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A New Species of *Fannia* ROBINEAU-DESVOIDY from the Alps

(Insecta, Diptera, Fanniidae)

by

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Synopsis: A new species, *Fannia monticola* sp. n., is described from the Obergurgl area, Upper Ötz Valley, Tyrol, Austria.

1. Introduction:

Among material collected by the author around Obergurgl in the Upper Ötz Valley, Tyrol, Austria, a new species of the genus *Fannia* ROBINEAU-DESVOIDY was found, restricted to altitudes between 1940 and 2400 m, and probably associated with burrows of the Alpine Marmot (*Marmota marmota* LINNAEUS).

2. Description:

Fannia monticola sp. n.

A large, dark species belonging to the *canicularis* group and subgroup of CHILLCOTT (1961).

♂. Head (Fig. 1): Ground-colour black. Frons at narrowest point 2 times diameter of anterior ocellus. Eyes bare. Post-ocular setulae short, except at vertex, in a single row in upper half of head. Fronto-orbital plates and parafacials silvery-white pruinose throughout; face, genae and occiput grey. Fronto-orbital plates narrow, in upper half of frons a plate outside the frontal setae narrower than the vitta between the rows of setae, at lunula a little over half width of antennal flagellomere; frontal vitta conspicuous throughout. 11 - 12 pairs of inclinate frontal setae, with several interstitials, reaching almost to ocellar tubercle and culminating in a pair of strong reclinate orbital setae (this seta missing on one side). Antennae black, flagellomere just under twice as long as broad. Arista microscopically pubescent. Parafacial moderate, at middle half width of antennal flagellomere, narrowing a little below; bare. Vibrissal angle behind level of profrons. Proboscis moderate, prementum dusted. Palpi black, as long as proboscis, little dilated in apical half.

Thorax. Ground-colour black. Scutum thinly brown dusted, with no obvious dusted pattern; in posterior view, evenly dusted with a pair of thinly dusted presutural patches, between dorsocentrals and postpronotal lobes, and another pair behind suture, between dorsocentral and intraalar setae. Postpronotal lobes and notopleura densely grey dusted, remaining pleura thinly grey dusted. Scutellum, like scutum, brown dusted. Scutal ground-setulae dense and erect. Presutural acrostichal setulae 3- to 4-serial at suture, pluriserial behind suture. Prealar represented

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only by a group of fine ground-setulae. Proepisternal depression with 2 short setulae. Proepimeral seta surrounded by 8 - 9 setulae. Scutellum bare on a central area, with numerous setulae placed around margin and before tip.

Legs: Black; knees obscurely reddish, fore knee broadly so. Fore tibia without posterior seta, and with no obvious anterodorsal setula at apical quarter. Mid femur of almost normal shape, hardly narrowed in apical third; anteroventral surface with a few short setae in basal half, a little shorter than femoral depth, merging into a rather comb-like row of ground-setulae in apical half; posteroventral surface with a row of setae, those in basal half much longer than femoral depth, shorter and stouter after middle, becoming setulose just before femoral tip; posterior surface with a row of dense fine setae, subequal to femoral depth. Mid tibia of normal shape, along entire ventral surface with a mat of short soft uniform pubescence which, in apical half of tibia, is hardly one-quarter of tibial depth; 1 anterodorsal and 1 posterodorsal seta. Mid basal tarsomere without a basal ventral crest. Hind coxa with a fine seta on posteroapical margin. Hind femur with 1 (one side) or 3 (one side) strong anteroventral setae in apical half, in basal half with a series of short erect setae that are just over half femoral depth; on basal half of posteroventral surface with a series of short fine setae, only slightly shorter than femoral depth, and above, them, on the posterior surfaces, with similar, fine, multiserial setae. Hind tibia with a strong anterodorsal seta placed slightly apicad of the submedian dorsal, apicad of this seta with 2 short setae and basad of it with a series of 4 short setae; 1 anteroventral seta, with a short second seta on one leg.

