

Notes on Spiders III

The females of some *Clubiona* species

by

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As in several other genera, so in the genus *Clubiona* too, it is not always an easy task to determine the females with certainty because the epigynes sometimes offer but few characteristic features. This is especially the case with *C. neglecta* Cambridge 1862, *C. similis* L. Koch 1867 and *C. germanica* Thorell 1870.

The fact that both CAMBRIDGE and KOCH described only the ♂ of their species has probably been a secondary cause of some confusion regarding the ♀♀. Fortunately the description or the figure of the male palp given by CAMBRIDGE as well as by KOCH excludes every doubt concerning their intention.

A lucky find provided me with the first fixed point of issue for the solution of this problem. As a part of an oecological research Dr. P. F. VAN HEERDT (from the Zoological Laboratory of the University of Utrecht) collected spiders (and other animals) on the beach of the island of Terschelling *exclusively* in some 15 tussocks of marram during the first half of August 1955; he sent the spiders to me for determination. I found numerous specimens of the genus *Clubiona* among them. Besides some 40 young animals of that genus, of which several were subadult, there were only four adult ♂♂ and five adult ♀♀. The ♂♂ were all *similis*. Seeing the extremely restricted size of the living-area and the fact that they had been collected at the same time, the ♀♀, of which the epigynes and vaguely visible vulvae were all alike in every detail, belonged without any doubt to this species too.

As I did not possess any specimen of *C. neglecta* for comparison I applied to Mr. G. H. LOCKET, who in his "British Spiders", vol. 1, p. 136—137, described this species from Great Britain (in 1956 *C. similis* too was found in that country — Dr. E. DUFFEY, Norwich in litt. —). He kindly sent me a ♂ and some ♀♀, for which kindness I avail myself of this opportunity to thank him again.

The vulvae of the two species clearly differ from each other (cfr. fig. a and b) and keeping in view these figures the epigynes too can be distinguished: with *neglecta* the openings of the tubes leading to the spermathecae and the tubes themselves are wide and the undermost circular spermathecae are clearly visible through the skin; with *similis* the openings and especially the first parts of the tubes are narrow, the lightly coloured wider parts distinctly show through the skin and generally it is evident that the dark undermost spermathecae are tube-shaped.

With the aid of the foregoing remarks we now are able to examine the views of various authors. As said, there is no disagreement as to the ♂♂ (except BÖSENBERG) which are only recorded when it is necessary.

A. *Clubiona neglecta* Cambridge 1862

O. PICKARD CAMBRIDGE, 1862, p. 7955—7957, *C. neglecta* n.sp., description of ♂.

L. KOCH, 1867, p. 308—309, Tab. XII, Fig. 197, *C. montana* n.sp.,

description of ♀, fig. of the epigyne = *C. neglecta* Cbr. ♀. In the rather superficial drawing which he gives of the epigyne of this species only two details stand out — but they are strongly marked — viz. the undermost round spermathecae visible through the skin and the broad openings of the tubes. All authors who discuss the synonymy of this species, regard *montana* L. Koch as a synonym of *neglecta* Cambridge, even SIMON 1932 and REIMOSER 1937.

E. SIMON, 1878, p. 221—222, *C. neglecta*, description of ♂ and ♀. The various distinguishing marks of the male palp clearly point at *neglecta*; the description of the female epigyne is rather vague, but the following sentence „Epigyne..... présentent deux grandes impressions arrondies” (p. 222) seems to point at the broad openings of the tubes of *neglecta*. We must, however, take into account his remark cited below with CASTELLI (p.).

C. CHYZER & L. KULCZYŃSKI, 1897, p. 222, no 13 b, Tab. IX, fig. 6, distinguishing marks and figure of the epigyne of *C. neglecta*.

W. BÖSENBERG, 1902, p. 272, Taf. XXV, Fig. 395, description of the ♀ and figure of the epigyne of *C. montana* L. Koch = *C. neglecta* Cbr.: the undermost circular spermathecae are clearly indicated in his figure, the shape of the epigyne is rather clumsy and the openings of the tubes are pretty broad.

