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**REDEFINITION OF *CHEILOSIA AHENEA* AND
C. ARGENTIFRONS WITH RECORDS EXTENDING
THE KNOWN RANGE OF THESE SPECIES
IN WESTERN EUROPE (*DIPTERA, SYRPHIDAE*)**

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Mots-clés: *Cheilosia ahenea*, *C. argentifrons*, *Syrphidae*, *Diptera*, taxonomy, lectotype, range, habitat.

Summary. — *Redefinition of Cheilosia ahenea and C. argentifrons with records extending the known range of these species in western Europe.* — *Cheilosia ahenea* (von Roser) and *C. argentifrons* Hellén are re-described and lectotypes are designated. *C. ahenea* is recognised as the senior synonym of *C. laskai* Speight. Records of *C. ahenea* are presented for Austria, France, W. Germany and Ireland. Records of *C. argentifrons* are presented for France, W. Germany, Great Britain and Ireland. Available information on the habits and habitats of these two *Cheilosia* species is summarised.

Résumé. — Les espèces *Cheilosia ahenea* (von Roser) et *C. argentifrons* Hellén sont redécrites et des lectotypes sont désignés. Il est établi que *ahenea* est le synonyme le plus ancien de *laskai* Speight. La présence de *C. ahenea* est signalée en Irlande, France, Autriche et Allemagne. La présence de *C. argentifrons* est signalée en Irlande, Grande-Bretagne, France et Allemagne. Quelques faits sont présentés au sujet de l'éthologie et de l'habitat des deux espèces.

The European species belonging to the genus *Cheilosia* are badly in need of revision. The only revision that has been carried out on the European *Cheilosia* fauna is that of Becker (1894). Unfortunately, subsequent authors have demonstrated that Becker's work is to a significant extent unreliable — he evidently frequently misinterpreted the species of earlier authors. He also seems to have had difficulty in distinguishing intraspecific variation from interspecific variation.

Subsequent to Becker's (*l.c.*) revision, a series of authors have described additional *Cheilosia* species from various parts of the Palaearctic region, usually without any reference to examination of the type material of the species of earlier authors. In the present text we redefine two poorly known and frequently mis-interpreted European *Cheilosia* species, basing our redescriptions upon re-examination of the relevant type specimens. We are also able to provide distribution records that extend the known range of both species in Europe. Finally, a summary is provided of the biological information available for the two species.

In order to make the two species redefinitions useful to as many European workers as possible, we have provided species diagnoses in English, French and German.

CHEILOSIA AHENEA VON ROSER, 1840

Original citation: "Syrphus, (1) aheneus, m. (Chl.; totus aeneus, pedibus nigris.)...*) Die von Mg. im Supplementbände in ein besonderes Genus *Cheilosia* abgesonderten, hier hinzukommenden Arten sind mit Chl. bezeichnet." (Roser, v. 1840: 54).

Type Material

In the von Roser collection (Staatliches Museum für Naturkunde Stuttgart) there are three syntypes: 1 male and two females from Württemberg (GFR). They are labelled "Württemberg v. Roser. 1872 — 1876⁺)" and on a second label "*Chilosia ahenea* v. Ros. det. Sack" (male), "*Chil. ahenea* v. Ros. det. Sack" (females respectively). We have designated the male as lectotype and labelled it accordingly. The terminalia of the lectotype were dissected and figured, conserved in glycerin-alcohol and pinned in a microvial on the needle of the type. The female syntypes are conspecific with the lectotype.

Except in that its general body colour is darker (almost black), the lectotype fits very closely with the detailed description of *C. ahenea* given in Speight (1978). So a detailed description is not given here. Instead we have confined ourselves to listing the diagnostic features of *C. ahenea* and describing observed variation.

Notes

Cheilosia ahenea was originally described under the genus *Syrphus sensu* Meigen (1822), but v. Roser stated, by adding "Chl." to his description, that *Syrphus aheneus* does refer to the new genus *Cheilosia*, re-established by Meigen in 1838.

The original description of *C. ahenea* was too incomplete to enable subsequent workers to identify this species correctly. Consequently *C. ahenea* was initially treated as a doubtful species by continental dipterists (e.g. Schiner, 1862: 289).

Becker (1894) redescribed *C. ahenea*, based on material which included the von Roser's types (see Becker *l.c.*; 201, 251f). Unfortunately the male type is an old, "rubbed off" specimen, with reduced facial dusting, which led Becker to the statement that the face of *ahenea* is shining black, without dusting, though in the female syntypes the facial dusting is clearly visible. Equally, Becker's (*l.c.*) figure of the head of male *C. ahenea* in side view does not accurately portray the type (it is difficult to believe this figure was drawn from the type), in either facial profile or shape of antennal segment 3. Neither did Becker (*l.c.*) mention the variation in the character of the mesoscutal and scutellar hair covering exhibited by von Roser's specimens. Becker's misleading description and figure of *C. ahenea* led to the species being mistakenly redescribed as new to science by Speight (1978), under the name *C. laskai*.