Wing: Weakly infumated, brownish towards base. Basicosta orange, tegula black. Costal spine inconspicuous; setulae running along costa tiny and without stronger setulae interspersed. Calypters creamy, with contrasting bright yellow margins; lower one well developed, projecting beyond upper one. Haltere with both stalk and knob orange.

Abdomen: Ground-colour black. In posterior view, the tergites densely dusted with a rather broad black undusted vitta on each tergite that is parallel-sided and shows no tendency to broaden out towards hind-margins of tergites; the dusting light grey on fore-margins of tergites and at sides, otherwise brown and, on tergites 1 + 2, 3 and 4, still darker adjacent to posterior part of the black median vitta. Viewed from above and behind, the dusting uniformly brownish-grey and the median vitta very sharply defined. Sternite 1 large, setulose; setulae on tergites 2 - 4 long, strong.

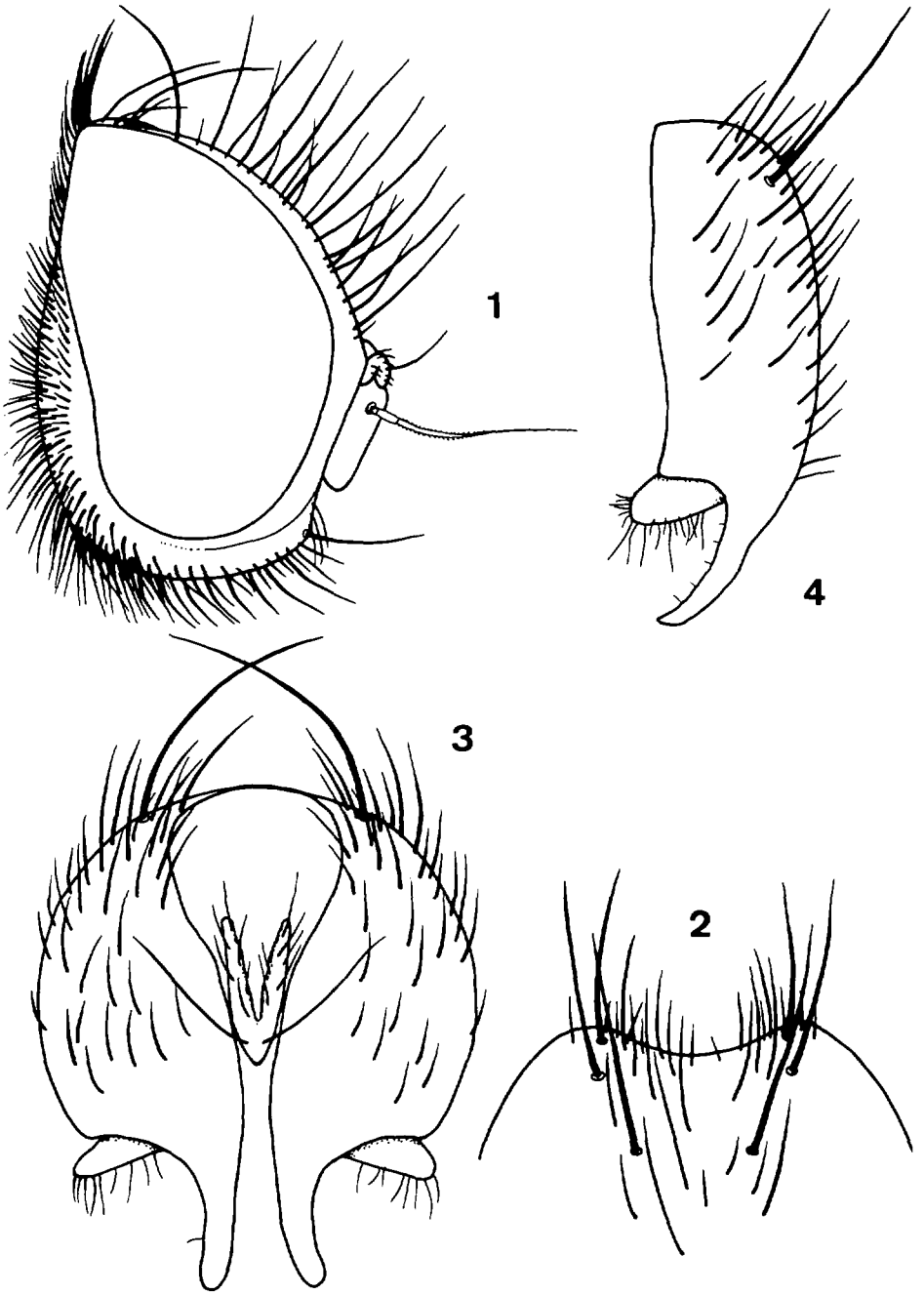
Genitalia: See Figs 2 - 4.