V. VON ENGELHARDT, 1910, p. 101, fig. 41, vulva of *C. montana* L. Koch = *C. neglecta* Cbr.

R. DE LESSERT, 1910, p. 404, description of ♀ and ♂ of *C. neglecta*.

E. SIMON, 1932, p. 920, fig. 1397, figure of the epigyne of *C. similis* = *C. neglecta*; the figures which he gives of the epigynes of the two species are very vague, only the broad openings of the tubes with his *similis* and the indistinct indications of the tubes make it clear that at least in the figures the ♀♀ of the two species are confounded; the descriptions in the table too (p. 918, no 23b and p. 919, no 25a) create the same impression.

E. REIMOSER, 1937, p. 59, no 41, fig. 33, distinguishing marks and figure of the vulva of *C. similis* = *C. neglecta*: vulva with circular undermost spermathecae, broad opening and first part of the tubes.

H. LOHMANDER, 1945, p. 21, indicates that the ♀♀ of *C. neglecta* and *C. similis* are confounded by SIMON and REIMOSER.

A. TULLGREN, 1946, p. 24, fig. 7 A and B, Pl. III, fig. 44, distinguishing marks, vulva and epigyne of *C. neglecta* (the figure of the vulva is very distinct).

G. H. LOCKET & A. F. MILLIDGE, 1951, p. 136—137, fig. 69 C, 70 C, description of ♀ and ♂, figure of the male palp and the epigyne of *C. neglecta*.

J. KEKENBOSCH, 1956, p. 5—6, his views about the two species; p. 8, Pl. I, fig. B, localities, vulva (micro-photo) of *C. similis* = *C. neglecta* (the micro-photo is very clear).

B. *Clubiona similis* L. Koch 1867

L. KOCH, 1867, p. 339—341, Tab. XIV, Fig. 220, 221, *C. similis* n.sp., description of ♂, figure of male palp.

A. MENGE, 1873, p. 365, Tab. 208, *C. bifurca* n.sp., description of ♂ and ♀, figure of male palp, vulva etc. SIMON 1932, REIMOSER 1937 and BONNET 1956 (p. 1104, 1137) consider this species as a synonym of *neglecta*; it seems to me, however, that it is a synonym of *similis*:

♂ : in fig. 208 C (male palp) there is a pointed excrescence on the patella of the palp, this occurs indeed with *similis* but is absent in *neglecta*; the undermost branch of the apophysis gradually tapers as with *similis* and lacks the hump of *neglecta*; the curve between the branches of the apophysis is drawn very narrow: with *similis* it is rather narrow, with *neglecta* very wide; the embolus crosses the bulbus as with *similis* and does not wind to the top as with *neglecta* (cfr. TULLGREN, p. 23 and pl. III, fig. 45 and 43).

