

**RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL
EXPEDITIONS TO IRAN****Diptera: Tabanidae**

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In spite of the 12 years which have elapsed since the appearance of a summary paper published by Abbassian-Lintzen (1964) with the most recent list of horse-flies of Iran, keys and data about distribution of species occurring in that country, practically nothing has since been added to the above-mentioned list. There are a few changes in synonymy and a fuller account of distribution based on later collecting only, published e. g. by Leclercq (1960, 1967), Chvála, Lyneborg & Moucha (1972), Moucha (1976) and Olsufjev (1977).

Using the opportunity of visiting almost all the main Iranian biotopes during three biological expeditions, on the basis of a joint programme of biological research of the Plant Pests and Diseases Research Institute, Tehran and the National Museum (Nat. Hist.), Praha, we were also collecting horse-flies. However, only a very small part of the abundant material of Tabanidae from Iran is discussed in the present paper.

Hybomitra mendica (Vill.)*Tabanus (Therioplectes) mendicus* Villeneuve, 1912 : 41.*Tabanus mendicus*; Austen, 1922 : 151.*Tabanus (Therioplectes) mendicus*; Kröber, 1925 : 67.*Tabanus (Therioplectes) mendicus*; Surcouf, 1926 : 349.*Sziladynus mendicus*; Kröber, 1938 : 76.*Hybomitra mendica*; Leclercq, 1963 : 5.*Hybomitra mendica*; Leclercq, 1967 : 111.*Hybomitra (Mouchaemyia) mendica*; Olsufjev, 1972 : 450, 451.*Hybomitra (Mouchaemyia) mendica*; Leclercq & Olsufjev, 1975 : 30.*Hybomitra mendica*; Moucha, 1976 : 158.*Hybomitra (Mouchaemyia) mendica*; Olsufjev, 1977 : 309.

Frons of female as figured (Fig. 1), subcallus with pale hairs laterally, eyes with three narrow purple bands, long and dense haired, antennae and palpi as figured (Figs. 10, 19). Femora blackish, stigma, crossveins and fork of wings blackish-brown clouded, halteres black. Two basal segments of abdomen greyish, dense and long whitish haired, second tergite with a dark spot in the middle, abdomen otherwise black, pale haired. Known length of body (excluding the length of antennae) 12 to 13 mm., but one Persian female from our material 14 mm. Wings of mentioned female 13 mm.

Material examined: 1 ♀, Iran, 100 km. N. Hamadan, 2100 m., Ressler. leg. Deposited in the National Museum (Nat. Hist.), Praha, Cat. No. 32718.

Other material examined: *H. mendica* (Vill.) determined by Dr. Moucha, 1 ♀, Iraq, Top-Záwé, 29. 3. 1944.

Distribution: Syrie, Israel, Iraq. New for the fauna of Iran.

***Tabanus ansarii badhysi* Ols. & Shevtsh.**

Tabanus ansarii badhysi; Olsufjev & Shevtshenko, 1964 : 197.

Tabanus ansarii badhysi; Leclercq, 1967 : 138.

Tabanus ansarii badhysi; Leclercq & Olsufjev, 1975 : 31.

Tabanus ansarii badhysi; Moucha, 1976 : 89, 92.

Tabanus ansarii badhysi; Olsufjev, 1977 : 216.

Frons of female as figured (Fig. 2), the lower part twice as narrow as the upper. Antennae and palpi as figured (Figs. 11, 20). Wings milky clouded. Sides of abdominal tergites 1—4 yellowish-brown, in the middle with large blackish-brown triangles and pale oval spots laterally, venter yellowish-brown, abdominal segments 5—7 almost greyish dorsally and ventrally. Length of body on the basis of original description 9—12 mm., in our case 12 mm. Wings of one female from Iran 10 mm.

Material examined: 1 ♀, N. Iran, Robat-e Tork, 29. 6. 1970, 33 45 N, 50 51 E, Loc. no. 34, Exp. Nat. Mus. Praha. Deposited in the National Museum (Nat. Hist.), Praha. Cat. No. 32719.

Other material examined: Through the generosity of Prof. N. G. Olsufjev (Moscow) and Dr. E. P. Nartshuk (Leningrad) I was enabled to examine one paratype of female of *T. ansarii badhysi* Ols. & Shevtsh., Kyzyl-Džar, Badchyz (Turkmen S. S. R.), 23.—24. 5. 1962, Tsharykuliev leg.

Distribution: Turkmen S. S. R. New for the fauna of Iran.

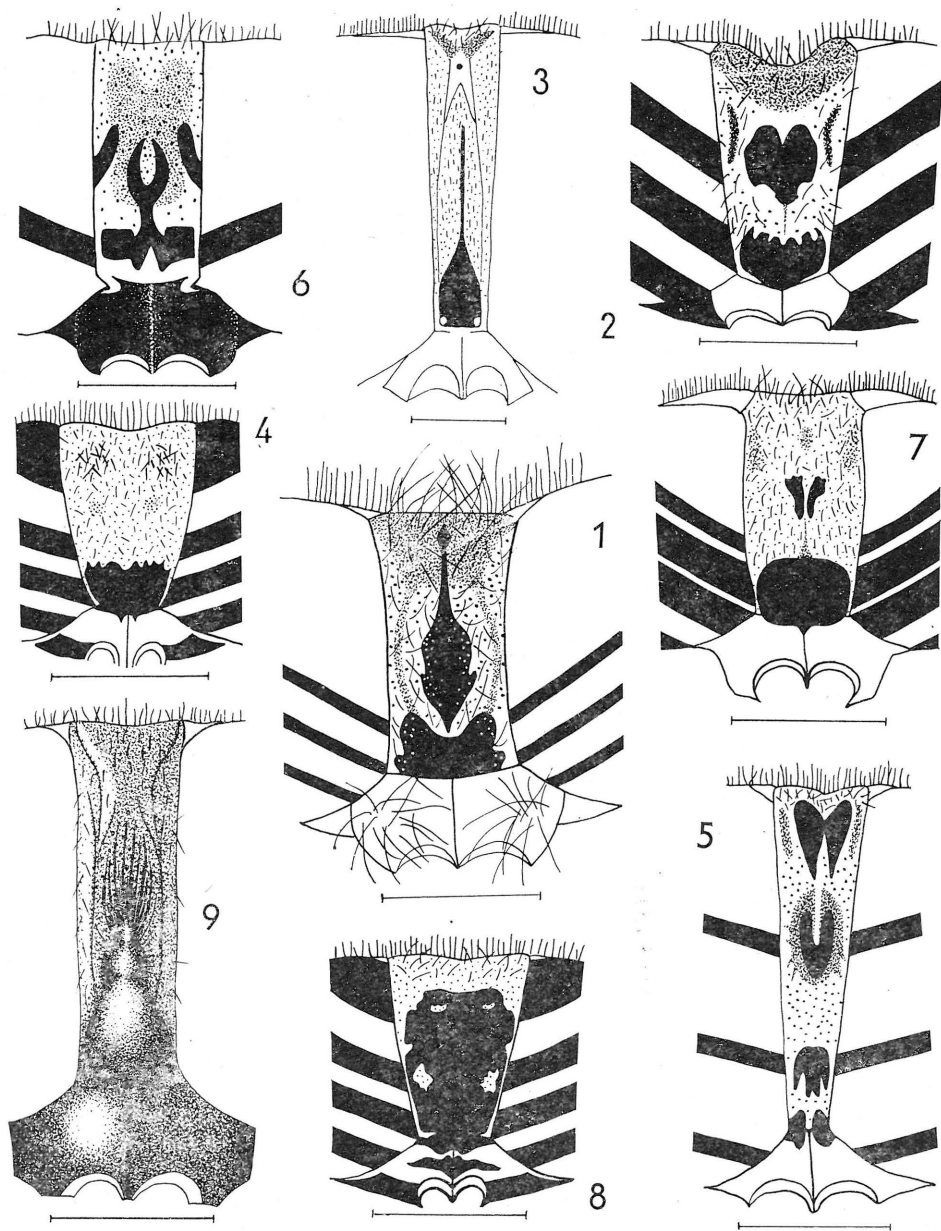
***Tabanus eggeri mianjangelensis* subsp. n.**

Tabanus tinctus; Abbassian-Lintzen (nec Walker, 1850), 1964 : 318.