C. ahenea has been generally lost sight of in recent literature, the only recent citation being of the presence of the species in Switzerland, in Goeldlin (1974).

Re-examination of specimens at present standing under the name *C. ahenea* in collections could well bring to light additional European species of *Cheilosia*. For instance, the male of *C. beckeri* Strobl does not yet seem to have been described (see Speight, 1978) so specimens would be likely to be misdetermined as belonging to some ambiguous taxon like *C. ahenea*, once better-defined species had been eliminated from consideration during processes of determination.

Diagnostic features

Face bare, shining black, partly dusted at sides; frons shining, undusted; eye bare; third antennal segment squarely roundish, often (especially female) with distinct angle anterodorsally, black with brownish dusting; arista black, very short haired; mesoscutum shining, black or black with

(1) Approximate date of delivery of the Von Roser collection to the museum.

bronze-brown reflections, covered with upstanding yellowish-brown to yellowish-grey hairs of more or less the same length, the few longer black or yellowish hairs, if present, being confined to lateral margins, postalar calli or posterior part of disc; scutellum with or without longer black or yellowish bristles on hind margin; legs black, almost entirely yellowish haired; abdominal tergites

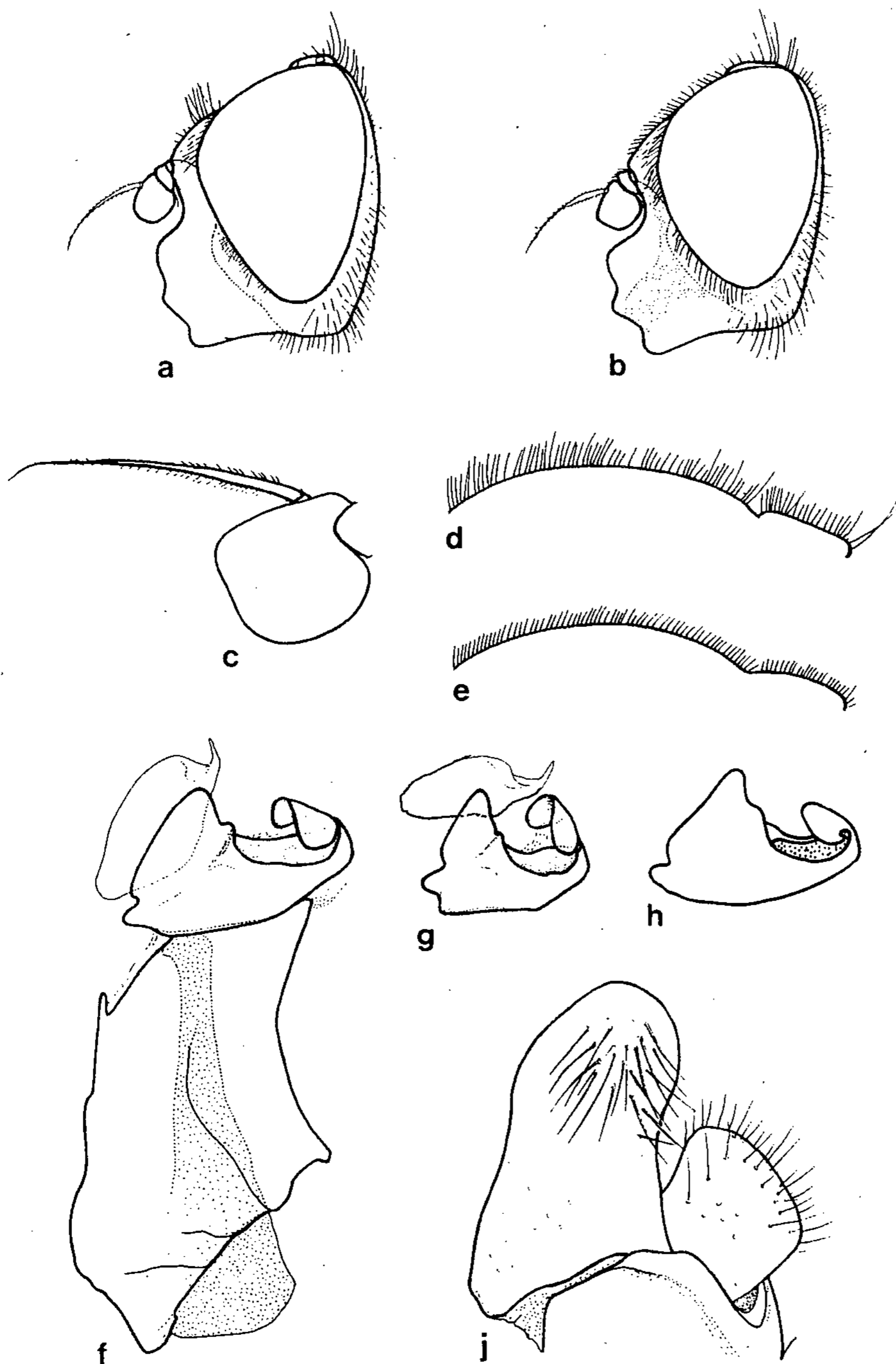


Fig. 1, *Cheilosia ahenea*: a = male head, lateral view (from lectotype); b = female head, lateral view; c = right antenna, internal view; d = male, mesoscutal hair covering; e = female, mesoscutal hair covering; f = theca of male genitalia, showing position of one of the pair of superior lobes; g, h = superior lobe from other male specimens, to show variation in shape; j = male surstylus and cercus, lateral view.

shining, dark brown to black, entirely yellowish haired; sternites grey dusted in varying extent, dusting usually obvious on st. 1 and laterally on other sternites.

Diagnose

Yeux nus; face nue, d'un noir luisant, avec bandes latérales poudrées de gris; front luisant, sans pondre; troisième article antennaire noir, dorsale un peu angulaire (l'angle quelquefois

