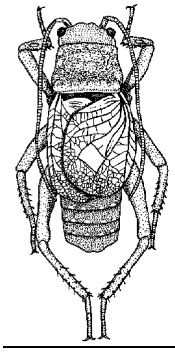

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REVISION OF THE GENUS *CAMPTOPTERA* FOERSTER (HYMENOPTERA: MYMARIDAE) IN THE PALAEARCTIC REGION, WITH TAXONOMIC NOTES ON SOME EXTRALIMITAL SPECIES

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The Palaearctic species of the fairyfly genus *Camptoptera* Foerster, 1856 are revised and illustrated. An identification key to 13 species is provided for separation of females. The known distribution ranges of the species are given, including new records of the extralimital specimens examined. The six newly described species are *C. doptera* **sp. n.** (Italy), as well as *C. fuga* **sp. n.**, *C. kloptera* **sp. n.**, *C. poptera* **sp. n.**, *C. stoptera* **sp. n.**, and *C. zagvozdka* **sp. n.,** all from the Far East of Russia (*C. stoptera* is also known from Taiwan, Republic of China). The following new synonymies are proposed: *C. cardui* (Foerster, 1856) =*C. aula* Debauche, 1948, **syn. n.**, =*C. foersteri* Girault, 1917, **syn. n.**, =*C. lapponica* Heqvist, 1954, **syn. n.**, =*C. pechlaneri* (Soyka, 1953), **syn. n.**, =*C. stammeri* (Soyka, 1953), **syn. n.**, =*C. tarsalis* Kryger, 1950, **syn. n.**; *C. franciscae* (Debauche, 1948) =*C. japonica* (Taguchi, 1971), **syn. n.**; *C. magna* Soyka, 1946 =*C. hundsheimensis* Soyka, 1961, **syn. n.**, =*C. kressbachi* Soyka, 1961, **syn. n.**, =*C. minorignatha* Hu et Lin, 2011, **syn. n.**, =*C. nigra* Soyka, 1961, **syn. n.**, =*C. nigrosimilis* Soyka, 1961, **syn. n.**, =*C. signatipennis* Soyka, 1961, **syn. n.**, =*C. strobilicola* Heqvist, 1956, **syn. n.**; *C. papaveris* Foerster, 1856 =*C. aequilonga* Soyka, 1961, **syn. n.**, =*C. andradae* Soyka, 1961, **syn. n.**, =*C. annulata* Soyka, 1961, **syn. n.**, =*C. colorata* Soyka, 1961, syn. n., =*C. grandithoracala* Guo et Wang, 2011, **syn. n.**, =*C. intermedia* Soyka, 1961, **syn. n.**, =*C. interposita*

Soyka, 1961, **syn. n.**, =*C. parva* Soyka, 1961, **syn. n.**, =*C. pulla* Girault, 1909, **syn. n.**, =*C. saintpierrei* Girault, 1915, **syn. n.**, =*C. setipaupera* Soyka, 1961, **syn. n.**, =*C. tenuis* Soyka, 1961, **syn. n.**, =*C. transilvanica* (Boţoc, 1960), **syn. n.**; and *C. punctum* (Shaw, 1798) =*C. ellifranzae* zur Strassen, 1950, **syn. n.**, =*C. gschnitzi* Soyka, 1961, **syn. n.**, =*C. perpilosa* Soyka, 1961, **syn. n.** *Camptoptera brevicornis* (Soyka, 1961), **stat. rev.** is reinstated as a valid species from the previous synonymy under *C. franciscae*. Lectotypes are designated for *C. papaveris* Foerster, 1856, *Stichothrix cardui* Foerster, 1856, and *S. pechlaneri* Soyka, 1953; a neotype is designated for *C. tarsalis* Kryger, 1950. Taxonomic notes on some related species of *Camptoptera* described from the New World are provided. *Camptoptera serenellae* Viggiani, 1978 (Sri Lanka) is transferred to *Stephanocampta* Mathot, 1966 as *S. serenellae* (Viggiani), **comb. n.**

KEY WORDS: Hymenoptera, Mymaridae, *Camptoptera*, fairyfly, taxonomy, Palaearctic region.

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Приведена ревизия палеарктических видов рода *Camptoptera* Foerster, 1856 Дана определительная таблица 13 видов по самкам. Проверено распространение видов, включая новые указания для дополнительных видов. Описываются шесть новых видов: *C. doptera* **sp. n.** (Италия), *C. fuga* **sp. n.**, *C. kloptera* **sp. n.**, *C. poptera* **sp. n.**, *C. stoptera* **sp. n.** и *C. zagvozdka* **sp. n.** (все с Дальнего Востока России, *C. stoptera* также с Тайваня). Предложена новая синонимия: *C. cardui* (Foerster, 1856) =*C. aula* Debauche, 1948, **syn. n.**, =*C. foersteri* Girault, 1917, **syn. n.**, =*C. lapponica* Heqvist, 1954, **syn. n.**, =*C. pechlaneri* (Soyka, 1953), **syn. n.**, =*C. stammeri* (Soyka, 1953), **syn. n.**, =*C. tarsalis* Kryger, 1950, **syn. n.**); *C. franciscae* (Debauche, 1948) =*C. japonica* (Taguchi, 1971), **syn. n.**; *C. magna* Soyka, 1946 =*C. hundsheimensis* Soyka, 1961, **syn. n.**, =*C. kressbachi* Soyka, 1961, **syn. n.**, =*C. Minorignatha* Hu et Lin, 2011, **syn. n.**, =*C. nigra* Soyka, 1961, **syn. n.**, =*C. nigrosimilis* Soyka, 1961, **syn. n.**, =*C. signatipennis* Soyka, 1961, **syn. n.**, =*C. strobilicola* Heqvist, 1956, **syn. n.**; *C. papaveris* Foerster, 1856 =*C. aequilonga* Soyka, 1961, **syn. n.**, =*C. andradae* Soyka, 1961, **syn. n.**, =*C. annulata* Soyka, 1961, **syn. n.**, =*C. colorata* Soyka, 1961, **syn. n.**, =*C. grandithoracala* Guo et Wang, 2011, **syn. n.**, =*C. intermedia* Soyka, 1961, **syn. n.**, =*C. interposita* Soyka, 1961, **syn. n.**, =*C. parva* Soyka, 1961, **syn. n.**, =*C. pulla* Girault, 1909, **syn. n.**, =*C. saintpierrei* Girault, 1915, **syn. n.**, =*C. setipaupera* Soyka, 1961, **syn. n.**, =*C. tenuis* Soyka, 1961, **syn. n.**, =*C. transilvanica* (Boţoc, 1960), **syn. n.**; *C. punctum* (Shaw, 1798) =*C. ellifranzae* zur Strassen, 1950, **syn. n.**, =*C. gschnitzi* Soyka, 1961, **syn. n.**, =*C. perpilosa* Soyka, 1961, **syn. n.** *Camptoptera brevicornis* (Soyka, 1961), **stat. rev.** восстановлен в качестве самостоятельного вида из синонимов *C. franciscae*. Обозначены лекто-

типы для *C. papaveris* Foerster, 1856, *Stichothrix cardui* Foerster, 1856, и *S. pechlaneri* Soyka, 1953; неотип для *C. tarsalis* Kryger, 1950. Даются таксономические заметки о близких видах *Camptoptera*, описанных с Нового Света. *Camptoptera serenellae* Viggiani, 1978 (Шри Ланка) отнесена к роду *Stephanocampta* Mathot, 1966 как *S. serenellae* (Viggiani), **comb. n.**