The name is derived from Iranian settlement Mian Jangal.

Female large, yellowish-brown. It differs from nominate form by lower frontal callus, restricted by horizontal cut ventrally and two small rounded whitish spots on each side (Fig. 3). Basal two antennal segments with pale hairs only (Fig. 12), palpi yellowish, slightly pale haired, long and slender, very pointed at the tip (Fig. 21). Middle and hind pairs of femora yellowish. Abdomen with large pale median triangles dorsally, which reach anterior margin of each tergite, without a black patch. Brown sidemarkings rather indistinctly black haired.

Description. ♀. Eyes bare, without bands, frons (Fig. 3) and subcallus whitish-yellow dusted, former a little widened above, covered by dense short pale hairs. Proportions of frons as 1.5 : 8 : 2. Lower callus oval-shaped, shining brownish, restricted by horizontal cut ventrally and two small rounded whitish spots on each side. Mentioned callus connected with brownish linear median callus by pointed tip dorsally. Vertex slightly greyish with short pale hairs, postocular margin yellowish-white, with a row of pale short hairs as well. Cheeks greyish-white with long white hairs becoming shorter on whitish-grey face. Antennae (Fig. 12) with basal two segments slightly brownish-yellow, covered with short pale hairs only. Segment 3 blackish-brown, at base brownish-yellow, dorsal tooth rectangular. Palpi (Fig. 21) rather long and slender, very pointed at the tip, yellowish coloured and with sparse



Figs. 1—9: female frons. 1: *Hybomitra mendica* (Vill.), 2: *Tabanus ansarii badhysi* Ols. & Shevtsh., 3: *T. eggeri mianjagalensis* subsp. n., 4: *T. hashemii* sp. n., 5: *T. ilchanii* sp. n., 6: *T. mordax boroumandi* subsp. n., 7: *T. safavii* sp. n., 8: *T. zeirii* sp. n., 9: *Dasyrhamphis kuhedenaensis* sp. n. Scale lines 1 mm.

short pale hairs. Proboscis blackish. Mesonotum and scutellum brownish-grey dusted, with many pale hairs and sporadical black ones, light median and lateral stripes rather distinct, supraalar stripe rather indistinct, humeral lobe brownish-grey, notopleural lobe greyish-brown with many long black hairs below. Postalar callus with a tuft of long white hairs. Pleura brownish-grey dusted, some areas with tufts of long white hairs. Coxae brownish-grey dusted, of which fore with long white hairs in contrast to middle and hind pairs with short ones only. Fore femora brownish-black, covered by short pale hairs, middle and hind pairs yellowish with the same hairing. Tibiae light yellow, black haired towards tip; fore tibiae on apical third and whole of fore tarsi black, posterior four tarsi brown with short black pubescence. Wings clear, veins yellowish-brown, no appendix to vein R_4 , first posterior cell narrowly open. Halteres brownish, some areas of knobs yellowish. Squamae yellowish. Abdomen yellowish-brown with large pale median triangles which reach anterior margin of each tergite but without a black, narrow median patch on tergites 2–5. Apical tergites of the same colour as foregoing ones but somewhat darker. Brown side-markings are rather indistinctly black haired, lateral areas of tergites and very narrow hind margins covered by pale hairs. Sternites unicolours yellowish-brown, pale haired, mesally with a somewhat darker rust coloured stripe. Sternite 7 with long black hairs. Narrow hind margins of sternites paler.

♂ unknown.

Length of body: 20–24 mm. Wings: 16–18 mm.

Holotype: ♀, S. Iran, 15 km. N. W. Mian Jangal, 5. 6. 1973, 29 13 N, 53 20 E, Loc. No. 224, Exp. Nat. Mus. Praha. Deposited in the National Museum (Nat. Hist.), Praha. Cat. No. 32720.

Paratypes: 4 ♀, S. W. Iran, Fars, Kazerun, 5.–6. 7. 1970, 29 37 N, 51 38 E, Loc. No. 45, Exp. Nat. Mus. Praha. One paratype is deposited in the collection of the Plant Pests and Diseases Research Institute (Tehran), one paratype is preserved in the collection of Prof. N. G. Olsufjev (Moscow), otherwise in the National Museum (Nat. Hist.), Praha. Cat. No. 32721 and 32722.

Other material examined: Several specimens of this subspecies deposited in the Institute of Public Health Research, Tehran and determined by Abbassian-Lintzen as *Tabanus tinctus* Walk. All mediterranean material of allopatric nominate form registered in the paper of Olsufjev, Moucha & Chvála (1967) and deposited in the Department of Entomology of the National Museum (Nat. Hist.), Praha.

***Tabanus hashemii* sp. n.**

This new species is dedicated to Ing. Abbas Hashemi from the Plant Pests and Diseases Research Institute (Tehran).

Resembling very much *Tabanus sufis* Jaen., but frons (Fig. 4) of female covered by long white hairs, with two small areas of long black ones towards vertex. Lower callus shining slightly greenish-brown, upper callus divided, but indistinct practically, covered by very dense hairs. Palpi (Fig. 22) very stout at base, pointed apically, whitish dusted with white hairs. I considered it as an extreme form of *T. sufis* Jaen. at first sight.

Description. ♀. Eyes with very short microscopic hairs, with four purple bands, of which the lowest one is on the lower margin of the eye. Frons (Fig. 4) strongly convergent, with proportions as 9 : 25 : 19, tomentum of frons rather indistinct,

covered by dense long white hairs, with two small areas of long black ones towards vertex. Lower callus shining slightly greenish-brown, occupying the entire lower third of frons. Upper callus divided, but indistinct practically, covered by very dense hairs. Occiput whitish, postocular margin with a row of rather long hairs. Subcallus yellowish-white dusted, with small areas of a rubbing dorsally. Parafrons blackish-brown. Cheeks and face whitish dusted with very long white hairs. Proboscis greyish dusted, labella blackish-brown. First segment of antennae (Fig. 13) yellowish, with slight whitish tomentum, as well as the second one, with some black bristles dorsally and many pale hairs ventrally and laterally. Third joint of antennae orange, paler basally, terminal flagellar segments brownish. Palpi (Fig. 22) whitish, very stout at base, pointed apically, whitish haired. Mesonotum blackish-grey tomented, with three longitudinal, rather distinct light grey stripes, the median stripe does not reach the hind margin of mesonotum. Supraalar stripes distinct, of which lateral ones are broader. Mesonotum and scutellum with many pale hairs, both erect and recumbent, scutellum of the same colour as mesonotum. Humeral lobe whitish-grey and notopleural lobe brownish-grey dusted, with long white hairs. Pleura greyish with long whitish hairs. Coxae of the same colour as pleura, femora yellowish-grey with grey tomentum and white hairs; only fore femora more blackish anteriorly. Tibiae and tarsi yellowish, with the tip of each segment brownish, except that fore legs have a large black tip to the tibiae, and tarsi brownish-black entirely.