accentué); l'arista noire, les cils extrêmement courtes; mésoscutum luisant, noir/brun-noir avec des réflexions bronzes; ciliation mésoscutale droit, jaune brunâtre à jaune grisâtre, les cils de longueur plus ou moins égale, mais souvent il y a quelques cils plus longs, noirs ou jaunes, aux marges latérales ou près du scutellum; marge postérieure du scutellum portant ou non quelques cils noirs ou jaunes; pattes noires, ciliation presque entièrement jaunâtre; abdomen avec les tergites luisant, brun-noirâtre/noir, ciliation entièrement jaunâtre; sternites normalement poudrés de gris, sauf sur une zone médiale luisante, mais cette zone luisante est parfois très large, parfois presque absente.

Diagnose

Gesicht nackt, glänzend schwarz, Seiten teilweise bestäubt; Stirn glänzend; Augen nackt; drittes Fühlerglied abgerundet quadratisch, oben oft mit deutlicher Vorderecke (vor allem Weibchen), schwarz, bräunlich bestäubt; Fühlerborste schwarz, sehr kurz behaart; Mittelrücken glänzend schwarz, gelegentlich mit bronzefarbenen Reflexen, Behaarung aufrecht, gelbbraun bis gelbgrau, annähernd gleichlang, gelegentlich mit einzelnen längeren schwarzen Haaren auf den Seitenrändern, den Postalarcalli oder dem hinteren Abschnitt des Mittelrückens; Scutellum ganz ohne längere Borsten am Hinterrand oder mit gelblichen oder schwarzen Hinterrandborsten; Beine schwarz, fast gänzlich hell behaart; Abdominaltergite glänzend schwarz oder schwarzbraun, vollständig gelblich behaart; Sternite in unterschiedlicher Ausdehnung grau bestäubt, deutlich so auf st. 1 und den Seitenrändern.

Variability of *C. ahenea*

Male: frons and vertex may be whitish haired or yellowish-haired or with some dark brown/black hairs inter-mixed, with bronze-brown reflections and frontal lunule may be brown or black; facial profile somewhat variable (see Speight, 1978); third antennal segment either pointed or rounded above at tip; surface of mesoscutum, pleurae and abdominal tergites either black or with bronze-brown reflections; hair covering of mesoscutum variable in length, often without any longer yellowish or black hairs; bristly hairs on hind margin of scutellum may be black or yellowish and are often entirely absent; dusting on coxae and pleurae may be obvious; tarsi and ventral surface of mid tibia often with many short black hairs; hind margins of st. 1 - st. 3 often without yellow-brown area; st. 3 - st. 4 often with a patch of short adpressed black hairs posterior to the middle; terminalia see figs. 1f-1j; *wing-length*: 5,1 - 7,0 mm; *body length*: 5,4 - 9,0 mm.