Measurements: Wing-length, 5.5 mm. Body-length, 7.0 mm.

♀. Differs from the ♂ as follows.

Head: Frons broad, broadening gradually from vertex to lunula; at level of posterior ocelli 0.38, at lunula 0.49, of maximum head-width. Fronto-orbital plates and parafacials densely light grey pruinose, the former sometimes tinged with brown in inner half. Frontal vitta black; the dusted frontal triangle confined to the area of the ocellar tubercle. Fronto-orbital plates broad, opposite lower orbital seta much broader than width of antennal flagellomere and about 3/4 width of frontal vitta. 9 - 11 pairs of inclinate frontal setae; lower orbital seta closer to eye-margin than to inner margin of fronto-orbital plate; setulae on the latter numerous and conspicuous, descending far down parafacial where they are relatively long and conspicuous. Frontal vitta with a scattering of tiny but obvious setulae. Antennal flagellomere rather stouter.

Thorax: Scutum grey dusted; viewed from above with three brown vittae running from neck almost to scutellum, the median one broad and occupying most of the space of the acrostichal setulae, the paramedian ones narrow and running along dorsocentral lines; in posterior view, marked as in ♂ but the brown dusted vittae also visible. Scutellum grey dusted. Scutal ground-setulae short. Acrostichal setulae equally numerous, in 5 irregular rows before scutellum. Up to 6 setulae on proepisternal depression. 5 - 6 proepimeral setulae.



Figs 1 - 4: *Fannia monticola* sp. n., ♂ holotype. 1, head, lateral view; 2, 5th sternite (part); 3, hypopygium, dorsal view; 4, hypopygium, lateral view.

Legs. Fore tibia with a conspicuous anterodorsal setula at apical quarter. Mid femur with only the 2 - 3 short setae on anteroventral surface; posteroventral surface with 1 long fine seta at base followed by up to 3 short setae, otherwise bare; posterior setae short at base, increasing in length towards tip of femur. Mid tibia normal, bare ventrally. Hind coxa with 2 setae on posteroapical margin. Hind femur with 2 - 4 strong anteroventral setae in apical half, otherwise only setulose on posterior to ventral surfaces. Hind tibia with 2 anteroventral setae.

Wing. Clear, more yellowish towards base.

Abdomen. Densely grey dusted from all points of view, in extreme posterior view with a narrow brown dusted median vitta on tergites 3, 4 and, sometimes, 5. Sternite 1 bare; sternites 2 - 5 setulose.

Measurements. Wing-length, 5.5 - 6.0 mm. Body - length, 6.0 - 6.5 mm.

Holotype ♂, AUSTRIA, Tyrol: Obergurgl, Gurglerache below Brenner, 1940 m, 4. viii. 1972 (A.C. & B. Pont), in the Natural History Museum, London.

Paratypes 3 ♀, all AUSTRIA, Tyrol: Obergurgl. 1 ♀, same data as holotype, in the Natural History Museum, London; 1 ♀, Gaißbergtal, heath, 2400 m, marmot burrows, 7. viii. 1981 (A.C. Pont), in the Natural History Museum, London; 1 ♀, Rotmoostal, entrance to marmot burrows, 2310 m, 30. vii. 1994 (A.C. Pont), in the Naturhistorisches Museum, Vienna.