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INTRODUCTION

This is the first attempt to revise species of the fairyfly genus *Camptoptera* Foerster, 1856 (Hymenoptera: Mymaridae) in the entire Palaearctic region and to compare them with the Nearctic ones in order to identify taxa with possible Holarctic distributions. Recently, Huber (2011) designated a neotype for the type species of the genus, *C. punctum* (Shaw, 1798), and made taxonomic comments on some other European species of *Camptoptera*. As outlined by Triapitsyn (2010), the recent positive developments in mymarid taxonomy have allowed examination of the types of the species described by Arnold Foerster and Walter Soyka, and also of the numerous freshly collected specimens from the Palaearctic region, particularly from many European countries as well as from the Russian Far East and the adjacent countries. Some other important, extralimital publications on *Camptoptera* are those of Ogloblin (1947), Viggiani (1978), and Subba Rao (1989). Huber & Lin (1999) provided a list of *Camptoptera* species in the world, a generic diagnosis, a key to the *Camptoptera* group of genera, and a valuable discussion.

Soyka (1953, 1961) described many nominal species from Europe mostly based on intraspecific rather than interspecific variation so his keys are not usable. Although Kryger (1950, p. 47) wrongly believed that "Until rearings have been performed there is no reason to suppose that there is more than one species of *Camptoptera*, viz. *C. papaveris* Förster", diversity of the genus in the western Palaearctic region is indeed quite limited, with fewer species remaining valid after this revision than I had expected before initiating it. Worldwide, however, the genus is rather speciose, particularly so in the tropics from where many species remain to be described.

Unfortunately, the entire very important collection of Mymaridae of Hidenari Taguchi is lost according to Kenzou Yamagishi (personal communication). Taguchi (1971, 1972, 1977) described 11 species of *Camptoptera* from Japan, Taiwan (Republic of China), and the Phillippines (Bohol Island). Fresh specimens of his species need to be collected in the type localities, and if matching specimens are found, neotypes should be designated for the species of doubtful identities. Fortunately, his descriptions and illustrations are generally good (although the illustrations often insufficient) to recognize at least some of these species.

Camptoptera is not an uncommon genus when collected by various trapping methods or on windows but due to its minute size its members are easily overlooked when collected by sweeping and aspirated from a net. Arnaldos *et al.* (2004) collected a *Camptoptera* sp. in Spain in association with a decomposing carrion.

Provided here are keys to species (for females only), species diagnoses, descriptions of new species, redescriptions, and data on the type material where needed and when available, and information on distribution and hosts of the Palaearctic species of *Camptoptera*.

Males of Palaearctic *Camptoptera* differ from females in the normal sexually dimorphic features of genitalia and having filiform, 12-segmented antennae. Female features are used extensively as one of the main diagnostic tools for species recognition in the genus and in the keys. Because of this identification of males to species is often difficult or even impossible morphologically without rearing them together or associating them through collecting the sexes together at one time and place. Therefore, often it is not the species that is differentiated but only the females of the species. Males of some species are still unknown.

MATERIAL AND METHODS

This study is based on examination of the available type specimens (both primary and secondary, listed under "Type material examined") and of numerous non-type specimens from all ecozones although primarily from the Palaearctic region (listed under "Material examined" and "Extralimital records").

The following acronyms are used to designate depositories of specimens:

BMNH – The Natural History Museum, London, England, UK

CAS – California Academy of Sciences, San Francisco, California, USA

CNCI – Canadian National Collection of Insects, Ottawa, Ontario, Canada

CUPC – Department of Zoology, Faculty of Science, Charles University, Prague, Czech Republic

DEZA – Dipartimento di Entomologia e Zoologia Agraria «Filippo Silvestri», Università degli Studi di Napoli «Federico II», Portici, Italy

EMEC – Essig Museum of Entomology, University of California, Berkeley, California, USA

EUMJ – Entomological Laboratory, College of Agriculture, Ehime University, Matsuyama, Japan

IBPV – Institute of Biology and Soil Science, Vladivostok, Russia

ICXU – Insect Collection of College of Life Science and Technology, Xinjiang University, Urumqi (Ürümqi), Xinjiang, China

INHS – Illinois Natural History Survey, Champaign, Illinois, USA

ISNB – Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium

MLPA – Museo de La Plata, La Plata, Buenos Aires, Argentina

MMUE – Manchester Museum, The University of Manchester, Manchester, England, UK

MNHN – Muséum national d'Histoire naturelle, Paris, France

NHMW – Naturhistorisches Museum Wien, Vienna, Austria

SMF – Forschungsinstitut und Naturmuseum Senckenberg - Entomology, Frankfurt-am-Main, Germany

UCRC – Entomology Research Museum, University of California, Riverside, California, USA

USNM – National Museum of Natural History, Washington, District of Columbia, USA

ZIN – Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (also abbreviated elsewhere as ZISP)

ZLMU – Entomological Laboratory, Faculty of Agriculture, Meijo University, Shiogamaguchi, Tempaku-ku, Nagoya, Japan

ZMHB – Museum für Naturkunde der Humboldt-Universität zu Berlin, Berlin, Germany

ZMUC – Zoological Museum, Natural History Museum of Denmark, University of Copenhagen, Copenhagen, Denmark

ZMUN – Insect Collection, National Center for Insect Biodiversity, Natural History Museum, University of Oslo, Oslo, Norway.

Collecting and preservation methods of the material from Primorskii krai of Russia were described by Triapitsyn & Berezovskiy (2001). All specimens were sorted to morphospecies and identified by comparing them with available type material of the described European species of *Camptoptera* and also with the descriptions and illustrations of Taguchi (1971). Representatives of all the morphospecies were dissected and slide-mounted in Canada balsam, examined under a Zeiss Axioskop 2 plus compound microscope using Nomarski differential interference contrast optics, and photographed using the Auto-Montage® system; the photographs were then retouched where necessary using Adobe Photoshop®.

Terms used for morphological features are those of Gibson (1997). All measurements were taken from the slide-mounted specimens, unless stated otherwise, and are given in micrometers (μm), as length or, for the wings, as length:width. Abbreviations used are: F = funicle segment of the female antenna or flagellomere of the male antenna; mps = multiporous plate sensillum or sensilla on the antennal flagellar segments (= longitudinal sensillum or sensilla or sensory ridge(s) of authors); MT = Malaise trap; YPT = yellow pan trap. Under "Type material examined" I include in square brackets supplementary information relevant to data given on the slides. New ecozone and country distribution records are denoted with an asterisk (*). Under "Material examined" sections, names of states, provinces, regions, and other regional and administrative subdivisions are mostly omitted except when needed for clarity (e.g., the complicated administrative divisions and subdivisions in Russia and some other countries, and also counties and parishes in the USA). New extralimital records are included for the species with broader distributions.

TAXONOMY

Genus *Camptoptera* Foerster, 1856

Camptoptera Foerster, 1856: 116 (key, etymology [footnote]), 119 (diagnosis), 120 (mentioned), 144. Type species: *Camptoptera papaveris* Foerster, 1856, by monotypy.