Female: median channel on frons either indistinct or lacking; bronze-brown reflections on frons, mesoscutum, scutellum and tergites (especially in Irish specimens); facial profile rather variable (see Speight, 1978); third antennal segment shorter than deep, varying from squarely roundish to squarish with an obvious angle antero-dorsally; mesoscutum with hair covering of uneven length, with or without black or yellowish bristles or longer hairs; scutellum with or without yellowish or black marginal bristles; hairs on pleura may be very short in some specimens; dusting of sternites may be heavy laterally or almost absent so that sternites are entirely shining; yellow-brown hind margins of st. 2 - st. 3 may be narrow or absent; *Wing length*: 4,5 - 6,5 mm *Body length*: 5,5 - 8,5 mm.

Habitat and habits

The life history of *C. ahenea* is unknown. The adult flies frequent ancient pasturage on reasonably well-drained soils, particularly where a certain amount of invasion by *Prunus spinosa*, *Corylus* and *Betula* is occurring. Through much of Europe, *C. ahenea* appears to be primarily a montane insect. However, at the north-west end of its range, in Ireland, it occurs abundantly in dune grassland at sea-level, in dune systems calcium enriched with shell-sand and heavily grazed by domestic stock. These dune systems have well-defined botanical characteristics and are classed as machair (see Akeroyd & Curtis, 1981). Elsewhere in Ireland, *C. ahenea* ranges up to 300 m in the limestone massif of the Burren, but has not been found away from the limestone grasslands and machair of the West.

The plant host of *C. ahenea* is presumably a low-growing, grazing-tolerant herb adapted to growing in montane pasture and widespread in Europe. In Ireland, the perennial composite *Leontodon autumnalis* L. would seem to be a potential host. It is abundant where *C. ahenea* occurs and can have a substantial tap root which would represent an appropriate food source for the larva of a *Cheilisia* species. The fact

that *L. autumnalis* is much more generally distributed in Ireland than is *C. ahenea* does not necessarily affect the likelihood of this plant acting as host for *C. ahenea*. For instance, the extent of development of the tap root of a composite like *L. autumnalis* will depend upon soil conditions and it is quite conceivable that a *Cheilosia* species dependent on such a plant would be restricted to those parts of its host's range where maximal tap-root development occurred.

The adults of *C. ahenea* have been found feeding at the flowers of *Antennaria*, *Hieracium*, *Ranunculus* and *Taraxacum* species. *C. ahenea* is unusual among *Cheilosia* species in that the adults often settle upon bare sand or stones to rest. The males have been seen hovering at heights from 150 cm - 500 cm above the ground.

Material examined

AUSTRIA: *Salzburg*: 3 August 1984, female, Jastein, Stubnerkogel, alt. 2,200 m., grassy ski-slope; coll. Haslett.

FRANCE: *Bas-Rhin*: 14 June 1983, males and females, le Struthof, alt. c. 100m., pasture with *Betula* and *Corylus* scrub; coll. MCDS; *Vosges*: 8 July, female, Col de la Schlucht, coll. Hervé-Bazin, in MNHN, Paris.

GERMANY: *Baden-Württemberg*, Kaiserstuhl: 15 May 1978, females, Strümpfepfopf (MU02), coll. Barkemeyer; 16 May 1978, female, Badberg (MU02), dry grassland, coll. Barkemeyer; *Bayern*: 14 June 1979, female, Hersbruck (PV78), coll. Röder. *Hessen*: 24 May 1981, male and female, Eberschützer Klippe (NC20), dry grassland on limestone, coll. Malec. *Niedersachsen*: 3 June 1985, male, 2 km. S. of Bad Lauterberg (Harz), dry grassland on limestone, coll. Barkemeyer.

IRELAND: 16 records, all in the period 1979-1985, from the following counties: Clare, Donegal, Fermanagh, Mayo, Sligo. Records for UTM Grid Squares as follows: NA.1, NA.2, NA.4, MA.2, MV.3, MU.3.

CHEILOSIA ARGENTIFRONS HELLÉN, 1913

Original citation: *C. argentifrons* n.sp. 1 male (2): N: Pärna (Nordström). (Hellén, 1913: 62-63).

Type material

Hellén's original description refers to only one male, as above. There are two males of *C. argentifrons* in the collections of the Zoology Museum, Helsinki, bearing labels saying "Pärna" and "Nordström". Neither specimen carries a label stating date of collection. One of them carries a further label, reading "Mus. Zool. H:fors Spec. typ. NO4593 *Cheilosia argentifrons* Hell.". This male we recognise as the lectotype. It agrees with Hellén's description of his species and also with his later (1929) illustration of the head in profile. We have added a red lectotype label. The status of the second male labelled "Pärna Nordström" remains obscure. In referring to *C. argentifrons* in his 1929 paper, Hellén remarks that at that point in time the species had not yet been collected again.

