

AN ILLUSTRATED KEY TO ADULT MALES OF NEOTROPICAL *Fannia* ROBINEAU-DESVOIDY BELONGING TO *Pusio* SUB-GROUP (DIPTERA, FANNIIDAE)

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(With 15 figures)

ABSTRACT

The 11 neotropical species of *Fannia* belonging to the *pusio* sub-group (*canicularis* group), are keyed – *F. dodgei* Seago; *F. femoralis* (Stein); *F. pamplonae* Couri & Araújo; *F. parafemoralis* Araújo & Couri; *F. paraisensis* Araújo & Couri; *F. punctivervis* Malloch; *F. pusio* (Wiedemann); *F. sabroskyi* Seago; *F. snyderi* Seago; *F. trimaculata* (Stein); *F. trimaculatoides* Couri & Pamplona. The key is addressed only to the males and the illustrations help in the visualization of the characters.

Keywords: Fanniidae, *Fannia*, key to males, *pusio* sub-group, identification.

RESUMO

Chave ilustrada para machos adultos de *Fannia* Robineau-Desvoidy neotropicais pertencentes ao subgrupo *pusio* (Diptera, Fanniidae)

As onze espécies neotropicais de *Fannia* pertencentes ao subgrupo *pusio* (grupo *canicularis*), são chaveadas – *F. dodgei* Seago; *F. femoralis* (Stein); *F. pamplonae* Couri & Araújo; *F. parafemoralis* Araújo & Couri; *F. paraisensis* Araújo & Couri; *F. punctivervis* Malloch; *F. pusio* (Wiedemann); *F. sabroskyi* Seago; *F. snyderi* Seago; *F. trimaculata* (Stein); *F. trimaculatoides* Couri & Pamplona. A chave é direcionada apenas para os machos e as ilustrações auxiliam na visualização dos caracteres.

Palavras-chave: Fanniidae, *Fannia*, chave para machos, subgrupo *pusio*, identificação.

INTRODUCTION

Fannia Robineau-Desvoidy, 1830 (Diptera, Fanniidae) is known in the tropics for 65 valid species.

Mainly based on male terminalia characters, Hennig (1955) and Chillcott (1960) proposed the organization of the *Fannia* species into groups, some of them divided into sub-groups. Albuquerque *et al.* (1981) recognized some of these groups to the neotropical species, and also gave a characterization of them.

The *pusio* sub-group is very homogeneous and belongs to the *canicularis* group, which can be characterized by the bare parafacial; presence of posteroventral setae on hind coxa; cercal plate

longer than wider; surstylus extending from the inner margin of the ninth tergum and absence of a bacilliform processes, while the sub-group *pusio* can be characterized by the absence of the upper orbital bristle and by the trimaculate abdomen in males (Hennig, 1955; Chillcott, 1960; Albuquerque *et al.*, 1981). Both *canicularis* group and *pusio* sub-group can be easily identified in the keys to groups and sub-groups presented by Chillcott (*op. cit.*) and Albuquerque *et al.* (*op. cit.*).

The identification of *Fannia* males becomes easier as they exhibit a variety of secondary sexual characters, while the females remain relatively primitive (Chillcott, 1960). Among others male diagnostic characters, the bristling especially of the mid and hind femora is particularly important.

Because of the difficulty of identifying females, the present key is addressed only to the males. The use of the key is facilitated by the illustrations of legs, especially of the hind femur.

Carvalho *et al.* (1993) lists 9 *Fannia* species to the *pusio* sub-group. Araújo & Couri (1996) added two new species to them.

The present key was based on Seago (1954) and Albuquerque *et al.* (1981) and includes

the 11 neotropical species described to the sub-group: *F. dodgei* Seago, 1954; *F. femoralis* (Stein, 1898); *F. pamplonae* Couri & Araújo, 1989; *F. parafemoralis* Araújo & Couri, 1996; *F. paraisensis* Araújo & Couri, 1996; *F. punctivervis* Malloch, 1934; *F. pusio* (Wiedemann, 1830); *F. sabroskyi* Seago, 1954; *F. snyderi* Seago, 1954; *F. trimaculata* (Stein, 1898); *F. trimaculatoides* Couri & Pamplona, 1990.

