

**RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL
EXPEDITIONS TO IRAN, 1970, 1973 AND 1977****Three new species of horse flies (Diptera, Tabanidae) from
the Palearctic region**

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Abstract. *Nemorium oenderi* sp. n. from Turkey as well as *Tabanus sarbazensis* sp. n. and *T. pazukii* sp. n. from Iran are described. Diagnoses of the mentioned species based on the females are given, charts of diagnostic characters of closely related species as well as illustrations of important characters of three studied species are presented.

Although many species have been recorded in a catalogue of palae-arctic horse flies published by Leclercq et Olsufjev (1981), numerous new species have still to be described and much work must yet be done before a satisfactory classification is achieved. The three new species described below represent part of the results obtained by the author during research projects of the National Museum in Prague (expeditions to Iran and Turkey).

***Nemorius**) *oenderi* sp. n.**

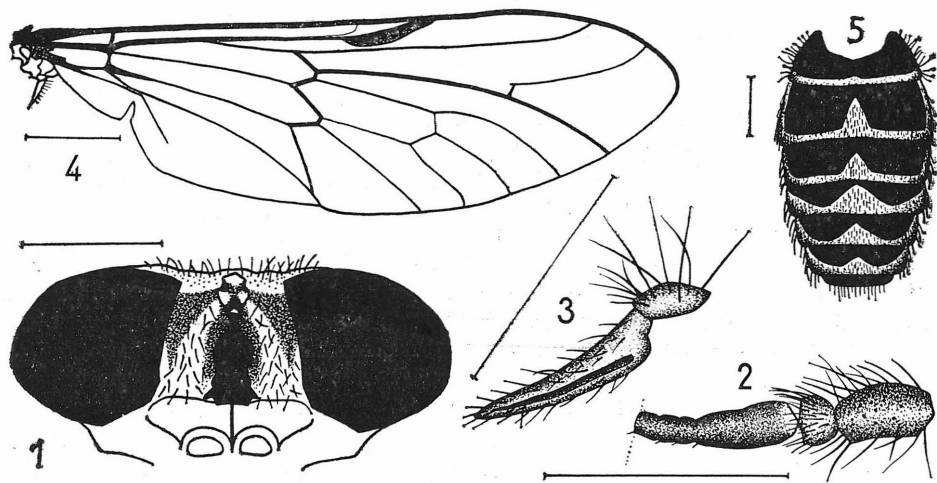
(Figs. 1—5)

This new species is dedicated to Doz. Dr. F. Önder from the Ege Üniversitesi Ziraat Fakültesi (Izmir, Turkey).

Diagnosis. Small, nearly unicolorous greyish species with entirely clear wings without any pattern, a short appendix to vein R₄. Facial and genal calli completely absent. Segment 2 of antennae nearly as long as deep. Eyes conspicuously haired, in relaxed specimen without spots and bands. Frontal callus black to blackish-brown, very prolonged and narrow. Palpi very short, greyish dusted. Tergites 2 with an indication of very narrow yellowish patches at sides of two very large rhomboid spots connected anteriorly, leaving distinct light grey median triangle posteriorly. Fore coxae greyish, fore femora brown. A median dark stripe on abdominal sternites missing.

*) Not all specialists of tabanidology agree about the position of the genus *Nemorius* Rond. Some authors consider it as a valid genus (e.g. Chvála, Lyneborg et Moucha, 1972), another as a subgenus of *Silvius* Meig. (Olsufjev, 1977). The discovery of *N. oenderi* sp. n. makes it rather difficult exactly to define the genera *Nemorius* Rond. and *Silvius* Meig. now.