Notes

The Finnish entomologist Walter Hellén wrote a series of papers (see Hellen, 1912, 1913, 1929, 1930, 1949) on the syrphid genus *Cheilosia*, which seem to have been overlooked by most subsequent authors. In one of these (Hellén 1913) Hellén described from Finland a species he named *C. argentifrons*. Having separately come to the conclusion that certain unnamed *Cheilosia* specimens available to us probably belonged to *C. argenti-*

(2) Description of specimen.

frons, but having found it impossible to decide the matter using the available literature, we had to resort to examination of the type material (2 males) of *C. argentifrons* in order to confirm the identity of our specimens.

Because *C. argentifrons* possesses a rather confusing combination of characteristics we have provided a detailed description of it. In our opinion it cannot be successfully identified using existing keys. Nor, indeed, is there any one couplet in an existing key to which all specimens of *C. argentifrons* are likely to lead. Using existing keys, specimens of *C. argentifrons* might be misdetermined as any of the following *Cheilosia* species; *albipila* (Mg.), *bergenstammi* Becker, *flavipes* (Panz.), *lenis* Becker, *paganus* (Mg.) or *praecox* (Zett.).

C. argentifrons was described from the male only. Hellén (1913) provided no illustrations with his description, but later (Hellén, 1929) gave a figure of the male head in side view, apparently drawn from the specimen we have selected as lectotype. Later authors (e.g. van der Goot, 1981; Torp, 1984) have stated that in this species the third antennal segment is $1\frac{1}{2}$ x as long as it is deep. Hellén suggested simply that the third antennal segment is longer than deep in *C. argentifrons*. In the specimens available to us (including the lectotype) the third antennal segment is less than $1\frac{1}{2}$ x as long as deep. Statements by other authors about the proportions of the third antennal segment in this species may be due to misinterpretation of Hellén's (1929) figure, which shows a silhouette of the antenna, without indicating junctions between its segments and without an accompanying statement as to whether the antenna is figured in side view or at an angle. Since the proportions of the third antennal segment have been used by recent authors as a means of segregating *C. argentifrons* from other closely similar *Cheilosia* species, the fact that they have given incorrect proportions for this feature ensures that *C. argentifrons* cannot be correctly determined using keys.

The female of *C. argentifrons* was first described by Lucas (1974) and his description would fit our specimens. Equally, females determined by Lucas and made available to us for examination are evidently the same species that we are recognising as *C. argentifrons*. However, Lucas's (1974) figure of the female head in side view does not agree very well with the specimens of *C. argentifrons* we have seen. In particular, the antennae appear to be a different shape. In none of our specimens is the third antennal segment angled either above or below, distally, as it is in Lucas's figure.

***C. argentifrons*: description of lectotype (male)**

Head: *Face*: black, thinly grey-dusted over entire surface, only vaguely shining, except between facial prominence and upper mouth-edge, where dusting is minimal, without long hairs except on ocular strips, which are pale haired and slightly brownish; central prominence moderate, occupying approximately median third of width; facial profile see figure 2a; *frons*: heavily pale-grey dusted except on mid-line, which is somewhat shining; frontal hairs long, all black; frontal lunule orange-brown; *vertex*: black, shining, almost undusted, with long, black hairs; ocelli arranged in an equilateral triangle; *eye*: with long (many as long as ant. seg. 2) pale (whitish) hairs over almost entire surface; postocular orbits narrow, with mixture of short black and pale (whitish) bristly hairs, dusted greyish; *antenna*: see figure 3d; seg. 1 (scape) black and shining; seg. 2 black basally, yellowish round distal margin; seg. 3 orange, vaguely smudged with brown along distal margin, less than $1\frac{1}{2}$ x as long as deep; arista orange-brown, almost bare (hairs all shorter than basal diameter of arista);

Thorax: *hair covering*: mostly pale (sandy, greyish-yellow) with black hairs mixed in, especially on presutural (notopleural) and postnotal calli of mesoscutum and on posterior scutellar margin, across anterior $\frac{1}{3}$ of mesoscutal disc and on upper parts of mesopleura; *mesoscutum*: hairs yellow-grey and black, long (many longer than ant. seg. 3), somewhat uneven in length but not of two distinct lengths; surface vaguely to brightly shining, moderately strongly punctured, thinly dusted greyish, more heavily so laterally so that presutural calli are dull; *scutellum*: long haired (hairs longer than on mesoscutum), with long, thin, black hairs intermingled with pale hairs along posterior margin, surface shining; *pleura*: black, with thinly scattered dusting throughout, but generally shining; plumule fringe white; *sterna*: metasternum long-haired; *wing*: length = 8.0mm.; membrane hyaline, unmarked with darkened areas, entirely covered in microtrichia; veins yellow-brown, except costa, which is darker brown; stigma yellow-brown; calypterae white with fringe of