ILLUSTRATED KEY TO THE NEOTROPICAL MALE *Fannia* SPECIES BELONGING TO *Pusio* SUB-GROUP

- | | |
|--|---|
| <p>1. Hind femur with a distinct pre-apical ventral swelling (Fig. 1)..... 2 Hind femur with no pre-apical ventral swelling (Fig. 2) 8</p> <p>2. Hind tibia with long and fine bristles on middle third (Fig. 3) [Mexico, Guatemala, Panama, El Salvador, St. Vicent Is., Guadalupe Is., Puerto Rico, Cuba, Bahamas, Trinidad, Venezuela, Guyana, Brazil, Chile, Galapagos Is., Easter Is., North America, Africa] ...<i>F. pusio</i> (Wiedemann, 1830). Hind tibia without long and fine bristles on middle third..... 3</p> <p>3. Hind femur on anteroventral surface with a row of close bristles on basal third, beginning post-basally (Fig. 4) and posteroventral surface with a complete row of bristles, longer on apical fourth (Fig. 5) [Panama, Cuba, Colombia, Brazil]..... <i>F. dodgei</i> Seago, 1954 Hind femur on anteroventral surface without a row of close bristles on basal third; posteroventral surface without a complete row of bristles, longer on apical fourth; if so, not together with the other above character 4</p> <p>4. Hind femur with a very visible pre-apical protuberance, with many short bristles; anteroventral and posteroventral surfaces bare (Fig. 6) [Brazil, USA]..... <i>F. snyderi</i> Seago, 1954 Hind femur with a faint pre-apical protuberance, and not very bristled; anteroventral and posteroventral surfaces with bristles, at least on apical half (Fig. 7) 5</p> <p>5. Hind femur on anteroventral surface with 3-4 pre-</p> | <p>apical bristles with straight apex distinctly shorter than the corresponding posteroventral (Fig. 7) [Guyana, Brazil] <i>F. sabroskyi</i> Seago, 1954 Hind femur on anteroventral surface with preapical bristles with hooked apex (Fig. 8)..... 6</p> <p>6. Hind femur on anteroventral and/or posteroventral surfaces with a complete row of bristles (Fig. 8) [Brazil (Rio de Janeiro)] <i>F. paraisensis</i> Araújo & Couri, 1996 Hind femur on anteroventral and/or posteroventral surfaces with a bristles at most restricted to apical third..... 7</p> <p>7. Hind femur on anteroventral surface with a row of long bristles on apical third and with more than 4 longer bristles inserted on the swelling; hind tibia on anterodorsal surface with a row of short bristles, the ones on apical third longer (Fig. 9) [Brazil (Rio de Janeiro)] <i>F. parafemoralis</i> Araújo & Couri, 1996 Hind femur on anteroventral surface without a row of long bristles on apical third and with 3-4 longer bristles inserted on the swelling; hind tibia on anterodorsal surface with 3 median bristles (Fig. 10) [Mexico, Cuba, Virgin Is., Puerto Rico, Haiti, Dominican Republic, Guyana, Peru, Bolivia, Brazil, Argentina, North America] <i>F. femoralis</i> (Stein, 1998)</p> <p>8. Hind femur on anteroventral surface with only one strong bristle on apical third; anteroventral surface with a row of straight bristles on middle third (Fig. 11) [Belize, Panama, Puerto Rico, Jamaica, Dominican Republic, Haiti, S. Domingo, Ecuador, Peru, Venezuela, Brazil, Uruguay, Argentina] ...</p> |
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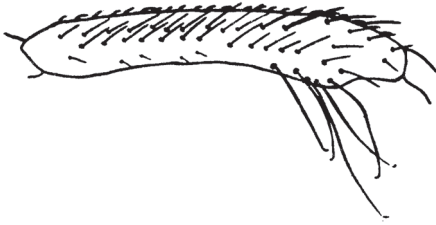


Fig. 1 — *F. pusio* (Wiedemann). Hind femur, anterior view (modified from Seago, 1954).

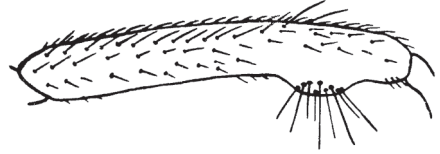


Fig. 6 — *F. snyderi* Seago. Hind femur, anterior view (modified from Seago, 1954).