Stichothrix Foerster, 1856: 117 (key, etymology), 118 (mentioned), 121 (short diagnosis). Type species: *Stichothrix cardui* Foerster, 1856, by monotypy. Synonymized under *Camptoptera* by Annecke & Doutt, 1961: 15.

Pteroclisis Foerster, 1856: 144, unnecessary replacement name for *Camptoptera* (see Huber & Lin, 1999: 27).

Camptoptera Foerster [or Förster]: Kirchner, 1867: 201 (catalog); Dalla Torre, 1898: 431 (catalog); Girault, 1909: 22–24 (history, distribution, host associations), 28 (key); Girault, 1915c: 276 (diagnosis); Girault, 1929: 20 (key, brief diagnosis); Ogloblin, 1947: 507 (key to species in Misiones, Argentina); Debauche, 1948: 65–68 (diagnosis, key to species in Belgium); Kryger, 1950: 44–46 (nomenclatural remarks, diagnosis), 97 (petiole possibly 2-jointed); Nikol'skaya, 1952: 538 (key); Ison 1958: 68 (diagnosis); Annecke & Doutt, 1961: 15–16 (synonymy, distribution, comments); Soyka, 1961: 73–75 (diagnosis, key to the European species); Hellén, 1974: 14 (diagnosis); Trjapitzin, 1978: 524 (key to the European species); Schauff, 1984: 39–40 (genus definition); Noyes & Valentine, 1989: 29 (diagnosis); Yoshimoto, 1990: 32–35 (synonymy, diagnosis, discussion, diagnoses and key to subgenera, list of species in the New World); Huber & Lin, 1999: 27–31 (synonymy, diagnosis, discussion, list of species, etc.); Triapitsyn & Huber, 2000: 613 (remarks); Lin et al., 2007: 27–28 (synonyms, brief diagnosis, list of Australian species); Huber et al., 2009: 288 (comments); Guo et al., 2011: 408–409 (diagnosis, key to species in Xinjiang, China); Triapitsyn & Proshchalykin, 2012: 207 (catalog); Pricop, 2013: 71 (key); Zeya et al., 2013: 87 (brief diagnosis and summary of host associations).

Stichothrix Foerster [or Förster]: Kirchner, 1867: 202 (catalog); Dalla Torre, 1898: 424 (catalog); Kryger, 1950: 96–97 (historical review); Nikol'skaya, 1952: 543 (key); Soyka, 1953: 57 (historical review, diagnosis); 60 (key to species); Soyka, 1961: 73 (key), 88–89 (diagnosis, list and key to species).

Eomymar Perkins, 1912: 26–27. Type species: *Eomymar muiri* Perkins, 1912, by monotypy. Synonymized under *Camptoptera* by Huber & Lin, 1999: 27.

Congolia Ghesquière, 1942: 320–321. Type species: *Congolia sycophila* Ghesquière, 1942, by original designation. Synonymized under *Camptoptera* by Debauche, 1949: 17.

Sphegilla Debauche, 1948: 62–63. Type species: *Sphegilla franciscae* Debauche, 1948, by original designation. Synonymized under *Camptoptera* by Yoshimoto, 1990: 32–33.

Sphegilla Debauche: Annecke & Doutt, 1961: 13 (distribution, comments); Taguchi, 1971: 52 (incorrect synonymy of *Herulia* Hedqvist, 1962 under *Sphegilla*), 54 (key to species); Trjapitzin, 1978: 527 (list); Schauff, 1984: 41 (valid genus very similar to *Camptoptera*, diagnosis).

Eomymar Perkins: Annecke & Doutt, 1961: 16–17 (distribution, comments).

Camptoptera (*Zemicamptoptera*) Ogloblin & Annecke, 1961: 302 (as subgenus of *Camptoptera*). Type species: *Camptoptera* (*Zemicamptoptera*) *semialbata* Ogloblin & Annecke, 1961, by original designation.

Wertanekiella Soyka, 1961: 87–88. Type species: *Wertanekiella brevicornis* Soyka, 1961, by original designation. Effectively synonymized under *Sphegilla* by Mathot, 1969: 2 and under *Camptoptera* by Yoshimoto, 1990: 32–33 although not mentioned in the latter. Listed under *Camptoptera* by Huber & Lin, 1999: 27.

Staneria Mathot, 1966: 214, 216. Type species: *Staneria diademata* Mathot, 1966, by original designation. Synonymized under *Camptoptera* by Huber & Lin, 1999: 27.

Camptoptera (*Camptoptera*) Foerster: De Santis, 1967: 107 (as subgenus of *Camptoptera*).

DIAGNOSIS. See Huber & Lin's (1999) diagnosis based on the worldwide fauna, who also provided a key to the *Camptoptera* group of genera. The following combination of features will separate all Palaearctic *Camptoptera* from other genera with 5-segmented tarsi in the region. Both sexes: body usually very small (much less than 1 mm long); head and mesoscutum mostly with striate or reticulate sculpture; scutellum with or without sculpture;

mandible 1-dentate (can be very large in one extralimital species from Argentina); trabeculae on head appear interrupted in cleared, slide-mounted specimens (Figs 18, 28, 36, 98, 109); petiole with (Figs 47, 52, 84, 91, 99, 107) or without (Figs 16, 37, 126) a membraneous collar called by Huber (2011) a lateral lamella; fore wing usually very narrow, with posterior margin usually notably curved towards wing apex. Female: funicle 7-segmented, with F2 very short, ringlike in all Palaearctic species but in a few ones sometimes apparently absent (thus funicle 6-segmented), see comments below under *C. brevicornis* (Soyka, 1961) and *C. franciscae* (Debauche, 1948). Male: antenna with flagellum 10-segmented (with F2 and F4 ringlike) in all Palaearctic species with known males; genitalia simple (Figs 20, 70, 73, 88, 103, 123, 131).

In some extralimital species (those belonging to the former genus *Eomymar*), F2 of the female antenna is about as long as F1 or F3 (Fig. 1) and the male antenna has only F2 ringlike while F4 is about as long as F3 or F5 (Fig. 2). I have examined a female and a male (Thailand: Phetchaburi, Kaeng Krachan National Park, Ban Krang, 12°47.896'N 99°27.196'E, 324 m, 24.VI 2008 (B. V. Brown) [UCRC]) of an undetermined *Camptoptera* sp. with such antennae; the petiole in these specimens is rather short (notably wider than long) and lacking a lateral lamella. Moreover, Huber & Lin (1999) noted that in one extralimital species, *C. camptopteroides* (Girault, 1916) (originally described in *Eomymar*), F2 of the female antenna is 1.34× as long as wide and only 0.25× length of F3, thus displaying an intermediate state of development of F2 in *Camptoptera* between a ringlike and a full length segment. I also have seen a similar, undescribed species from Argentina (one female in MLPA) in which F2 is about as long as wide.