long, white hairs; haltere whitish with brown knob; *legs*: all coxae and trochanters black, rather dull with grey dusting; all femora black, dull and grey-dusted except apically, where they are narrowly (distance approx. equal to depth of femur at apex) yellow; all tibiae yellow except for vague brownish smudge on each side, beyond middle, tarsus of hind leg yellow except for basitarsus (brown dorsally) and last tarsomere (black); fore and mid tarsi all yellow except for last tarsomere, which is black; *leg hairs*: long femoral hairs pale except for posterolateral fringe on fore femur, which is predominantly black and posterolateral fringe on mid femur, in which black hairs predominate distally; hind femur with short hairs ventrally, that are whitish on basal 1/2 of femur

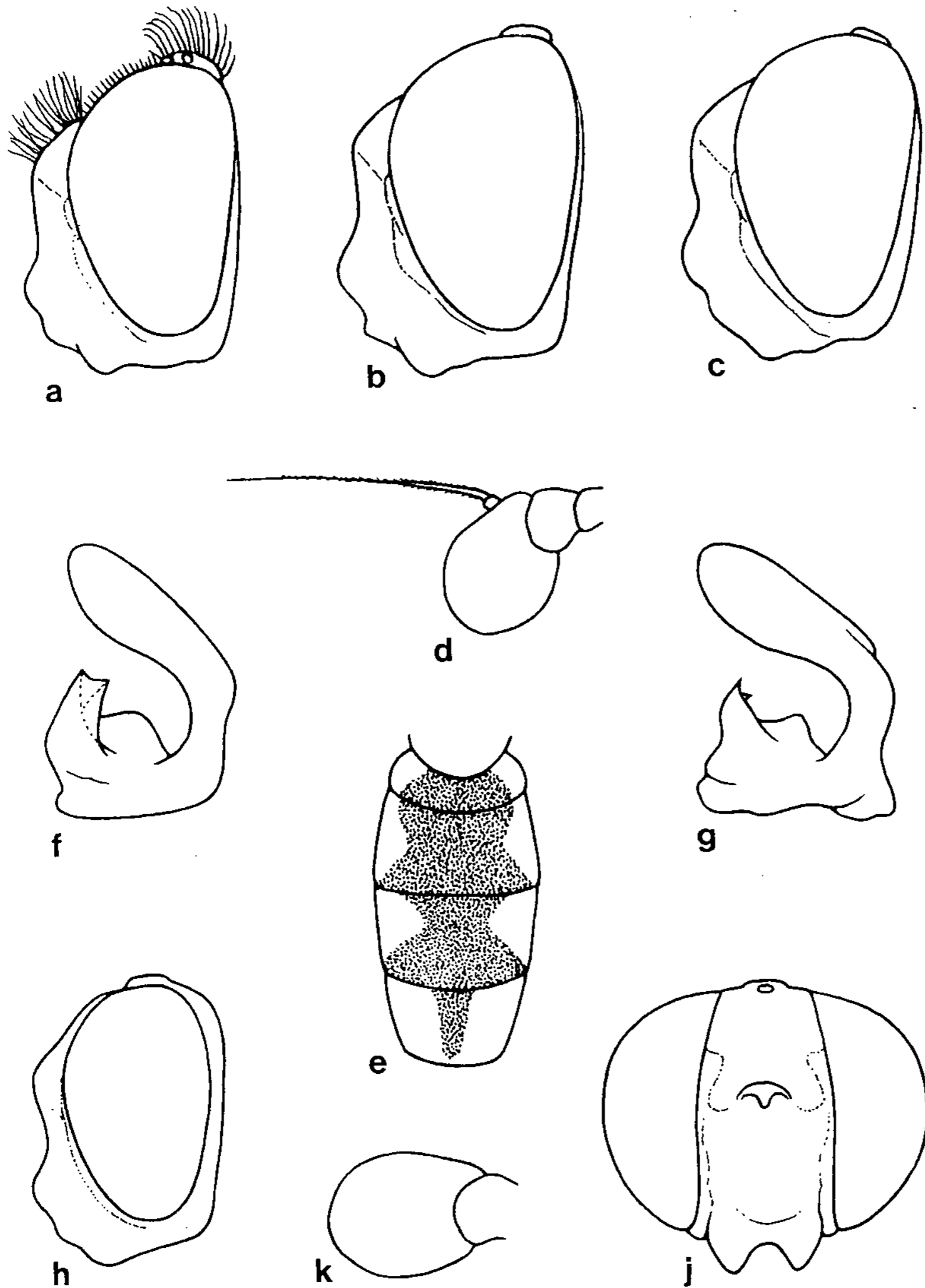


Fig. 2, *Cheilosia argentifrons*: a, b, c = male head, lateral view, to show variation in facial profile (fig. 2a drawn from lectotype); d = right antenna of male, internal view; e = male abdomen, dorsal view, stippling showing dull, black area; f, g = superior lobe of male genitalia, showing variation in shape (fig. 2f drawn from Irish specimen, 2g from British specimen); h = female head, lateral view (hairs omitted); j = female head, anterior view; k = right antenna of female, internal view (arista omitted).

but black on distal half; dorsal tibial hairs dark grey/black, ventral tibial hairs whitish; dorsal hairs mixed black and whitish.

