

## Studies of the *Culicoides* of Iran

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### *Summary.*

The author completes the study of the Iranian *Culicoides* indicating the species now reported.

The seasonal distribution of *Culicoides* is also studied.

### *Résumé.*

#### *Etude des Culicoides en Iran.*

L'auteur complète l'étude des *Culicoïdes* d'Iran en indiquant les espèces actuellement répertoriées.

La distribution saisonnière des *Culicoïdes* est également étudiée.

Horse-sickness appeared in Iran in epidemic form in 1959-1960 and spread rapidly in the most part of the East from Kerman up to the Northern border, Turkmanistan. After the appearance of this serious disease, the study of *Culicoides* was necessary. The first report was given by Mesghali, 1963.

This report contains the results of the study carried out by A. Mesghali and the author.

Species of the genus *Culicoides* are widely distributed over the country. We in our studies only collected from a few areas in the country (fig. 1) and not in all landscape-climatic zones. We did some study in desert climate, Ab-Shirinak, but not any study was done in forest areas.

Forty-three species of *Culicoides* were recorded from Iran. To compare this number with 65 species recorded from Transcaucasia (Dzhafarov, 1964), the neigh-

bour country in the north, shows still we have many undescribed species. A complete survey needed to be done in different parts of the country in order to know the local species.

In all investigations the adult insects were collected by New Jersey light traps and sticky papers.



FIG. 1. — Location of the *Culicoides* collection sites in Iran

The following species were collected and identified from 1961-1970: *C. azerbaijdzhanicus*, *C. bulbostylus*, *C. caspius*, *C. circumscriptus*, *C. dendrophilus*, *C. dzhafavori*, *C. faghihi*, *C. flavidus*, *C. flavisimilis*, *C. grisescens*, *C. halophilus*, *C. firuzeri*, *C. heliophilus*, *C. ibericus*, *C. iranica*, *C. korensis*, *C. kurensis*, *C. lailae*, *C. langeroni*, *C. maritimus*, *C. mesghalii*, *C. mosulensis*, *C. nagahanai*, *C. odibilis*, *C. omogensis*, *C. pallidicornis*, *C. pallidipennis*, *C. pallidus*, *C. parroti*, *C. pictimargo*, *C.*

*pictipennis*, *C. pulicaris*, *C. puncticollis*, *C. riethi*, *C. saevus*, *C. schultzei*, *C. seifadinei*, *C. semimaculatus*, *C. shahgudiani*, *C. similis*, *C. similisbaghdadensis*, *C. simulator*, *C. subfascipennis*.

The seasonal distributions were done in two collection sites :

1. at Chahar-Dongeh, Karaj (in north) during 1964-1965 (Navai, 1965),
2. at Zyarat-Ali, Bandar-Abbas (in south) during 1968-1969 (unpublished data).

At Chahar-Dongeh the first flying adult (1 female, *C. puncticollis*) appeared on April 15 (fig. 2) and continued until October 19 (1 female, 1 male, *C. heliophilus*<sup>1</sup>). The most abundant species at Chahar-Dongeh is *C. puncticollis*. It was found that the adult of *C. puncticollis* at Chahar-Dongeh increased to maximum numbers during the last week of May.

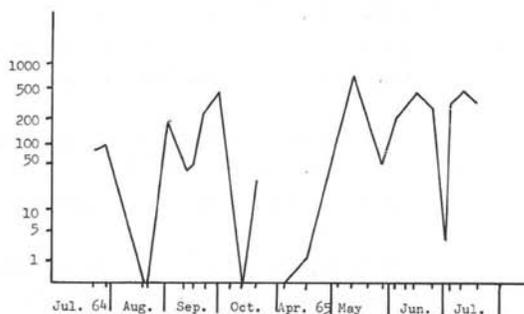


FIG. 2. — Seasonal distribution of male and female *C. puncticollis* in 1964-1965 at Chahar-Dongeh, Karaj, per light trap.

At Zyarat-Ali, Bandar-Abbas, the first flying adult appeared on March 15 (1 male, *C. langeroni*, 1 female, *C. mosulensis*) and continued until December 19 (1 female, *C. pulicaris*, 1 female, *C. semimaculatus* and 1 female, *C. mosulensis*). From December 20, 1968 to January 18, 1969 the collection was not possible due to erosion after rain covering the roads. However, the 19 of December cannot be considered as the last day of flying adults. Adults might fly during the late December to the middle of January.

The most abundant species at Zyarat-Ali, Bandar-Abbas is *C. mosulensis*. This species at Zyarat-Ali reached to the maximum number in the middle of July.

The adult-flying *Culicoides* are absent at Zyarat-Ali about 3 months or less in a year. They are absent at Chahar-Dongeh for more than 5 months in a year.

A revision needs to be done in our collection in order to correct some misiden-

(1) This species was identified later as *C. dzhafarovi*.

tified specimens. Some species like *C. caspius*, *C. similis*, *C. dendrophilus*, *C. parroti* have been recorded with one or two specimens and are not present in the collection.

Since the spermatheca of *C. puncticollis* is very variable in form and also there is no reliable difference in the structure of male genitalia of *C. puncticollis* and *C. riethi*, I believe these two species are the same and the earlier name « *puncticollis* » should be used, unless some immature stage studies or biological studies prove the differences between the two species.

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