3. Discussion:

The 1981 and 1994 females are the species which I have previously listed as *Fannia* sp. (PONT & ACKLAND 1995: 321) and which I suggested might be the unknown female of *brinae* Albuquerque (GREGOR & ROZKOŠNÝ 1993). However, the recognition of further material, including a male, shows that this is in fact a separate and previously undescribed species. At present it is known only from the Upper Ötz Valley in the Austrian Tyrol, but it will certainly occur elsewhere. Its occurrence at and above the tree-line, and its apparent association with burrows of the Alpine Marmot (*Marmota marmota* LINNAEUS), are probably the reasons why it has been overlooked until now.

Fannia monticola differs from most other species of the *canicularis*-group by the presence of setulae on the proepisternal depression: it shares this feature only with *difficilis* Stein (HENNIG 1955; d'ASSIS-FONSECA 1968), from which it differs by the completely dark abdomen and numerous anterodorsal setulae on hind tibia above and below the strong submedian seta. The presence of these auxiliary hind tibial anterodorsal setulae, together with the very short mid tibial mat of the ♂, restricts *monticola* to a cluster of species close to *canicularis: canicularis* (LINNAEUS), *hirundinis* RINGDAHL, *subpubescens* COLLIN, *pubescens* STEIN. It can be distinguished from the first three of these by the presence of several setulae surrounding the proepimeral seta (as opposed to a single setula). The ♂ of *pubescens* differs from *monticola* by its brown-rimmed calypters, absence of posteroventral setae on hind femur, and the mostly black and subshining scutum. The ♀ is unique in having an unusually broad frons and also in having tiny, fine but obvious setulae on the frontal vitta. In the ♂, the extremely short ventral mat on mid tibia indicates relationship with *canicularis* and *subpubescens,* but the possibility that it could be a dark, densely haired, mountain form of one of these species is ruled out by the various unique features just enumerated. In addition to these features, it differs from *canicularis* and *hirundinis* by the black tegula, the entirely black abdomen, and, in the ♂, by the number and strength of the posteroventral and posterior setae on mid femur and of the anteroventral, posteroventral and posterior setae on hind femur. It is most similar to *subpubescens,* which has a black tegula, parallel-sided undusted median abdominal vitta, and very similar mid and hind femoral setae, but *subpubescens* differs in details of the scutal pattern, slightly longer mid tibial mat in the ♂, the absence of setulae on proepisternal depression, and single auxiliary proepimeral.

The ♂ genitalia (Figs 2 - 4) are most similar to those of *subpubescens,* but sternite 5 has much stronger marginal setae, and the cercal plate is more deeply incised and has a pair of long setae near the tip (cf CHILLCOTT 1961: Fig. 131; d'ASSIS-FONSECA 1968: plate 1 Fig. 3).

4. Literature:

d'ASSIS-FONSECA, E.C.M. (1968): Diptera Cyclorrhapha Calyptrata. Section (b) Muscidae. – Handbk Ident. Br. Insects **10,** 4 (b): 119 pp., 16 figs, 6 plates.

CHILLCOTT, J.G. (1961): A revision of the Nearctic species of Fanniinae (Diptera: Muscidae). – Can. Ent. **92,** Suppl. **14** [1960]: 295 pp., 289 figs, 61 maps, 1 table.

GREGOR, F. & R. ROZKOŠNÝ (1993): New synonymies in the European Fanniidae (Diptera). – Europ. J. Ent. **90:** 227 - 234, 9 figs.

HENNIG, W. (1955-1964): Family Muscidae. – In: E. LINDNER (ed.): Fliegen palaearkt. Reg. **63b:** 1110 pp., 429 figs, 33 plates. E. Schweizerbart, Stuttgart.

PONT, A.C. & D.M. ACKLAND (1995): Fanniidae, Muscidae and Anthomyiidae associated with burrows of the Alpine Marmot (*Marmota marmota* LINNAEUS) in the Upper Ötz Valley (Tyrol, Austria) (Insecta, Diptera). – Ber. nat.-med. Verein Innsbruck **82:** 319 - 324.