Abdomen: *tergites*: t1-t4 entirely pale-haired, hairs long (nearly as long as those on scutellar margin) laterally, shorter across disc, not distributed in any distinct pattern; t1-t4 surface grey-dusted and vaguely shining laterally, dusted black medially, the black areas (especially on t.4) making a distinctive design (see fig. 2e); *sternites*: hardly shining, grey-dusted throughout,

except a quadrate, brightly shining, median patch on st. 1; st. 1-st. 4 almost entirely pale-haired; hairs on st. 1 + st. 2 long, upstanding, those on st. 3 + st. 4 recumbent except along lateral and distal margins; sclerites of postabdomen with both black and pale hairs; body length (anterior extremity of head capsule to posterior margin of abdominal tergite 4) = 8.5 mm.

C. argentifrons female: *differences from male*

Head: *face:* heavily grey-dusted beneath antennae and on ocular strip; *frons:* black, undusted, shining, except for a pair of small, triangular dust-spots against eyes, immediately above antennae; frontal hairs all yellow-brown except in vicinity of anterior ocellus, where they are mostly black; *eye:* hairs approximately as long as ant. seg. 1; post-ocular orbits lightly dusted grey towards vertex, progressively more heavily dusted laterally; *antennae:* colour as in male; ant. seg. 3 shape (see fig. 2k).

Thorax: *hair covering:* as in male; *mesoscutum:* hairs upstanding, of rather uneven length, but not of two distinct lengths; surface as in male; *scutellum* as in male; *pleura:* as in male. *metasternum:* as in male; *legs:* colouration as in male, except almost no brown mark on dorsal surface of fore basitarsus; *leg hairs:* a few black hairs posterolaterally towards tip of fore and hind femora, also anterolaterally on hind femur; tibiae almost entirely yellow-haired; tarsal hairs as in male but with fewer black hairs intermingled. *Scutellum:* hairs of two distinct lengths, all pale except on posterior margin where long black, bristly hairs are present; *wings:* veins brownish, otherwise as in male; wing length = 6.25 mm.

Abdomen: *hair covering:* all pale (whitish), long, basolaterally on abd. t. 2 and on abd. st. 2, otherwise rather short; *tergites:* abd. t. 2 + t. 3. greyish dusted across middle of disc, tergites otherwise undusted and brightly shining; *sternites:* heavily grey-dusted, dull, except along mid-line, where they are undusted and brightly shining, producing a mid-ventral, shining stripe to the abdomen; *body length* = 8.0 mm.

Diagnostic features

Eyes hairy all over, hairs pale; third antennal segment entirely, or almost entirely orange, hardly longer than deep, with almost bare arista; face bare; mesoscutal hairs yellow-brown to grey-brown, of somewhat uneven length but not of two distinct lengths; scutellum with posterior margin bearing black hairs (which are bristly in the female); legs with almost entirely yellow tibiae and tarsi, except hind tibia with at most an incomplete brown ring towards middle and tarsi of all legs with last tarsomere brown and basitarsus of fore and hind legs often mostly brown dorsally; male and female abdomen pale haired, male with distinctive matt black pattern on tergites; male and female with sternites grey-dusted except for median, shining, black patch on st. 1 in male and median, shining, black stripe on all sternites in female.

Diagnose

Yeux entièrement velus, les cils pâles; troisième article antennaire entièrement ou presque entièrement orange, à peine plus long que large, l'arista presque entièrement dénudée; face nue; ciliation mésoscutale jaune brunâtre à gris brunâtre, les cils de longueur quelque peu inégale, mais non répartis en deux tailles nettement différentes; marge postérieure du scutellum portant des cils noirs (plus fortes chez la femelle); pattes à tibias et tarses presque entièrement jaunes, sauf les tibias postérieurs, qui portent au plus un anneau brun, incomplet, vers le milieu: tous les tarses jaunes avec le dernier tarsomère brun, basitarse des pattes I et III souvent en grande partie brunis dorsalement, abdomen (mâle et femelle) à ciliation pâle, le mâle avec un dessin caractéristique, noir mat, sur les tergites; sternites mâles et femelles poudrés de gris sauf une tache médiane, d'un noir luisant, sur le sternite I du mâle, et une bande médiane d'un noir luisant sur tous les sternites de la femelle.

