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DROSOPHILA SUBOBSCURA COLLIN: DESCRIPTIVE NOTES ON
THE SPECIES WITH COMMENTS ON ITS NOMENCLATORAL
STATUS (DIPTERA)

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IN 1933 Professor A. H. Sturtevant trapped a species of *Drosophila* in England. Specimens submitted to Mr. J. E. Collin of Newmarket were identified by him as *D. subobscura*: this was a MS. name. The species was then bred in the laboratories of the Department of Biometry, University College, London, and used there for experimental work in genetics. One paper appeared reporting the results of experimental work and the species was called *D. subobscura* therein. At this time all parties immediately concerned knew that *D. subobscura* was a MS. name but it was anticipated that, at an early date, Mr. Collin would take the necessary steps to publish a description of the species and so validate the name. No such description appeared but, fortunately, three years later, Gordon (1936) inserted a note in a paper of his in which, attributing the name *D. subobscura* to Collin, a diagnosis of the species was given in which both sexes were compared and differentiated from the nearest related species, *D. obscura* Fallén. The note in Gordon's paper takes the form of an original contribution by Collin. The name *D. subobscura* Collin thus dates from 1936, since in none of the previous papers in which the name is used is a description of the species given that will satisfy the rules of nomenclature. Prior to the appearance of Gordon's (1936) paper it must therefore be regarded as a MS. name. In the papers reporting the results of the genetical experimental work the tendency is, as is usual in such papers, to omit the author's name when speaking of the species and to call it "*Drosophila subobscura*" not "*Drosophila subobscura* Collin" which is of course, nomenclatorally, the more correct form.

Mr. Collin has informed the author (*in litt.* 7.v.44) that he first realised that *D. subobscura* was a distinct species when dealing with specimens taken by himself in 1896. Subsequently he found that it was both common and widespread and he applied the name *D. subobscura* to it in his collection. In 1918 Mr. Collin bred the species from diseased Iris roots and he has also taken it on exuding sap in the company of *D. obscura* Fallén and *D. tristis* Fallén. Mr. Collin's reluctance in the matter of publication of the name was due to the fact that he knew that the type of *D. obscura* Fallén existed but he had not had an opportunity to compare specimens of the species called *D. obscura* in this country with that type and so make certain that the name was correctly applied, doubt on this point having arisen when it was discovered that the species called *D. obscura* Fallén was in fact less common than the newly differentiated but closely related *D. subobscura*.

The British Museum (Natural History) has, prior to 1936, identified material submitted to it as *D. subobscura* Collin. This was probably done on the basis of specimens and information exchanged between Mr. Collin and the late Dr. F. W. Edwards. No doubt Mr. Collin also attached the name to material sent to him by correspondents before 1936. Fortunately, since the identifications were correct and the name validated in 1936, it is immaterial that in those made prior to the appearance of Gordon's (1936) paper the name was a MS. one.

Two years after the appearance of Gordon's (1936) paper Séguy (1938) described a new species of drosophilid from Kenya to which he gave the name *D. subobscura*. This *D. subobscura* was recorded in the *Zoological Record* for 1938 (published July 1939). Unfortunately the name *D. subobscura* Collin in Gordon (1936) has not yet appeared in the *Zoological Record*¹ as a new species.

Early in 1944 Professor J. B. S. Haldane, discovering Séguy's use of *subobscura* for the Kenya species, communicated with Mr. Collin with the object of finding out if the latter had published a full description of the species collected by Professor Sturtevant in 1933. Mr. Collin replied (*in litt.* 9.iii.1944) that he had not; that he expected that in one or other of the papers reporting experimental work on the species there would be a sufficient description to validate the use of the name prior to Séguy's use of it; and that Professor Haldane was at liberty to take any steps he wished to put the matter in a correct state.

Professor Haldane (*in litt.* 27.iii.1944) then communicated with the Department of Entomology, British Museum (Natural History) for advice on the subject and the matter was referred to the author.

The author (*in litt.* 19.iv.1944) stated that, in his opinion, the description in Gordon's (1936) paper validated the use of the name *D. subobscura* Collin for the species to which the name had been applied and that Séguy's (1938) name was a homonym and that the latter's *D. subobscura* from Kenya would have to be given a new name.

Below are some further notes on the species which will serve to amplify Gordon's brief note of 1936.

Drosophila subobscura Collin.

