblepharis*) *bylyrensis* Shamshev, **sp.n.**
Figs 1–5.

TYPE MATERIAL. Holotype, male, labelled [in Cyrillic, Russian]: Bylyra [49°41′N 111°43′E, RUSSIA], Chit. obl. [=Chitinskaya oblast, now Zabaykalskiy Territory] / step. skl. [=stepnoy sklon, steppe slope] i kolki [and small forest] / V. Richter 20 vi 975 (ZISP, INS_DIP_0000631; dissected).

Paratypes. RUSSIA, Buryatia: Khamney, right shore of Dzhida River, 28.vi.1971, V. Richter (2 ♀♀, ZISP). Zabaykalskiy Terr.: Kyra, forest-steppe, 17.vi.1975, V. Richter (1 ♀, ZISP).

DIAGNOSIS. Mid-sized species (body about 5.5 mm); all femora bearing rows of anteroventral and posteroventral spines, all tibiae with row of anteroventral spinules; mesoscutum with 4 vittae. Male: eyes holoptic, almost touching on middle part of frons. Female: eyes dichoptic, separated by broad frons.

DESCRIPTION. Body nearly 5.5 mm, wing 4.8–5 mm. **Male**. Head capsule regions mostly densely greyish pruinose; face on lower margin and entire clypeus shiny; head setation mostly black. Eyes almost touching on middle part of frons, upper ommatidia enlarged. Frons represented by small subtriangular spaces below ocellar triangle and above antennae; bare. Face broad, bare. Two short, fine ocellar setae. Occiput with numerous moderately long setae laterally; postocular setae very short (upper setae somewhat stronger); postgena with pale hair-like setae. Antenna with scape and pedicel brown, postpedicel and stylus black; scape slightly longer than subglobular pedicel, both with very short setulae; postpedicel nearly 2X as long as basal width, with gently concave subapical part of lower margin; stylus moderately long, slightly longer than postpedicel basal width. Proboscis with labrum brownish yellow, nearly 1.5X longer than eye height; palpus short, pale yellow; with scattered, dark and pale setulae.

Thorax black in ground-colour, densely greyish pruinose; mostly black setose; mesoscutum with 4 brown distinct vittae. Antepronotum with 4–5 black, strong setae dorsally and pale, hair-like setae laterally. Postpronotal lobe with 1 long and several short setae. Proepisternum with 5–6 black, strong and more numerous pale, hair-like setae on lower part. Prosternum bare. Mesonotal chaetotaxy reduced: acrostichal setae present in presutural part only, arranged in 2 close irregular rows, scattered, very short; dorsocentrals uniserial, very short (including prescutellars); 1 short presutural intra-alar, 1 similar presutural supra-alar, 3 long, strong notopleurals (sometimes 1 or 2 on one side), no postsutural supra-alar seta(e), 1 long and 1 minute postalars, 4 short scutellars (apical setae longer and stronger); notopleuron with scattered black and pale setulae anteriorly. Laterotergite with 3–4 strong, black and more numerous, hair-like, pale setae. Anterior and posterior spiracles yellow.

Legs with coxae densely greyish pruinose, remaining podomeres subshiny; mostly black setose. Leg colour: mostly yellow to dusky yellow; coxae, trochanters at apex, most part of fore femur (except extreme base and about apical third) and tarsomeres brownish (tarsomere 1 and basal part of tarsomere 2 sometimes paler). Fore coxa with scattered, strong, black setae and pale setulae anteriorly. All femora without whitish pilosity ventrally. All femora bearing rows of anteroventral and posteroventral spines: fore femur in about apical 1/2; mid femur in about apical 3/4; hind femur in about apical 2/3. In addition, all femora almost bare in lower half anteriorly; hind femur bearing 1 short anterior seta close to apex. Hind femur rather slender, only slightly broader than fore and mid femora. All tibiae lacking outstanding setae, only some anterodorsal and posterodorsal setulae slightly longer; fore tibia bearing row of anteroventral spinule-lake setae in about apical 1/2; mid and hind tibiae with almost complete row of similar anteroventral spinules (except close to base). Hind tibia rather slender; no seta in posteroapical comb. Hind basitarsus slightly thickened basally, becoming gently narrow towards apex (not broader than hind tibia at apex); remaining tarsomeres of all legs slender; fore and hind basitarsi with short, spinulae-like setae ventrally.

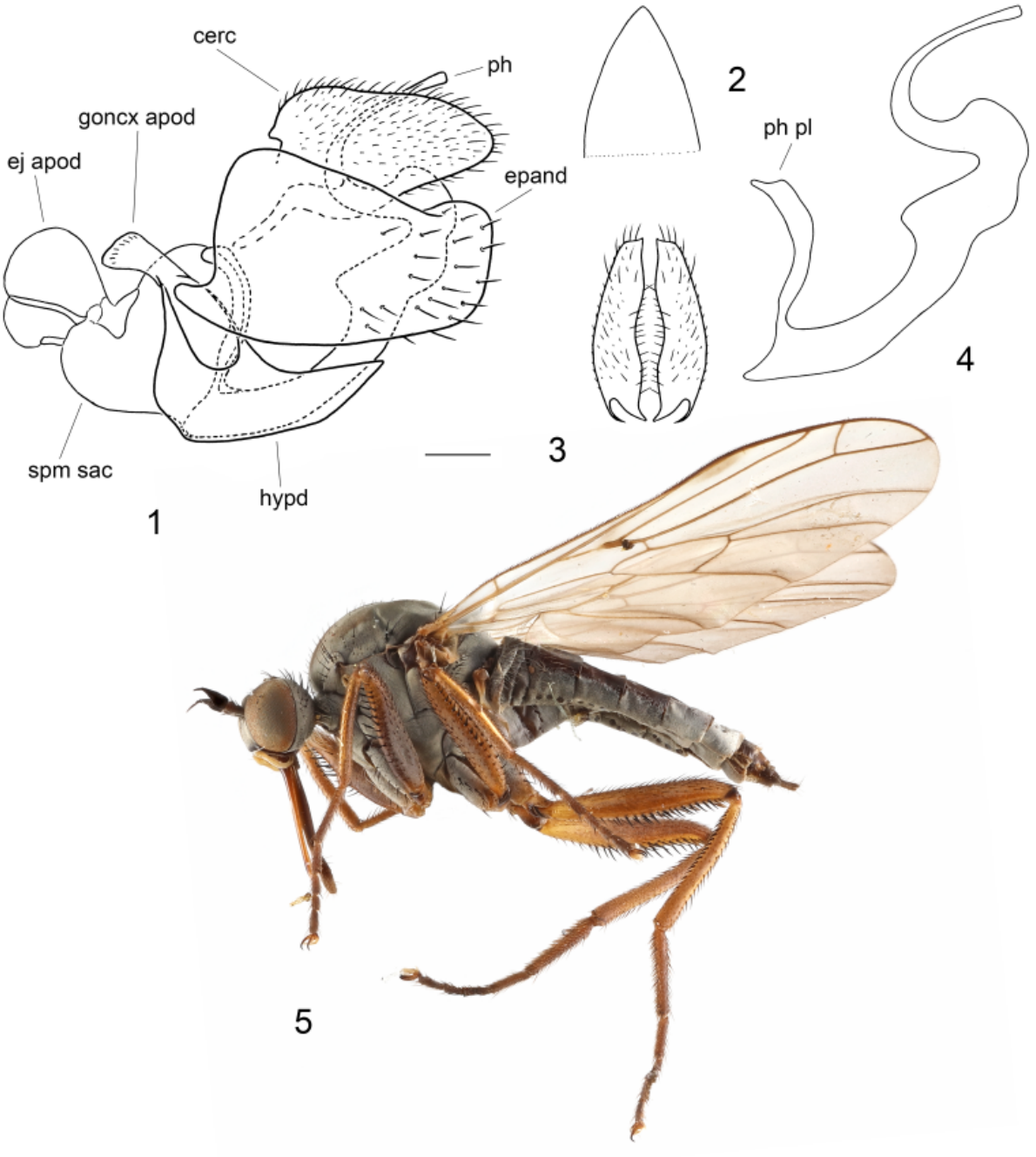
Wing membrane hyaline; entirely covered with microtrichia; veins mostly brownish (brownish yellow near extreme base), well-sclerotized. Veins R_5 and M_1 slightly divergent towards wing margin; radial fork acute; R_5 meeting costa before wing apex; CuA+CuP complete. Cell dm moderately large, with moderately elongate apex; apical portion of M_4 nearly 2X longer than its middle portion. Pterostigma brownish yellow. Basal costal seta absent. Anal lobe well-developed; axillary incision very acute. Squama yellow, pale fringed. Halter with yellow stalk and brownish knob.

Abdomen entirely brown in ground colour; tergites extensively shiny dorsally, narrowly densely greyish pruinose laterally; sternites densely greyish pruinose. Abdominal tergites covered with scattered minute setulae dorsally, tergites 1–3 bearing long, fine, pale setae laterally, with additional fine, brownish to black setae (including posteromarginals; also present on remaining tergites); sternites with scattered pale setulae. Pregenital segments: segments 6 and 7 unmodified; segment 8 with separated tergite and sternite; tergite 8 represented by two sclerites separated mid-dorsally, with several short setae posteriorly; sternite 8 somewhat enlarged, without prominent projections.

Hypopygium (Figs 1–4) moderately large; epandrium and cerci black; epandrial lamella with short, black, rather sparse setae in apical part; cercus covered with dark setulae. Epandrium entirely broadly divided (epandrial bridge absent); epandrial lamella (Fig. 1) rather subrectangular (lateral view), slightly narrower at apex. Hypandrium (Fig. 2) separated from epandrium; subtriangular in ventral view, with pointed apex, bare; gonocoxal apodeme small. Cerci (Figs 1, 3) separated with each other and from epandrium; cercus elongate ovate (lateral view), with apex extending to level of epandrial lamella apex, without lobe-like, dorsolateral projection at basal part (dorsal view), with smoothed inner margin. Phallus (Fig. 4) almost entirely hidden; zigzag bent, not constricted beyond middle; almost uniformly thickened (ventral and dorsal tuber-

cles present beyond middle) and gently arcuate between basal curvature and apical bend portion; apical bend portion semicircular (its tip pointing to rear), moderately long, mostly slender (except slightly thickened extreme base). Ejaculatory apodeme small, situated far beyond basal curvature of phallus, with lateral wings; sperm sac enlarged.

Female (Fig. 5). Similar to male except as follows. Frons broad, with marginal setulae. Occiput and proepisternum with



Figs 1–5. *Empis* (*Polyblepharis*) *bylyrensis* Shamshev, **sp.n.**: 1–4 — male, holotype: 1 — hypopygium, lateral view; 2 — hypandrium, ventral view; 3 — cerci, dorsal view; 4 — phallus, lateral view; 5 — female, habitus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; goncx apod — gonocoxal apodeme; hypd — hypandrium; ph — phallus; ph pl — phallic plate; spm sac — sperm sac. Scale bar is 0.1 mm.

Рис. 1–5. *Empis* (*Polyblepharis*) *bylyrensis* Shamshev, **sp.n.**: 1–4 — самец, голотип: 1 — гипопигий, вид сбоку; 2 — гипандрий, вид снизу; 3 — церки, вид снизу; 4 — фаллус, вид сбоку; 5 — самка, габитус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; goncx apod — гонококсальная аподема; hypd — гипандрий; ph — фаллус; ph pl — пластина фаллуса; spm sac — сперматозоидный мешок. Масштаб 0,1 мм.

slightly shorter setae. Hind femur with row of short (slightly shorter than posteroventral spines), pennate setae just behind row of posteroventral spines in about apical half; hind tibia with fringe of short, slightly flattened posteroventral setae in about apical half. Abdomen covered with scattered, pale setulae (tergites 1–2 with longer setae laterally); mostly densely greyish pruinose; tergites 2–5 extensively shiny dorsally and pruinose laterally; in addition, tergite 2 pruinose narrowly anteriorly and tergite 5 broader posteriorly; tergite 6 mostly pruinose, narrowly shiny anteriorly (shiny space hidden by tergite 5); tergite 7 and segment 8 mostly shiny; cercus long, slender, covered with dark minute setulae.

DIFFERENTIAL DIAGNOSIS. The new species differs from all species assigned to *Polyblepharis* by an armature of tibiae and femora of both sexes. In *E. bylyrensis* **sp.n.** all femora bear rows of anteroventral and posteroventral spines as well as all tibiae possess a row of anteroventral spinules. In addition, the abdominal sternite 8 of the male of the new species lacks prominent projections (usually present in species of *Polyblepharis*). The shape of the phallus may suggest close relationships with *E. subtransbaicalica* **sp.n.** described herein. In addition to the characters noted above, *E. bylyrensis* **sp.n.** differs from *E. subtransbaicalica* **sp.n.** by brown knob of the halter and by very short mesonotal setae.