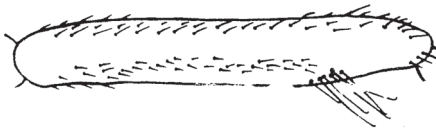


Fig. 2 — *F. punctiventris* Malloch. Hind femur, posterior view (modified from Seago, 1954).



Fig. 7 — *F. sabrosky* Seago. Hind femur, anterior view (modified from Seago, 1954).

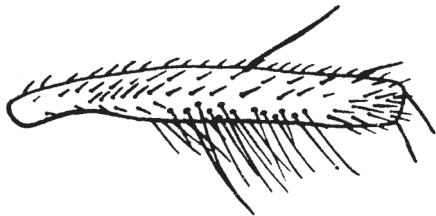


Fig. 3 — *F. pusio* (Wiedemann). Hind tibia, anterior view (modified from Seago, 1954).

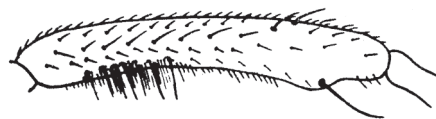


Fig. 4 — *F. dodgei* Seago. Hind femur, anterior view (modified from Seago, 1954).

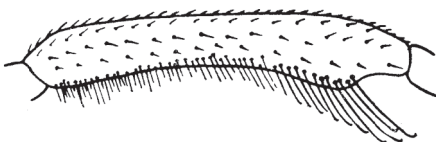


Fig. 5 — *F. dodgei* Seago. Hind femur, posterior view (modified from Seago, 1954).

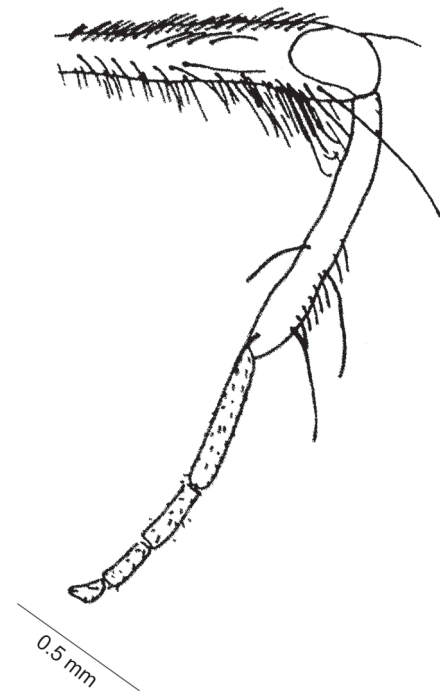


Fig. 8 — *F. paraisensis* Araújo & Couri. Hind leg, anterior view (modified from Araújo & Couri, 1996).

-*F. trimaculata* (Stein, 1898)
Hind femur on anteroventral surface with more than one bristle on apical third; anteroventral surface without a row of straight bristles on middle third (Fig. 12)..... 9
- 9. Hind femur on anteroventral surface with 2 bristles on apical third (Fig. 12) [Chile, Juan Fernandez Is.]
.....*F. punctiventris* Malloch, 1934
Hind femur on anteroventral surface with many bristles on apical third 10
- 10. Hind femur on anteroventral surface with a row of similar bristles on basal two-thirds; apical third with long spaced bristles, longer to apex (Fig. 13);

- mid femur on anteroventral and posteroventral surfaces with short and strong bristles on apical third (Fig. 14) [Brazil (Amazonas)].....
-*F. trimaculatoides* Couri & Pamplona, 1990
Hind femur on posteroventral surface with many bristles on basal third not clustered (Fig. 15); mid femur on anteroventral and posteroventral surfaces without short and strong bristles on apical third [Brazil (Rio de Janeiro)].....
-*F. pamplonae* Couri & Araújo, 1989