In the extralimital species attributable to the subgenus *C.* (*Zemicamptoptera*), which was not recognized as such but yet not formally synonymized under *Camptoptera* [s. str.] by Huber & Lin (1999), the male flagellum is only 7-segmented with F1 rather short and F2 ringlike, while according to Ogloblin & Annecke (1961) the female funicle of *C.* (*Zemicamptoptera*) *semialbata* from Argentina is 7-segmented, with a ringlike F2 (examined were its holotype female [MLPA] on slide labeled: 1. "*Xenodicopus pusilus* [the original ms name, crossed out except "*Xeno*"] A. O. ♀ *Camptoptera semialbata* [in pencil] Typus Loreto, Misiones, 19.IV.1933, A. O. *Zemicamptoptera* [in pencil]", 2. "*Camptoptera semialbata* 5062/1"; and the allotype male [MLPA] on slide labeled: 1. "*Xenodicopus pusila* [the original ms name, crossed out] A. O. ♂ *Zemicamptoptera semialbatus* ?allotypus [faint and illegible in pencil] 3.VI.1933, A. O. selva."). I have also examined three males in UCRC with such antennae (Figs 4–6): Peru: San Martín, 19 km NE of Tarapoto, 950 m, 6-8.VII 2004 (B. V. Brown). Republic of the Congo: Pool, Iboubikro site, Lesio-Louna Reserve, 3°16'11'S 15°28'16''E, 340 m, 7-21.VII 2008 (M. Sharkey). Thailand: Songkhla, Khao Koh Hong, 7°01'00'N 100°31'12''E, 410 m, 6-7.VI 2000 (D. Yanega). The petiole in these specimens lacks a lateral lamella and is either very short (much wider than long) or about as long as wide. Also examined was one female in UCRC (Vietnam: South Ben Tre, Mekong River Delta, Unicorn Island (about 20 min boat ride from My Tho), 10.34161°N 106.34742°E, 21 m, 22.VIII 2012 (M. S. Hoddle)) which also belongs to the subgenus *C.* (*Zemicamptoptera*); its antenna (Fig. 3) has a 7-segmented funicle with a distinct ringlike F2, and the petiole lacks a lateral lamella.

Species recognition in this morphologically diverse genus is usually quite difficult (most taxa were described without providing proper diagnoses and not in a revisionary context), but sculpture patterns on the head and mesosoma, particularly the propodeal characters such as various carinae, and structure of the petiole are of diagnostic importance. Preparation of good quality microscopic slides is almost always required for identification of these minute wasps with any confidence. In Europe, however, a few species may be recognized from properly dry-mounted, critical point-dried specimens, such as for instance *C. brevicornis*, *C. cardui* (Foerster, 1856), and *C. franciscae*.

Figs 1–6. *Camptoptera* spp., antennae (1, 2 – Ban Krang, Kaeng Krachan National Park, Phetchaburi, Thailand; 3 – Unicorn Island, Mekong River Delta, South Ben Tre, Vietnam; 4 – 19 km NE of Tarapoto, San Martín, Peru; 5 – Iboubikro site, Lesio-Louna Reserve, Pool, Republic of the Congo; 6 – Khao Koh Hong, Songkhla, Thailand). 1 – f emale *C.* sp., former genus *Eomymar*; 2 – male *C.* sp., former genus *Eomymar*; 3 – female *C.* (*Zemicamptoptera*) sp.; 4–6 – male *C.* (*Zemicamptoptera*) spp.

CLASSIFICATION. *Camptoptera* is a relatively easily recognizable genus in the Palaearctic region, so any appropriate generic key to the Mymaridae may be used for its identification: Annecke & Doutt (1961) for the world genera, Schauff (1984) for the Holarctic genera, Triapitsyn & Huber (2000) for the Palaearctic genera, and Pricop (2013) for females of the European genera. Viggiani (1989) placed it in the subfamily Camptopterinae based solely on the structure of male genitalia, but later Huber & Lin (1999) and Lin *et al.* (2007) treated it as a member of the informal *Camptoptera* group of genera.

DISTRIBUTION. Cosmopolitan.

HOSTS. See Huber (1986, 2011) and Huber & Lin (1999). More or less reliable host records of *Camptoptera* spp. are from eggs of Coleoptera, particularly of Buprestidae, Chrysomelidae, Ciidae, Curculionidae (Scolytinae), and Derodontidae (Kryger, 1950; Huber, 1986, 1997, 2011; Donev, 1987a; Huber & Lin, 1999; Triapitsyn & Moraal, 2008; Vikberg & Martikainen, 2011). All other, non-coleopteran, host records of authors need confirmation and are probably incorrect due to inadequate rearing methods. Other aspects of biology of *Camptoptera* species are unknown.

REMARKS. Examination of the paratype male of *Camptoptera serenellae* Viggiani, 1978 (on slide [DEZA], labeled: 1. "*Camptoptera serenellae* ♂ Vigg. Paratype G. Viggiani – 1977"; 2. "C335 Ceylan – Central Nuwara Eliya 29.I.70 – Tamisa-ge à la l'uite im-ténieure de la forêt au pied au Piduturagala [Pidurutalagala Mt.] coll. Besuchet – Löbl"), described based on two males from Sri Lanka (Viggiani, 1978), revealed that it rather belongs to *Stephanocampta* Mathot, 1966. It is hereby transferred to the latter genus as *S. serenellae* (Viggiani), **comb. n.**, thus being its fourth described species (Aquino & Triapitsyn, 2014). A conspecific female would be needed for providing a diagnosis of *S. serenellae*.

Key to females of the Palaearctic species of *Camptoptera*

1. Petiole without a lateral lamella 2
– Petiole with a lateral lamella 7
2(1) Petiole either with a strong reticulate sculpture ventrally and laterally (fig. 1D in Taguchi, 1971, p. 50) or strongly ridged (Fig. 57) 3
– Petiole not as above, without notable reticulate sculpture or ridges 4
3(2) Petiole with a strong reticulate sculpture ventrally and laterally (fig. 1D in Taguchi, 1971, p. 50) . . . . . ***C. minorui***
– Petiole strongly ridged (Fig. 57) . . . . . ***C. kloptera* sp. n.**
4(2) Frenum of scutellum longitudinally striate 5
– Frenum of scutellum smooth 6
5(4) F2 as long as F3 (not counting a ringlike segment when present) . . . . . ***C. brevicornis***
– F2 longer than F3 (not counting a ringlike segment when present) . . . . . ***C. franciscae***
6(4) Western Palaearctic; propodeum with faint (often almost indistinct), wide apart linear submedian carinae slightly narrowing towards metanotum but not extending to it [male genitalia (Fig. 20) short (length 27-45 μm) and relatively less sclerotized anteriorly] . . . . . ***C. cardui***
– Eastern Palaearctic; propodeum without defined submedian carinae [male genitalia (Fig. 131) long (length 54-66 μm) and relatively more sclerotized anteriorly] . . . . . ***C. zagvozdka* sp. n.**
7(1) Propodeum with a very wide, complete median carina and incomplete lateral carinae not extending to metanotum (Fig. 118) . . . . . ***C. stoptera* sp. n.**
– Propodeum not as above 8