Wings clear, stigma inconspicuous, veins colourless except at blackish forks and cross-veins. Squamae also rather colourless, R_4 with a short appendix. Halteres creamy-white. Dorsum of abdomen dark brown with light cream-buff hindmargins and sidemarkings. Median triangular spots and sublateral ones of the same colour, sublateral spots expanded laterally and connected with hindmargins. Dark spots of abdomen black haired, pale spots with white hairs only. Venter of abdomen greyish to light cream-buff with pale hindmargins of segments, covered by pale hairs only. The last segment with many black bristles ventrally.

♂ unknown.

Length of body: 9 mm. Wings: 7 mm.

Holotype: ♀, S. E. Iran, Bahu-Kalat, 3.—4. 4. 1973, 25 09 N, 61 32 E, Loc. No. 147, Exp. Nat. Mus. Praha. Deposited in the National Museum (Nat. Hist.), Praha. Cat. No. 32723.

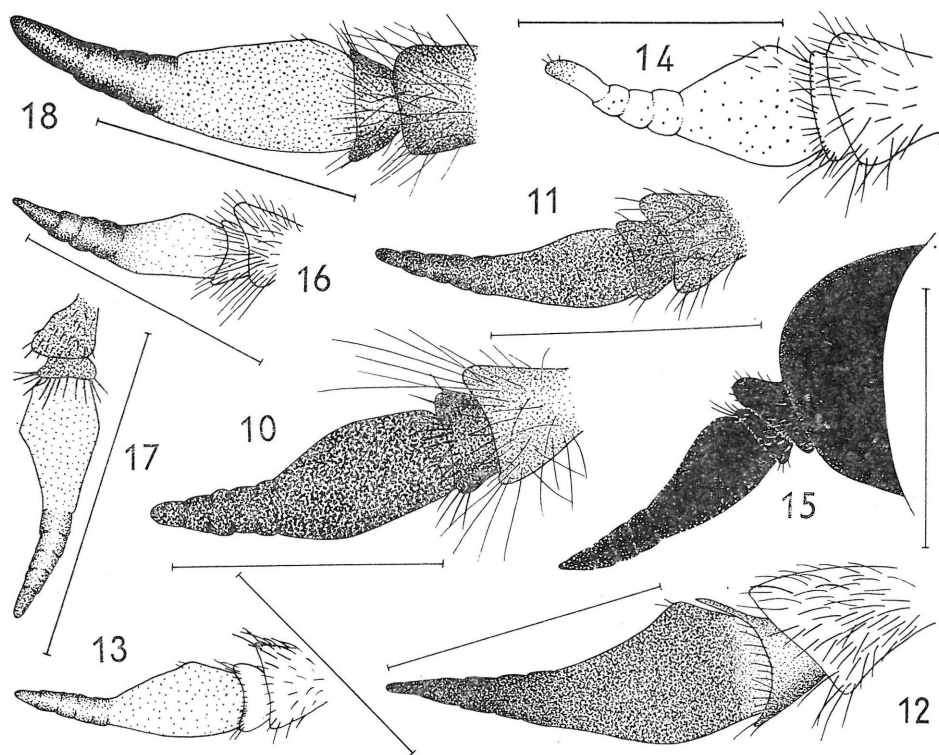
I have examined about 20 females of the related species *T. sufis* Jaen., collected on the same or other localities in Iran and adjacent countries and deposited in the National Museum, Praha as well as all specimens of *T. sufis* Jaen. deposited in the Institute of Public Health Research, Tehran.

***Tabanus ilchanii* sp. n.**

I dedicate this new species to Mr. Ali Ilchani from the Plant Pests and Diseases Research Institute (Tehran).

Resembling very much *Tabanus kermani* Abbas.-Lintz., but differs from it by frons (Fig. 5) strongly widened above. Antennae and palpi of characteristic shape as figured (Figs. 14, 23), second segment of palpi mostly covered with black hairs. Basicosta and antero-proximal part of widened basal area of costa with black setae only. Abdomen with much more distinct dark spots.

Description. ♀. Eyes bare, with three narrow bands. Frons (Fig. 5) strongly widened



Figs. 10—18: female antenna. 10: *Hybomitra mendica* (Vill.), 11: *Tabanus ansarii badhysi* Ols. & Shevtsh., 12: *T. eggeri mianjangalensis* subsp. n., 13: *T. hashemii* sp. n., 14: *T. ilchanii* sp. n., 15: *T. mordax boroumandi* subsp. n., 16: *T. safavii* sp. n., 17: *T. zeirii* sp. n., 18: *Dasyrhamphus kuhedenaensis* sp. n. Scale lines 1 mm.

above, with proportions as 1 : 9.5 : 2.5. Lower callus shining black, rather quadrate shaped, but covered by small grey dusted areas below. Lower callus not reaching the eyes and is a considerable distance from subcallus. Upper callus well separated from the lower one, a longish oval, not reaching the eyes, coloured like lower callus, bifid above. Frons yellowish-grey with many pale hairs and sporadic black ones. Vertex with two black shining bars and pale short hairs dorsally. Postocular margin narrow, greyish dusted, with many short pale hairs. Subcallus covered by yellowish-grey tomentum, with yellowish-brown spots at extreme upper part of subcallus, parafacial bands yellowish-brown. Cheeks and face whitish-grey with long whitish hairs. Proboscis brownish. First segment of antennae (Fig. 14) translucent yellow, whitish dusted, with many long hairs: black dorsally and whitish ventrally. Second segment mostly of the same colour, with rather short black hairs coronally. Whole segment 3 orange, except of the last slightly blackish annulate portion, broad, with blunt dorsal angle and sporadic small black hairs on the dorsal tooth. Palpi (Fig. 23) stout at base, whitish-yellow, segment 2 with dense black short one mostly, segment

1 with long whitish hairs. Mesonotum dark grey tomented with 5 longitudinal, rather distinct light grey stripes, clothed with yellowish hairs. Scutellum greyish dusted with many short pale hairs posteriorly. Humeral lobe greyish dusted and notopleural lobe greyish-brown, with rather long pale hairs, notopleural lobe also with some black hairs below. Pleura light grey tomented, with dense long whitish hairs. Coxae like pleura, femora greyish tomented, but the first pair blackish-brown on inner side, with pale hairs. Tibiae yellowish-brown, apical third of fore tibiae blackish-brown and with numerous black hairs, rest of fore tibiae and the other tibiae with pale hairs and sporadic black ones. Fore tarsi blackish, other tarsi brownish. Wings hyaline, no appendix to vein R_4 , veins dark brown, stigma yellowish. Basicosta and antero-proximal part of widened basal area of costa setose, with black setae only. Squamae yellowish. Halteres yellowish, some areas of knobs a little brownish. Abdomen pale brownish-yellow dorsally, thinly grey tomented with pale hairs. Dorsum of abdomen with four conspicuous stripes of slightly oblique dark brown spots, covered by black hairs. Between median dark stripes uninterrupted greyish line. Dark brown paramedian and median spots narrowly connected anteriorly on tergites 2—4, rather blackish paramedian and median spots on tergites 5—7 broadly connected also posteriorly. Pale brownish-yellow spots covered by pale hairs as well as narrow posterior margins of abdominal tergites. Apex of abdomen with black long hairs dorsally and ventrally. Venter of abdomen pale brownish-yellow and thinly grey tomented excluding sternites 5—7 with blackish colour. Narrow posterior margins of abdominal sternites with many pale hairs. Median stripe on venter rather indistinct, brownish anteriorly, blackish posteriorly.

