

TABANIDAE (DIPTERA) OF IRAN

II. RECORDS OF HORSEFLIES IN THE KAZEROON AREA (PROVINCE OF FARS, SOUTHERN IRAN). DESCRIPTION OF SILVIUS SHAPURICUS N.SP. AND TABANUS ANSARII N.SP. (X¹)

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INTRODUCTION

In order to make collections of tabanid flies the writer, member of Institute of Parasitology and Malariology, Tehran, was able to visit twice (April/May and July 1959) its Malaria Research Station in Kazeroon, province of Fars.

This collection of 357 identified specimens of Tabanidae has been enlarged by further 35 specimens collected by Mr. A. Azarbal, collector of the Institute, during June 1959. The material includes 5 genera and 23 species. 4 species proved to be new ones (2 are described by M. Leclercq, in prints) and 8 others are herewith recorded for the first time in Iran. All species belong to the Palaearctic region except one, which is known as an

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Ethiopian species (*Tabanus taeniola* form *variatus* Walk.)

In order to facilitate the collecting of Tabanidae, the material (females only) has been taken from cattle, donkeys and horses. Calm, dark coloured oxen or bulls proved to be the most effective baits. Few males have been found at different places. After determination samples of the more uncommon or difficult species have been sent to Dr. M. Leclercq, who kindly confirmed our determinations and corrected these in 2 cases (*Tabanus pallidipes* Aust. and *Nemorius abbassianae* Lecl.)

It has been observed that tabanids are comparatively far more abundant during April/May and June than during July. This observation has been confirmed by local peasants and herdsmen. It must be stated

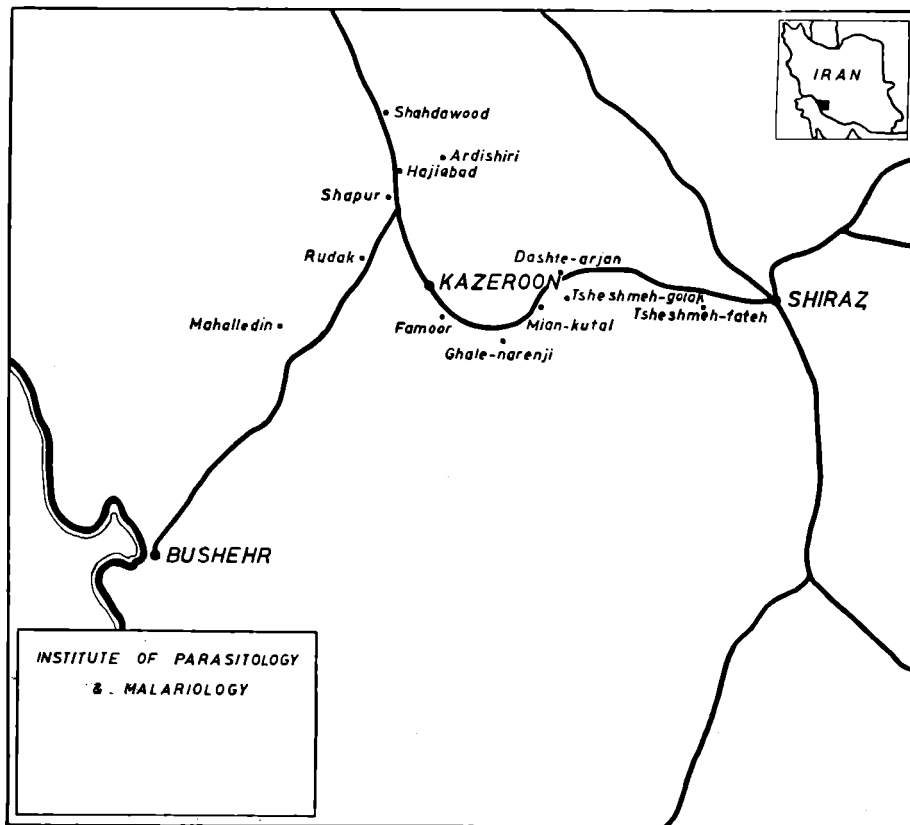


Fig. 1

KAZEROON AREA (PROVINCE OF FARSE) AND COLLECTING LOCALITIES OF TABANIDAE

that in the respective area these flies are not as frequent as in certain parts of Central Europe or the Elburs-mountains of Iran.