8(7) Frenum of scutellum with mesh-like, reticulate sculpture (Figs 99, 110, 113) (often faint and difficult to see, particularly in dry-mounted specimens) 9
– Frenum of scutellum either longitudinally striate (Figs 65, 74, 84) or almost smooth (at most faintly, inconspicuously longitudinally striate) 10
9(8) F1 about as long as F4 (or sometimes slightly shorter or longer); petiole at least 1.0× as long as wide . . . . . ***C. punctum***
– F1 notably longer than F4; petiole at most 0.55× as long as wide . . . . ***. poptera* sp. n.**
10(8) Frenum of scutellum almost smooth (at most faintly, inconspicuously longitudinally striate) (Fig. 47) . . . . . ***C. fuga* sp. n.**
– Frenum of scutellum distinctly longitudinally striate 11
11(10) Propodeum with faint (sometimes difficult to see), wide apart linear submedian carinae slightly widening towards metanotum and extending or almost extending to it (Fig. 84) . . . . . , ... 12
– Propodeum with faint linear submedian carinae notably narrowing towards metanotum and not extending to it (Fig. 30) . . . . . ***C. doptera* sp. n.**
12(11) Relatively smaller (body length usually less than 0.4 mm in slide-mounted specimens and less then 0.365 mm in dry-mounted, critical point-dried specimens); fore wing length at most 0.492 mm . . . . . ***C. papaveris***
– Relatively larger (body length usually more than 0.4 mm in slide-mounted specimens and more than 0.38 mm in dry-mounted, critical point-dried specimens); fore wing length at least 0.53 mm . . . . . ***C. magna***

Synopsis of species (in alphabetical order)

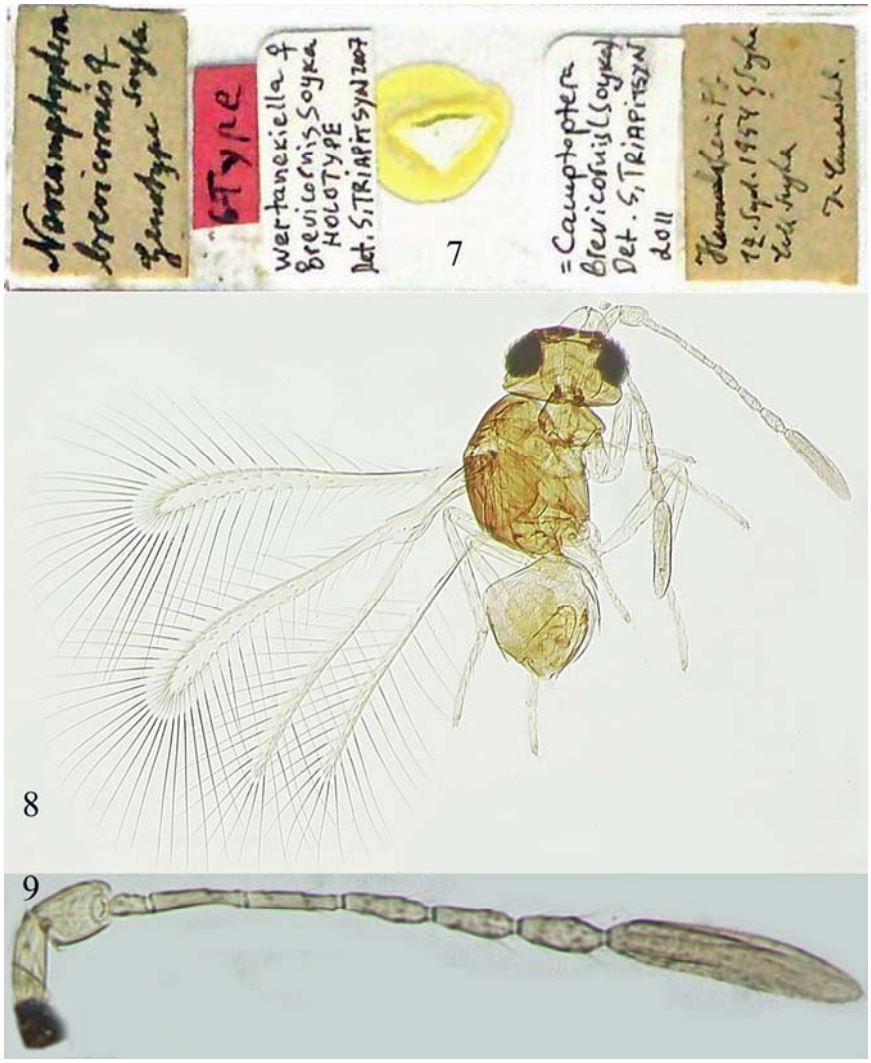
***Camptoptera brevicornis* (Soyka, 1961), stat. rev.**
Figs 7–9

Wertanekiella brevicornis Soyka, 1961: 88. Type locality: Hundsheim, Lower Austria, Austria. **Stat. rev.** (resurrected from previous synonymy under *C. franciscae* by Mathot, 1969: 2 [as *Sphegilla franciscae*]).
Sphegilla franciscae Debauche: Mathot, 1969: 2 (synonymy).
Camptoptera brevicornis (Soyka): Huber & Lin, 1999: 28 (transferred from *Wertanekiella* without mentioning the previous synonymy by Mathot (1969) under *Sphegilla franciscae*), 30 (listed as a valid species).
Camptoptera franciscae (Debauche): Noyes, 2013 (catalog, listed as a synonym).

TYPE MATERIAL EXAMINED. Holotype female [NHMW] on slide (Fig. 7) labeled: 1. "*Neocamptoptera* [W. Soyka's initial manuscript name, changed to *Wertanekiella* in the original description] *brevicornis* ♀ Soyka genotype"; 2. [red] "G-Type"; 3. "Hundsheim [?FG – illegible] 12. Sept. 1954 lg Soyka Coll Soyka In Canadabal.". The holotype (Fig. 8) is poorly mounted more or less laterally, insufficiently cleared, complete. According to the original description, the holotype specimen was captured on a window from hay; see Triapitsyn (2010) on the details of W. Soyka's collecting method there.

MATERIAL EXAMINED. **Slovakia:** Bratislava, Jurský Šúr Nature Reserve, 48°14'03''N 17°12'47''E, 133 m, 8.VIII 2008, alder forest (B. V. Brown) [1 ♀, UCRC].

REDESCRIPTION. FEMALE (holotype). Head and mesosoma brown, metasoma and appendages yellowish to light brown.



Figs 7–9. *Camptoptera brevicornis* sp. n., female (holotype). 7 – slide, 8 – habitus, 9 – antenna.

Head with a faint transversely striate sculpture, more conspicuous on vertex; face almost smooth. Antenna (Fig. 9) with scape 3.0× as long as wide (radicle fused with the rest of scape); pedicel notably longer than F1; funicle apparently 6-segmented (no ring segment clearly visible although potentially could be present), F1 the shortest funicle segment, F2 as long as F3, both a little but clearly longer than following funicle segments which are subequal in length (except F5 slightly shorter), F6 the widest funicle segment; clava apparently with 2 mps, 5.0× as long as wide, as long as combined length of F4-F6.

Mesoscutum transversely striate, axilla and frenum of scutellum longitudinally striate. Propodeum with faint, linear submedian carinae strongly widening towards metanotum and almost extending to it. Fore wing (Fig. 8) 11.8× as long as wide, notably narrowing just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 1 apical seta; longest marginal seta about 5.7× maximum wing width; disc with a slight brownish tinge and an irregular row of setae. Hind wing (Fig. 8) narrow, 33× as long as wide; disc slightly infumate, with 1 row of setae; longest marginal seta about 11× maximum wing width.

Metasoma a little shorter than mesosoma. Petiole apparently without a lateral lamella. Ovipositor occupying a little more than 0.6 length of gaster, not exserted, and 0.6× length of metatibia.