♂ unknown.

Length of body: 14 mm. Wings: 11 mm.

Holotype: ♀, S. Iran, 28 km. N. Masíri, 1650 m., 12. 6. 1973, 30 24 N, 51 30 E, Loc. No. 236, Exp. Nat. Mus. Praha.

Paratype: 1 ♀, S. W. Iran, Fars, Kazerun, 5.—6. 7. 1970, 29 37 N, 51 38 E, Loc. No. 45, Exp. Nat. Mus. Praha. Type-material is preserved in the National Museum (Nat. Hist.), Praha, Cat. No. 32724 and 32725.

I have examined 5 females of the related species *Tabanus kermani* Abbas.-Lintz. collected by IInd Czechoslovak expedition of National Museum Praha to Iran in 1973.

***Tabanus mordax boroumandi* subsp. n.**

I dedicate this new subspecies to Ing. Hushaang Boroumand from the Plant Pests and Diseases Research Institute (Tehran).

Female slightly smaller than the nominate form, blackish. Eyes with one band, frons (Fig. 6) parallel-sided. Antennae (Fig. 15) and palpi (Fig. 24) as figured. Subcallus rounded and not so prominent in side view as in the nominate form, continuous, with a large but shining black triangular area on each parafacial. Intra-radial cross-vein r_4-r_5 indistinct, in contrast to the nominate form, with very short and inconspicuous appendix to R_4 .

Description. ♀. Eyes bare, with one band, frons greyish dusted, parallel-sided, rather broad, index a little more than 1 : 2. Calli as in fig. 6, lower callus translucent brownish on lower part, becoming black on upper part; median callus oval, higher than deep, dull black and bifid above, joined narrowly to lower callus; in addition a small, double, irregular black area on each side of median callus. Subcallus rounded,

bare, shining black as triangular area on each parafacial. Face and parafacials white with snowy white hairs. Postocular margin with fine short pale hairs, vertex with that a little longer. Proboscis black. Antennal segment 3 (Fig. 15) blackish with rounded dorsal tooth, with very short white hairs all over surface; two basal segments of the same colour, with slightly longer white hairs. Palpi (Fig. 24) whitish, apical segment very stout at base and very pointed at the tip, clothed with whitish hairs and some very sporadic black ones. Thorax blackish grey, median whitish-grey stripe rather indistinct, incomplete, sublateral stripes of the same colour, more distinct and complete. Supraalar stripes very broad. Humeral lobe whitish-grey, notopleural lobe blackish-grey, postalar callus blackish. Scutellum blackish-grey, with grey border posteriorly. Mesonotum and scutellum with many pale hairs. Pleura with whitish long hairs. Coxae like pleura, femora greyish with whitish hairs, fore tibiae with basal two-thirds on dorsal side white, with white hairs, otherwise blackish with black hairs: other tibiae somewhat similarly marked, but less clearly defined. Tarsi black with black hairs, those of middle and hind legs a little yellowish and with white hairs at base. Wings clear, with yellowish stigma. Veins brownish, intra-radial crossvein r_4-r_5 very short, rather indistinct, with a tiny rudiment to R_4 . Intra-medial crossvein m_3-m_4 rather long in contrast to nominate form where it is very short or missing. Squamae milky clouded, with very short and sporadic fringes only. Halteres dark brownish, apices of knobs creamy-white. Dorsum of abdomen shining black with sporadic pale hairs in the middle of abdominal segments especially and very narrow whitish hind-margins and with very clear-cut, oblique, oval sublateral spots, median spots very indistinct, lateral margins greyish, on first two segments especially. Venter greyish, ventral median stripe broad, greyish-black, hind margins of abdominal segments whitish, narrow, with many pale hairs.

♂ unknown.

Length of body: 11 mm. Wings: 8 mm.

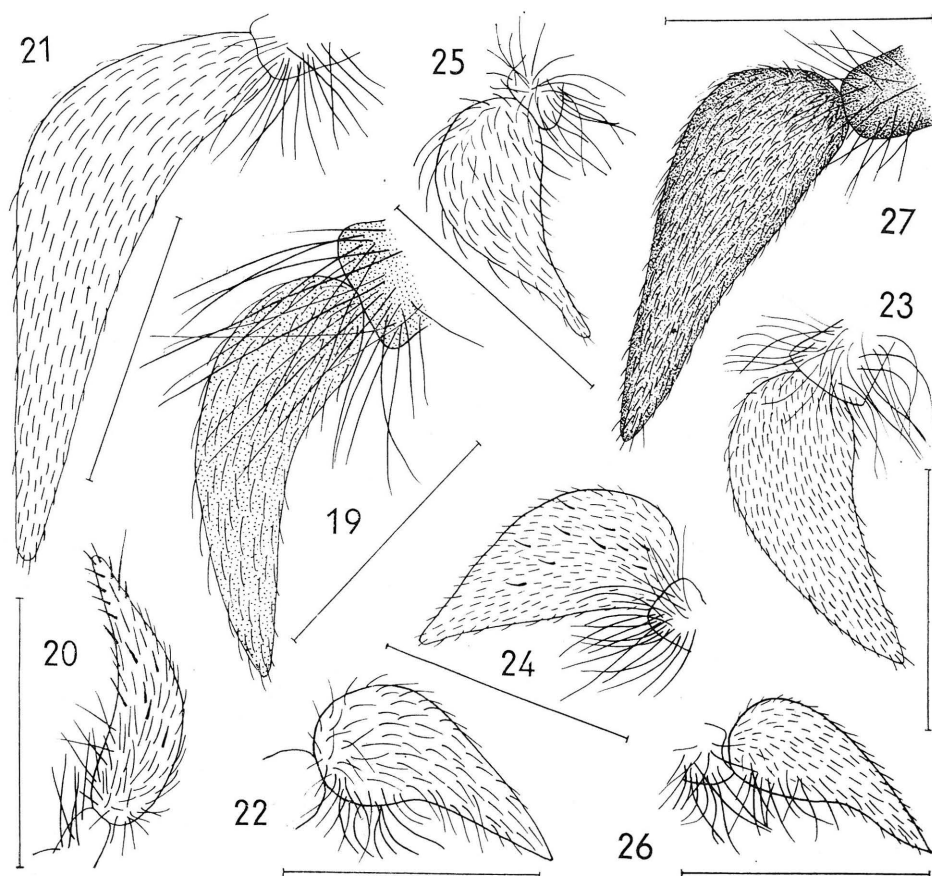
Holotype: ♀, S. E. Iran, 55–78 km. N. N. W. Tis, Pish mant kowr. riv., 8. 4. 1973, 25 40 N, 60 22 E, Loc. No. 151, Exp. Nat. Mus. Praha. Type-material is preserved in the National Museum (Nat. Hist.), Praha. Cat. No. 32726.