ETYMOLOGY. The epithet refers to the type locality of the new species, Bylyra.

DISTRIBUTION. Russia (Buryatia, Zabaykalskiy Territory).

Empis (*Polyblepharis*) *mongolica* Shamshev, **sp.n.**
Figs 6–9.

TYPE MATERIAL. Holotype, ♂, labelled [in Cyrillic, Russian]: Mongolia, G.-Alt. aym. [=Gobi-Altayskiy aymak, now Govi-Altai aymag (province)], / Khasagt-Khayrkhan Ridge / 15 km S Dzhargalan / 14.viii.[1]970 Zaitzev (ZISP, INS_DIP_0000628).

Paratypes. MONGOLIA. Govi-Altai aymag: same locality as holotype, 14.viii.1970 Nartshuk (1 ♂). Bayankhongor aymag: southern slope of Ikh-Bogdo-Ul, N Bayan-Gobi, 2200–2700 m, 7–8.viii.1969 Zaitzev (1 ♂, ZISP; dissected).

DIAGNOSIS. Mid-sized species (body length about 6 mm); male eyes holoptic; palpus yellow; mesoscutum with 3 indistinct, brownish vittae; acrostichal and dorsocentral setae multiserial, pale in presutural part, laterotergite with pale setae; fore and mid legs mostly brownish, hind leg mostly brownish yellow; wing hyaline; abdominal tergites 2–5 in lateral view uniformly brownish pruinose; hypopygium large.

DESCRIPTION. Body length 6.0–6.3 mm, wing 5.7–5.8 mm. **Male** (Fig. 6). Head capsule regions mostly densely greyish pruinose; face on lower margin and entire clypeus shiny. Holoptic, upper ommatidia enlarged. Frons represented by very small subtriangular space just below ocellar triangle and larger space above antennae; bare. Face broad, bare (in one paratype 1 setula present just below antennae). Ocellar triangle with several moderately long, mostly pale (1–2 brownish to black setae usually present), fine setae; ocellars undifferentiated. Occiput mostly with numerous, pale, hair-like setae, bearing moderately long, strong, black setae dorsally; postoculars moderately long, fine, black and pale on upper part, very short laterally; postgena with pale hair-like setae. Antenna with scape and pedicel brown, postpedicel and stylus black; scape slightly longer than subglobular pedicel, both with very short setulae; postpedicel nearly 3X as long as basal width, with straight margins; stylus slightly longer than postpedicel basal width. Proboscis with labrum brownish yellow, nearly 1.5X longer than eye height; palpus short, pale yellow, with rather numerous pale setulae.

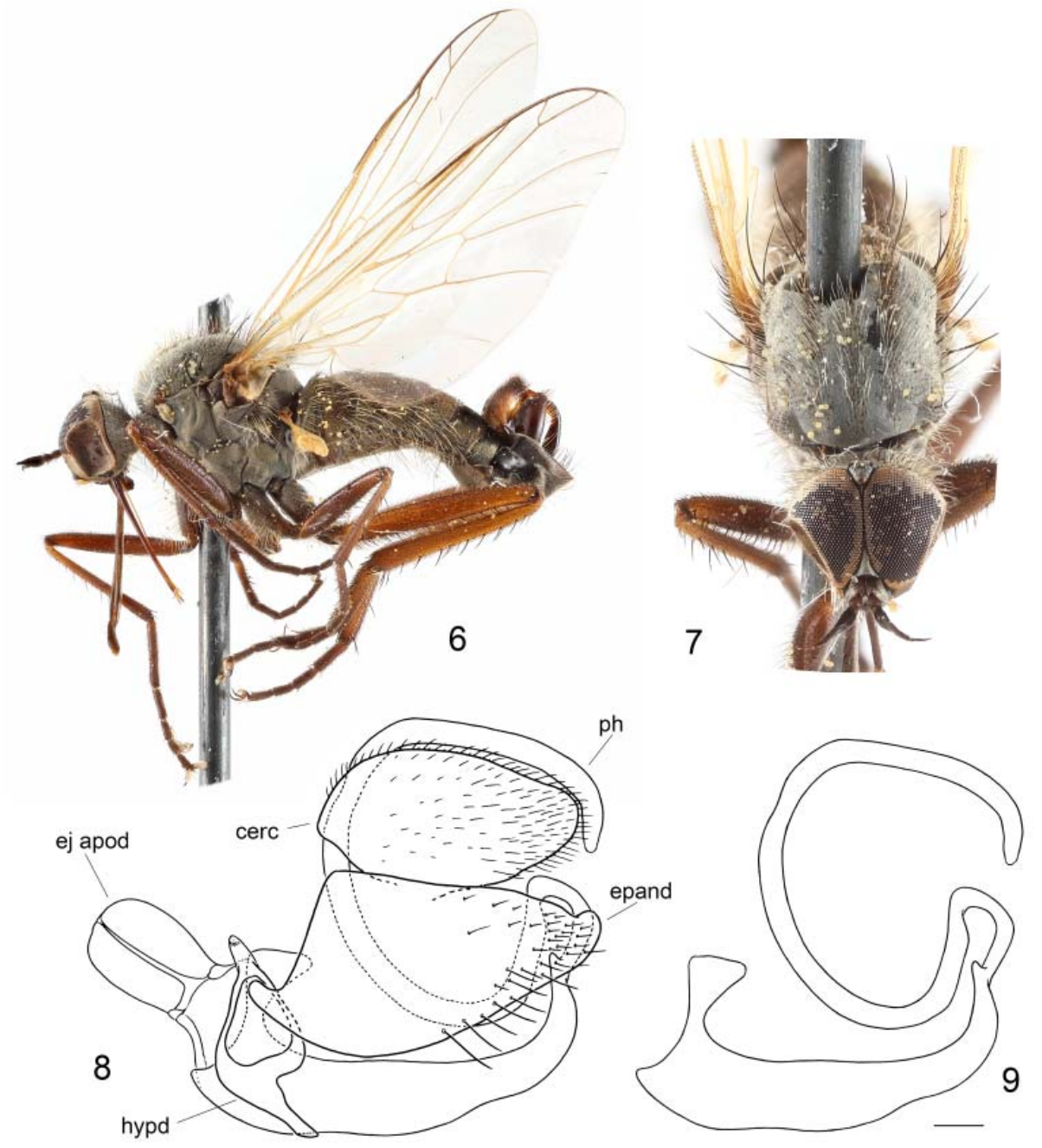
Thorax black in ground-colour, mostly densely greyish pruinose; mesoscutum (Fig. 7) with 3 indistinct, brownish vittae along acrostichal and dorsocentral setae. Antepronotum with 4–5 strong, black setae dorsally and long, hair-like setae laterally on each side (dorsal setae sometimes brownish yellow to pale). Postpronotal lobe with long, dense, fine, pale setae, 1 similar black seta. Proepisternum with tuft of numerous, pale, hair-like setae on lower part. Prosternum bare. Mesonotal setae: acrostichals pale and black on about anterior 1/3 of mesoscutum (sometimes mostly pale or mostly dark) and black posteriorly, arranged in 4–6 irregular rows, occupying anterior half of prescutellar depression, moderately long, dense; presutural dorsocentral setae black and pale, multiserial, similar to acrostichals; postsutural dorsocentrals black, becoming stronger, longer and less numerous towards scutellum, not separated by bare space from acrostichals on about anterior half of prescutellar depression, 3–4 prescutellars longest; presutural supra-alar space entirely covered with dense, long, pale, hair-like setae not separated by bare space from dorsocentrals (sometimes 1–2 black hair-like setae present); 4 black notopleurals (anterior seta usually slightly shorter); 1 similar postsutural supra-alar (with some additional short, fine, black and hair-like, pale setae); 1 long and 1 minute postalars, 4 scutellars of subequal lengths (lateral setae only slightly shorter than apicals). Laterotergite with numerous pale to pale yellow setae. Anterior and posterior spiracles pale yellow.

Legs with coxae densely greyish pruinose, remaining podomeres subshiny; mostly black setose; Leg colour: coxae and trochanters brown; fore and mid femora mostly brownish (yellowish at extreme apex and base; fore femur sometimes entirely brownish), hind femur brownish yellow; fore and mid tibiae mostly brownish (brownish yellow close to base), hind tibia brownish yellow (slightly darker at apex); fore and mid tarsi almost entirely brownish (only basitarsi paler at extreme base), hind basitarsus mostly brownish yellow (brownish at apex), remaining hind tarsomeres brownish. Fore coxa covered with pale, long, dense, hair-like setae anteriorly. All femora without whitish pilosity ventrally. Fore femur with row of mostly minute, fine anteroventral setae; covered with hair-like, moderately long, pale setae posteroventrally and posteriorly. Fore tibia with 3–5 short, anterodorsal setae (position and robustness variable). Mid femur with complete rows of equally short, strong anteroventral and posteroventral setae. Mid tibia slender; with 3–4 anterodorsal and 2 similar posterodorsal, moderately long setae. Hind femur slender; with row of 3–4 moderately long anterodorsal setae in about apical third; complete row of rather short and scattered anteroventral setae; fine short setae posteroventrally (longer close to base). Hind tibia simple, slender; with 7–9 moderately long, strong anterodorsal and 3–4 similar posterodorsal setae; simple setulae ventrally; 1 short seta in posteroapical comb. Tarsomeres of fore and mid legs slender, hind basitarsus slightly thickened at base; basitarsi with circlet of short, subapical setae, bearing scattered, spine-like setae ventrally; in addition, hind basitarsus with 2 short anterodorsal setae on about middle.

Wing membrane hyaline; entirely covered with microtrichia; veins mostly yellowish (costa between anterior margin of pterostigma and R_5 as well as apical portion of radial veins brownish to brownish yellow), well-sclerotized. Veins R_5 and M_1 divergent towards wing margin; radial fork acute; R_5 meeting costa before wing apex; CuA+CuP complete (slightly weakened beyond middle). Cell dm moderately large, with strongly elongate apex; apical portion of M_4 nearly 3X longer than its middle portion. Pterostigma inconspicuous. Basal

costal seta absent. Anal lobe well-developed; axillary incision very acute. Squama yellow, pale fringed. Halter yellow.

Abdomen entirely black in ground colour. Pruinescence: tergites 1–5 densely brownish grey pruinose, tergites 6–7 with yellowish brown iridescent spot dorsally, greyish laterally (dorsal view); sternites 1–7 densely greyish pruinose; sternite 8 faintly pruinose, contrastingly black (upper antero-lateral projection shiny). Chaetotaxy: tergites 1–5 covered with black, minute, numerous setulae dorsally, bearing pale, dense, hair-like and yellowish posteromarginal setae laterally; tergites 6–7 only with pale lateral setae; sternite 1 with 2 long, fine, pale setae, sternites 2–8 with numerous similar setae (slightly



Figs 6–9. *Empis* (*Polyblepharis*) *mongolica* Shamshev, **sp.n.**, male: 6 — habitus, holotype, lateral view; 7 — head and thorax, holotype, anterodorsal view; 8 — hypopygium, lateral view; 9 — phallus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; hypd — hypandrium; ph — phallus. Scale bar is 0.1 mm.

Рис. 6–9. *Empis* (*Polyblepharis*) *mongolica* Shamshev, **sp.n.**, самец: 6 — габитус, голотип, вид сбоку; 7 — голова и грудь, голотип, вид спереди-сверху; 8 — гипопигий, вид сбоку; 9 — фаллус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; hypd — гипандрий; ph — фаллус. Масштаб 0,1 мм.

shorter on sternite 8), in addition, sternite 8 with moderately long, black posteromarginal setae. Pregenital segments: segment 6 unmodified; tergite 7 slightly concave posteriorly, sternite 7 with slightly produced postero-lateral corner, pleuron of segment 7 slightly sclerotised posteriorly; segment 8 with separated tergite and sternite; tergite 8 somewhat flattened, represented by two subtriangular sclerites separated middorsally, with several short setae posteriorly; sternite 8 large, scoop-shaped, somewhat constricted anteriorly, with 2 small, antero-lateral projections separated by depression (upper projection rounded, lower projection subconical) and large, broad projection on posterior margin of depression.