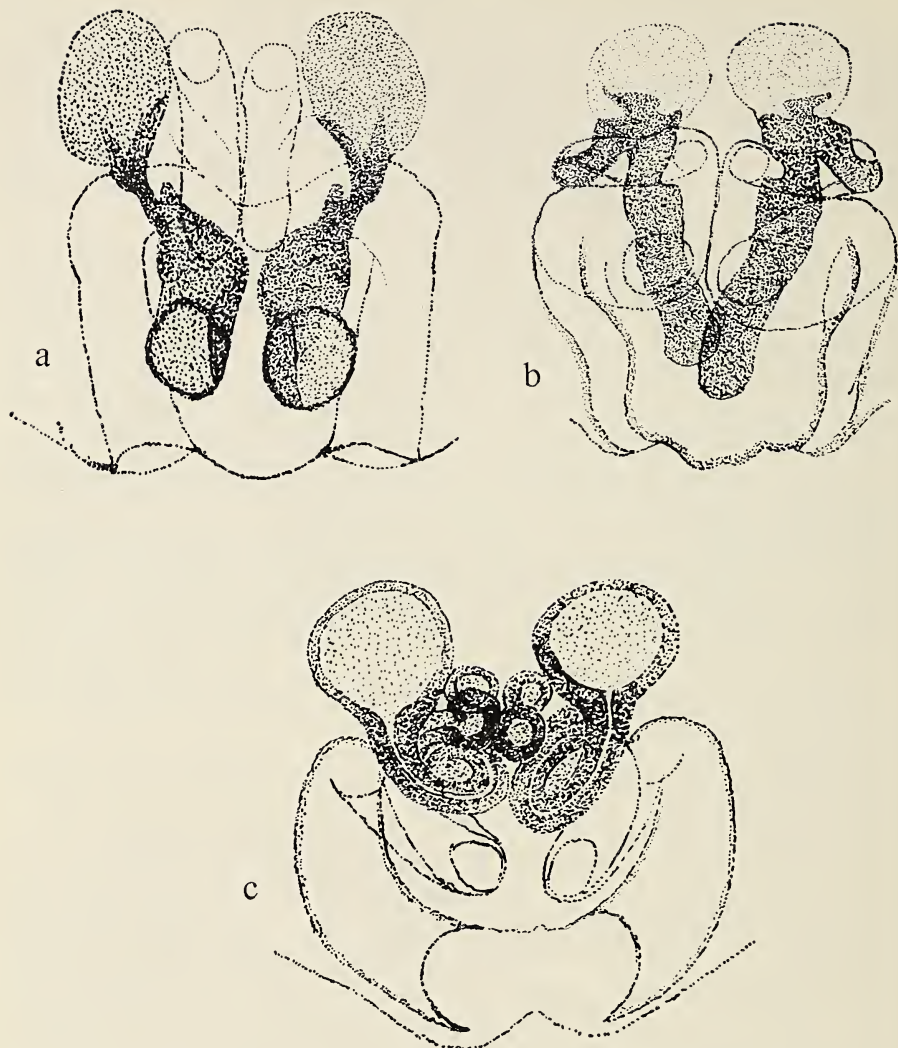
♀ : „Das weibliche schloz..... hat statt der gewöhnlich runden oder dreieckigen mündung der samenleitenden canäle zwei längliche spalten o o, die bis über die mitte der nach vorn hinläufigen canäle reichen, zwei längliche flaschenförmige nebensaschen ps ps, die sich in der mitte berühren und zwei kugelförmige samentaschen bs bs.” (p. 366). In fig. 208 F, too, the narrow opening of the tubes, the narrow tubes themselves and the undermost oblong spermathecae are clearly visible: this therefore points to *similis* and does not accord with *neglecta*; the uppermost “circular spermathecae” are not well marked, especially in the drawing; they may refer to *similis* as well as to *neglecta*.

G. CASTELLI, 1891, p. 9, fig. 1 and 2, *C. canestrinii* n.sp.; I have not seen this publication. In 1918 SIMON writes about it: „*C. canestrinii* G. Castelli est à ajouter à la synonymie de *C. similis* L. Koch. A l'époque où l'auteur m'avait consulté au sujet de cette espèce, je confondais *C. neglecta* Cb et *C. similis* L. K et je l'avais comparée à un mâle typique du premier” (p. 201—202): from which I conclude that CASTELLI gave a description of the ♂ only and that therefore the synonymy certainly will be right.

C. CHYZER & L. KULCZYŃSKI, 1897, p. 222, no 13c, Tab. IX, fig. 4, distinguishing marks and figure of the epigyne of *C. similis*.

W. BÖSENBERG, 1902, p. 265, 271, Taf. XXV, Fig. 393, description of ♂ and ♀, figure of palp and epigyne of *C. neglecta* Cbr. The ♂ certainly = *similis* L. Koch (form of the apophysis and embolus) and it is highly probable that the ♀ too = *similis*, for he writes: „(Epigyne)..... eine wenig auffallende Queröffnung” (p. 265); „die Oeffnung manchmal so blass eingefasst, dass sie unter der Behaarung kaum sichtbar ist” (p. 271); now this is possible with *similis*, with *neglecta*, however, they are very conspicuous; in fig. 393 the general shape of the epigyne is slender as with *similis* and neither clumsy nor rather square as with *neglecta* (cfr. my figures a and b), and the undermost spermathecae are not drawn: with *similis* they sometimes can be hardly seen, with *neglecta* they always can; — the system of the tubes has been drawn by BÖSENBERG so indistinctly that they do not allow of any conclusion.