Through the courtesy of Dr. J. E. Chainey of London (British Museum, Nat. Hist.) I was enabled to examine the paratype of allopatric nominate form labelled Somaliland, Heile Madow, 16. 6. 1911, R. Webi leg., 1 ♀ and specimens from Egypt, Gebel Elba, South-Eastern Desert, 15. 3.–30. 4. 1928, coll. M. Teweik 1 ♀; Sudan, Khor Arbaat, 7. 4. 1910, 1 ♀; Tchad, Tibesti, coll. Rioux, 1 ♀; Kenya, Wangair, 27. 7. 1912, J. R. Chell leg., 1 ♀.

Tabanus safavii sp. n.

I dedicate this new species to Dr. Mohammad Safavi from the Plant Pests and Diseases Research Institute (Tehran).

Female smaller, whitish-grey, with four eye-bands. Frons (Fig. 7) broad, median callus broadly separated from the lower callus, divided into two smaller dark patches, antennae (Fig. 16) slender, whitish-grey at base, segment 3 light brown at base, dark brown apically. No parafacial band. Palpi (Fig. 25) whitish, apical segment very stout at base and very pointed at the tip. In many characters this species resembles *Tabanus arfaai* Abbas.-Lintz., but differs in the shape of its apical segment of palpus, form of frons and appendix to R_4 . The lower frontal callus of closely related *Tabanus*



Figs. 19–27: female palpus. 19: *Hybomitra mendica* (Vill.), 20: *Tabanus ansarii badkysi* Ols. & Shevtsh., 21: *T. eggeri mianjangalensis* subsp. n., 22: *T. hashemii* sp. n., 23: *T. ilchanii* sp. n., 24: *T. mordax boroumandi* subsp. n., 25: *T. safauii* sp. n., 26: *T. zeirii* sp. n., 27: *Dasyrhamphis kuhedenaensis* sp. n. Scale lines 1 mm.

stackelbergiellus Ols. wider than high, but touching the eye margins laterally, antennae rather longer and more slender, palpi not so stout at base and not so pointed at the tip, yellowish, with sporadic black hairs, wings without appendix to R_4 and female body rather longer than below described species.

Description. ♀. Eyes with very indistinct, fine and very sparse microscopic pubescence, with four greenish bands. Frons (Fig. 7) whitish-grey dusted, broad, slightly widened in the middle and covered by white hairs. Proportions 13 : 32 : 17. Lower callus in the form of a transverse patch, broader than high, rounded above, separated from the eye-margins, shining black. Median callus broadly separated from the lower one, divided into two smaller shining black patches. Vertex whitish,

deep above and distinctly narrowed, on broad postocular margin laterally with a row of dense long whitish hairs. Subcallus, face and cheeks whitish-grey dusted, face and cheeks with long whitish hairs. Antennae (Fig. 16) slender, segment 3 with blunt dorsal tooth. Basal two segments whitish yellow, pale greyish dusted and pale long haired, segment 3 dark brownish, paler at base. Palpi (Fig. 25) whitish, apical segment very stout at base and very pointed at the tip, with whitish hairs only. Stalk of proboscis and labella brownish. Mesonotum blackish-grey, pale haired, with 5 broad whitish longitudinal stripes. Middle stripe does not reach the hind margin of mesonotum. Humeral lobe whitish, notopleural lobe yellowish-grey. Both humeral lobe and notopleural one with long whitish hairs. Scutellum blackish-grey, pale haired. Pleura whitish-grey dusted and long whitish haired, as well as coxae. Femora at the tip and tibiae yellowish; fore tibiae on apical third to half and fore tarsi blackish, posterior four tibiae at the tip brownish. Tarsi brownish, basal segment yellowish at base. Femora, tibiae and tarsi covered by pale hairs. Wings slightly milk-white clouded, veins brownish, but at base of wings yellowish; an appendix to vein R_4 . Halteres creamy-white. Squamae milky clouded. Dorsum of abdomen blackish-grey with yellowish-grey hindmargins and sidemarkings. Median triangular spots large and greyish, less distinct towards apex of abdomen. Sublateral spots on all segments greyish-yellow, extend from anterior parts of segments to hind margins of ones, as a diagonal streak, so that the rows of sublateral spots do not unite into a stripe. Dorsum of abdomen pale haired on the pale spots, otherwise with black hairs only. Venter of abdomen greyish with yellowish-grey hindmargins. The last segment with several black bristles ventrally, other segments covered ventrally by pale hairs only.

♂ unknown.

Length of body: 12 mm. Wings: 9 mm.

Holotype: ♀, N. W. Iran, 25 km. N. of Rezaiyeh, 1300 m., 19. 8. 1970, 37 33 N, 45 04 E, Loc. No. 100, Exp. Nat. Mus. Praha. Type-material is deposited in the National Museum (Nat. Hist.), Praha. Cat. No. 32727.

I have examined type-material of *Tabanus arfaai* Abbas.-Lintz. in the collection of the Institute of Public Health Research, Tehran. Through the goodwill of Prof. N. G. Olsufjev (Moscow) I was enabled to examine two female of *Tabanus stackelbergiellus* Ols. labelled Mongolia, Vost. ajm. 30 km. V. Mataga, 1. and 7. 7. 1975, Dobrochotov leg.

Tabanus yasujensis sp. n.

This species was named for the Iranian town Yasuj in Zagros.

Large species, brownish-yellow, resembling *Tabanus olsufjevi* Haus., but antennae orange with well developed dorsal tooth (Figs. 29, 32). Terminal flagellar segments somewhat darker. Palpi large and long, whitish dusted, short pale haired, only a few black hairs intermixed at the pointed tip (Fig. 30). Male palpus on the fig. 33. Abdomen brownish-yellow on anterior four tergites, venter yellowish and pale haired. Head in male broader than thorax, middle facets enlarged, the sharp division is present.

Description. ♀. Eyes with more widely spaced microscopical hairs, unbanded. Frons (Fig. 28) yellowish-grey dusted, pale haired, but middle area and vertex with some black hairs, as postocular margin dorsally. Frons narrow, slightly convergent, proportions as 7 : 45 : 11. Lower callus brownish, convex, long rectangular to oval, slightly shining, a little wrinkled, with two very small white areas on each side.

