

Scæva arcuata Fallén 1817.

By

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The name *Syrphus arcuatus* Fallén has been used by the authors in Europe and America for apparently different species and has on the other side been taken as synonym for other species of *Syrphus*.

If one looks through some of the more important dipterological works containing descriptions of the various species this fact is clearly seen. All authors using *arcuatus* as a specific name, have given the name to species with naked eyes and generally dark antennae. The course of r_{4+5} is by some authors considered to be nearly straight by other ones to be deeply curved.

The authors using *arcuatus* for species with naked eyes:

Antennae dark, r_{4+5} less curved than in *lapponicus* — Zetterstedt 1843.

Antennae reddish-yellow, r_{4+5} deeply curved — Schiner 1862.

Antennae dark brown, r_{4+5} nearly straight — Williston 1886.

r_{4+5} deeply curved (+ *lapponicus* Zett.) — Wahlgren 1909.

Antennae blackish brown, yellow below, r_{4+5} slightly curved — Lundbeck 1916.

Antennae reddish-yellow to brown, r_{4+5} deeply curved — Sack 1930.

S. arcuatus Fallén as synonym:

= *luniger* Meig (With naked eyes) — Sack 1930.

= *lunulatus* Meig (With hairy eyes) — Becker/Bezzi etc. 1907, Lundbeck 1916,

Sack 1930.

Lundbeck has in his valuable work on the Danish Diptera given his opinion of *arcuatus*, though without examining the specimens in the collection of Fallén. His description is very accurate and his species has in the last years been named *arcuatus* Fallén by most students. Sack has, however, altered this opinion and used the name for a different species. Collin 1931 draws the attention to the fact that some 3—4 different species from Europe and Greenland now are named *arcuatus* and that the American species belong to the *lapponicus* group. Under the name *arcuatus* Fallén specimens have been recorded from the major part of Northern America, Greenland and Europe.

What is then Fallén's *arcuatus*? His diagnose and description in Diptera Sveciæ are very short and unsatisfactory. It is however, clear that the name *arcuatus* is used on account of the arcuated abdominal spots and not for a curved r_{4+5} . The antennae are given as yellow.

About the eyes he says: »Oculi l. nudi l. hirsuti» clearly indicating that he himself has used the name for various species. The legs are described thus: »Pedes flavi, basi nigri. Femora interdum maxima ex parte nigra, et annulus tibiarum niger.» The type locality is Esperød in southernmost Sweden.

Curiously enough the type specimens have not been revised by dipterologists. Through the kindness of Dr. R. Malaise, I have got the specimens in the original collection or Fallén sent to me for inspection, and I beg herewith to express my best thanks to him for his help.

The collection contains 5 specimens, one male with head and antennae fastened to a piece of cardboard, one male without head, and 3 females. The male without head is labelled »*S. arcuata* ♂ *interrupta* ♂?, and one female is labelled »*S. arcuata* ♀». The other specimens are unlabeled.

One female has naked eyes and deeply curved r_{4+5} and is *lapponicus* Zett. The headless male is rather defective and is perhaps *lunulatus* Meig. or *punctifer* Frey. The three other specimens have hairy eyes and are in reality *venustus* Meig. and not *lunulatus* Meig. as considered by earlier students. These three specimens agree exactly to the excellent description of *venustus* given by Lundbeck and I suppose that this really is the typical *venustus* of Meigen.

Fallén has thus three different species as his *arcuatus*. The male without head can not be taken as type specimen for his species and I think that the female *lapponicus* also must be discarded in this respect. One of the three specimens of *venustus* must therefore be chosen as type specimen and the well known name *venustus* Meigen 1822 has unfortunately to be considered as a synonym of *arcuatus* Fallén 1817.

I have selected as type for *arcuatus* the male with preserved head. According to the existing literature we then have the following list of synonyms for this species.

Syrphus arcuatus Fallén 1817.

- Syn. *venustus* Meig. 1822.
- implicatus* Meig. 1822.
- lunulatus* Zett. 1838.
- solitarius* Zett. 1838.
- berberidis* Loew 1840.
- dignotus* Rond. 1857.
- and as a variety *hilaris* Zett. 1843.

Under *S. lapponicus* Zett. 1838 we further have *arcuatus* Fall. 1817 p. p.

Lundbeck's *arcuatus* with naked eyes and the male with the inflated frons, different eye facets and obtuse angle between the eyes must be given a new name. For this very characteristic species I propose the name *Syrphus Lundbecki* n. n. with the synonyms *arcuatus* Lundbeck and perhaps *luniger* Malm.

As type specimen of *S. Lundbecki* I have chosen one male from the

vicinity of Copenhagen, about 1870, Schlick legit, in the collections of the Zoological Museum, University, Copenhagen. This specimen, which I have received for inspection from dr. K. Stephensen, Copenhagen, agrees completely with the description given by Lundbeck. This description are therefore taken as the original description of this species.

I wish to express my best thanks to dr. K. Stephensen for his kindness to send me specimens from the collection founded by Lundbeck.

The species named *arcuatus* by Sack is nearly related to *luniger* Meig. but belongs to the *lapponicus* group with dipped r_{4+5} . This species which Sack says is specifically different from *lapponicus* and *luniger*, is also in need of a new name.

Bibliography.

- Becher, Bezzi, Kertész, Stein: Katalog der Paläarktischen Dipteren. Budapest 1907.
- Collin, J. E.: The Oxford University Expedition to Greenland, 1928. — Diptera (Orthorrhapha Brachycera and Cyclorrhapha) from Greenland. Ann. Mag. Nat. Hist. (10) 7 1931.
- Fallén, C. F.: Diptera Sveciæ. Syrphici. Lund 1817.
- Lundbeck, W.: Diptera Danica. Part V. Lonchopteridae, Syrphidae. Copenhagen 1916.
- Sack, P.: Die Tierwelt Deutschlands. 20 Teil. Syrphidae. Jena 1930.
- Sack, P.: Die Fliegen der Palæarktischen Region. Syrphidae. Stuttgart 1930.
- Schiner, J. R.: Fauna Austriaca. Die Fliegen I Theil. Wien 1862.
- Wahlgren, E.: Svensk Insektfauna. Syrphidae. Uppsala 1909.
- Williston, S. W.: Synopsis of the North American Syrphidae. Bull. U. S. Nat. Mus. No. 31. Washington 1886.
- Zetterstedt, J. W.: Diptera Scandinaviæ. Tome II. Lund 1843.