The collecting places (see fig. I) are all situated in the neighbourhood along an intersection of 143 km of the Shiraz-Bushehr motor road, starting 36 km behind Shiraz via Bushehr (Shiraz-Bushehr 293 km). The motor road in question starts with a mountainous area up to 2150 m above sea level and descends irregularly via Bushehr down to 500 m altitude. The town of Kazeroon is situated in the second half of the said section at an altitude of 950 m. The area is semiarid, warm to hot during spring and summer at the lower altitudes and cool and pleasant during these seasons at altitudes above 1500 m. During the dry season, from late spring to late autumn, is almost no rainfall. The land of the inspected area is partly arable and uncultivated, partly irrigated by means of springs, small watercourses, salty rivers, several salty lakes and shallow wells. The irrigated sections are showing a more abundant vegetation than the Iranian high plateau. Many kinds of agriculture commodities are cultivated; citrus, fig and mulberry orchards and light oak forests are found. Palm tree groves occur mainly at places below 600 m above sea level.

LIST OF RECORDED SPECIES AND DESCRIPTION

OF TWO NEW SPECIES (*)

Subfamily CHRYSOPINAE, tribe CHRYSOPINI

1. *Silvius irritans* Ricardo

3 F. Rudak (550m), 29. IV. 1959, horse; 16 F. Rudak and Hajiabad (ab. 800m), 1 - 7. V. 1959, cattle and horses; 1 F., *ibid.*, VI. 1959.

Colour and pattern of the eyes in life and shape of palpi are the same as in *Silvius shapuricus*. Both of the species (at time of collecting not differentiated from each other) attacked the animals mostly on head, neck and shoulder. They have been always found near running water-

(*) If not otherwise stated collections are made by the writer; at Hajiabad often together with Mr. Azarbal.

courses with fresh or slightly salty water and were very numerous at the respective localities, much more could have been collected.

2. *Silvius shapuricus* new species

A small dark grey species, superficially very similar to *S. irritans*, but larger, easily to differentiate from the latter by: the differing shape of the basal frontal calli, the lack of punctations on the baccae and the shape of the first antennal segment, which is somewhat stouter and has a semicircular constriction on the apical third.

Female.-Head: broader than the thorax, eyes bare. in life golden green with a dark purple subcentral blotch and a dark purple border, which encircles the outer margin of the eye not completely, but is unclosed at the median angle. Frons broad, a little longer than broad, slightly divergent toward antennae, with grey yellowish tomentum and grey white hairs except for a few black ones in front of ocelli. Frontal callus cordiform, shining black, the apex pointing upwards. On each side of antennae one shining black basal frontal callus, not reaching the eyes (the contrary is only the case in rubbed specimens). Occiput white or white yellowish haired. Face and buccae with light grey tomentum and whitish hairs, without any punctations. Antennae: first and second segment grey tomented, basal part of first segment often yellowish. First segment with white hairs and black ones at the apex. A more or less deep semicircular constriction, not extending over inner surface of segment, is visible at the apical third. Second segment mostly black haired, third segment black, basally sometimes brownish, annulate portion deep black. First segment twice as long as broad, second segment as long as broad, whole length of antennae about one and half as length of head. Palpi: length about half the length of stylets; terminal segment yellow brown, with fine white hairs, swollen at basal half, rather pointed at the apex, with a deep dorso-lateral groove at the "knee".

Thorax: light grey tomented and grey white haired; 5 dark grey longitudinal stripes are present. Pleura light grey tomented and white grey haired.

Ailes: hyaline, veins yellow, at apex a little darker, r 4 without appendix. Basicosta bare. Halteres yellow white. Legs: coxae like pleura.

femora grey tomented except for extreme tips, which are pale yellow. Front tibiae: proximal half pale yellow, distal half dark grey. Middle and hind tibiae yellow, distal part dark banded. Front tarsi black, the other tarsi have a little more than proximal half of protarsi yellow, rest blackish.