Lower callus narrowly separated from the eye-margins and connected with linear median callus narrowly. Subcallus yellowish-grey dusted, with two very small brownish patches dorsally, antennal bows rather high, occupying at most lower third of subcallus. Face and cheeks light grey dusted and long pale haired. Basal two antennal segments (Fig. 29) translucent yellow, whitish dusted, short pale haired, with several black bristles dorsally. Third segment orange, with well developed dorsal tooth, broad. Terminal flagellar segments somewhat darker mostly. Palpi (Fig. 30) large and long, whitish dusted, short pale haired, with some additional black hairs at the pointed tip. Proboscis brownish-black. Thorax blackish in ground colour but covered with dense olive-grey pollinosity usually, pleura light grey dusted and densely whitish-grey haired. Mesonotum and scutellum distinctly darker, covered by short golden-yellow and black hairs. Humeral lobes greyish, pale haired, notopleural lobes brownish, always black haired. Coxae light grey dusted and clothed with long pale hairs. Femora except the tip black and greyish dusted, rather short pale haired, but fore femora also with some black hairs. Fore tibiae on basal half and whole of posterior four tibiae except brown tip yellowish; rest of fore tibiae and fore tarsi blackish, tarsi otherwise blackish-brown. Dark areas on tibiae and tarsi densely black haired. Wings clear, veins brownish. First posterior cell inconspicuously narrowed apically; no appendix to vein R_4 . Squamae yellowish. Stalks of halteres brownish, knob brownish-yellow at tip. Abdomen brownish-yellow, pale haired, with very narrow indistinct pale median stripe; lateral patches with sporadic black hairs, hindmargins of abdominal segments whitish-yellow. Tergites 5—7 rather with pale indistinct median triangles, with rather small greyish dusted patches laterally, black haired. The last segment dense black haired dorsally and ventrally. Sternites yellowish, pale haired, hindmargins pale.

♂. Head broader than thorax. Facets on the lower and upper parts of eyes smaller than in the middle, the sharp division between them is present (Fig. 31). Antennal segment 3 more slender (Fig. 32). Apical segment of palpi (Fig. 33) long-oval, yellow, with greyish dust, clothed with long pale hairs and with some black hairs towards tip. Otherwise as in the ♀.

Length of body: 18—22 mm. Wings: 14—18 mm.

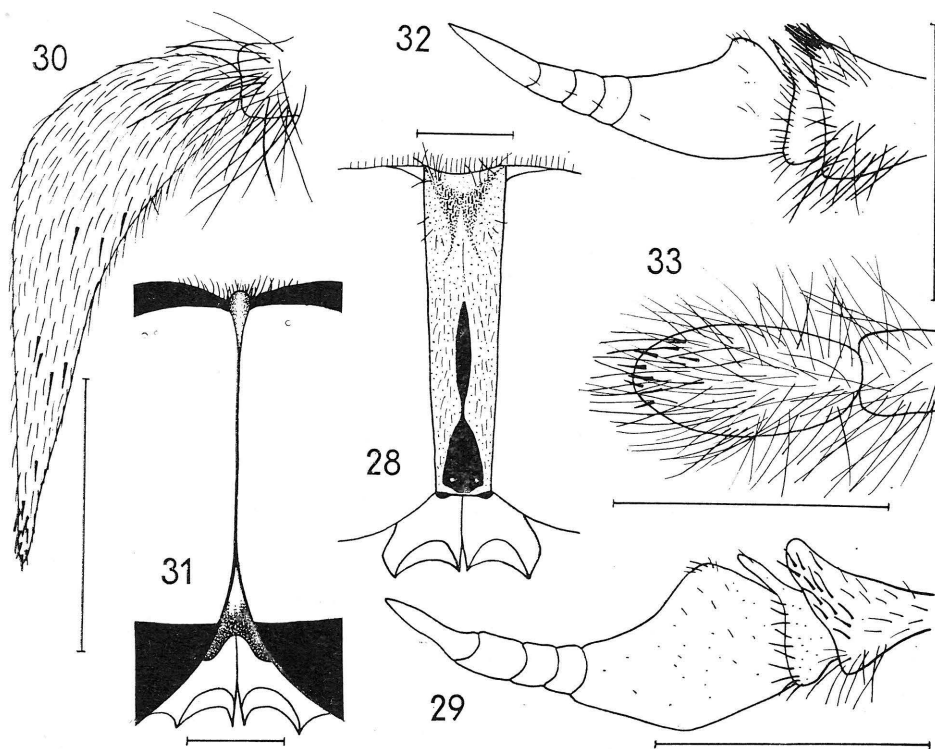
Holotype: ♀, S. Iran, 29 km. E. Yasuj, 2300 m., 16.—17. 6. 1973, 30 41 N, 51 43 E, Loc. No. 245, Exp. Nat. Mus. Praha.

Allotype: ♂, S. Iran, 30 km. E. Kazerun, 130 m., 8.—10. 6. 1973, 29 33 N, 51 54 E, Loc. No. 229, Exp. Nat. Mus. Praha.

Paratypes: 8 ♀, of the same locality as holotype; 1 ♀, S. Iran, Zagros, Yasuj, 16. 6. 1973, 30 41 N, 51 35 E, Loc. No. 243, Exp. Nat. Mus. Praha; 3 ♀, of the same locality as allotype; 1 ♀, S. Iran, 1700 m., Dashté-Arjan, 9. 6. 1973, 29 39 N, 51 58 E, Loc. No. 230, Exp. Nat. Mus. Praha; 1 ♀, S. Iran, 7 km. N. W. Shul, 2100 m., 17. 6. 1973, 30 02 N, 52 09 E, Loc. No. 247, Exp. Nat. Mus. Praha; 1 ♀, S. Iran 6 km. S. S. E. Shul, 2190 m., 17.—18. 6. 1973, 29 57 N, 52 15 E, Loc. No. 248, Exp. Nat. Mus. Praha.

One badly sclerotized male was excluded from the serie of paratypes: W. Iran, Organ, 2000 m., 1. 7. 1970, 32 46 N, 50 27 E, Loc. No. 37, Exp. Nat. Mus. Praha.

Type-material is deposited by one paratype in the collection of the Plant Pests and Diseases Research Institute (Tehran), in the collection of Prof. N. G. Olsufjev (Moscow), in the collection of Dr. M. Leclercq (Beyne-Heusay) and in the British



Figs. 28—33: *Tabanus yasujensis* sp. n. 28: female frons, 29: female antenna, 30: female palpus, 31: male frons, 32: male antenna, 33: male palpus. Scale lines 1 mm.

Museum (London). The rest of the type-material is preserved in the National Museum, Praha. Cat. No. 32728—32733.

I have not seen the type-material of *Tabanus olsufjevi* Haus., but Prof. Olsufjev kindly sent me for comparison two females of mentioned species determined by him and labelled as Nakhichev. A. S. S. R., Tíví, 27. 7. 1968, Khudaverdyev leg. and A. S. S. R., Megry, 18. 7. 1948, Terterjan leg.

Tabanus zeirii sp. n.

This new species is dedicated to Ing. Mustafa Zeiri from the Plant Pests and Diseases Research Institute (Tehran).

Female looks like *Tabanus sufis* Jaen., but differs from it by extreme maculations of frons (Fig. 8): lower brownish-yellow callus connected with slightly blackish-brown upper one by large brown area with an irregular margin and extending across the frons from eye to eye. Frons rather bare, with sporadic pale hairs only and with a few long black ones towards vertex. Palpi (Fig. 26) rather plump, tapering to a point sharply, whitish, with many white hairs. I considered it as an extreme form of *T. sufis* Jaen. at first sight.

