

NOTES ET INFORMATIONS

SANDFLY SPECIES (DIPTERA, PSYCHODIDAE) COLONIZING NEW FORMED ROCK CREVICES IN APULIA (ITALY)

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SUMMARY. A total of 321 sandflies (59.50 % males) were caught with oiled papers and CDC light traps in a biotope derived by the construction of a new road in Apulia (Italy) and where two species of geckoes were found infected with *Leishmania* and *Trypanosoma* parasites. The species identified were: *Phlebotomus perniciosus* (29.90 %), *P. major* (0.93 %) and *Sergentomyia minuta minuta* (69.15 %). Some considerations on the species colonizing the biotope are reported.

Espèces phlébotomiennes (Diptera, Psychodidae) colonisant des crevasses rocheuses nouvellement formées en Apulie (Italie).

RÉSUMÉ. Un total de 321 phlébotomes (59,50 % de mâles) a été capturé au moyen de papiers huilés et de pièges lumineux CDC, dans un biotope créé par la construction d'une nouvelle route en Apulie (Italie). Dans ce même biotope, deux espèces de geckos ont été trouvées infestées par *Leishmania tarentolae* et *Trypanosoma platydaetyli*. Les espèces phlébotomiennes identifiées sont : *Phlebotomus perniciosus* (29,90 %), *P. major* (0,93 %) et *Sergentomyia minuta minuta* (69,15 %). Ces espèces font l'objet de quelques remarques.

Pozio *et al.* (1983 and 1984) have found *Tarentola mauritanica* and *Cyrthodactylus kotschy* (Reptilia, Gekkonidae) living in the same biotope, infected with *Leishmania tarentolae* and *Trypanosoma platydaetyli*.

The suspected vectors of *Leishmania* and *Trypanosoma* parasites isolated from geckoes are sandfly species belonging to the genus *Sergentomyia* (Diptera, Psychodidae) (Parrot, 1934; Adler and Theodor, 1935; Killick-Kendrick, 1979; Lanotte *et al.*, 1981; Rioux *et al.*, 1979).

The biotope studied in Apulia by Pozio *et al.* (1983) is of great interest, since

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the rocks where *T. mauritanica* and *C. kotschy* were collected have been derived from the construction of a new road at the end of '70 s. This particular condition led us to carry out an investigation on the phlebotomine species colonizing the new habitat.

In the present note the results of sandfly collections on the rock crevices in Apulia during the sandfly season 1982 are reported.

The survey has been carried out at Murge of Monopoli, Apulia (South Italy), in a 2 to 5 m high calcareous wall, rich in fissures and derived from the construction of a new road that runs from the top of Murge (350 m above s. l.) down to the sea. Along this wall, geckoes (*T. mauritanica* and *C. kotschy*) are present at density of about 1 specimen/m². Rare specimens of *Hemidactylus turcicus* are present. On the lower part of the calcareous rock, the ruin lizard, *Podarcis sicula* is frequent. The surrounding territory is covered with *macchia mediterranea*, characterized by the holm-oak (*Quercus ilex*), the lentisk (*Pistacea lentiscus*) and various species of *Cistus*. No human settlements are present within a range of 200 m.

The survey was carried out in two periods from 22 to 26 June (4 night catches), and from 31 August to 3 September (3 night catches).

The method used for collecting adult phlebotomines was castor oiled papers (21 × 21 cm) laid in the rock crevices along road extending for about 500 m (Croset *et al.*, 1977). CDC light traps were also used during a night in both periods.

All sandflies were identified using Theodor keys (1958). The cibarial teeth in *S. minuta* were counted to define the subspecies.

In both collecting periods sandflies were found in the rock crevices. A total of 321 specimens (59.50 % males) were caught with oiled papers and CDC light traps. In the second period of collection sandfly density of each oiled paper was calculated: 34 oiled papers out of 42 employed were positive, the average of sandflies per oiled paper being 6.8 (0-60).

The following species were identified: *Phlebotomus perniciosus* (29.90 %); *P. major* (0.93 %) and *S. minuta* (69.15 %). The mean number of cibarial teeth in *S. minuta* was 41.25 (range 38-44), confirming the presence in Italy of the subspecies *S. m. minuta* (mean number of cibarial teeth 42 in Europe), being the other subspecies, *S. m. parroti*, confined to North Africa (mean number of cibarial teeth 69) (Rioux *et al.*, 1975; Leger *et al.*, 1979; Belazzoug *et al.*, 1982 and Pesson *et al.*, 1984).

The male percentage was 97.91 % for *P. perniciosus* and 42.34 % for *S. minuta* (only 3 males of *P. major* were caught). CDC light traps were much less efficient compared with oiled papers (1 : 9). It could be explained by the fact that the males of *P. perniciosus* as well as both sexes of *S. minuta* are indifferent to the artificial light (Perfil'ev, 1968; Maroli and Bettini, 1977; Madulo-Leblond, 1983), though in France, Rioux and Golvan (1969) noted that *S. minuta* is attracted by feeble artificial light.

From our findings some considerations could be made on the new habitat colonized by the sandflies:

(i) due to the very high frequencies of *P. perniciosus* males collected in two

occasion apart, the crevices could be considered only as a resting site for the males of this species. In fact, it is highly unlikely that the two periods of catch would coincide with peaks of massive emergence of *P. perniciosus* males only, so considering the crevices also as breeding sites;

(ii) since an equal percentage of two sexes of *S. minuta* has been shown, the rock crevices could be both breeding and resting sites for the species as already reported by Rioux and Golvan (1968) in France. The association between the habitat studied and *S. minuta* is also supported by the presence of a high number of geckoes that are the only hosts for the species (Parrot, 1964; Raynal, 1954; Vises Sabater, 1954).

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