Abdomen: dorsum grey tomented and white haired. Anterior part of tergite I except for the sides blackish grey olive. Tergite II with 2 dark (grey olive) spots, leaving open between them a more or less clearly marked grey triangle, sides of tergites I and II yellowish grey. The following tergites dark (lead) grey, sometimes a median row of lighter markings is fairly visible. All tergites with paler posterior borders. Venter: light grey, hairs of same colour, sternite II sometimes grey yellowish. Posterior borders of each sternite pale yellow white.

Length of body (excl. antenna): 7 - 10 mm, length of wings: 6 - 7,5 mm Holotype female, Hajiabad, Kazeroon, (ab. 800m), beside the ruins of the ancient Sassanian town Shapur, which is named after the king Shapur I.), 29. IV. 1959, horse, Abbassian coll.

Paratypes 3 F. *ibid.*, 29. IV. 1959, horse; 3 F. Rudak, Kazeroon (550m), 29. IV. 1959, horse; 22 F. Rudak and Hajiabad, 1.-7. V. 1959, cattle and horses, Abbassian and Azarbal coll.; type material in the collection of the Institute of Parasitology and Malariology, Tehran.

Male: unknown.

The present species is closely allied to *Silvius irritans* Ric., but differs, as mentioned above, in the larger size, the lack of punctations on the buccae, the shape of the first antennal segment, being in *S. irritans* more slender and lacking the constriction, and in the shape of the basal frontal calli, which are in the latter doubled, e.i. two small separated calli are present on each side of the antennae, the lateral reaching the eyes. From *S. latifrons* Ols. it can be separated by the differing shape of the palpi. Furthermore *S. latifrons* lacks the two basal frontal calli (see description and figure given by Olsufiev 1937, p.116,117,371) and the eyes of the latter, as Kröber stated (1938,p.127), have numerous small dots.

3. *Nemorius abbassianae* Leclercq

Type material: 3 F. Hajiabad (ab. 800m) and surroundings of Kazeroon, 29. -7.V.1959, horse and cattle. (see Leclercq, in print)

Other material: 15 F., Tsheshmeh-fateh, 36 km west of Shiraz (1900m), 24. and 28. VII. 1959, donkey; 1 F., *ibid.*, 3. VIII. 1959, Shahgudian coll.

4. *Chrysops (Heterochrysops flavipes punctifer* Loew

2 F., Hajiabad (ab. 800m), 1.V. 1959, horse.

5. *Chrysops (Heterochrysops) simullimus* Austen

5 F., Lake Famoor (ab. 900m), 24. IV. 1959, horse; 14 F., surroundings of Kazeroon, 1.-7.V. 1959, cattle and horses; 3 F., *ibid.*, VI. 1959; 1 F., Shapur (ab. 800m), 28, VII. 1959, cow; 3 F., Dashte-arjan (2030m), 22. 23. and 28. VII. 1959, cattle; 4 F., Tsheshmeh-fateh, 36 km west of Shiraz (1900m), 24. VII. 1959, donkey.

This species previously known from Iraq is recorded for the first time in Iran.

F. = Female and M. = Male

Subfamily TABANINAE, tribe TABANINI

6. *Tabanus accipiter* Szilady

5 F., Rudak (550m) 29. V., 4. and 7.V. 1959, horse and cattle.

Eye in life golden green with 3 purple bands.

7. *Tabanus ansarii* new species (fig. 2)

A rather small, brownish species with two separated frontal calli, three-banded eyes, brownish tinged wings, an appendix to r4 and with a row of median triangles and oblique, rounded or oval spots on each side of the abdomen.

Female. - **Head:** eyes bare, with three purple bands, golden green in life. Frons proportions: 47: 31: 82, index 2, 6. Lower callus broader than long, not reaching the eyes, reaching the subcallus except extreme antero-lateral edges, inflated, shining black broon, with an irregular shape of the upper border. Upper callus separated from the lower callus, heart shaped, longer or as long as broad, flat, slightly ridged, widely separated from the eye-margins. No ocellar tubercle at vertex. Tomentum of frons

yellow grey more yellowish around upper callus and toward vertex, leaving open a more greyish area in the middle near vertex. Occiput relatively broad with yellow grey tomentum and medium sized recumbent yellow hairs. Subcallus short, moderately inflated, covered with yellow grey tomentum. A distinct and clearly defined brownish parafacial band is present. Face and buccae white grey, sparsely covered with long whi-