Measurements of the holotype (μm). Body 320; head 70; mesosoma 142; petiole 17; gaster 115; ovipositor 67. Antenna: scape (including radicle) 45; pedicel 27; F1 12; F2 30; F3 30; F4 27; F5 26; F6 27; clava 83. Fore wing 355:30; longest marginal seta 170. Hind wing 333:10; longest marginal seta 109.

MALE. Unknown.

DIAGNOSIS. *Camptoptera brevicornis* is extremely similar to *C. franciscae*, from which it differs by the relatively shorter F2 which is as long as F3 (distinctly longer than F3 in *C. franciscae*), assuming that in both species the female funicle is 6-segmented (or not counting a ringlike segment when it is apparently present).

In the well-cleared and niclely slide-mounted specimen from Slovakia (collected from a site which is not that far from the type locality of *C. brevicornis*) there is a ring segment between F1 and F3, so female funicle in this species may actually be either 6- or 7-segmented. Its body length before slide-mounting was 307 μm (after slide-mounting 333 μm). Fore wing 12.3× as long as wide. Petiole without a lateral lamella.

DISTRIBUTION. Austria, and Slovakia*.

HOSTS. Unknown.

COMMENTS. I reluctantly reinstate *C. brevicornis* as a valid taxon because its female can be readily separated from that of *C. franciscae* by the relatively shorter F2 (for practical purposes a ringlike funicle segment, which may be present is some specimens of both species, is not counted here). However, Mathot (1969), who likely did not examine the holotype of *Wertanekiella brevicornis*, might be right about proposing its synonymy under *Sphegilla franciscae* because the relative lengths of F2 and F3 could be subject of intraspecific variability. Unfortunately, I do not have enough specimens of *C. franciscae* to assess it, but in all four specimens of the latter species at my disposal F2 is definitely longer than F3.

***Camptoptera cardui* (Foerster, 1856)**
Figs 10–23

Stichothrix Cardui [sic] Foerster, 1856: 121. Type locality not indicated in the original description; that of the lectotype designated here: not indicated on the labels, most likely Aachen area, North Rhine-Westphalia, Germany; Aachen according to Kirchner (1867).

Stichothrix cardui Foerster [or Förster]: Kirchner, 1867: 202 (catalog); Dalla Torre, 1898: 424 (catalog); Soyka, 1953: 57–58 (redescription, type information, record from Valkenburg, the Netherlands]); Soyka, 1961: 89 (type information, key).

Camptoptera Foersteri [sic] Girault, 1917: 20. Several syntype females and males on a slide [ZMHB] and also one female and one male paratypes on a slide [USNM] (not examined); the paratypes were examined and photographed by Huber (2011). Type locality: unspecified locality (or localities) in Germany. **Syn. n.**

Camptoptera aula Debauche, 1948: 68 (key), 71–73, planche VIII (illustrations). Type locality: Heverlee (as Héverlé in the original description), Leuven, Flemish Brabant, Belgium. Synonymized under *C. foersteri* by Huber, 2011: 56. **Syn. n.**

Camptoptera tarsalis Kryger [as *C. tarsalis* Enock]: Kryger, 1950: 47. Type status not indicated [in the C. O. Waterhouse collection at BMNH], although a "type" is mentioned. Type locality not indicated in the original description; type locality of the neotype designated here: Godalming, Surrey Co., England, UK. **Syn. n.**

Stichothrix pechlaneri Soyka, 1953: 58–59. Type localities according to the original description: Trins Padaster (as Trins Pataster [sic]), 2100 m, Gschnitztal, Tyrol, Austria (1 ♀); Arzler Alm, 1200 m, Innsbruck, Tyrol, Austria (1 ♂). Type locality of the lectotype designated here: Trins Padaster, 1800 m, Gschnitztal, Tyrol, Austria. **Syn. n.**

Stichothrix stammeri Soyka, 1953: 60. Type locality: Jettchenshof, Malchin, Mecklenburg-Western Pomerania, Germany. **Syn. n.**

Camptoptera lapponica Heqvist, 1954: 273–275. Holotype female [according to the original description in Skogforsk, Forestry Research Institute of Sweden, ?Stockholm or ?Uppsala, Sweden, but not found there (see "Comments" below)] (not examined). Type locality: Hällnäs, Vindeln Municipality, Västerbotten, Sweden. **Syn. n.**

Stichothrix pechlaneri Soyka: Soyka, 1961: 89 (type information, key).

Stichothrix stammeri Soyka: Soyka, 1961: 89 (type information, key).

Camptoptera alula [sic] Debauche: Trjapitzin, 1978: 524 (key, distribution).

Camptoptera lapponica Hedqvist [sic]: Trjapitzin, 1978: 524 (key, distribution); Donev, 1985b: 66 (distribution).

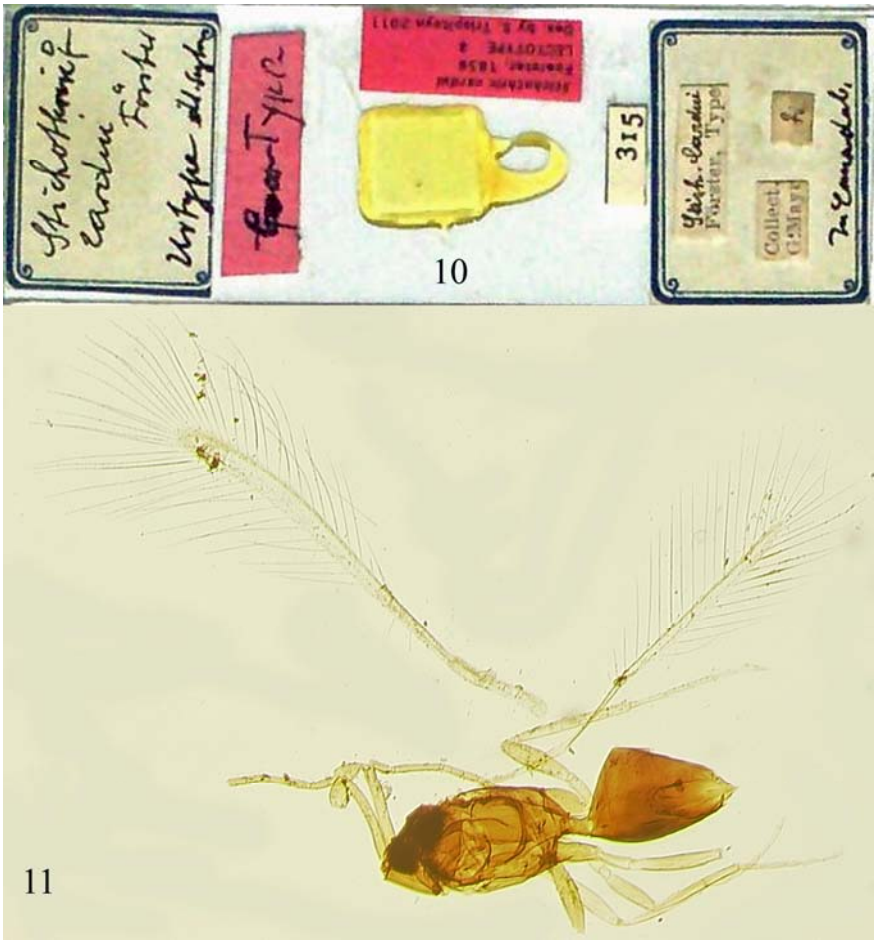
Camptoptera tarsalis Kryger: Huber & Lin, 1999: 31 (list).