- Drosophila subobscura* Collin in Gordon, 1936, *J. Genet.* **33** : 60.
Drosophila subobscura of Gordon, 1935, *Amer. Nat.* **69** : 381-382.
Drosophila subobscura of Gordon, 1936, *J. Genet.* **33** : 25-60.
Drosophila subobscura of Emmens, 1936, *J. Heredity* **27** : 351.
Drosophila subobscura of Emmens, 1937, *Z. f. Zellforschung u. mikroskopische Anatomie* **26** : 1-20.
Drosophila subobscura of Sturtevant, 1939, *Proc. Nat. Acad. Sci.* **25** : 137-141.
Drosophila subobscura of Gordon, Spurway & Street, 1939, *J. Genet.* **38** : 37-90. (Photographs of adult female; figure of wing.)
Drosophila subobscura of Christie, 1939, *J. Genet.* **39** : 47-60.
Drosophila subobscura of Sturtevant, 1940, *Genetics* **25** : 336-353.
Drosophila subobscura of Kalmus, 1941, *Proc. Roy. Soc. (B)* **130** : 185-201.
Drosophila subobscura of Kalmus, 1942, *Nature* **150** : 405.
Drosophila subobscura of Kalmus, 1942, *Proc. R. ent. Soc. Lond. (A)* **17** : 127-133.
Drosophila (Sophophora) subobscura Collin of Sturtevant, 1942, *Univ. Texas Publ.*, no. **4213** : 29.
Drosophila subobscura of Kalmus, 1942, *J. exp. Biol.* **19** : 238-254.
Drosophila subobscura of Kalmus, 1942, *J. Genet.* **44** : 194-203.
Drosophila subobscura of Philip, 1942, *Nature* **149** : 527-528.
Drosophila subobscura of Kalmus, 1943, *J. Genet.* **45** : 206-213.
Drosophila subobscura of Philip, 1944, *Nature* **153** : 223.
Drosophila subobscura of Philip, Rendel, Spurway & Haldane, 1944, *Nature* **154** : 260-262.
Drosophila subobscura of authors publishing abstracts of the above papers in *Zool. Rec.* and other places.
Drosophila subobscura of authors in *Drosophila Information Service, Repts.*, at various dates and places.
Drosophila subobscura of authors following Gordon (1936).
Drosophila subobscura Collin, MS. name attached to specimens determined by Collin.
Drosophila subobscura Collin, MS. name attached to specimens determined by Edwards, and others, submitted to the British Museum (Natural History).
Not *Drosophila subobscura* Séguy, 1938, *Mem. Mus. Hist. nat. Paris (n.s.)* **8** : 352 (for which a new name is proposed below).
Not *Drosophila subobscura* Séguy, 1939, *Zool. Rec.* **75** (Pt. 12) : 384.

¹ The author has drawn the attention of the editor of the *Zoological Record* to the name and, presumably, it will be recorded in the volume for 1944.

A fly of the genus *Drosophila*, brown in colour with a grey pollinosity of varying intensity, wings clear, halteres yellow, legs yellowish, eyes red, turning partially brown in places in the dried dead specimen. 2 mm. in length. Sturtevant (1942) places the species in the subgenus *Sophophora* and in the "obscura-group" of that subgenus.

Male. Arista 6-8 branched with 1 or 2 branches below the terminal fork (here reckoned as two branches). Antenna brown, grey pollinose, more or less concolorous with the rest of the head-capsule. Front dark brown, matt, without any pollinosity except on the frontal triangle and the fronto-orbital plates which are shiny and slightly pollinose. Carina rounded, widening below, it and the face generally of a paler brown, grey pollinose. Genae brown, heavily grey pollinose. Ocelli of the same colour as the eyes.

Upper reclinate fronto-orbital bristles long, middle reclinates short, lower proclinate fronto-orbitals medium in length; the relative proportions of the three being 4:2:3. Ocellar bristles, post-verticals, inner and outer verticals all about as long as the upper reclinate fronto-orbitals. The bristle immediately behind the vibrissa less than half the length of the latter.

The dorsum of the thorax is brown, grey pollinose; there are no traces of any longitudinal stripes or lines upon it. Two pairs of well-developed dorso-central bristles; 8-10 rows of acrostichal hairs (counted just forward of the anterior pair of dorsocentrals); no acrostichal (or prescutellar) bristles developed. Anterior scutellar bristles lie parallel to each other, perhaps with a tendency to converge. Anterior sternopleural bristle shorter than the posterior one; sterno-index 0.6.