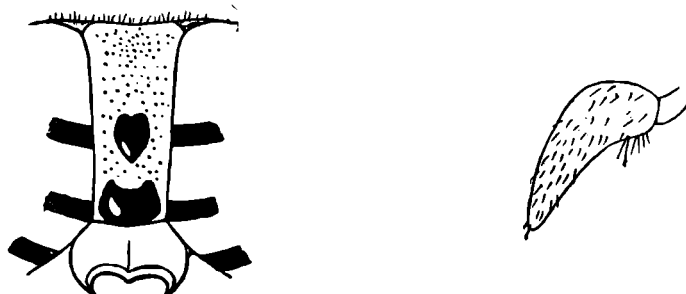


Fig. 2

SILVIUS SHAPURICUS N. SP.

tish hairs. Antennae narrow and blackish in appearance. First segment brownish, second segment blackishbrown, both segments densely covered with black hairs, third segment blackish except extreme proximal part, which is brownish. Plate with a rather indistinct dorsal angle, annulate portion shorter than plate. Palpi: first segment with long white hairs, second segment yellowish, densely covered with short, mostly black hairs,

moderately slender, basally inflated, pointed at apex.

Thorax: mesonotum black in ground colour, with thin dark grey tomentum and 5 ashy grey longitudinal stripes, clothed with yellow hairs, which are more numerous posteriorly and around scutellum. Notopleural lobe brownish grey. Pleura greyish yellow, with sparse long pale grey hairs. Wings light brown tinged, r4 with a moderately long appendix, first posterior cell wide open. Veins dark brown, except costa to the connection of subcosta, subcosta and the base of the wing venation yellowish brown. A chocolate brown stigma is present. Basicosta less densely setose than costa. Halteres: stalks greyish yellow, knobs at base with a large brown spot on each side, upper parts of knobs yellow white. Legs: coxae like pleura. Fore femora brown in ground colour, the externe surface covered with grey brown tomentum, with long whitish and black hairs. Middle and hind femora brown. For tibiae brown except the distal third, which is blackish, covered with mostly black, appressed hairs more numerous at the distal third. Middle and hind tibiae brown. Fore tarsi blackish, other tarsi brown, all covered with black hairs.

Abdomen: narrow and somewhat elongated. Dorsum brown in general colour, with three longitudinal rows of spots; the median triangles (with grey brown tomentum and yellow hairs) nearly reaching the anterior border of tergites. Lateral spots oblique, rounded-oval and with more yellowish tomentum and yellow hairs. To the naked eye the median triangles appear to be ashy grey and the lateral obliqu spots pinkish white. The brown coloured main part of dorsum is basally somewhat lighter and covered with mainly black hairs. Last two tergites black brown, with mostly black hairs as usual. Each tergite with a narrow yellowish posterior border, which bears mostly yellow hairs. Venter: first 4 sternites yellow brown, the last 3 ones dark dirty brown, all with lighter posterior borders and yellow and black hairs.

Length of body (excl. antennae): 11 mm, length of wings: 9 mm. Holotype female, Rudak, Kazeroon (550 m), 29. IV. 1959, biting horse, Abbassian coll., in the collection of Institute of Parasitology and Malariology, Tehran. The present species has been named in honour of the former Director and founder of the Institute of Parasitology and Malariology:

Dr. N. Ansari.

Male: unknown.

The species belongs to the **glaucopis**-group and has the parafacial band and the appendix to r4 in common with **Tabanus freyi** Szilady, but the latter is lighter in appearance, with milky wings, without a dark stigma and with a chocolate brown parafacial band (Olsufiev 1937 and one female from the province of Khorassan in our collection). It seems also to be related to **Tabanus albifacies** Loew, which has, according to the description given by Efflatoun Bey (1930), hyaline wings, no dark stigma and no parafacial band and has, as Austen (1923/24) pointed out, the eyes with 4 bands.