Camptoptera aula Debauche: Ulrich, 1999: 239 (distribution, habitat); Triapitsyn & Moraal, 2008: 63 (reared from bracket fungi); Koponen, 2009: 1 (illustration).

Camptoptera foersteri Girault: Huber, 2011: 52 (illustrations), 56 (diagnosis), 59 (illustrations), 60 (discussion); Vikberg & Martikainen, 2011: 30 (illustration, reared from polypore fungi).

Camptoptera sp.: Pricop, 2013: 74 (illustration).

TYPE MATERIAL EXAMINED. *Stichothrix cardui* Foerster: I found one female and two male syntypes, all on slides, of this species in NHMW, and there are three pin holes under this species in A. Foerster's drawer of Mymaridae there. Lectotype female [NHMW], here designated to avoid the existing confusion regarding the status of the type specimens of this taxon, on slide (Fig. 10) labeled: 1. "*Stich. Cardui* [in India ink] Förster, Type [printed]"; 2. [printed] "Collect. G. Mayr"; 3. [In India ink, original A. Foerster's label] "♀."; 4. [In W. Soyka's handwriting] "In Canadab."; 5. [Soyka's slide number] "315"; 6. [red, Soyka's label, apperanrly "Geno-" crossed-out] "Type"; 7. [Soyka's label] "*Stichothrix* ♀ *cardui* Förster Urtype dt. Soyka". The lectotype (Fig. 11) was remounted by Soyka apparently from a minuten pin; it is in poor to fair condition, mounted more or less dorsoventrally, with the head collapsed; flagellum of one antenna is detached, and the other flagellum lacks F5-F7 and clava; one fore wing is detached from the body and one hind wing is attached to it, the other pair of wings is missing; also missing are one fore leg, one middle leg, and tibia and tarsus of one of the hind legs. Soyka (1953) mentioned this specimen as an "Urtype" (= the oldest [original] type) in NHMW that he remounted into Canada balsam, also noting that Foerster (1856) was wrong in stating [in the key] that the tarsi in this genus are 4-segmented, whereas the type has 5-segmented tarsi. Mentionings of this specimen by Soyka (1953) as an "Urtype" was not a valid lectotype designation (Article 74.5), (ICZN, 1999) because it is very clear from the short original description that Foerster (1856) based this species on an unspecified number of both female and male specimens. Then Soyka (1961) mentioned the



Figs 10, 11. *Camptoptera cardui*, female (lectotype). 10 – slide, 11 – habitus.

same "Urtype" but also invalidly designated a "Lecto-type" of this species based on his own female specimen from Valkenburg, Limburg, the Netherlands. Paralectotypes [both in NHMW], as follows. 1 ♂ on slide (Fig. 12) labeled: 1. "*Stich. Cardui* [in India ink] Förster, Type [printed]"; 2. [printed] "Collect. G. Mayr"; 3. [In India ink, original A. Foerster's label in his handwriting] "Aus Distelgallen [an illegible word] *Trypeta Cardui*. ♂."; 4. [Soyka's slide number] "316"; 5. [Soyka's label] "*Stichothrix* ♂ *cardui* Förster ohne Fühler". The specimen (Fig. 13) is in poor condition, with flagella of both antennae, apical parts of one fore wing and one hind wing, and several leg segments missing. 1 ♂ on slide labeled [in W. Soyka's handwriting, apparently copied from the original labels of the other male paralectotype]: 1. "*Stichothrix cardui* Förster, Type Coll. G. Mayr Aus Distelgallen, [an illegible word] *Trypeta cardui*"; 2. [Soyka's slide number] "314"; 3. [Soyka's label] "*Stichothrix* ♂ *cardui* Förster In Canadab. ohne Fühler". The specimen is in very poor condition (the body, mounted laterally, is collapsed), with flagella of both antennae missing.

Figs 12, 13. *Camptoptera cardui*, male (paralectotype on W. Soyka's slide No 316). 12 – slide, 13 – habitus.

Camptoptera tarsalis Kryger: Neotype female [BMNH], here designated in accordance with Article 75.3 (ICZN, 1999) to avoid any ambiguity regarding the identity of this species, to define this nominal taxon objectively and clarify its taxonomic status, and because the original "type" of this species cannot be found and thus is considered lost from BMNH, on card labeled: 1. "Godalming July 1913 C. J. C. Pool."; 2. [a yellow circle incorrectly was added later by a curator] "Co-type"; 3. [in pencil] "*tarsalis*"; 4. [on the bottom side] "1919-185". The specimen is in good condition, lacking one fore wing; one of the hind wings is glued to the card separately but close to the body. Although Kryger (1950, p. 47) mentioned

Figs 14–16. *Camptoptera cardui*, female (holotype of *C. aula*). 14 – slide, 15 – habitus, 16 – petiole.

the type of "*Camptoptera tarsalis* Enock", which had to be the female described by him, he also states that "Mr. C. I. Povl [sic] reared some specimens from a Boletus infested with *Cis micans* obtained at Godalming, July 1913. They appear to be referable to this species. They are somewhat smaller than the type, but have the same long tarsi. Unfortunately all the specimens are males". The abovementioned female clearly belongs to the same series as these males, and thus it was very unlikely that he considered that specimen (which he probably overlooked) as type of what he believed was Enock's species which most likely was

Figs 17, 18. *Camptoptera cardui*, female (types of *C. pechlaneri*). 17 – habitus (lectotype, lateral view), 18 – head (paralectotype, dorsal view).

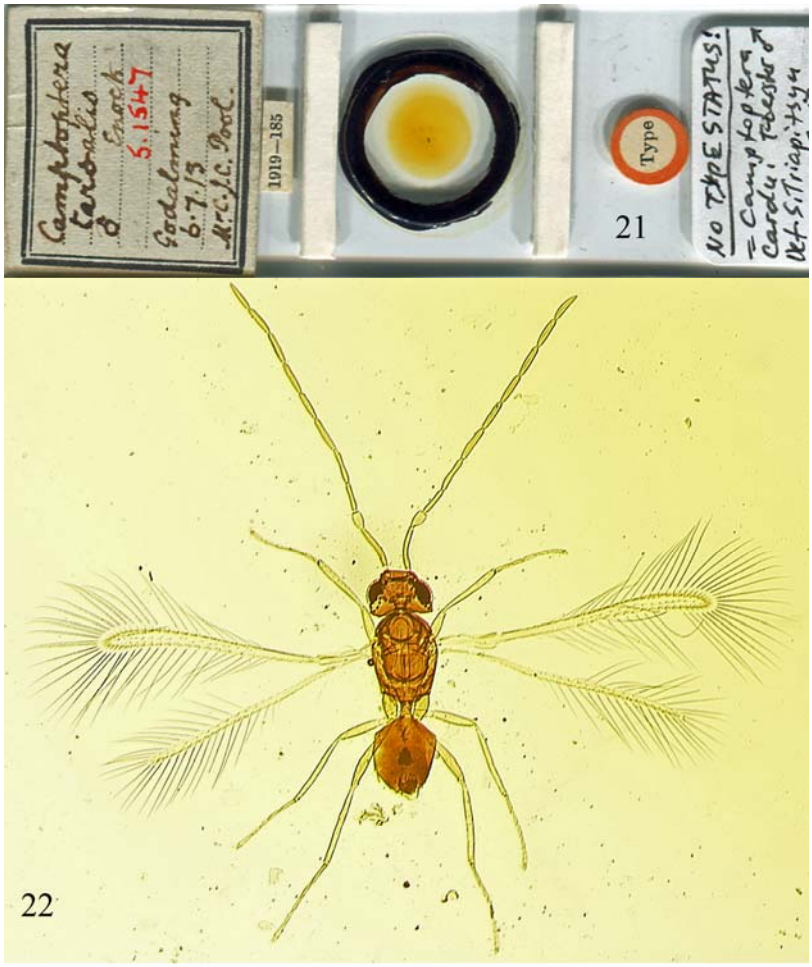
slide-mounted. Therefore designation of the neotype of *C. tarsalis* based on this non-type female is warranted in this situation. The following two males in BMNH have no type status (Kryger, 1950): 1 ♂ (Fig. 22) on slide (Fig. 21) labeled: 1. "*Camptoptera tarsalis* ♂ Enock 5.1547 [apparently the type number was added later by a curator, in red ink] Godalming 6.7.13 M[r]. C.J.C. Pool.", 2. "1919-185", 3. [red circle apparently was incorrectly added later by a curator] "Type"; 1 ♂, labeled: 1. "*Camptoptera tarsalis* ♂ Enock Godalming 6.7.13 C.J.C. Pool.", 2. "1919-185", 3. "Bred from *Boletus* infested with *Cis micans*". As the neotype of *C. tarsalis*, both also belong to *C. cardui*.