Hypopygium (Figs 8, 9) large; epandrium and basal half of phallus brown, apical half of phallus and cerci brownish yellow; epandrial lamella shiny on middle part, with short pale and black setae along lower margin and near apex, bearing spinule-like setae at tip; cercus covered with dense setulae dorsally and near apex laterally. Epandrium entirely broadly divided (epandrial bridge absent); epandrial lamella (Fig. 8) subtriangular, with slightly produced and bent inward apex (lateral view). Hypandrium separated from epandrium; mostly membranous, undivided, narrowly sclerotized along margin, subtriangular in ventral view; bare; gonocoxal apodeme small. Cerci separated with each other and from epandrium; cercus elongate ovate (lateral view), with apex extending to level of epandrial lamella apex, without dorsolateral, lobe-like projection in basal part (dorsal view), with serrate inner margin. Phallus (Fig. 9) almost entirely hidden; zigzag bent, strongly constricted beyond middle; its basal portion gently curved, thick at base and becoming slightly narrower towards constriction; apical bend portion almost circular (its tip pointing to rear), long, almost uniformly slender (except slightly thickened extreme base). Ejaculatory apodeme moderately large, extended far beyond basal curvature of phallus, with lateral wings.

Female. Unknown.

DIFFERENTIAL DIAGNOSIS. The new species is similar to *E. indigirca* Chvála, 1999 (known from Eastern Siberia) and *E. subcurta* **sp.n.** described herein. *Empis indigirca* differs from *E. mongolica* **sp.n.** primarily by entirely black acrostichal and dorsocentral setae, faintly brownish infuscate wings, the presence of black posteromarginal setae on abdominal tergites 1–5 and by smaller male hypopygium [Chvála, 1999]. *Empis subcurta* **sp.n.** differs from the new species primarily by entirely dark brown legs, entirely pale acrostichal and dorsocentral setae and smaller male hypopygium. In addition, in *E. subcurta* **sp.n.** strong mesonotal setae usually are yellow (except notopleurals) and abdominal tergites 1–5 are densely brownish pruinose dorsally and grey pruinose laterally (in dorsal view abdomen with broad brownish stripe).

ETYMOLOGY. The species is named after country of its origin (Mongolia).

DISTRIBUTION. Mongolia.

Empis (*Polyblepharis*) *subcurta* Shamshev, **sp.n.**
Figs 10–12.

TYPE MATERIAL. Holotype, ♂, labelled [in Cyrillic, Russian]: Mongolia, G.-Alt. aym. [=Gobi-Altayskiy aymak, now Govi-Altai aymag (province)], / Khasagt-Khayrkhan Ridge / 15 km S Dzhargalan / 14.viii.[1]970 Kerzhner (ZISP, INS_DIP_0000629).

Paratypes. MONGOLIA, Govi-Altai aymag: same locality as holotype, 14.viii.970, Nartshuk (1 ♂). Sükhbaatar aymag [=Sukhe-Batorskiy aymak (province)]: Shiliyn-Bogdo-Ula Mt., 10.vii.1971, Kerzhner (1 ♂). Uvs aymag (=Ubsunurskiy aymak (province)): 5 km N of Khyargas, 10.viii.1970, Nartshuk (1 ♂, dissected, all paratypes in ZISP).

DIAGNOSIS. Mid-sized species (body length about 5.5 mm); male eyes holoptic; palpus yellow; mesoscutum with 3 indistinct, brownish vittae; acrostichal and dorsocentral setae multiserial, pale, hair-like, strong setae usually yellow (notopleurals sometimes black), laterotergite with pale setae; legs brown; wing hyaline; abdominal tergites 1–5 densely brownish pruinose dorsally and grey pruinose laterally.

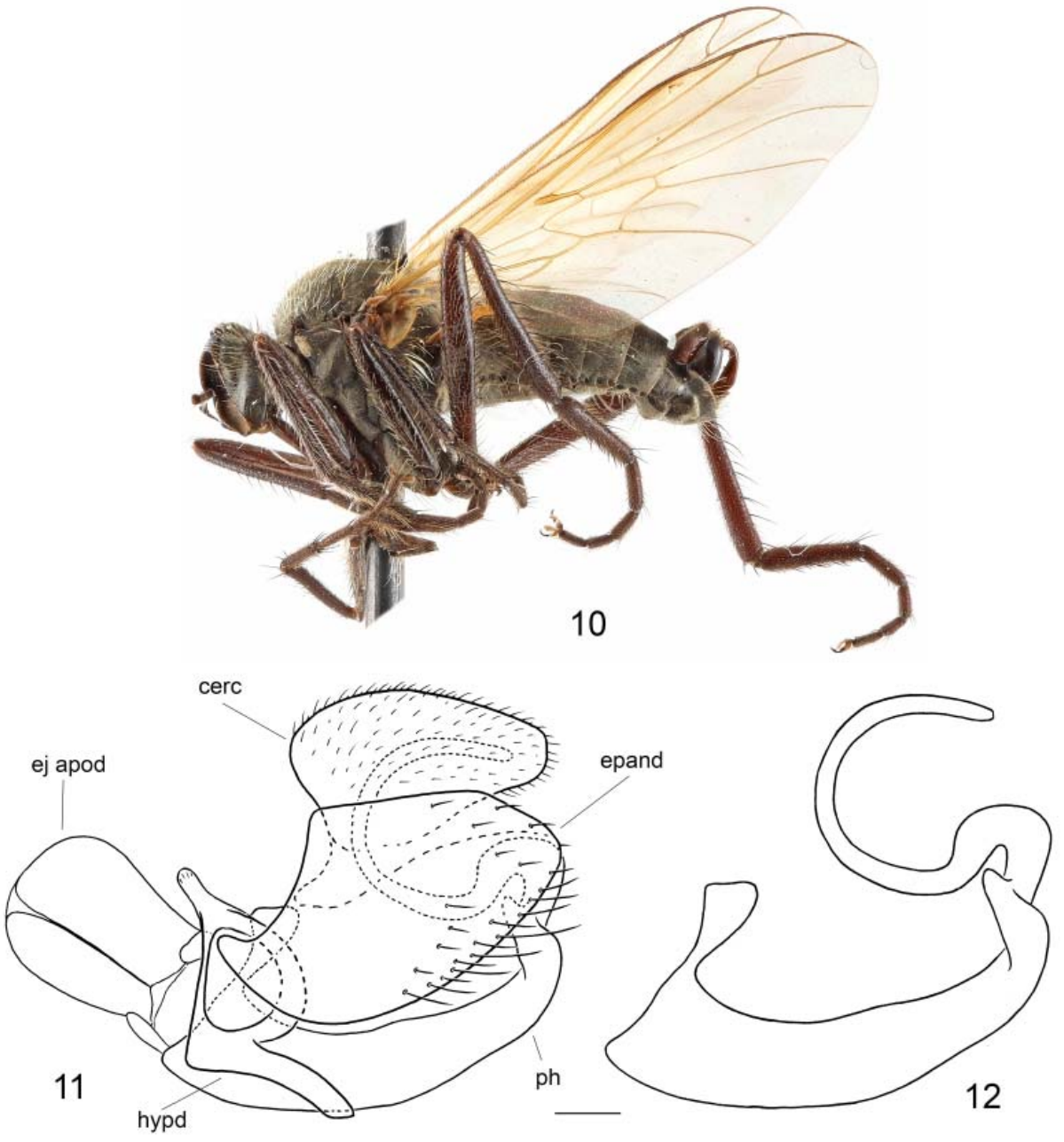
DESCRIPTION. Body length about 5.5 mm, wing 5.5–5.6 mm. **Male** (Fig. 10). Head capsule regions mostly densely greyish pruinose; face on lower margin and entire clypeus shiny; entirely pale setose (sometimes occiput with 2–3 moderately long, fine, brownish yellow to black setae dorsally). Eyes holoptic, upper ommatidia enlarged. Frons represented by very small subtriangular space just below ocellar triangle and larger space above antennae; bare. Face broad, bare. Ocellar triangle with several moderately long, hair-like setae; ocellars undifferentiated. Occiput and postgena covered with numerous, long, hair-like setae; postoculars moderately long on upper part and very short laterally. Antenna with scape and pedicel brown, postpedicel and stylus black; scape slightly longer than subglobular pedicel, both with very short setulae; postpedicel nearly 2X as long as basal width, with straight margins; stylus nearly as long as postpedicel basal width. Proboscis with labrum brownish yellow, nearly 1.5X longer than eye height; palpus short, pale yellow, with rather numerous pale setulae.

Thorax black in ground-colour, mostly densely greyish pruinose; mesoscutum with 3 indistinct, brownish vittae along acrostichal and dorsocentral setae; almost entirely pale setose, strong setae yellow (some notopleural setae often black). Antepronotum with stronger setae dorsally and long, hair-like setae laterally on each side. Postpronotal lobe with long, dense, hair-like setae. Proepisternum with tuft of numerous pale, hair-like setae on lower part. Prosternum bare. Mesonotal setae: acrostichals arranged in 4–5 irregular rows, lacking on prescutellar depression, long, dense, hair-like; dorsocentral setae separated from acrostichals by narrow bare space, presutural dorsocentrals multiserial, similar to acrostichals, postsuturals 1–3-serial, 2 long prescutellars; presutural supra-alar space entirely covered with dense, long, hair-like setae not separated by bare space from dorsocentrals; 3–4 notopleurals (posterior seta sometimes finer); 1 postsutural supra-alar; 1 long and 1 minute postalars, 4 scutellars (lateral setae only slightly shorter than apicals). Laterotergite with numerous pale to pale yellow setae. Anterior and posterior spiracles pale.

Legs with coxae densely greyish pruinose, remaining podomeres subshiny; mostly black setose. Leg colour: entirely brown (in one paratype hind tibia and femur somewhat paler close to base). Fore coxa covered with pale, long, dense, hair-like setae anteriorly. All femora without whitish pilosity ventrally. Fore femur with row of mostly minute, fine anteroventral setae; covered with hair-like, moderately long, pale setae posteroventrally and posteriorly. Fore tibia with 3–5 short, anterodorsal setae (position and robustness variable). Mid femur with complete rows of sparse, mostly very short, anteroventral and posteroventral setae (slightly longer close to base). Mid tibia slender; with row of 7–9 moderately long, rather fine, anterodorsal and 2–3 similar posterodorsal setae; 2–3 hardly prominent setae ventrally; setae of subapical circlet long. Hind femur slender; with row of 3–4 short anterodorsal setae in about apical third; complete row of rather short and scattered, anteroventral setae; fine, short setae posteroventrally (longer close to base); pale, long, hair-like setae near base posteriorly. Hind tibia slightly, gently thickened towards apex; with 6–7 moderately long, anterodorsal and 3–4 similar posterodorsal setae; simple setulae ventrally; 1 short seta in posteroapical

comb. Tarsomeres of fore and mid legs slender, hind basitarsus slightly thickened at base and narrowed towards apex; basitarsi with circlet of moderately long, fine, subapical setae, bearing several spine-like setae ventrally; in addition, hind basitarsus with 2–3 moderately long, fine setae dorsally.

Wing membrane hyaline; entirely covered with microtrichia; veins mostly yellowish (costa between anterior margin of pterostigma and R_5 as well as apical portion of radial veins brownish to brownish yellow), well-sclerotized. Veins R_5 and M_1 divergent towards wing margin; radial fork acute; R_5 meeting costa before wing apex; CuA+CuP complete (slightly weakened beyond middle). Cell dm moderately large, with strongly elongate apex; apical portion of M_4 nearly 3X longer than its middle portion. Pterostigma inconspicuous. Basal costal seta absent. Anal lobe well-developed; axillary incision very acute. Squama yellow, pale fringed. Halter yellow.



Figs 10–12. *Empis* (*Polyblepharis*) *subcurta* Shamshev, **sp.n.**, male: 10 — habitus, holotype, lateral view; 11 — hypopygium, lateral view; 12 — phallus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; hypd — hypandrium; ph — phallus. Scale bar is 0.1 mm.

Рис. 10–12. *Empis* (*Polyblepharis*) *subcurta* Shamshev, **sp.n.**, самец: 10 — габитус, голотип, вид сбоку; 11 — гипопигий, вид сбоку; 12 — фаллус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; hypd — гипандрий; ph — фаллус. Масштаб 0,1 мм.

Abdomen entirely black in ground colour. Pruinescence: tergites 1–5 densely brownish pruinose dorsally and grey pruinose laterally (in dorsal view abdomen with broad brownish stripe); tergites 6–7 with yellowish brown iridescent spot dorsally, grey laterally (lateral view); sternites 1–7 densely grey pruinose; sternite 8 faintly pruinose, with shiny upper antero-lateral projection. Chaetotaxy: abdomen covered with only pale setae; tergites almost bare dorsally (with scattered minute setulae), covered with numerous long fine setae laterally (including slightly stronger posteromarginals); sternite 1 bare, remaining sternites with numerous long setae. Pregenital segments: segment 6 unmodified; tergite 7 slightly concave posteriorly, sternite 7 with slightly produced postero-lateral corner, pleuron of segment 7 slightly sclerotised posteriorly; segment 8 with separated tergite and sternite; tergite 8 somewhat flattened, represented by two subtriangular sclerites separated mid-dorsally, with several short setae posteriorly; sternite 8 large, scoop-shaped, somewhat constricted anteriorly, with 2 small, antero-lateral projections separated by depression and larger, broad projection on posterior margin of depression.