♀. Frons rather broad and conspicuously broader below, with black to blackish-brown shining, very narrow, prolonged callus touching ocellar tubercle dorsally. Frons, subcallus and face rather prominent from lateral view, eyes conspicuously clothed with long hairs. Vertex entirely grey dusted with a blackish grey dusted area among ocellar tubercles, eyes and upper half of frontal callus. Frons covered by numerous long yellowish hairs. Parantennal calli missing. Subcallus, face and cheeks yellowish-grey dusted with sporadic, sparse, long, yellowish hairs. Cheeks with very inconspicuous black puncturation. Antennae black, short, first two segments covered by a greyish tomentum and rather long dark and light hairs. Segment 2 short, only slightly shorter than deep, segment 1 2.5 times longer than segment 2. Palpi light greyish-brown, apical segment rather short, slender and pointed at tip, 2.5 times longer than the first palpal segment. Thorax dark, greyish dusted (incl. scutellum and notopleural lobes), pleura almost bare, mesonotum with three partially distinct darker longitudinal stripes. Coxae greyish, fore femora brown, on the inner side basally yellowish, femora of P₂ as well as P₃ yellowish, brown for tips proximally and distad. Fore tibiae yellowish on basal half, the rest brown, tarsi brown. Four posterior tibiae yellowish except for tip; tarsi yellowish-brown, basal segments yellowish with dark apices. Wings clear, veins brown, yellowish near base and along costal margin. Stigma yellowish, a very short appendix to vein R₄. Halteres yellowish-white, stem darker. Abdomen greyish, both tergites and sternites with narrow paler borders on posterior margins. Tergite 1 with a broad black median spot, tergite 2 with two very large rhomboidal spots connected anteriorly, leaving distinct light grey median triangle posteriorly. Follow-



Figs. 1—5: *Nemorius oenderi* sp. n., female. 1: frons; 2: antenna; 3: palpus; 4: wing; 5: abdomen dorsally. Scales 1 mm.

ing tergites black with rather broad greyish posterior margins, forming small median triangles. Sternites grey dusted, a median dark stripe on sternites missing. Abdomen pale haired, with some black hairs on the last tergite. Length (without antennae): 8 mm.

♂. Unknown.

Holotype. ♀, Turkey, Menemen, Yabanyol', 20. 5. 1969, F. Önder lgt. Deposited on the Ege Üniversitesi Ziraat Fakültesi, İzmir.

Chart of diagnostic characters of closely related species:

	<i>N. oenderi</i> sp. n.	<i>S. variegatus</i> (Fabricius, 1805)	<i>S. inflaticornis</i> Austen, 1925
habitus as	<i>Nemorius</i> Rond.	<i>Silvius</i> Meig.	<i>Silvius</i> Meig.
length of body without antennae	8 mm.	10 mm.	10 mm.
pleura	almost bare	almost bare	haired
appendix to vein R ₄	present, very short	missing	missing
fore coxae	greyish	yellowish	greyish, yellow- ish only at base
fore femora	brownish	yellowish, api- cally (proximally and distad) brownish	yellowish
yellowish patches at sides of central spots of 2nd abdominal tergite	narrow	broad	broad
a median dark stripe on abdo- minal sternites	missing	indistinct	distinct

Comparative material: Holotype (♀) of *Chrysops singularis* Meigen, 1838 (det. as *Silvius variegatus* (Fabricius, 1805) by Chvála, 1969 and compared with type) labelled Andalusia, coll. Winthem, *nitidus* det. Wiedem., *Nemorius singularis* Mg. Type! det. Szilády. Deposited in Naturhistorisches Museum, Vienna, Austria. Holotype (♀) of *Silvius inflaticornis* Austen, 1925 (det. J. E. Chainey, 1977) labelled Type, Turkey: Gallipoli, 1 Jan. — 10 Aug. 1923, Maj. W. M. J. Martin, B. M. 1923 — 413. Deposited in the British Museum (Natural History), London, England.

***Tabanus sarbazensis* sp. n.**

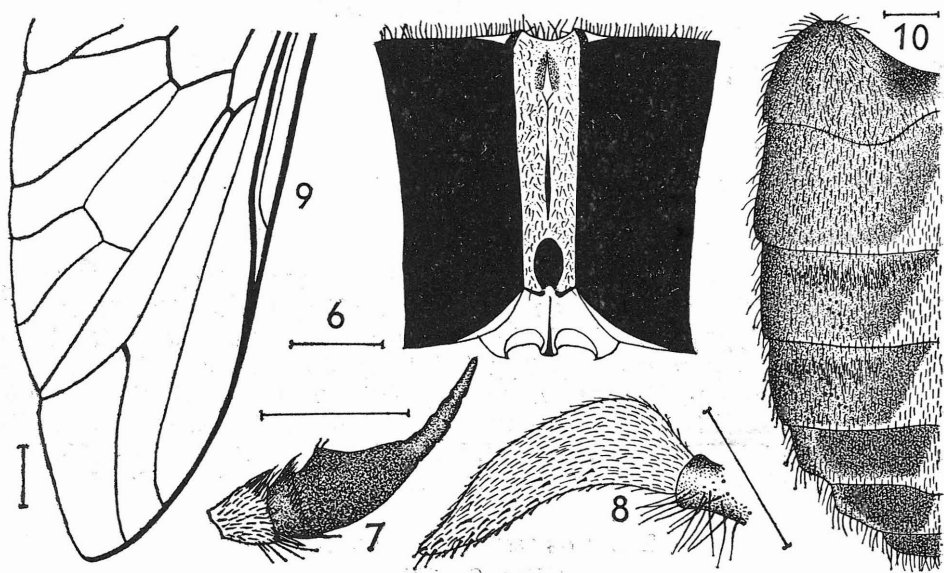
(Figs. 6—10)