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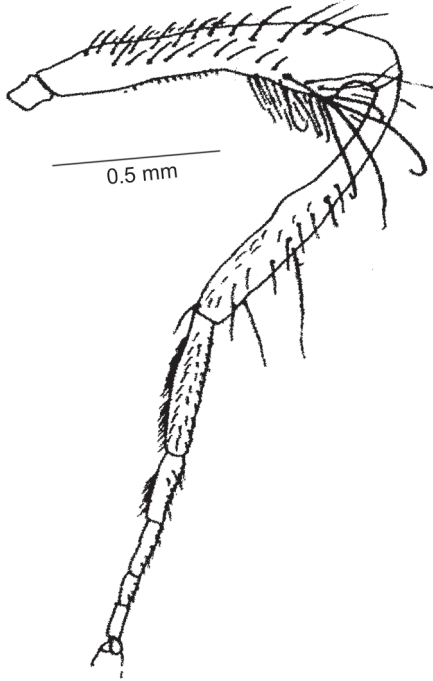


Fig. 9 — *F. parafemoralis* Araújo & Couri. Hind leg, anterior view (modified from Araújo & Couri, 1996).

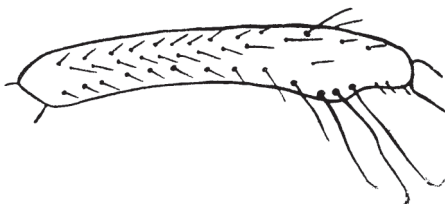


Fig. 10 — *F. femoralis* (Stein). Hind femur, anterior view (modified from Seago, 1954).

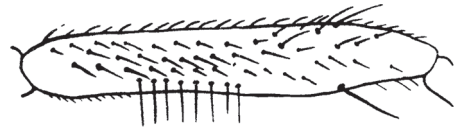


Fig. 11 — *F. trimaculata* (Stein). Hind femur, anterior view (modified from Seago, 1954).

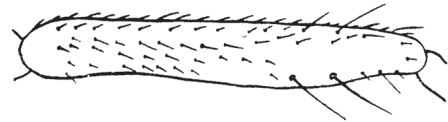


Fig. 12 — *F. punctiventris* Malloch. Hind femur, anterior view (modified from Seago, 1954).

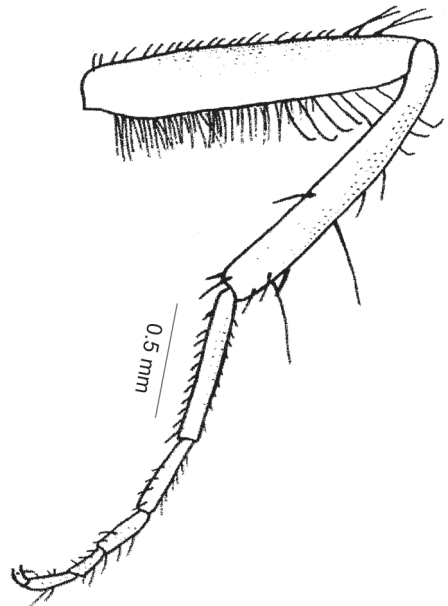


Fig. 13 — *F. trimaculatoides* Couri & Pamplona. Hind leg, anterior view (modified from Couri & Pamplona, 1990).

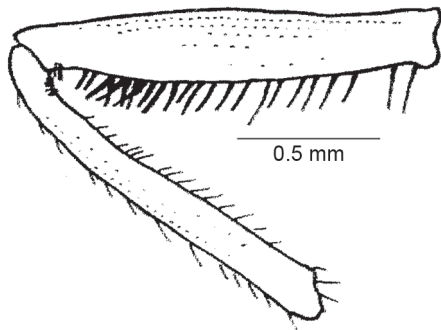


Fig. 14 — *F. trimaculatooides* Couri & Pamplona. Mid femur and tibia, posterior view (modified from Couri & Pamplona, 1990).

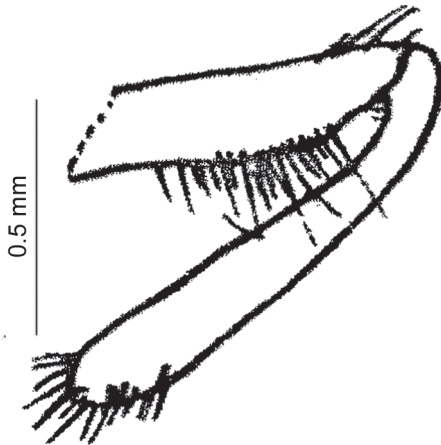


Fig. 15 — *F. pamplonae* Couri & Araújo. Hind femur and tibia, posterior view (modified from Couri & Araújo, 1989).

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