Hypopygium (Figs 11, 12) moderately large; epandrium and basal half of phallus brown, apical half of phallus and cerci brownish yellow; epandrial lamella shiny on middle part, with sparse, short, pale setae along lower margin and at apex; cercus with black setulae denser towards apex. Epandrium entirely broadly divided (epandrial bridge absent); epandrial lamella (Fig. 11) subtriangular (lateral view). Hypandrium separated from epandrium; mostly membranous, undivided, narrowly sclerotized along margin, subrectangular in ventral view; bare; gonocoxal apodeme small. Cerci separated with each other and from epandrium; cercus elongate ovate (lateral view), with apex extending to level of epandrial lamella apex, without dorsolateral, lobe-like projection in basal part (dorsal view), with serrate inner margin. Phallus (Fig. 12) almost entirely hidden; zigzag bent, strongly constricted beyond middle; its basal portion gently curved, thick at base and becoming slightly narrower towards constriction; apical bend portion broadly semicircular (its tip pointing to rear), long, almost uniformly slender (except slightly thickened extreme base). Ejaculatory apodeme moderately large, extended far beyond basal curvature of phallus, with lateral wings.

Female. Unknown.

DIFFERENTIAL DIAGNOSIS. The new species is very similar to *E. curta* Loew, 1869 known only from the type locality ("Sarepta", Volgograd, Russia). *Empis subcurta* **sp.n.** differs from *E. curta* primarily by mostly yellow to pale mesonotal setae and densely pruinose tergites 2–5 (versus shiny). In addition, the new species could be compared with *E. indigirca* Chvála, 1999 (known from Eastern Siberia). The latter species has entirely black acrostichal and dorsocentral setae, partly brownish yellow legs and black posteromarginal setae on abdominal tergites 1–5 [Chvála, 1999].

ETYMOLOGY. The epithet of the new species refers to its similarity to *E. curta*.

DISTRIBUTION. Mongolia.

Empis (*Polyblepharis*) *subdepilis* Shamshev, **sp.n.**
Figs 13–16.

TYPE MATERIAL. Holotype, ♂, labelled: [printed in Cyrillic, Russian]: [RUSSIA, Amurskaya Province] Klimoutsy [51°28′N 127°35′E] Amur obl. [= Amurskaya Province] / 40 km W of Svobodny / Zinovjev 6.vi.[1]958 // oak-larch forest / on flowers of *Spirea* (ZISP, INS_DIP_0000630).

Paratypes. MONGOLIA. Khövsgöl (Hovsgol) aymag [=Khubsugulskiy aymak (province)]: 25 km SSW of Muren, 23.vii.1975, Nartshuk (1 ♂, ZISP); Chandmani-Ondor Soum // unnamed trib. of Hohoo Gol, N50.66022, E100.73886, elev. 1566 m, 18.vii.2005, coll. J. Gelhaus #1022; Selenge Proj. SRP#05071802 (3 ♂♂, 2 ♀♀, ANSP and CNC). Töv aymag [=Tsentralny aymak (province)]: Zaysan, southern slope of Bogdo-ula Mt., 4.vii.1967, Zaitzev (1 ♂, ZISP). RUSSIA. Amurskaya Prov.: same locality and collector as holotype: 25.v.1957 (1 ♀); 30.v.1957 (1 ♀); 1.vi.1957 (1 ♂); 4.vi.1957 (1 ♂, 2 ♀♀); 22.v.1958 (1 ♀); 1.vi.1958 (1 ♂, 1 ♀); 6.vi.1958 (2 ♂♂ (one dissected), 4 ♀♀); 8.vi.1958 (3 ♀♀); 14.vi.195 (1 ♀); 31.vi.1958 (1 ♀); 2.vi.1959 (3 ♀♀); 4.vi.1959 (2 ♂♂); 31.v.1959 (2 ♂♂, 3 ♀♀); 4.vi.1959 (1 ♂, 1 ♀); between rivers Malaya Pera and Bolshoy Ergel, 6.vi.1958, Zinovjev (1 ♀); same locality, 9.vi.1958, Zinovjev (1 ♀). Buryatia: Khamsura village, 7 km S of Zakamensk, 30.vi.1971, V. Richter (1 ♂); 40 km N of Terey, 19.vi.1961, L. Zimin (1 ♀). Zabaykalskiy Terr., 1 male, Kyra, 17.vi.1975, V. Richter.

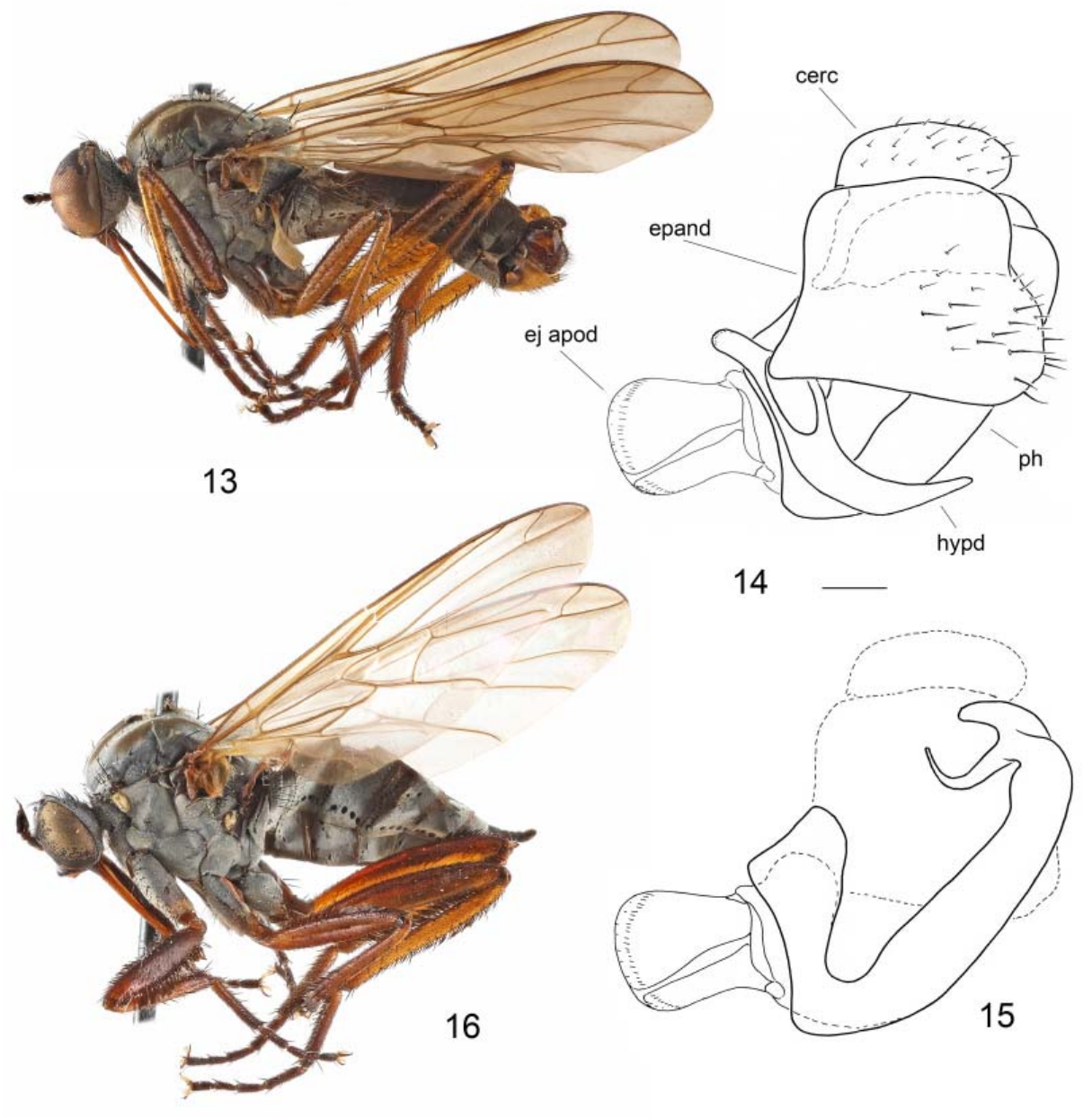
DIAGNOSIS. Mid-sized species (body about 6 mm) with palpus largely yellow; mesoscutum with 4 vittae, presutural acrostichals and dorsocentrals 1–2-serial, hair-like, minute, partly pale; legs largely brownish yellow; laterotergite with black and pale setae. Male: eyes holoptic; abdominal sternite 8 broadly yellow posteriorly. Female: abdominal tergites 1–6 light grey, narrowly brownish anteriorly and posteriorly (dorsal view); all femora and hind tibia with pennate setae.

DESCRIPTION. **Male** (Fig. 13). Body length 6.0–6.4 (holotype 6.1) mm; wing length 5.7–5.9 (holotype 5.9) mm. Head black. Head capsule regions mostly densely greyish pruinose; face shiny along lower margin. Eyes holoptic, upper ommatidia enlarged. Frons represented by small subtriangular space below ocellar triangle and larger space above antennae; bare. Face wide, almost parallel-sided, bare. Ocellar triangle with 2 moderately long, fine and several short setae. Occiput with numerous, long, black setae laterally; postoculars moderately long in upper part, very short laterally; postgena bearing numerous pale, long, hair-like setae. Antenna with scape and pedicel brownish, postpedicel and stylus black; scape about 1.5X longer than pedicel, both with short setulae; postpedicel moderately long, nearly 2.5X longer than wide, with straight margins; stylus short, about 1/3 as long as postpedicel. Proboscis moderately long, labrum brownish, nearly 1.5X as long as head height; palpus broadly yellow (brownish to brownish yellow near base), with scattered black setulae.

Thorax black, mostly densely greyish pruinose and black setose; mesoscutum with 4 distinct, broad, brownish vittae (dorsal view). Antepronotum with several strong setae dorsally and some pale, hair-like setae laterally. Postpronotal lobe with 1 long and numerous shorter strong setae, bearing additional pale, hair-like setulae. Proepisternum with numerous long, pale, hair-like setae on lower part (sometimes dark setae present), bare on upper part. Prosternum bare. Mesonotal setae: acrostichals hair-like, minute, sparse, arranged in 2 close irregular rows, partly pale, lacking on prescutellar depression; presutural dorsocentrals arranged in 2 close irregular rows, similar to acrostichals, postsuturals sparse, slightly longer and stronger, 1 pair of prescutellars moderately long; 1 short, presutural intra-alar; 1 moderately long presutural supra-alar, 3 long notopleurals (2 posterior setae longer), 1 moderately long postsutural supra-alar, 1 long and 1 very short postalars, 4 scutellars (apical pair long, lateral pair very short); numerous black and pale setulae present on notopleuron anteriorly (usually mostly pale). Laterotergite with numerous black setae anteriorly (number highly variable) and numerous pale setae posteriorly. Anterior and posterior spiracles pale yellow.

Legs rather long, slender; coxae densely greyish pruinose, remaining podomeres subshiny; mostly black setose. Leg

colour: coxae black; trochanters brownish; otherwise legs extensively brownish yellow, fore femur (except extreme apex and base), tibiae in subapical part and tarsi brownish; in paler specimens tibiae almost uniformly brownish yellow and basitarsi brownish yellow in basal part. Fore coxa with numerous, pale, hair-like and several black, strong setae. Femora without whitish pilosity ventrally. Fore femur with short, strong setae in about apical half anteriorly and posteriorly; bearing row of mostly short anteroventral setae and dense, moderately long, rather fine setae posteroventrally. Fore tibia with 3–5 short anterodorsal and 3–5 similar posterodorsal setae. Mid femur with complete rows of short anteroventral and slightly longer posteroventral spine-like setae; bearing 2–3 short, strong setae near apex anteriorly and posteriorly. Mid tibia with 3–4 short anterodorsal and 3–5 posterodorsal setae; bearing 2–3 less distinct posteroventral setae in apical part. Hind femur almost uniformly slender, only slightly broader than mid femur; with similar setation to mid femur. Hind tibia somewhat gently thickened towards apex; with 5–6 short anterodorsal and 7–8 posterodorsal setae; covered with simple setulae



Figs 13–16. *Empis* (*Polyblepharis*) *subdepilis* Shamshev, **sp.n.**: 13–15 — male: 13 — habitus, holotype, lateral view; 14 — hypopygium, lateral view; 15 — phallus, lateral view; 16 — female, habitus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; hypd — hypandrium; ph — phallus. Scale bar is 0.1 mm.