The name is derived from Iranian river Sarbaz in Baluchestan.

Diagnosis. Large yellowish-orange species resembling *semiargenteus*

Ols. and *olsufjevi* Gauz. but differing from both in female in stout palpi (segment 2) with pale hairs and some sporadic black hairs beneath. Index of frons 1:5.3, lower frontal callus oval. Basal antennal segments light brown, antennal segment 3 narrow, dark, with blunt dorsal tooth. Tergites of abdomen with distinct large whitish triangles.

♀. Eyes naked, unbanded. Frons and subcallus yellowish-grey dusted. Frons narrow, index 1:5.3, slightly widened above and with two light brown small patches on vertex. Lower callus shining brown, a little wrinkled, oval, higher than broad. Median callus hardly visible, brown, linear, connected indistinctly with lower callus. Base of frontal stripe arched, strengthened on both sides at margins. Antennal bows rather narrow, face and cheeks light grey dusted and densely pale haired, hairs long. Basal antennal segment light brown, greyish-brown dusted and short pale haired except of a tuft of short black hairs distad above. Segment 2 brownish dusted with a distal ring of black short hairs and several pale hairs beneath. Segment 3 narrow, dark brown, with blunt dorsal tooth and black terminal flagellar segments. Palpi whitish-yellow, segment 2 stout, apically blunt, mostly pale haired with some sporadic black hairs beneath. Pleura of thorax greyish with long greyish hairs, dorsum greyish-brown, with darker and somewhat shining longitudinal stripes, densely haired by short golden-yellow hairs. Notopleural lobes yellowish-brown with black and pale hairs. Coxae greyish, concolorous



Figs. 6—10: *Tabanus sarbazensis* sp. n., female. 6: frons; 7: antenna; 8: palpus; 9: wing; 10: abdomen dorsally. Scales 1 mm.

with pleura, femora brownish, tibiae yellowish, brownish distad, tarsi brownish. Legs pale haired. Wings clear with yellowish-brown veins, first posterior cell very narrowed apically, no appendix to vein R₄. Halteres yellowish-brown with yellowish knob. Abdomen yellowish-orange on anterior four tergites, distinct pale haired, large whitish median triangles reaching fore margins of tergites. Triangles with distinct small darkened patches laterally. Apical tergites darkened, blackish-brown areas with black hairs, all tergites with more or less distinct pale posterior margins. Sternites salmon yellow dusted, pale haired, with dark yellowish-brown shining stripe, which is black haired distad. Length (without antennae) 19 mm.

♂. Unknown.

Holotype. ♀, S. E. Iran, Baluchestan, 1.—2. 4. 1973, Sarbaz river valley (Rudkhanehye Sarbaz), 11 km. N. up to and 30 km. S. of Sarbaz (26 39 N, 61 15 E), Loc. No. 145, Exped. Nat. Mus. Praha lgt. Deposited in the Department of Entomology of the National Museum (Nat. Hist.), Praha, Cat. No. P5 — 33220.