Description. ♀. Eyes microscopically hairy, with three green bands and a green patch dorsally. Frons strongly convergent with proportions as 2 : 5 : 4, tomentum of frons whitish-yellow, rather bare, with sporadic pale hairs only and with a few long black ones towards vertex. Lower callus brownish-yellow, connected with slightly blackish-brown upper one by large brown area with an irregular margin and extending across the frons from eye to eye as figured (Fig. 8). Postocular margin whitish, with a row of rather long hairs. Subcallus whitish dusted with a transverse rubbing dorsally and ventrally, parafacial band blackish-brown. Cheeks and face whitish dusted with very long white hairs. Proboscis greyish dusted, labella brownish. First segment of antennae (Fig. 17) orange, with whitish tomentum, as well as the second one, with some black bristles and sporadic pale ones. Third joint of antennae orange, paler at the base and brownish at the tip. Segments of palpi 1 and 2 clearly white with white hairs only, second segment rather plump (Fig. 26), tapering to a point sharply. Mesonotum blackish-grey tomented, with three longitudinal, rather distinct light grey stripes, the median stripe does not reach the hind margin of mesonotum. Supraalar stripes distinct, of which lateral are broader and more whitish. Mesonotum and scutellum with many pale hairs, scutellum of the same colour as mesonotum. Humeral lobe whitish-grey, notopleural lobe brownish-grey dusted, with long pale hairs. Pleura greyish with rather long whitish hairs only. Coxae of the same colour as pleura, femora yellowish-grey with grey tomentum and white hairs; only fore femora anteriorly more blackish. Tibiae and tarsi yellowish, with the tip of each segment brown narrowly, except that fore legs have a large black tip to the tibiae, and tarsi entirely black. Wings clear, stigma inconspicuous, veins colourless except at blackish forks and cross-veins. Squamae also rather colourless. R_4 with a long appendix. Halteres creamy-white. Dorsum of abdomen dark brown with greyish hindmargins and sidemarkings. Median spots greyish, triangular, but less distinct towards apex of abdomen. Sublateral spots light cream-buff on all segments, extend from front margin to rear, as a diagonal streak, so that the rows of sublateral spots do not unite into a stripe. Dorsum of abdomen pale haired, with sporadic black hairs only. Venter greyish with hindmargins of segments yellowish and with pale hairs. The last segment with black bristles only.

♂ unknown.

Length of body: 9 mm. Wings: 7 mm.

Holotype: ♀, S. E. Iran, Bahu-Kalat, 3.—4. 4. 1973, 25 09 N, 61 32 E, Loc. No. 147, Exp. Nat. Mus. Praha.

Paratype: ♀, S. Iran, Isin, 28. 4.—6. 5. 1977, Loc. No. 320, 27 19 N, 56 17 E, Exp. Nat. Mus. Praha. Type-material is deposited in the National Museum (Nat. Hist.), Praha. Cat. No. 32734 and 32 735.

I have examined about 20 females of the related species *T. sufis* Jaen., collected on the same or other localities in Iran and adjacent countries and deposited in the National Museum, Praha as well as all specimens of *T. sufis* Jaen. deposited in the Institute of Public Health Research, Tehran.

***Haematopota coronata* Aust.**

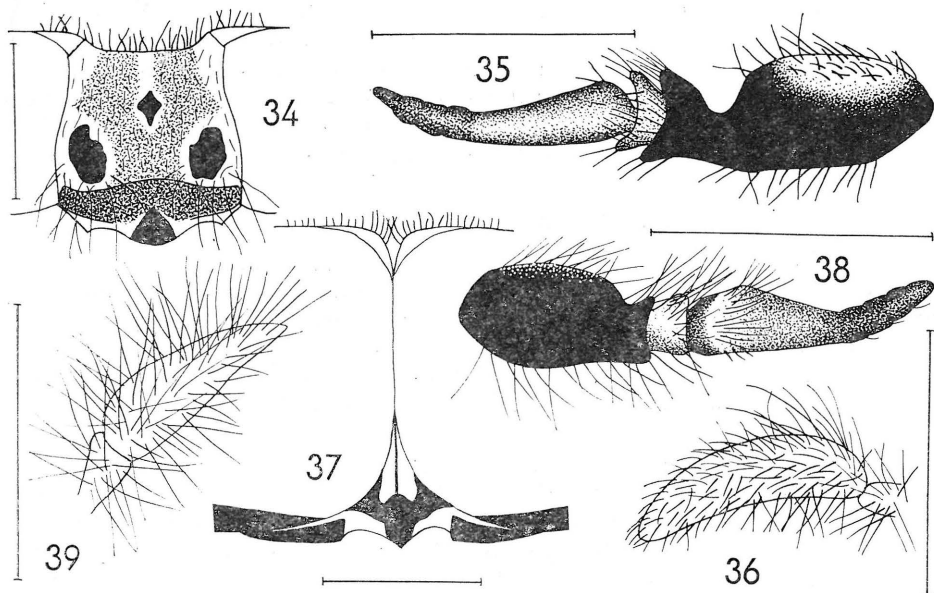
- Haematopota coronata* Austen, 1908 : 100, 279.
Haematopota coronata; Bequaert, 1930: 949.
Haematopota coronata; Oldroyd, 1952 : 127.
Haematopota coronata; Oldroyd, 1957 : 463.
Haematopota coronata; Theodor, 1965 :245.
Haematopota coronata; Leclercq, 1967 : 80, 179.
Haematopota coronata; Leclercq & Olsufjev, 1975 : 34.
Haematopota coronata; Moucha, 1976 : 178.

Frons and palpi of female as figured (Figs. 34, 36), first antennal segment (Fig. 35) swollen, shining, deeply constricted, wings with concentric rosettes and white tip to wing. Dorsum of abdomen dark brown with greyish hindmargins and sidemarkings; a median stripe on all segments and paired spots from second segment onwards.

Loaned African specimens of females of *H. coronata* Aust. are — in comparison with one Iranian female — rather larger, more brownish, abdomen with rather smaller paired spots dorsally; frons, antennae and palpi are identical with Iranian material, quoted in this paper. *H. coronata* Aust. from Africa is larger than holotypus of closely related *H. mordax* Surc., but the later is a little larger than female of *H. coronata* Aust. from Iran. First antennal segment of *H. mordax* Surc. in contrast to *H. coronata* Aust. is slightly smaller, scutellum with grey patch extending in middle line, hind pairs of tibiae with three distinct brownish-black rings and two white ones in the middle of it. *H. coronata* Aust. has apical two rings brownish-black and largely connected.

Eyes of male touching in a long line (Fig. 37), facets on the upper 9/10 of eyes distinctly larger than the facets below, demarcation very sharp. Frontal triangle without black margin, subcallus with a black spot in the middle, a distinct blackish-brown parafacial band. First antennal segment bulbous (Fig. 38), shining black, deeply constricted near the tip. Palpi whitish (Fig. 39). Dorsum of abdomen dark brown with greyish sidemarkings and hindmargins; a median stripe and paired spots on all segments rather indistinct and pale long haired.