Рис. 13–16. *Empis* (*Polyblepharis*) *subdepilis* Shamshev, **sp.n.**: 13–15 — самец: 13 — габитус, голотип, вид сбоку; 14 — гипопигий, вид сбоку; 15 — фаллус, вид сбоку; 16 — самка, габитус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; hypd — гипандрий; ph — фаллус. Масштаб 0,1 мм.

ventrally; 1 short seta in posteroapical comb. Fore and mid tarsomeres 1 slender, hind tarsomere 1 rather slightly thickened; all basitarsi with short, spine-like setae ventrally.

Wing membrane faintly brownish infuscate. Pterostigma brownish yellow, narrow. Basal costal seta absent. Veins R_5 and M_{1+2} divergent subapically; radial fork acute. Anal angle very acute, subsequently anal lobe well developed. Calypter yellow, pale fringed. Halter yellow.

Abdomen almost entirely black, sternite 7 brownish yellow posteriorly and sternite 8 extensively yellowish. Pruinescence: in lateral view tergites 1–6 densely light grey pruinose on lower part (concolourous with sternites) and brownish on upper part, in dorsal view tergites 2–7 velvety brown, tergites 6–7 with slightly darker iridescent spots. Chaetotaxy: tergites 1–3 with long, pale setae laterally, tergites 1–6 with strong, black posteromarginal setae laterally, otherwise tergites covered with black setulae; sternites 1–5 with scattered pale setulae, sternites 6–8 with more numerous black setulae, sternite 8 with several moderately long posteromarginal setae. Pregenital segments: segment 6 unmodified; tergite 7 with straight posterior margin, bearing scattered setulae; sternite 7 somewhat broader posteriorly than sternite 6, with simple setae; tergite and sternite of segment 8 separated; tergite 8 divided medially, represented by two small, subtriangular sclerites bearing scattered setulae posteriorly; sternite 8 scoop-shaped, constricted near base, each side close to base with horn-like tubercle and elongate oval projection (ventral view) separated by deep subovate depression.

Hypopygium (Figs 14, 15) moderately large, largely brownish, epandrial lamella reddish brown on upper part and phallus yellowish; cercus and epandrial lamella with black setulae. Epandrial lamella (Fig. 14) rather trapezium-like, with scattered short setae on lower part closer to apex. Hypandrium rounded apically, bare. Cercus elongate oval (lateral view), with smoothed inner margin, without dorsolateral projection in basal part (dorsal view). Phallus as in Fig. 15.

Female (Fig. 16). Body length 5.6–6.1 mm; wing length 6.7–6.3 mm. Similar to male except as follows. Eyes dichoptic, ommatidia of equal size. Frons broad, parallel-sided, usually bare (sometimes scattered, minute setulae present in lower part). Occiput with sparse setae. Notopleuron with minute, mostly black setulae anteriorly; acrostichals and dorsocentrals slightly stronger, uniformly black. Fore femur with fringe of short pennate setae anterodorsally and longer pennate setae posteroventrally (anterodorsal setae absent close to base). Mid femur with similar fringes of pennate setae as fore femur. Hind femur with fringe of short, pennate setae in about apical 1/3 dorsally; bearing long, pennate, posteroventral setae in about apical 2/3. Fore tibia and tarsus with simple setae. Mid tibia with 3–4 anteroventral and 2–3 posteroventral setae; sometimes bearing scattered, short, slightly flattened setae close to apex ventrally. Hind tibia and hind basitarsus slender; hind tibia with short, pennate, anterodorsal setae in apical 1/2–2/3 (in addition to rows of anterodorsal and posterodorsal simple, strong setae); row of short anteroventral setae; bearing moderately long, pennate, posteroventral setae in about apical 3/4. Wing membrane almost hyaline, slightly brownish infuscate at apex. Abdominal tergites 1–6 largely densely light grey pruinose, tergites 2–5 narrowly brownish pruinose anteriorly and posteriorly (dorsal view), sternites 1–6 entirely densely light grey pruinose, segments 7–8 brownish shiny, segment 10 and cercus contrastingly black, subshiny. Abdominal chaetotaxy very reduced, tergites mostly covered with scattered, minute setulae, sternites almost bare; only tergite 1 with numerous, short, black and pale, fine setae. Cercus short, clothed in dense dark setulae.

DIFFERENTIAL DIAGNOSIS. The new species is similar to *E. depilis* Loew, 1873 known only from the southern steppe areas of European Russia [Berezhnova, Shamshev, 2006]. The male of *E. subdepilis* **sp.n.** can be distinguished from *E. depilis* by the following characters: acrostichal setae partly pale; presutural dorsocentral setae 2-serial; fore femur covered with dense, moderately long, rather fine setae posteroventrally. In addition, in the female of *E. subdepilis* **sp.n.** all femora and hind tibia bear pennate setae. The male of *E. depilis* has black acrostichal setae; uniserial presutural dorsocentral setae and fore femur with row of short, spine-like, posteroventral setae (longer in about apical half). In the female of *E. depilis* only mid and hind femora bear short posteroventral pennate setae, hind tibia covered with simple setae.

ETYMOLOGY. The name of the new species refers to its similarity to *E. depilis* Loew.

DISTRIBUTION. Mongolia, Russia (Amurskaya Province, Buryatia, Zabaykalskiy Territory).

HABITAT AND SEASONAL OCCURRENCE. According to labels data, the species inhabits open biotopes (meadows, steppe areas, glades), from the end of May until the end of June. Several specimens were taken from flowers of *Spiraea sericea* (= *Spiraea media* var. *sericea* (Turcz.) Maxim.) and one specimen from flowers of an apple.

Empis (*Polyblepharis*) *subhaemi* Shamshev, **sp.n.**
Figs 17–22.

TYPE MATERIAL. Holotype, ♂ labelled: Mongolia, Tsentralny / aymak [now Töv aymag (province)] sev. skl. [=northern slope] of Bogdoula near Ulan-Bator / Kerzhner 14.vii.[1]967 (ZISP, INS_DIP_0000627).

Paratypes. MONGOLIA, Töv aymag: same data as holotype (3 ♂♂, 4 ♀♀); Zaysan, southern slope of Bogdo-ula Mt., 4.vii.1967, Zaitzev (2 ♀♀); northern slope of Bogdoula near Ulan-Bator, 22.vi.1967, Zaitzev (1 ♀). Arkhangai aymag [=Ara-Khangayskiy aymak (province)]: Tevshrulekh 35 km SW, 31.vii.1970, Megmarsuryan (1 ♂). Ömnögovi aimag [=Yuzhno-Gobiyskiy aimak (province)]: Gurban-Saykhan, 40 km S of Bulgan, 28–29.vii.1967, Zaitzev (1 ♂). RUSSIA, Zabaykalskiy Terr.: Kuenga River above Chernyshevsk, blooming herb meadow on a slope, 10.viii.1977, V. Kovalev (1 ♂, dissected).

DIAGNOSIS. Mid-sized species (body about 5.5 mm); palpus yellow; mesoscutum with 3 brownish vittae, acrostichal setae biserial and presutural dorsocentrals 3-serial; legs extensively brown, femora at apex and tibiae brownish yellow. Male: eyes holoptic; wings faintly brownish infuscate; tergites 1–6 densely brownish pruinose dorsally and subshiny laterally. Female: mid and hind femora with posteroventral pennate setae; hind tibia with anterodorsal and posteroventral pennate setae.

DESCRIPTION. Body length about 5.3–5.5 mm, wing 5.5–5.6 mm. **Male** (Fig. 17). Head capsule regions mostly densely greyish pruinose; face on lower margin and entire clypeus shiny; mostly black setose. Eyes holoptic, upper ommatidia enlarged. Frons represented by very small subtriangular space just below ocellar triangle and larger space above antennae; bare. Face broad, bare. Ocellar triangle with 2 fine, moderately long and several slightly shorter setae. Occiput with numerous long setae; postoculars rather fine, moderately long on upper part and short laterally; postgena with numerous, pale, hair-like setae. Antenna with scape and pedicel brown, postpedicel and stylus black; scape slightly longer than subglobular pedicel, both with very short setulae; postpedicel nearly 2.5X as long as basal width, with straight margins; sty-

lus nearly 1.5X as long as postpedicel basal width. Proboscis with labrum brownish yellow, nearly 1.7X longer than eye height; palpus short, yellow, with scattered black setulae.

Thorax black in ground-colour, mostly densely light grey pruinose and black setose; mesoscutum rather brownish grey pruinose, with 3 indistinct, brownish vittae along acrostichal and dorsocentral setae. Antepronotum with strong setae dorsally and long, hair-like setae laterally. Postpronotal lobe with 1 long seta surrounded by short, fine, black and pale setae. Proepisternum with tuft of numerous, pale, hair-like setae on lower part. Prosternum bare. Mesonotal setae: acrostichals arranged in 2 close irregular rows, lacking on prescutellar depression, rather long (nearly as long as antennal stylus), numerous; presutural dorsocentral setae mostly arranged in 3 irregular rows (sometimes more numerous opposite postpronotal lobe), similar to acrostichals, postsuturals 1–2-serial, longer (2–3 prescutellars longest); presutural intra-alar seta undistinguishable from dorsocentrals; 1 presutural supra-alar; 3 notopleurals; 1 postsutural supra-alar; 1 long and 1 minute postalars, 4 scutellars (lateral setae only slightly shorter than apicals); in addition, pale setulae present in anterior part of notopleuron and just behind postpronotal lobe. Laterotergite with numerous pale to pale yellow setae. Anterior and posterior spiracles pale.

Legs with coxae densely greyish pruinose, remaining podomeres subshiny; mostly black setose. Leg colour: extensively brown; femora brownish yellow narrowly at apex (also, sometimes mid and hind femora slightly paler near extreme base); fore and hind tibiae mostly brownish yellow (yellowish close to base), mid tibia rather uniformly yellowish. Fore coxa mostly covered with pale, hair-like setae anteriorly; with additional scattered, strong, black setae. Mid femur with whitish pilosity ventrally. Fore femur with row of minute, fine anteroventral setae; covered with hair-like, moderately long, pale setae posteroventrally and posteriorly. Fore tibia with 3–4 short, anterodorsal setae (position and robustness variable). Mid femur with complete rows of short, spine-like anteroventral and posteroventral setae. Mid tibia slender; with row of 4–5 moderately long, strong anterodorsals; 1 posterodorsal seta near middle (often absent); 2–3 short posteroventrals in apical half (position and robustness variable). Hind femur slender; 3–4 short anterodorsal setae in about apical 1/3; complete row of short, spine-like anteroventral setae; dense spinule-like setae posteroventrally. Hind tibia slightly gently thickened towards apex; with 6–7 short, anterodorsal and 3–4 similar posterodorsal setae; simple setulae ventrally; no seta in posteroapical comb. Tarsomeres of fore and mid legs slender, hind basitarsus slightly thickened at base and narrowed towards apex; basitarsi with several spine-like setae ventrally.

Wing membrane faintly infuscate; entirely covered with microtrichia; veins mostly brownish (brownish yellow close to base), well-sclerotized. Veins R_5 and M_1 divergent towards wing margin; radial fork acute; R_5 meeting costa before wing apex; CuA+CuP complete (slightly weakened beyond middle). Cell dm moderately large, with strongly elongate apex; apical portion of M_4 nearly 3X longer than its middle portion. Pterostigma brownish yellow. Basal costal seta usually present, short (sometimes absent). Anal lobe well-developed; axillary incision very acute. Squama yellow, pale fringed. Halter yellow.

Abdomen entirely black in ground colour. Pruinescence: tergites 1–6 densely brownish pruinose dorsally and subshiny laterally; tergites 6–7 with dark brown iridescent spot dorsally (better visible in lateral view); sternites 1–7 mostly densely greyish pruinose, tergites 2–7 faintly pruinose along posterior margin; sternite 8 faintly pruinose, subshiny posteriorly. Chaetotaxy: tergites 2–6 covered with black setulae dorsally (tergite 6 only anteriorly), tergite 7 with scattered setulae only laterally; tergites 1–3 with pale to yellowish, long, fine setae laterally, tergites 4–6 with intermixed black and pale setulae laterally; tergites 2–4 with stronger, yellowish to black posteromarginal setae laterally (longer on tergite 2); sternite 1 bare, sternites 2–7 with very long, pale yellow, posteromarginal setae; sternite 8 only with black setae, including moderately long posteromarginals. Pregenital segments: segment 6 unmodified; tergite 7 slightly concave posteriorly, sternite 7 with slightly produced postero-lateral corner, pleuron of segment 7 slightly sclerotised posteriorly; segment 8 with separated tergite and sternite; tergite 8 somewhat flattened, represented by two subtriangular sclerites separated mid-dorsally, with several short setae posteriorly; sternite 8 large, scoop-shaped, somewhat constricted anteriorly, with 2 small, antero-lateral, rounded projections separated by depression and similar projection on posterior margin of depression.