Chart of diagnostic characters of closely related species:

	<i>T. sarbazensis</i> sp. n.	<i>T. semiargenteus</i> Olsufjev, 1937	<i>T. olsufjevi</i> Gauzer, 1960
palpi	whitish-yellow	yellowish-grey	yellowish-brown
palpal segment 2	pale haired, with some sporadic black hairs only beneath	black haired	whole black and pale haired
antennal seg- ments 2 and 3	light brown	black	dark brown
lower frontal callus	oval, without two prominences basally, brown	almost oval, with two pro- minences basally, black	triangle to oval, with two corns basally, black- ish-brown
connection of lower frontal callus and medial one	covered by greyish dust	not interrupted	not interrupted
femora	brownish	black	black, greyish dusted
abdominal tergites II-IV	yellowish-orange, with distinct large whitish median triangles marked sharply by darkened patches laterally	yellowish-brown, whitish dusted, with indistinct whitish median triangles	yellowish-brown, yellowish-grey dusted, with indistinct whit- ish median triangles
hairs of abdomen	whitish	whitish	yellowish-grey

Comparative material: Through the goodwill of Prof. Dr. N. G. Olsufjev (Moscow) I was enabled to examine ♀ of *Tabanus semiargenteus* Ols. determined by him (Nakhichevan A.S.S.R., Shahbut, 30. 7. 1939, Gauzer lgt.), as well as ♀ of *Tabanus olsufjevi* Gauz. (Nakhichevan A.S.S.R., Tivi, 27. 7. 1968, Chudaverdyev lgt.) which are deposited in the Department of Entomology of the National Museum (Nat. Hist.), Praha, now.

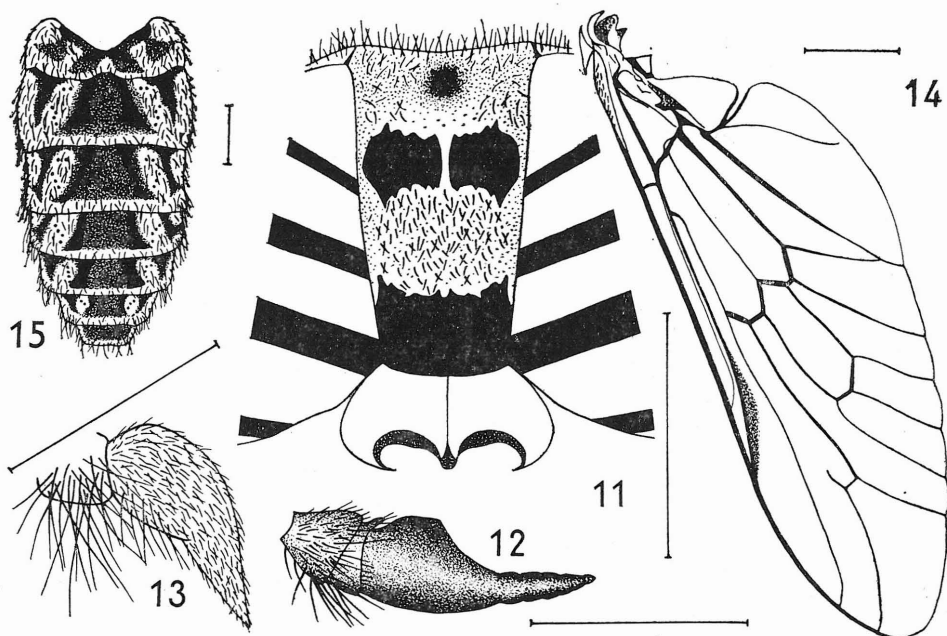
***Tabanus pazukii* sp. n.**

(Figs. 11—15)

I dedicate this new species to Ing. Ali Pazuki from the Plant Pests and Diseases Research Institute (Tehran, Iran).

Diagnosis. Eyes with 4 bands, frons broad, lower callus shining black, oblong shaped and touching eye margins. Median callus divided into two large dark patches. Antennae reddish-brown, segment 3 with very prominent broadly blunt dorsal tooth. Palpi yellowish-white, second segment very stout on basal two-thirds. Long appendix to vein R₄. Median abdominal triangles large, lateral and sublateral spots of dorsum of abdomen oblique, limited by narrow longitudinal dark divergent spots which form four interrupted dark stripes. Venter of abdomen with an indistinct shadow of median stripe.