P. 266, 272—273, Taf. XXV, Fig. 396, description and figure of the epigyne of *C. subalba* n.sp. According to REIMOSER (Inhaltsverzeichnis, p. 98) this species is a synonym of *C. stagnatilis* Kulc. 1897; this, however, is certainly wrong, for *stagnatilis* possesses a very broad vulva (breadth : height = 2 : 1; cfr. REIMOSER, p. 60, fig. 39); in the figure given by BÖSENBERG breadth : height = 2 : 3. It seems to me that this species is a synonym of *similis*: BÖSENBERG says: „(Epigyne)..... geformt wie *neglecta* (= *similis*, as proved on p.); über der sehr kurzen Zunge stehen nahe aneinander 2 dunkelbraune ovale (spacing from BÖSENBERG) Samentaschen.” (p. 266); in his figure 396 the undermost sperma-



Vulvae of a. *Clubiona neglecta*; b. *C. similis*; c. *C. germanica*; ($\times 100$).

thecae are oblong, the tubes to the spermathecae are very narrow and the whole epigyne is slender.

R. DE LESSERT, 1910, p. 403, description of δ of *C. similis*.

E. SIMON, 1932, p. 917, fig. 1395, figure of the epigyne of *C. neglecta* = *C. similis* (see above on p.).

E. REIMOSER, 1937, p. 58, no 40, fig. 32, distinguishing marks and figure of the vulva of *C. neglecta* = *C. similis* (dark tube-shaped spermathecae and narrow tubes).

A. TULLGREN, 1946, p. 23, fig. 6 C and D, Pl. III fig. 42, distinguishing marks, vulva and epigyne of *C. similis* (the figure of the vulva is very clear).

J. KEKENBOSCH, 1956, p. 6, localities of *C. neglecta* = *C. similis*.

To sum up we may say that above all SIMON (1932) and REIMOSER have

mixed up the ♀♀ of these two species and that after them LOHMANDER and TULLGREN have repaired the mistake. As the books by the former are often used in determining spiders, they probably have caused wrong determinations; thus e.g. with KEKENBOSCH who does not give his own opinion upon this question, but expressly states that he follows SIMON's and REIMOSER's views.

VAN HASSELT (1886, p. 19) enumerates several localities of *C. neglecta* in the Netherlands, but a check on the two ♀♀ and two ♂♂ still preserved in his collection (Rijksmuseum van Natuurlijke Historie, Leiden) made it clear that both ♀♀ and ♂♂ belong to *C. similis*; afterwards this species has been found in some other places too (cfr. *Ent. Ber.* 17 (1957) : 45). As far as I know *C. neglecta* has not yet been observed in our country.

Finally I give a figure of the vulva of *C. germanica* (fig. c) as this species is not to be recognized from REIMOSER's figure (p. 58, fig. 30); the drawing by TULLGREN (p. 22, fig. 6 A and B) is very clear*).

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* (Notes made during correction). From Br. ARNOUD (Heerlen) I recently received a ♂ of *C. neglecta* captured at Colmond (south of Dutch Limburg) on May 1st 1957.

Mr. J. F. PEAKE meanwhile published his discovery of *Clubiona similis* in *Trans. Norfolk and Norwich Nat. Soc.* 18 (7) : 30—32 (1958).

Dagvlinders van Schouwen. Op de mededeling van de heer LEMPKE (*Ent. Ber.* 18 : 36) kan ik enkele aanvullingen geven. De vangsten werden in hoofdzaak in de tweede helft van juni 1956 en 1957 gedaan ten n.w. van Renesse, ruim 3 km van het dorp.

Clossiana selene Schiff. Weinig talrijk, maar dicht bij Renesse.

Issoria lathonia L. Veel talrijker, bij voorkeur op ietwat luwe plaatsen en daardoor nogal plaatselijk.

Fabriciana niobe L. Bepaald talrijk in de duinpolders, maar toch wel enigszins plaatselijk. Heeft men echter een plek gevonden, dan zijn ze daar talrijk. Het meest komen ze dicht bij de duinvoet voor, waar de terreinen soms vrij vochtig zijn.

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