Diagnose

Augen vollständig und hell behaart; drittes Fühlerglied ganz oder fast ganz orange, kaum länger als breit, mit fast nackter Fühlerborste; Gesicht unbehaart (leicht grau bestäubt, Bestäubung der Augenränder dichter); Behaarung des Mittelrückens gelbbraun bis graubraun, ungleichmäßig, aber nicht deutlich von zwei Längen; Hinterrand des Scutellums mit schwarzen Haaren, diese beim Weibchen borstenförmig; Beine gelb, Tibien der Hinterbeine mindestens mit unvollständigem braunem Ring auf der Mitte, Tarsenendglieder aller Beine dunkel und Metatarsen der Vorder- und Hinterbeine dorsal meistens braun; Abdomen in beiden Geschlechtern hell behaart, beim

Männchen mit typischer mattschwarzer Zeichnung auf den Tergiten; Sternite bei beiden Geschlechtern grau bestäubt, beim Männchen mit glänzend schwarzem Mittelfleck auf Sternit 1, beim Weibchen mit glänzender Mittellängslinie.

Variability of *C. argentifrons*

Male: face profile rather variable (see fig 2a-2c); face often rather heavily grey dusted over entire surface; frons often with black, shining, undusted, longitudinal, median strip; hairs on vertex may be mostly pale; hairs on presutural calli may be all pale; hairs on mesocutal disc, mesopleura, calypteral margin and plumule may be yellowish; hairs on hind femora may be black antero-laterally, round apical end of femur; brown mark on each side of all tibiae may be distinct, not vague; fore basitarsus often brown-marked, dorsally; leg hairs often predominantly pale on all segments of all legs; superior lobe of theca see figs. 3f, 3g; body length = 8.0 - 8.5 mm.

Female: ant.seg.3 may be entirely orange; thoracic hair covering may be whitish-brown; fore basitarsus may be all-yellow dorsally; hind basitarsus may be mostly yellow, dorsally; body length = 8.0 - 8.75 mm.

Habitat and habits

As yet, nothing is known of the life history of *C. argentifrons*, though it can be presumed that the larvae of this syrphid live internally in the tissues of some low-growing plant, as do the larvae of many other *Cheilisia* species. The adults of known provenance have in each case been collected in association with deciduous woodland, and in most cases in woodland that is seasonally flooded. Species of Syrphidae with which *C. argentifrons* was found in the Foret d'Osthouse locality are listed in Speight (1984).

The very early flight season of *C. argentifrons* must reduce the likelihood of its capture. Also, since the males hover at great height (7-10 metres) they are difficult both to detect and to collect and can only be caught either when at flowers or resting on vegetation. Further, the habit of the females of resting on clumps of dead grass renders them inconspicuous, so they too are unlikely to be caught except when flower-visiting (*C. argentifrons* is known to visit the flowers of *Salix* spp. and *Crataegus* spp.). These features of the habits of *C. argentifrons* render the species easily overlooked, and it may well be more frequent than present records suggest. With the additional records given below, *C. argentifrons* has now been found in the following parts of Europe: Finland, Sweden, Denmark, Germany, Netherlands, Belgium, Great Britain, Ireland, France and Yugoslavia.

Material examined

FRANCE: *Bas-Rhin*: 7-8 May 1982, females, Foret d'Osthouse, Ried de l'Ill, alluvial forest of *Carpinus/Quercus/Fraxinus*, on vegetation in clearing, coll. and det. MCDS; *Pyrénées-Orientales*: 1900, male, Cerbere, coll. Thomas & Pockock, det. MCDS, in collections MNHN, Paris.

GERMANY: Schleswig-Holstein: 15 May 1977, male, Kasseedorfer Tannen, Eutin, coll. D. Sick, det. CC; 29 May 1983, female, Langenhöft, NF 1434, coll. and det. CC. (See Claussen, 1985).

GREAT BRITAIN: Derbyshire, 20 May 1977, male, Smeekley Wood, Cordwell Valley, mixture of deciduous and coniferous woodland, coll. W. Dean, det. MCDS.

IRELAND: Leitrim: 30 May 1985, female, Clooncoe lough, (NV.3), *Salix/Alnus* woods beside lake, on *Crataegus* flowers within woodland, coll. & det. MCDS; Westmeath: 6 May 1985, males and females, Ballynafid lake, (PV.2), *Salix/Alnus* carr beside lake, coll. & det. MCDS (See Speight, 1986).

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