♀. Eyes bare, with 4 bands. Frons rather broad, index 1:2.8, whitish-grey dusted, densely yellowish haired and conspicuously widened above. Lower callus prominent from lateral view, shining black, oblong shaped and touching eye margins. Median callus black, broadly separated from the lower callus, divided into two rather large dark patches. Vertex with a small dull black area and some black hairs. Subcallus covered by yellowish-grey tomentum. Face and cheeks whitish with long concolorous hairs, an indistinct brownish parafacial band on each side of the antennae. Antennae reddish-brown; first segment yellowish dusted, with long pale hairs below and short one above; second segment reddish brown covered by short black hairs; segment 3 light reddish brown at base, darkened distad, with very prominent broadly blunt dorsal tooth, terminal flagellar segments blackish-brown. Third antennal segment microscopically pale haired. Palpi yellowish-white; first segment with very long whitish hairs, second segment very stout on basal two-thirds, sharply pointed towards tip, pale yellowish and clothed with whitish hairs (rather long beneath), exceptionally with single small black hairs. Postocular margin on vertex conspicuously broad, whitish-yellow and clothed with long concolorous hairs. Thorax dark grey on mesonotum, notopleural lobes yellowish, mesonotum with distinct paler longitudinal stripes and covered by pale short hairing. Pleura paler greyish dusted and densely whitish-yellow haired. Coxae and femora concolorous with pleura and similarly haired beneath, tibiae yellowish. Apical half of fore tarsi and fore tibiae blackish-brown, posterior two tibiae of P₃ at tip concolorous. Posterior four tarsi with basal half of the first segment yellowish, the rest of the mentioned tarsi brownish. Wings clear, veins brownish, Sc and R₁ yellowish, long appendix to vein R₄. Halteres ivory-



Figs. 11—15: *Tabanus pazukii* sp. n., holotype-female. 11: frons; 12: antenna; 13: palpus; 14: wing; 15: abdomen dorsally. Scales 1 mm.

-colored, stem a little darkened. Median abdominal triangles large, lateral and sublateral spots of dorsum of abdomen oblique, limited by narrow longitudinal dark divergent spots which form four interrupted dark stripes. Median triangles greyish, lateral and sublateral spots pale yellowish brown to cream-buff as well as hindmargins and sidemarkings of all tergites. Internal dark spots of longitudinal stripes blackish-brown, external brownish, both black haired or bare, pale spots with yellowish-white hairs only. First tergite without a median triangle, with yellowish-white very long hairs. Tergite 7 mostly greyish dusted and black haired. Venter of abdomen pale cream-buff to yellowish brown, greyish dusted, with an indistinct shadow of median stripe. Sternites 1—5 shortly pale haired; sternites 6—7 mostly with erected long black hairs in the middle, on both sides clothed by short pale hairs. Length (without antennae): 10 mm. (holotype), 9—11 mm. (paratypes).

♂. Unknown.

Holotype: ♀, N. E. Iran, Khorassan, Hares-abad, 15.—16. 6. 1977, 10 km. S. of Sabzevar (36 12 N, 57 36 E), 940 m. a.s.l., "desert park", Loc. No. 368, Exped. Nat. Mus. Praha lgt. Paratypes: 4 ♀♀, the same; 1 ♀, S. W. Iran, Fars, South part of the Daryatcheye Bakhtegan (salty lake area) (29 20 N, 54 05 E), 7. 7. 1970, 30 km. E. of Sahl-abad (29 16 N, 53 54 E), Loc. No. 47, Exped. Nat. Mus. Praha lgt. All deposited in the De-

partment of Entomology of the National Museum (Nat. Hist.), Praha, Cat. No. P5 — 33221 (holotype), Cat. No. P5 — 33222—33226 (paratypes).

Chart of diagnostic characters of closely related species:

	<i>T. pazukii</i> sp. n.	<i>T. arfaai</i> Abbassian- Lintzen, 1966	<i>T. mistshenkoi</i> Olsufjev, 1937
frontal index	1:2.8	1:2.8	1:3.8
median callus	present, divided into two large dark patches	absent	present, not divided
base of antennal segment 3	long and narrow with very prominent broadly blunt dorsal tooth	short and broad with a blunt dorsal tooth	short and broad with a blunt dorsal tooth
terminal part of maxillary palpus	rather broad, sharply pointed towards tip	rather broad, sharply pointed towards tip	very narrow, digital, blunt or rounded on the top
appendix to vein R ₄	long	absent	absent
the first tergites of abdomen	yellowish-brown in ground colour	yellowish-brown in ground colour	blackish in ground colour

Comparative material: I have examined in 1977 all type-material of *Tabanus arfaai* Abbas.-Lintz. in the collection of the Institute of Public Health Research, Tehran, quoted by Abbassian-Lintzen (1966). The material of Ježek (1980) in the case of *Tabanus mistshenkoi* Ols. was used for comparison as well.

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