8. **Tabanus autumnalis brunnescens** Szilady

1 F. Shapur (ab. 800m), 3. IV. 1959, in car, Aram coll.; 1 F., Shahdawood (ab. 500m), 28. IV. 1959, in car, same coll.; 1 F., Ardishiri (ab. 800m), 29. IV. 1959, cow; 4 F., Hajiabad (ab. 800m), 29. IV. 1959, horse, 3 F., Rudak (550m), 29. IV. 1959, horse; 1 F., Tscheshmeh-golak (2150m), 21. VII. 1959, donkey; 1 F., Mian-kutal (1800m), 22. VII. 1959, donkey; 8 F., Dashte-arjan (2030m), 27. VII. and 3. VIII. 1959, cattle and donkey; 1 F., Tsheshmeh fateh, 36 km west of Shiraz (1900m), 28. VII. 1959, donkey.

All specimens have the fore femora grey, middle and hind femora reddish yellow, the general appearance is lighter than of those found in northern Iran.

9. **Tabanus bromius** Linnaeus

1 F., Ghale-narenji (ab. 900m), 30. IV. 1959, cow; 6 F., Hajiabad (ab. 800m), 30. IV. 1959, horse; 6 F., Rudak (500m), 4. V. 1959, cow; 1 F., surroundings of Kazeroon, 1-7. V. 1959, cattle and horses; 8 F., 2 M. Dashte-arjan (2030m) 21. VII. - 6. VIII. 1959, cattle and donkeys (MM. in tent of tribemen, Gudazian coll.); 17 F., Tsheshmeh-golak (2150m) 21. VII. 1959, donkey; 11 F., Tsheshmeh-fateh, 36 km west of Shiraz (1900m) 24. and 28. VII. 1959, donkey.

10. **Tabanus capito** Olsufiev

1 F., Tsheshmeh-fateh, 36 km west of Shiraz (1900m), 24. VII. 1959, camel, at dawn, 7 p.m.; 1 F., Dashte-arjan (2030m), 31. VII. 1959, room, 9 p.m., on head of person next to light.

This species previously known from Transcaucasia is recorded for the first time in Iran. Both specimens have, as Olsufiev (1937) mentioned, the first posterior cell strongly narrowed. Eyes in life blackish.

11. *Tabanus glaucopis* Meigen.

10 F., Tsheshmeh-golak (2150m), 21. VII. 1959, donkey; 1 F., Tsheshmeh-fateh, 36 km west of Shiraz (1900m), 28. VII. 1959, donkey; 1 M., Dashte-arjan (2030m) 13. VII. 1959, on stone, Gudazian coll.

9 of the females and the male have only two small shining brown spots on the extreme upper part of the subcallus and the palpi with mostly black hairs. The remaining two females are normal in respect of the subcallus, but the palpi are mainly white haired. Leclercq (*in litt.*) stated, that these 9 females could represent a local variety.

12. *Tabanus leleani* Austen

18 F., Hajiabad (ab. 800m), 29. IV. 1959, horse (1 F., as pray of an unidentified specimen of Asilidae) and in car; 2 F., *ibid.*, 29. VII. 1959, cow; 1 F., Rudak (550m), 7. V. 1959, cow; 44 F., surroundings of Kazeroon, 1-7. V. 1959, cattle and horses; 3 F., *ibid.*, VI. 1959, 1 F., Miankotal (1800m) 21. VII. 1959, donkey.

4 specimens seem to represent *T. leleani pallidus* Olsufiev.

13. *Tabanus miki* Brauer

1 F., Dashte-arjan (2030m), 27. VII. 1959, donkey.

This specimen is somewhat smaller and lighter in appearance than that, which Mr. H. Oldroyd was kind enough to send us from England.

14. *Tabanus mistshenkoi* Olsufiev

10 F., Rudak (550m), 29. IV., 4. and 7. V. 1959, horse, cow and donkey; 3 F., surroundings of Kazeroon, VI. 1959.

Eyes in life golden green with 4 bands. This species previously known from Tajikistan (Russian Turkestan) is for the first time recorded in Iran.

15. *Tabanus mofidii* Leclercq

Type material: 14 F., Hajiabad and Rudak, horse, donkey and cattle, 30. IV.-7. V. 1959; 7 F., surroundings of Kazeroon, VI. 1959 (see Leclercq, in print).