Hypopygium (Figs 18–21) moderately large; epandrium brown, cerci yellowish brown; epandrial lamella with short, rather sparse setae along lower margin and near apex; cercus covered with black setulae. Epandrium entirely broadly divided (epandrial bridge absent); epandrial lamella (Fig. 18) subtriangular (lateral view). Hypandrium (Fig. 19) separated from epandrium; mostly membranous, undivided, narrowly sclerotized along margin, rather subtriangular in ventral view (broad apically); bare; gonocoxal apodeme small. Cerci (Fig. 20) separated with each other and from epandrium; cercus elongate ovate (lateral view), with apex extending to level of epandrial lamella apex, without lobe-like, dorsolateral projection at basal part (dorsal view), with serrate inner margin. Phallus (Fig. 21) almost entirely hidden; zigzag bent, strongly constricted beyond middle; its basal portion gently curved, thick at base and becoming slightly narrower towards constriction; apical bend portion broadly semicircular (its tip pointing to rear), long, almost uniformly slender (except slightly thickened extreme base). Ejaculatory apodeme moderately large, extended far beyond basal curvature of phallus, with lateral wings.

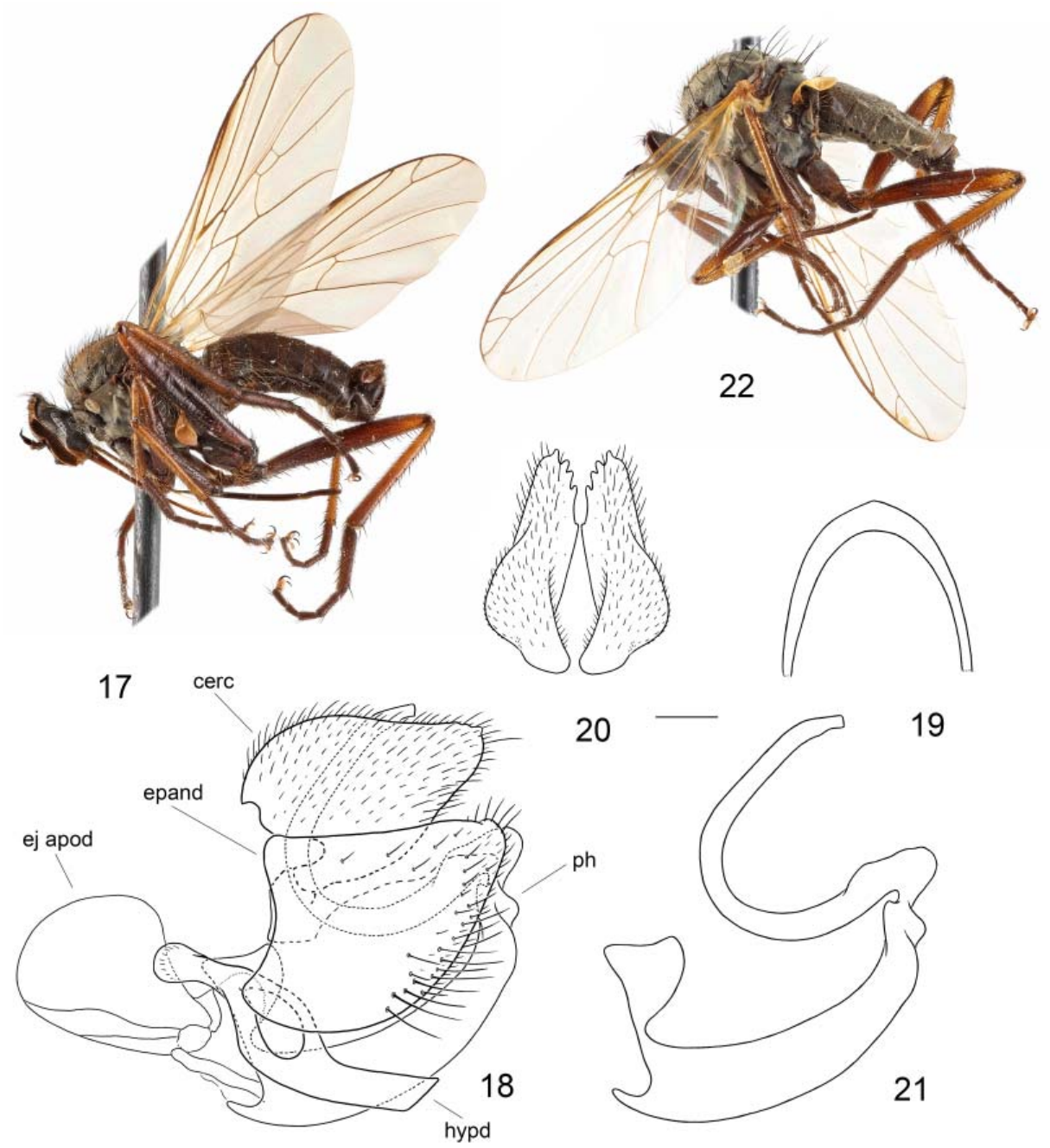
Female (Fig. 22). Similar to male except as follows. Eyes dichoptic, ommatidia of equal size. Frons broad, parallel-sided, with marginal setulae. Occiput with sparser and somewhat stronger setae; also, ocellar setae slightly stronger. Proboscis with labrum nearly 2X longer than eye height. Thorax with shorter setae; acrostichals and dorsocentrals very short; laterotergite mostly with yellow setae, usually with some number of additional black setae (variable, sometimes setae entirely yellow). Fore femur covered with simple, short setulae. Fore tibia with 4–5 short, anterodorsal setae (position and robustness variable) and 1–2 short posteroventral setae near middle. Mid femur without whitish pilosity ventrally; with fine, very short anteroventral and posteroventral setae; bearing fringe of pennate, posteroventral setae (moderately long in about apical 1/3, becoming gradually shorter towards base and absent in about basal 1/4 of femur). Mid tibia slender; dorsal setae as in male, in addition with 3–4 anteroventral and 3–4 posteroventral setae (position and robustness variable). Hind femur slender; with scattered short setae in apical 2/3; bearing pennate posteroventral setae in about apical 2/3 (longer towards apex). Hind tibia bearing fringe of short, pennate, almost uniform, anterodorsal setae (absent near extreme base and close to apex of tibia) and similar, pennate, posteroventral setae in about apical 1/3; in addition, with row of 5–6 short, strong, anterodorsal setae situated just before pennate setae, 1–2 posterodorsal seta(e) in middle part (sometimes absent) and 3–4 short anteroventral setae (slightly shorter than anterodorsals). Wing almost hyaline. Abdomen with tergites 1–6 entirely densely greyish pruinose, tergites 7–8 shiny; covered with mostly minute setulae, only tergites 1–2 with somewhat longer setae laterally, no posteromarginal setae.

Sternites 2–6 entirely densely greyish pruinose, with scattered, very short setae; sternite 7 faintly pruinose. Cercus brown, subglobular, covered with dense, pale, erect setulae.

DIFFERENTIAL DIAGNOSIS. The new species is similar to *E. haemi* Loew, 1862 known from Bulgaria and Turkey [Chvála, 1999;Çiftçi, Hasbelni, 2007]. However, *E. haemi* is larger (body 8–9 mm) and has longer proboscis (labrum nearly 3X longer than head height). In addition, in the female of *E. haemi* the hind basitarsus bears pennate setae.

ETYMOLOGY. The specific name refers to the similarity of the new species to *E. haemi* Loew.

DISTRIBUTION. Mongolia, Russia (Zabaykalskiy Territory).



Figs 17–22. *Empis* (*Polyblepharis*) *subhaemi* Shamshev, **sp.n.**: 17–21 — male: 17 — habitus, holotype, lateral view; 18 — hypopygium, lateral view; 19 — hypandrium, ventral view; 20 — cerci, dorsal view; 21 — phallus, lateral view; 22 — female, habitus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; hypd — hypandrium; ph — phallus. Scale bar is 0.1 mm.

Рис. 17–22. *Empis* (*Polyblepharis*) *subhaemi* Shamshev, **sp.n.**: 17–21 — самец: 17 — габитус, голотип, вид сбоку; 18 — гипопигий, вид сбоку; 19 — гипандрий, вид снизу; 20 — церки, вид сверху; 21 — фаллус, вид сбоку; 22 — самка, габитус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; hypd — гипандрий; ph — фаллус. Масштаб 0,1 мм.

Empis (*Polyblepharis*) *subtransbaicalica* Shamshev, **sp.n.**
Figs 23–28.

TYPE MATERIAL. Holotype, ♂ labelled [in Cyrillic, Russian]: Mongolia, Ara-Khangayskiy / aymak [=Arkhangay aymag (province)], 30 km E / Tsetserleg [~47°28′N 101°27′E] / Nartshuk 2.4.[1]975 (ZISP, INS_DIP_0000625).

Paratypes. MONGOLIA, Töv aymag [=Tsentralny aymak (province)]: northern slope of Bogdo-ula near Ulan-Bator, 22.vi.1967, Zaitzev (3 ♂♂, 2 ♀♀); same locality, 29.vi.1967, Zaitzev (4 ♂♂, 2 ♀♀); same locality, 29.vi.1967, Kerzhner (1 ♀); northern slope of Bogdo-ula Mt., Zaysan, meadow-steppe slopes, 15.vi.1967, Kerzhner (3 ♂♂); same locality, 15.vi.1967, Zaitzev (5 ♂♂, 1 ♀); Ulan-Bator env., steppe, 24–29.vi.1970, Nartshuk (2 ♂♂, 1 ♀); same locality, 24–29. vi.1970, Kerzhner (2 ♀♀); same locality, 24–29.vi.1970, Kandybina (1 ♂, 2 ♀♀). Uvs aymag [=Ubsunurskiy aymak (province)]: 5 km N of Khyargas, 10.viii.1970, Kerzhner (6 ♂♂, 3 ♀♀); same locality, 10.viii.1970, Nartshuk (1 ♀); same locality, 10.viii.1970, Kozlov (1 ♂, 1 ♀); Togtokhyn-Shil Ridge, 50 km ESE Ulangom, 7.viii.1970, Nartshuk (1 ♀). Arkhangay aymag [=Ara-Khangayskiy aymak (province)] Tevshrulekh, 3.vii.1970, Kandybina (1 ♀); same locality, 24.vii.1970, Kandybina (1 ♀). Govi-Altai aymag [=Gobi-Altayskiy aymak (province)]: Khasagt-Khayrkhan Ridge, 15 km S Dzhargalan, 14.viii.1970, Nartshuk (1 ♂). RUSSIA. Buryatia: Okinskiy Stan, Verkhnie Sayany, 8.vii.1913, Tolstov (1 ♂); 10 km SW Selendum, pine forest, 24.vi.1971, V. Richter (1 ♂, dissected). Irkutskaya Prov.: Baykal Lake, Chernorud, 27.vi.1966, A. Pleshanov (1 ♂). Yakutia (Sakha): Mikhaylovka, 60 km NE Amga, 21.vi.1986, Bagachanova (1 ♂); same locality, 4.vi.1985, Maksimova (1 ♂, all paratypes in ZISP).

DIAGNOSIS. Mid-sized species (body length 5–5.5 mm); male eyes dichoptic but frons very narrow at middle, narrower than anterior ocellus; postpedicel nearly 2.5X longer than basal width; labrum nearly 2.5X longer than eye height, palpus mostly yellow; mesoscutum with 4 brownish vittae, acrostichals biserial, dorsocentrals 1–2-serial, laterotergite with pale setae; legs extensively yellow, hind femur slender; abdomen mostly pale setose, tergites 2–5 faintly greyish pruinose dorsally; sternite 8 posteriorly and hypopygium yellow; female legs without pennate setae.