Description. ♂. Eyes bare, touching in a long line in frontal view (Fig. 37), facets on the upper 9/10 of eyes distinctly larger than the facets below; demarcation very sharp. Postocular margin on vertex with a row of rather short pale hairs. Frontal triangle rather small, greyish dusted, without black margin. Subcallus with a black spot in the middle, connected with a brown area on each side. A distinct blackish-brown parafacial band on each side of the antennae. Cheeks whitish-grey dusted with many small blackish-brown spots dorsally and rather shortly white haired. Face whitish-grey dusted with many white hairs with two small blackish-brown spots in the upper part and with a very small brownish area below antennae. First segment of antennae bulbous (Fig. 38), broadest near base, deeply constricted near tip, shining black, but brownish on inner face basally, grey dusted in a very small area dorsally, with mainly white hairs; black hairs in anterior part dorsally and ventrally. Second segment brownish, a little grey dusted, with both black and white hairs coronally. Third segment rather long, conspicuously stout at base, with many pale hairs basally. Segment 3 still narrower than segment 1, brownish basally, terminal flagellar segments black. Terminal segments of palpi (Fig. 39) whitish, basal segments yellowish, palpi with many long white hairs. Terminal segment 3mal longer than on its base, pointed on the tip. Labella blackish-brown, stalk yellowish-



Figs. 34–39: *Haematopota coronata* Aust. 34: female frons, 35: female antenna, 36: female palpus, 37: male frons, 38: male antenna, 39: male palpus. Scale lines 1 mm.

brown. Mesonotum blackish-grey dusted, median line, sublateral and supraalar stripes greyish, distinct, supraalar stripes connected with prescutellar arched spots. Humeral and notopleural lobes greyish, as well as scutellum basally. Mesonotum with short dense pale hairs; pleura greyish dusted with rather long whitish hairs. Coxae greyish; fore pairs of coxae whitish basally and brownish apically, with long white hairs. Femora brownish, fore and hind femora with whitish hairs basally and longer blackish apically, middle pair with whitish hairs only. Tibiae brownish, flattened, fore tibiae whitish basally as well as hind one, with black hairs apically and pale basally. Middle pairs have two whitish rings, with pale hairs. Tarsi blackish, but first segment basally white, with black hairs. Wings as in female, with concentric rosettes and white tip to wing. Squamae yellowish-brown. Halteres creamy-white, with two brownish spots on its head. Dorsum of abdomen dark brown with greyish hindmargins and sidemarkings, a median stripe and paired spots on all segments rather indistinct, pale long haired. Venter of abdomen brownish, with greyish hindmargins, with pale rather short hairs.

Length of body: 9 mm. Wings: 7 mm.

Material examined: 1 ♀, 1 ♂, Iran, Abad Geno, 40 km. north of Bandar Abbas, 3. 4. 1972, Ressler leg. Deposited in the National Museum (Nat. Hist.), Praha. Cat. No. 32736 and 32737.

Through the kindness of Dr. J. E. Chainey of London (British Museum, Nat. Hist.) I was enabled to examine 6 specimens of *H. coronata* Aust. from British Somaliland: Dudub, IssitugganV alley, 7. 3. 1913, R. E. Drake Brockman leg., No.

243, 1 ♀; the same, 6. 3. 1913, No. 220, 1 ♀; the same, No. 238, 1 ♀; Warran Weis, 15. 12. 1937, E. F. Peck leg., van Emden 1938 det., 3 ♀. Through the courtesy of Dr. L. Tsacas of Paris (Museum Nat., Hist. Nat.) I compared the holotypus of female of *Haematopota mordax* Surc. labelled Labor. Colonial Museum, Abyssinia, Perra, 28. 3., Latham leg. with quoted material of *H. coronata* Aust. from Africa and Iran. Distribution: Somalia, Yemen, S. Yemen, Israel, Iran.

***Dasyrhamphis kuhedenaensis* sp. n.**

Species named after mountains in area of Kúh-e Dená (Zagros).

In many characters this species resembles *Dasyrhamphis carbonarius* (Meig.), but differs in the shape of its antennal segment 3, form of frons, colours and size. Female medium-sized, shining blackish-brown. Wings unicolorously brown clouded. Antennae brownish, antennal segment 3 without a distinct dorsal tooth (Fig. 18). Subcallus entirely polished brown, frons rather narrow (Fig. 9). Palpi (Fig. 27) and legs blackish-brown.

Description. ♀. Eyes with very indistinct, fine and sparse microscopic pubescence. Frons parallel-sided (Fig. 9), index about 1 : 4, frons entirely polished brownish-black with hardly distinguishable frontal calli. Lower callus polished black, touching the eye-margin, broadly connected with small polished median callus, vertically doubled and wrinkled. Subcallus convex, entirely polished brown, face and cheeks polished black, lower part of face with long black hairs. Occiput grey dusted, with very short black hairs becoming below sparse and golden-yellow, longer. Basal antennal segments (Fig. 18) with numerous black hairs, first segment blackish-brown and second one brownish. Segment 3 without a distinct dorsal tooth, light brown, terminal flagellar segments brown to brownish-black. Palpi (Fig. 27) blackish-brown, apical segment rather long, a little stout basally, shortly black pubescent. Thorax blackish-brown except for the light brown humeral calli, mesonotal suture and postalar calli. Mesonotum with short, densely set yellow to light brown hairs. Pleura and scutellum with longer rather black hairs. Legs blackish-brown and somewhat shiny, with dense short black pubescence, only fore coxae anteriorly and all femora beneath with long black hairs. Wings unicolorous dark brown clouded without any hyaline areas, veins brownish. No appendix to vein R_4 . Squamae dark brown with long black fringes, halteres dark brownish, apices of knobs paler. Abdomen brown and somewhat shiny, covered with short densely set, yellowish-white pubescence.

♂ unknown.

Length of body: 15–16 mm. Wings: 13–13.5 mm.

Holotype: ♀, S. Iran, Zagros, Kúh-e Dená, 3000–4000 m., 14. 6. 1973, 30 50 N, 51 35 E, Loc. No. 242, Exp. Nat. Mus. Praha.

Paratypes: 2 ♀, S. Iran, Zagros, Sisakht, 2400 m., 13.–15. 6. 1973, 30 47 N, 51 33 E, Loc. No. 240, Exp. Nat. Mus. Praha.

One paratype deposited in collection of the Plant Pests and Diseases Research Institute (Tehran), the rest of the type-material of this species is preserved in the National Museum (Nat. Hist.), Praha. Cat. No. 32738 and 32739.

I have examined neotypus of *Dasyrhamphis carbonarius* (Meig.) selected by Chvála & Lyneborg (1970), and labelled Turkey, Adapazari, 12 km. S. S. W., 14. 6. 1967, Ressler leg., deposited in the National Museum (Nat. Hist.), Praha, Czechoslovakia. Cat. No. 32740. Through the courtesy of Dr. H. Schumann of Berlin (Zool. Museum)

I was enabled to examine holotypus of *Tabanus gagates* Loew = *D. carbonarius* (Meig.). This synonymy was quoted by Chvála, Lyneborg & Moucha (1972).

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Summary

The author gives a small part of the results of studies on horse-flies (Tabanidae) gained during three biological expeditions of National Museum (Nat. Hist.) Praha to Iran. *Tabanus eggeri mianjangalensis* subsp. n., *T. hashemii* sp. n., *T. ilchanii* sp. n., *T. mordax boroumandi* subsp. n., *T. safavii* sp. n., *T. yasujensis* sp. n., *T. zeirii* sp. n. and *Dasyrhamphus kuhedenaensis* sp. n. are described. Types of the new taxa are based on the females, *T. yasujensis* sp. n. both female and male. Differential diagnoses are given. *Hybomitra mendica* (Vill.) and *Tabanus ansarii badhysi* Ols. & Shevtsh. are new for the fauna of Iran. The male of *Haematopota coronata* Aust. is described for the first time.

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