Wings colourless; venation has been figured by Gordon, Spurway and Street (1939); costal bristles usually extending to a point just midway between the terminations of the 2nd and 3rd longitudinal veins (radius 2 + 3 and radius 3 + 4), but sometimes extending only just beyond the termination of the 2nd longitudinal vein.

Legs yellowish; pre-apical tibial bristles and apical tibial bristles not exceptionally long. Combs of teeth each set on the longitudinal axis of the 1st and 2nd tarsal segments of the fore legs; the comb of the 1st segment (proximal comb) with 7-12 teeth and about as long as half the length of the segment or slightly more and situated towards the distal end of the segment; that of the 2nd segment (distal comb) with 10-13 teeth and longer than half the length of the segment but also situated towards the distal end of the segment. 1st tarsal segment slightly longer than either 2nd or 3rd but much shorter than the combined length of the 2nd and 3rd.

Abdomen with the tergites uniformly dark brown, shiny in some lights, but showing a grey pollinosity in others.

Female. Resembles the male in the characters noted above except, of course, in respect of the tarsal combs.

Egg. Of the *melanogaster* type; smaller than that of *D. obscura* Fallén with the two filaments shorter, about half the length of the egg itself.

Larva. Of the usual drosophilid type.

Pupa. Of the usual drosophilid type; anterior spiracles with 5-7 branches, four of which are rather larger than the others but all are shorter than the stout stem of the spiracle.

Distribution. Widespread in the British Isles, occurring at least as far north as Inverness and taken on the wing from April to January inclusive. Buzzati Traverso and Pomini, of the University of Pavia, on the basis of facility of crossing and normality of offspring, consider it conspecific with a species they have trapped in Germany and Italy (Noted in *Drosophila Information Service* No. 13, June 1940, but more data from a letter to a member of the Department of Biometry, University College, London). Further distribution unknown but not yet recorded from the North American continent.

Variation. Gordon, Spurway and Street (1939) have presented an analysis

of three wild populations of the species from the geneticist's point of view. The other references given above will serve as an introduction to the genetical literature of the species.

Types. Mr. Collin (*in litt.* 7.v.44) indicates that he considers the series of specimens bred by him from diseased Iris roots as the type series (*i.e.* as co-types); he intends to send specimens from this series to the British Museum (Natural History).

Professor Haldane has presented to the British Museum a series of specimens of the species as it is bred in his laboratory.

The original description of *Drosophila subobscura* Collin may not be readily accessible to some readers and it is therefore quoted here:—

“Note. *Drosophila subobscura* sp. n. ♂♀. By J. E. Collin, F.R.E.S. A common and widely distributed species hitherto included under *D. obscura* Flh., which it generally resembles, though easily distinguished in the male sex by its larger tarsal ‘combs’ on first and second joints of front tarsi (that on first joint occupying about apical half, on second joint more than apical half), while in both sexes the thorax is uniformly light brownish-grey without even faint indications of darker stripes. Length about 2 mm.”

Drosophila séguyi nom. n.

Drosophila subobscura Séguy, 1938, *Mem. Mus. Hist. nat. Paris* (n.s.) 8: 352. preoc. *Drosophila subobscura* Collin in Gordon (1936).

Drosophila subobscura Séguy of *Zool. Rec.* 75 (Pt. 12): 384.

Séguy's species comes from Kenya. It is to be presumed that Séguy applied the name *subobscura* to his species in ignorance of the earlier use of the name. The species are obviously distinct, since in Séguy's species the tarsal combs are said to occupy the whole length of the tarsal segments concerned. The fact that *subobscura* Collin (1936) escaped notice in the *Zoological Record* at the time of publication would explain Séguy's use of the preoccupied name.

SUMMARY.

The nomenclatorial status of *Drosophila subobscura* Collin (1936) is discussed and some of the characteristics of the species noted. *Drosophila séguyi* nom. n. is proposed for *Drosophila subobscura* Séguy (1938).

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- RENDEL, J. M., 1945; “The genetics and cytology of *Drosophila subobscura*. II. Normal mating and selective mating in *Drosophila subobscura*.” *J. Genetics* 46: 287.