DESCRIPTION. Body length 5.1–5.6 mm, wing 6.1–6.5 mm. **Male** (Fig. 23). Head capsule regions mostly densely greyish pruinose; face on lower margin and entire clypeus shiny; head setation mostly black. Eyes dichoptic, ommatidia equally small. Frons slightly broadened just below ocellar triangle, very narrow before middle (narrower than anterior ocellus), broadened towards antennae on remaining portion; bare. Face broad, bare. Ocellar triangle with 2 long and several short setae. Occiput with almost regular row of moderately long setae on each side; postoculars moderately long on upper part and short laterally; postgena with pale hair-like setae. Antenna with scape and pedicel brown, postpedicel and stylus black; scape nearly 1.5X longer than subglobular pedicel, both with very short setulae; postpedicel nearly 2.5X as long as basal width, with straight margins; stylus slightly longer than postpedicel basal width. Proboscis with labrum brownish yellow, nearly 2.5X longer than eye height; palpus short, mostly yellow, brownish close to base; with scattered, dark setulae.

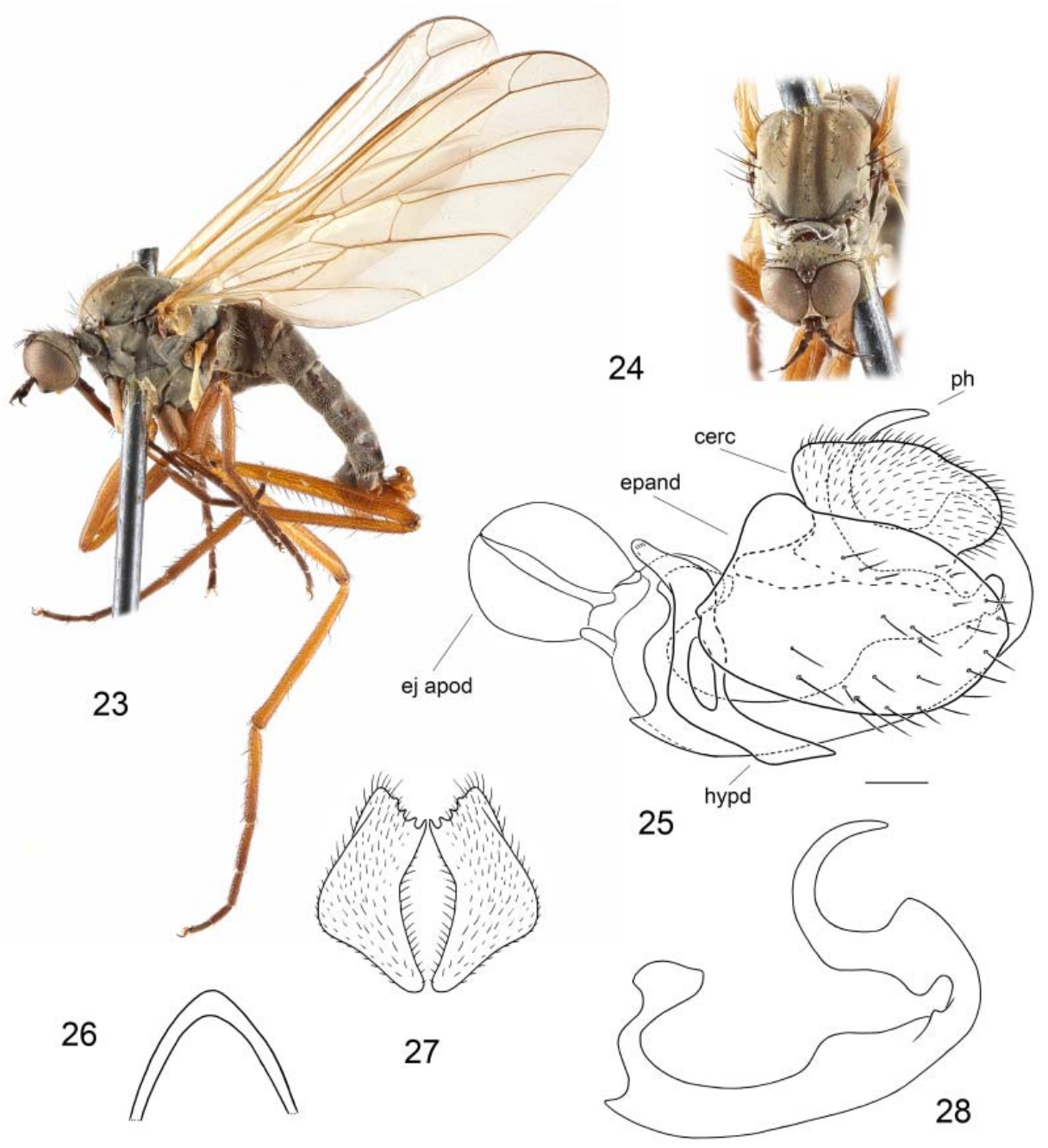
Thorax black in ground-colour, mostly densely greyish pruinose and black setose; mesoscutum (Fig. 24) with 4 brown vittae (lateral vittae less distinct). Antepronotum with 4–5 black to yellow setae dorsally on each side. Postpronotal lobe with 1 long and 3–4 shorter setae (sometimes with additional 3–4 yellow to pale setulae). Proepisternum with tuft of several pale, fine setae on lower part. Prosternum bare. Mesonotal setae: acrostichals arranged in 2 close irregular rows, short, absent on prescutellar depression; dorsocentrals uniserial, mostly short, 2 long prescutellars; 1 short presutural intra-alar, 1 long presutural supra-alar, 3–4 notopleurals (usually 3 strong, longer and 1 short, finer), 1 postsutural supra-alar (usually with 1 short, fine seta anteriorly), 1 long and 1 minute postalars, usually 2 scutellars (sometimes 1–2 additional, lateral, short, fine seta(e) present); sometimes 1–3 brownish yellow setulae in anterior part of notopleuron (usually absent). Laterotergite with a few long, strong, yellow and additional short, fine, pale setae. Anterior and posterior spiracles yellow.

Legs with coxae densely greyish pruinose, remaining podomeres subshiny; black setose; almost entirely yellow (including coxae), only tarsomere 1 at apex, most part of tarsomere 2 (except base) and entire tarsomere 3–5 brownish. Fore coxa with scattered setae anteriorly. All femora whitish pilose ventrally. Fore femur with rows of minute anteroventral and posteroventral setae. Fore tibia with 1–2 short, fine anterodorsal setae. Mid femur with row of mostly minute anteroventral setae (slightly longer and stronger near base) and more numerous, spinule-like setae posteroventrally (slightly longer in about basal half). Mid tibia with 2–3 anterodorsal and 3–4 posterodorsal, short setae (number, position and robustness variable). Hind femur slender; bearing complete row of rather short, numerous, anteroventral setae (longest setae nearly half as long as femur maximal width); covered with very short setae posteroventrally. Hind tibia simple, slender; with 3–4 anterodorsal and 3–4 posterodorsal, short setae; simple setulae ventrally; no seta in posteroapical comb. Tarsomeres of all legs slender; basitarsi with scattered, spine-like setae ventrally.

Wing membrane faintly brownish infuscate; entirely covered with microtrichia; veins yellowish brown, well-sclerotized. Veins R_5 and M_1 almost parallel towards wing margin; radial fork acute; R_5 meeting costa before wing apex; CuA+CuP complete (slightly weakened beyond middle). Cell dm moderately large, with strongly elongate apex; apical portion of M_4 nearly 3X longer than its middle portion. Pterostigma inconspicuous. Basal costal seta absent. Anal lobe well-developed; axillary incision nearly 90°. Squama yellow, pale fringed. Halter pale yellow.

Abdomen almost entirely brown in ground colour, only sternite 8 broadly yellow posteriorly (size of yellow space somewhat variable). Pruinescence: tergites 2–5 in lateral view mostly densely greyish pruinose (faintly pruinose along posterior margin), in dorsal view mostly faintly greyish pruinose; tergites 6–7 with yellowish grey iridescent spot dorsally, greyish pruinose laterally (dorsal view); tergite 1 and sternites 2–7 densely greyish pruinose, sternite 8 faintly pruinose. Chaetotaxy: tergites 1–7 mostly covered with numerous, very short, fine, pale setulae; tergites 1–3 with moderately long, yellowish, posteromarginal setae laterally (sometimes less distinct on tergite 3); tergite 8 bearing black setulae; sternite 1 bare, sternites 2–6 with pale setulae only, sternite 7 with additional moderately long, brownish to pale posteromarginal setae, sternite 8 covered with black setae only (posteromarginals moderately long). Pregenital segments: segment 6 unmodified; tergite 7 broadly concave posteriorly; sternite 7 with somewhat produced posterior corners; segment 8 with separated tergite and sternite; tergite 8 somewhat flattened, represented by two subtriangular sclerites separated mid-dorsally, with several short setae posteriorly; sternite 8 large, scoop-shaped, somewhat constricted anteriorly, with 2 antero-lateral projections separated by depression (upper projection slightly smaller and with bifid apex; lower projection larger, subconical) and smaller projection on posterior margin of depression.

Hypopygium (Figs 25–28) moderately large; almost entirely yellow, only apical semicircular part of phallus yellow; epandrial lamella with short, black setae more numerous along lower margin; cercus covered with black setulae. Epandrium entirely broadly divided (epandrial bridge absent); epandrial lamella (Fig. 25) rather subtriangular (lateral view), broadly rounded apically. Hypandrium (Fig. 26) separated from epandrium; mostly membranous, undivided, narrowly sclerotized along margin, subtriangular in ventral view; bare; gonocoxal apodeme small. Cerci (Fig. 27) separated with each other and from epandrium; cercus elongate ovate (lateral view), shorter than epandrial lamella, without additional lobe dorsally, ser-



Figs 23–28. *Empis* (*Polyblepharis*) *subtransbaicalica* Shamshev, **sp.n.**, male: 23 — habitus, holotype, lateral view; 24 — head and thorax, holotype, anterodorsal view; 25 — hypopygium, lateral view; 26 — hypandrium, ventral view; 27 — cerci, dorsal view; 28 — phallus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; hypd — hypandrium; ph — phallus. Scale bar is 0.1 mm.
Рис. 23–28. *Empis* (*Polyblepharis*) *subtransbaicalica* Shamshev, **sp.n.**, самец: 23 — габитус, голотип, вид сбоку; 24 — голова и грудь, голотип, вид спереди-сверху; 25 — гипопигий, вид сбоку; 26 — гипандрий, вид снизу; 27 — церки, вид сверху; 28 — фаллус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; hypd — гипандрий; ph — фаллус. Масштаб 0,1 мм.

rate on about apical third of inner margin. Phallus (Fig. 28) almost entirely hidden; zigzag bent, strongly constricted beyond middle; basal portion thick, gently curved; apical bend portion semicircular, thickened at base, with its tip pointing to rear. Ejaculatory apodeme moderately large, extended far beyond basal curvature of phallus, with lateral wings.

Female. Similar to male except as follows. Frons broad, parallel-sided, with scattered marginal setulae. Mid and hind femora mostly covered with simple setulae ventrally, hind femur only with 1–3 short, strong, anteroventral setae in about apical 1/3. Abdomen mostly densely greyish pruinose; mostly with pale setulae, yellow posteromarginal setae present only on tergites 1–2; tergite 7 faintly pruinose; tergite 8 yellow to brownish yellow, shiny; sternite 8 subshiny. Cercus brown, short, covered with dense, pale, erect setulae.

DIFFERENTIAL DIAGNOSIS. The new species is similar to *E. transbaicalica* Shamshev, 2006 known from the Eastern Siberia [Shamshev, 2006]. *Empis subtransbaicalica* **sp.n.** differs from *E. transbaicalica* by pale laterotergal setae and pale setose abdomen. In addition, the male of the new species has pruinose abdominal tergites 2–5 (shiny in *E. transbaicalica*) and spots of iridescent pruinosity on tergites 6 and 7 (only on tergite 7 in *E. transbaicalica*).

ETYMOLOGY. The epithet of the new species refers to its similarity to *E. transbaicalica*.

DISTRIBUTION. Mongolia, Russia (Buryatia, Irkutskaya Province, Yakutia).

Empis (*Polyblepharis*) *tuvinica* Shamshev, **sp.n.**
Figs 29–31.

TYPE MATERIAL. Holotype, ♂ labelled: [RUSSIA, Tuva] Turan [52°08′N 93°55E], Tuva / steppe slopes / V. Richter 1 VI [1]975 (ZISP, INS_DIP_0000626).

Paratypes. RUSSIA, Tuva: same data as holotype (1 ♂, 2 ♀♀, ZISP); same locality as holotype, 5.vi.1975, V. Richter (2 ♀♀, ZISP); same locality as holotype, 6.vi.1975, V. Richter (1 ♀, ZISP); same locality as holotype, 7.vi.1975, V. Richter (1 ♂, 2 ♀♀, ZISP).