16. *Tabanus pallidipes* Austen

1 F., Hajiabad (ab. 800m), 30. IV. 1959, horse; 14 F., Rudak (550m)

31. IV., 4. and 7. V. 1959, cattle and donkey; 8 F., surroundings of Kazeroon, VI. 1959. This species previously known from Palestine and Syria is for the first time recorded in Iran.

17. ***Tabanus regularis*** Jaennicke

3 F., Rudak (550m), 31. IV. 1959, cattle and donkey; 14 F., *ibid.*, 4.V. 1959, cow; 1 F., Mahalledin (ab. 550m), 2. V. 1959, cow; 9 F., surroundings of Kazeroon, VI. 1959; 1 F., Shahpur (ab. 800m) 28. VII. 1959, cow; 1 F., Tsheshmeh-fateh, 36 km west of Shiraz, (1900m) 28. VII. 1959, donkey.

18. ***Tabanus rupinae*** Austen

8 F., Rudak (550m), 29. IV. and 4. V. 1959, cow and donkey; 3 F., Hajiabad (ab. 800m), 30. IV. 1959, horse; 1 F., *ibid.*, 4. V. 1959, in car; 1 F., surroundings of Kazeroon, VI. 1959.

These 13 specimens differ according to the description in some aspects: length of body (excl. ant.): 12-17mm, frontal index: 3,7-4,5; 10 specimens present black frontal calli and in 8 cases the upper frontal callus is an oval spot. 4 specimens do not show any indication of a brownish parafacial band, finally one specimen has the fore femora pinkish grey. The present species previously known from Palestine is recorded for the first time in Iran.

19. ***Tabanus spectabilis*** Loew

2 F., Dashte-arjan (2030m), 27. VII. and 3. VIII. 1959, donkey; 1 F., Tsheshmeh-fateh, 36 km west of Shiraz (1900m), 28. VII. 1959, camel.

20. ***Tabanus sufis*** Jaennicke

1 F., Mahalledin (ab. 550m), 2. V. 1959, cow; 6 F., Hajiabad (ab. 800m), 30. V. 1959, horse and cattle.

The species previously known from the Ethiopian region and Egypt is recorded for the first time in Iran.

21. ***Tabanus taeniola*** form ***variatus*** Walker

1 F., Rudak (550m). 29. IV. 1959, horse; 8 F., Hajiabad (ab. 800m), 29., 30. IV. and 2. V. 1959, horses and cattle.

This species previously known from the whole Ethiopian region and Egypt is recorded for the first time in Iran.

22. *Atylotus agrestis* Wiedemann

2 F., Hajiabad (ab. 800m), 29. IV. and 2. V. 1959, horses.

One specimen has no appendix to r4.

23. *Atylotus pulchellus* Loew

1 F., Lake Famoor (ab. 900m), 28. IV. 1959, horse; 4 F., Hajiabad (ab. 800m), 30. IV., 2. V. and 28. VIII. 1959, horses and cow; 2 F., Ghalenarenji (ab. 900m), 30. IV. 1959, cow; 1 F., Mahalledin (ab. 500m), 2. V. 1959, horse. At places with exclusively fresh running water. like Rudak, no specimen of the genus *Atylotus* has been observed.

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SUMMARY

23 species of Tabanidae have been collected during April/May and July 1959 in the Kazeroon area (province of Fars, southern Iran): *S. irritans* Ric., *S. shapuricus* n. sp., *N. abbassianae* Lecl., *Chr. (Het.) flavipes punctifer* Lw., *Chr. (Het.) simillimus* Aust., *Tab. accipiter* Szil., *Tab. ansarii* n.sp., *Tab. autumnalis brunnescens* Szil. *Tab. bromius* L., *Tab. capito* Ols. Tob., *mofidii* Lecl. *Tab. pallidipes* Aust., *Tab. regularis* Jaen., *Tab. rupinde* *Tab: glaucopis* Mg., *Tab. leleani* Aust., *Tab. miki* Br., *Tab. mistshenkoi* Ols., Aust., *Tab. spectabilis* Lw., *Tab. Sufis* Jaen., *Tab. taeniola* form *Variatus*

Walk., *Atyl. agrestis* Wied., *Atyl. pulchellus* Lw. *S. shapuricus* n.sp. and *Tab. anasarii* n.sp. are described.

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