DIAGNOSIS. Mid-sized species (body length about 5 mm); male eyes dichoptic but frons very narrow at middle, narrower than anterior ocellus; postpedicel nearly 2.5X longer than basal width; labrum nearly 2X longer than eye height, palpus yellow; mesoscutum with 4 brown vittae, acrostichals biserial, dorsocentrals uniserial, laterotergite with mostly black setae; legs extensively yellow to brownish yellow; abdomen with sternite 8 yellow posteriorly, tergites 2–5 mostly shiny, tergites 6 and 7 with iridescent spots dorsally, tergites 1–5 bearing black posteromarginal setae laterally; female legs without pennate setae.

DESCRIPTION. Body length about 5 mm, wing 4.7–4.9 mm. **Male** (Fig. 29). Head capsule regions mostly densely greyish pruinose; face on lower margin and entire clypeus shiny; head setation mostly black. Eyes dichoptic, ommatidia equally small. Frons slightly broadened just below ocellar triangle, very narrow before middle (narrower than anterior ocellus), broadened towards antennae on remaining portion; bare. Face broad, bare. Ocellar triangle with 2 long and several short fine setae. Occiput with almost regular row of moderately long setae; postoculars moderately long on upper part and very short laterally; postgena with pale hair-like setae. Antenna with scape and pedicel brown, postpedicel and stylus black; scape slightly longer than subglobular pedicel, both with very short setulae; postpedicel nearly 2.5X as long as basal width, with straight margins; stylus slightly longer than postpedicel basal width. Proboscis with labrum brownish yellow, nearly 2X longer than eye height; palpus short, mostly yellow, brownish close to base; with scattered, dark setulae.

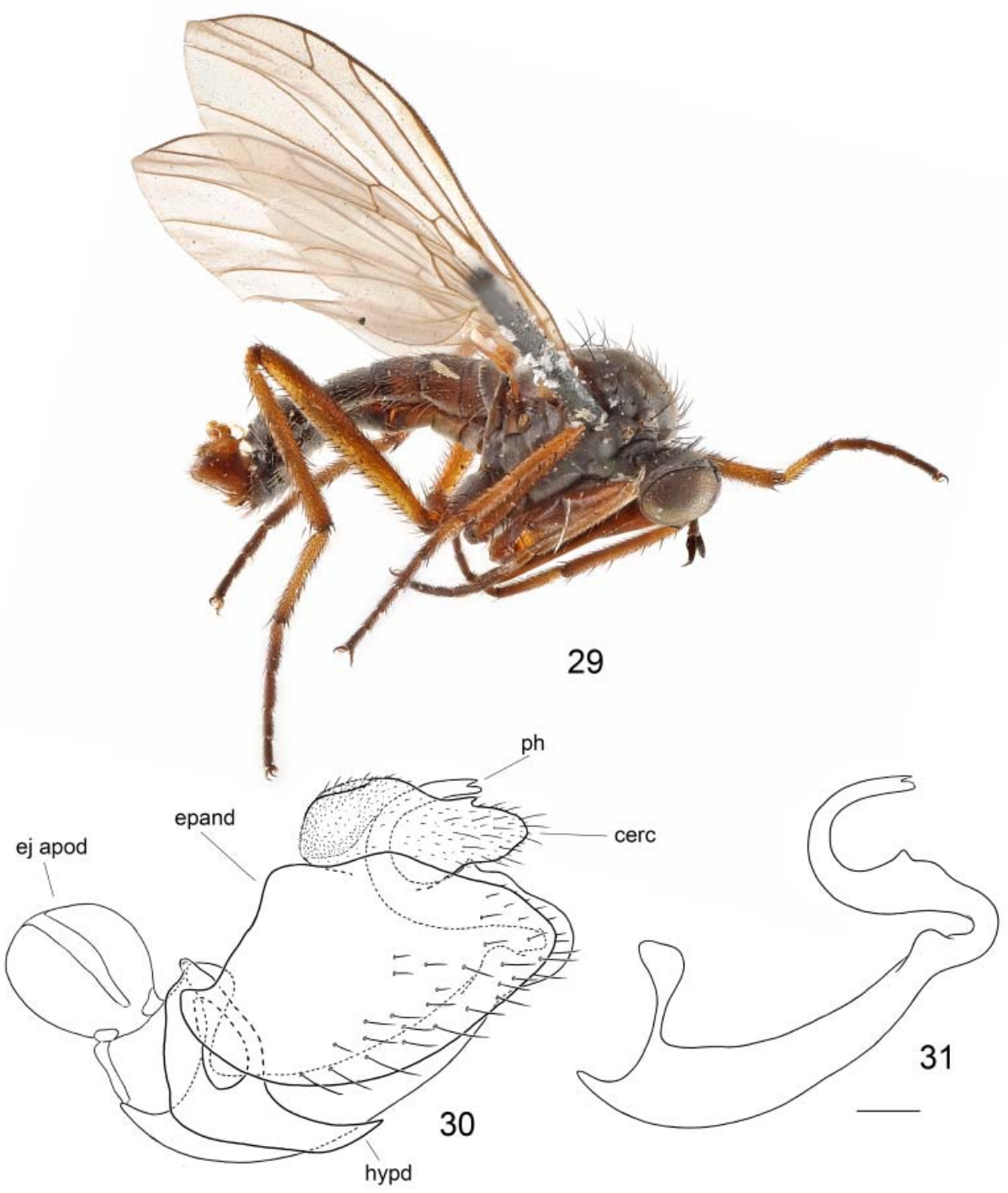
Thorax black in ground-colour, mostly densely greyish pruinose and black setose; mesoscutum with 4 brown vittae (lateral vittae less distinct). Antepronotum with 4–5 black setae dorsally on each side. Postpronotal lobe with 1 long and several shorter setae of different lengths (some of them only slightly shorter than postpronotal seta). Proepisternum with tuft of several, pale, fine setae on lower part. Prosternum bare. Mesonotal setae: acrostichals arranged in 2 close irregular rows, short, absent on prescutellar depression; dorsocentral setae uniserial, presuturals rather long (slightly longer than antennal stylus), 3 long prescutellars; 1 presutural intra-alar (nearly as long as presutural dorsocentrals), 1 long presutural supra-alar, 3–4 notopleurals, 1 postsutural supra-alar (with 1–2 short, fine seta(e) anteriorly), 1 long and 1 minute postalars, 4 scutellars (lateral setae only slightly shorter than apicals); Laterotergite usually with a few strong black setae (sometimes some setae brownish to brownish yellow and additional short, fine, pale setulae present). Anterior and posterior spiracles yellow.

Legs with coxae densely greyish pruinose, remaining podomeres subshiny; mostly black setose; Leg colour: extensively yellow to brownish yellow; coxae (except apex), most part of fore femur (except apex and sometimes extreme base), tarsomere 1 at apex, most part of tarsomere 2 (except base) and entire tarsomeres 3–5 brownish. Fore coxa with scattered strong setae and pale setulae anteriorly. All femora whitish pilose ventrally. Fore femur with rows of minute anteroventral and posteroventral setae. Fore tibia with 2–4 short, anterodorsal setae (position and robustness variable). Mid femur with short setae in about apical half anterodorsally and anteriorly; bearing rows of minute, fine anteroventral and posteroventral setae becoming slightly longer and denser close to base; with similar setae on ventral face near base. Mid tibia rather slightly thickened; with 2–4 anterodorsal and 2–3 posterodorsal, short, strong setae (position and robustness variable). Hind femur slender; bearing complete row of short, numerous, anteroventral setae (longest setae shorter than half of femur maximal width); covered with short, finer setae posteroventrally. Hind tibia simple, slender; with 2–3 anterodorsal and 3 posterodorsal, moderately long setae; simple setulae ventrally; no seta in posteroapical comb. Tarsomeres of all legs slender; basitarsi with scattered, spine-like setae ventrally.

Wing membrane faintly brownish infuscate; entirely covered with microtrichia; veins yellowish brown, well-sclerotized. Veins R_5 and M_1 almost parallel towards wing margin; radial fork acute; R_5 meeting costa before wing apex; CuA+CuP complete (slightly weakened beyond middle). Cell dm moderately large, with strongly elongate apex; apical portion of M_4 nearly 3X longer than its middle portion. Pterostigma inconspicuous. Basal costal seta absent. Anal lobe well-developed; axillary incision nearly 90°. Squama yellow, pale fringed. Halter pale yellow.

Abdomen almost entirely brown in ground colour (tergites of pregenital segments somewhat darker), only sternite 8 yellow posteriorly (size of yellow space variable). Pruinescence: tergite 1 entirely densely greyish pruinose; tergites 2–5 mostly shiny (narrowly faintly pruinose anteriorly); tergites 6–7 with yellowish grey iridescent spot dorsally, shiny laterally (dorsal view); sternites 1–7 densely greyish pruinose, sternite 8 faintly pruinose. Chaetotaxy: tergites 1–5 with black and pale setulae dorsally and longer, fine, pale setae laterally, bearing long, black posteromarginal setae laterally (sometimes some posteromarginal setae brownish yellow to yellow); tergites 6–7 with scattered setulae; sternite 1 bare, sternites 2–7 with short,

pale setae, sternite 8 with black setae (posteromarginals moderately long). Pregenital segments: segment 6 unmodified; tergite 7 broadly concave posteriorly, sternite 7 unmodified; segment 8 with separated tergite and sternite; tergite 8 somewhat flattened, represented by two subglobular sclerites separated mid-dorsally, with several short setae posteriorly; sternite 8 large, scoop-shaped, somewhat constricted anteriorly, with 2 small, antero-lateral projections separated by depression and



Figs 29–31. *Empis* (*Polyblepharis*) *tuvinica* Shamshev, **sp.n.**, male: 29 — habitus, holotype, lateral view; 30 — hypopygium, lateral view; 31 — phallus, lateral view. Abbreviations: cerc — cercus; ej apod — ejaculatory apodeme; epand — epandrium; hypd — hypandrium; ph — phallus. Scale bar is 0.1 mm.

Рис. 29–31. *Empis* (*Polyblepharis*) *tuvinica* Shamshev, **sp.n.**, самец: 29 — габитус, голотип, вид сбоку; 30 — гипопигий, вид сбоку; 31 — фаллус, вид сбоку. Сокращения: cerc — церк; ej apod — эякуляторная аподема; epand — эпандрий; hypd — гипандрий; ph — фаллус. Масштаб 0,1 мм.

larger, subconical projection on posterior margin of depression (slightly curved at apex).

Hypopygium (Figs 30, 31) moderately large; yellow (epandrium mostly brownish yellow in holotype and one paratype); epandrial lamella with short, black setae more numerous along lower margin; cercus covered with black setulae. Epandrium entirely broadly divided (epandrial bridge absent); epandrial lamella (Fig. 30) subtriangular (lateral view). Hypandrium separated from epandrium; mostly membranous, undivided, narrowly sclerotized along margin, subtriangular in ventral view; bare; gonocoxal apodeme small. Cerci separated with each other and from epandrium; cercus elongate ovate (lateral view), shorter than epandrial lamella, somewhat lobe-like produced at about basal half dorsally (dorsal view), with 2 small, pointed projections beyond middle of inner margin. Phallus (Fig. 31) almost entirely hidden; zigzag bent, strongly constricted beyond middle; its basal portion gently curved, thick at base and becoming gradually narrower towards constriction; apical bend portion semicircular (its tip pointing to rear), rather mostly thicken, with short, slender subapical part. Ejaculatory apodeme moderately large, extended far beyond basal curvature of phallus, with lateral wings.

Female. Similar to male except as follows. Frons broad, slightly broadened towards antennae; with scattered marginal setulae. Mid tibia slender; hind femur slightly thickened. Mid and hind femora mostly covered with minute setulae ventrally; hind femur with 4–5 short anteroventral setae in about apical 1/3. Abdomen almost entirely greyish pruinose; tergite 8 black, sternite 8 brownish yellow, both sclerites shiny. Cercus brown, short, covered with dense, pale, erect setulae.

DIFFERENTIAL DIAGNOSIS. The new species is similar to *E. transbaicalica* Shamshev and *E. subtransbaicalica* **sp.n.** described herein. *Empis transbaicalica* differs from *E. tuvinica* **sp.n.** primarily by broader frons of the male (slightly broader than anterior ocellus) and by the absence of an iridescent spot on the male abdominal tergite 6 [Shamshev, 2006]. *Empis subtransbaicalica* **sp.n.** differs from *E. tuvinica* **sp.n.** primarily by pale laterotergal setae, 2 scutellar setae (sian 4) and pale setose abdomen.

ETYMOLOGY. The specific epithet refers to the territory of the origin of the new species, Tuva (Tyva) Republic of Russia Federation.

DISTRIBUTION. Russia (Tuva).

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