Camptoptera aula Debauche: Holotype female [ISNB] on slide (Fig. 14) labeled: 1. "Lab. d'Entomologie de l'Université Louvain *Camptoptera aula* Deb. ♀ 1943 TYPE [red]";

Figs 19, 20. *Camptoptera cardui*, male. 19 – body and antennae (allotype of *C. aula*), 20 – genitalia (Castelporziano Presidential Estate, Lazio, Italy).

2. "Héverlé 1.VI.41 – no140". The holotype (Fig. 15) is in fairly good condition although insufficiently cleared, complete, and mounted dorsoventrally. Paratypes: 1 ♀ [ISNB] on slide labeled: 1. "Lab. d'Entomologie de l'Université Louvain *Camptoptera aula* Deb. ♀ 1943 PARA TYPE [red]", 2. "Héverlé 1.VI.41 – no140"; 1 ♂ (the allotype) [ISNB] on slide labeled: 1. "Lab. d'Entomologie de l'Université Louvain *Camptoptera aula* Deb. ♂ 1943 ALLO TYPE [red]", 2. "Héverlé 10-VII-42 Coll. Raignier n. 7".

Stichothrix pechlaneri Soyka: The species was described from one female (collected at the elevation of 2100 m) and 1 male syntypes (Soyka, 1953). Later, Soyka (1961, p. 89) incorrectly listed one female as "Holotype", collected at the elevation of "ca 2000 m". Besides the male syntype whose label data match the published information, I found three, rather than one, females of this species on separate slides in W. Soyka's collection at NHMW, all of which collected on the right date (16.IX 1948) but none of them at the elevation indicated by him in the original description. Therefore I have no other choice than treating all three specimens as potential syntypes, and the female labeled by Soyka as "Type I" is selected here as the lectotype. Lectotype female [NHMW], here designated to avoid the existing confusion regarding the status of the type specimens of this species, on slide labeled: 1. "*Stichothrix* ♀ *pechlaneri* (Soyka) dt. Soyka", 2. [red] "Type I", 3. "Gschnitztal Tirol Trins Padaster 1800 m [an illegible word] 16.9.1948 lg Pechlaner [an illegible word] Coll. Soyka In Canadab.". The lectotype (Fig. 17) is in good condition, complete, mounted



Figs 21, 22. *Camptoptera cardui*, male (Godalming, Surrey Co., England, UK). 21 – slide, 22 – habitus.

laterally. Paralectotypes: 1 ♀ [NHMW] on slide labeled: 1. "*Stichothrix* ♀ *pechlaneri* (Soyka)", 2. [red] "Type II", 3. "Gschnitztal Tirol Trins Padaster 2000 m 16.9.1948 lg Pechlaner [an illegible word] In Canadab."; 1 ♀ [NHMW] on slide labeled: 1. "*Stichothrix* ♀ *pechlaneri* Soyka dt. Soyka", 2. [red] "Co-Type", 3. "Gschnitztal Tirol Trins Padaster 2000 m 16.9.1948 lg Pechlaner [an illegible word] In Canadab.", 4. [Soyka's slide number] "317"; 1 ♂ [NHMW] on slide labeled: 1. "*Stichothrix* ♂ *pechlaneri* Type", 2. [red] "Type", 3. "Innsbruck Arzler Alm 1200 m lg Pechlaner 12 Sept. 1948 In Canadab.".

Stichothrix stammeri Soyka: Holotype female [NHMW] on slide labeled: 1. "*Stichothrix* ♀ *stammeri* (Soyka) Type", 2. [red] "Type", 3. "Jettchenshof Malchin Mecklenburg am Fenster Aug. 1935 lg Stammer In Canadab. 1941". The holotype is in good condition, complete, mounted dorsoventrally.

MATERIAL EXAMINED. **Austria:** Tyrol: Gschnitztal, Trins Padaster, 2000 m, 16.IX 1948 (E. Pechlaner) [1 ♀, EMEC] (identified by W. Soyka as *Stichothrix pechlaneri*). Krössbach, IX 1948 (W. Soyka), on window [1 ♀, NHMW] (identified by W. Soyka as *S. pechlaneri*). **Belgium:** Liège, Wanze, Antheit, Corphalie (R. Detry): 16-30.VI 1989 [1 ♀, 1 ♂, ISNB]; 20.X-3.XI 1989 [1 ♀, 3 ♂, ISNB]; 17.XI-1.XII 1989 [1 ♂, ISNB]; 28.IX-12.X 1990 [1 ♀, ISNB]. Walloon Brabant, Waterloo, 28.IX-4.X 1992 (P. Dessart) [1 ♀, ISNB]. **Czech Republic:** Central Bohemian [Region], Český kras Protected Lanscape Area, Bubovický potok, 49°57'26.026''N 14°09'24.625''E, 22.VI 2007 (J. Macek) [1 ♀, CUPC]. Hradec Králové, Orlické hory [Mountains], Velká louka Reserve, 50°19'09.268''N 16°25'26.47''E, 24.VII 2008 (J. Hájek) [1 ♀, CUPC]. **France:** Bouches-du-Rhône, Fonscolombe, emerged from [or from "bag with"] "*Polysticta versicolor*" [i.e., *Polystictus versicolor*] (M. W. R. de V. Graham): 11.IX 1988 [1 ♀, BMNH]; 20.IX 1988 [1 ♀, BMNH]; 26.IX 1988 [3 ♀, 1 ♂, BMNH]; 27.IX 1988 [2 ♀, BMNH]. Vaucluse: Near Bédoin, 1.VIII 1981 (M. W. R. de V. Graham) [1 ♀, BMNH]. Mt. Ventoux (P. du Merle): V 1978 [1 ♀, BMNH]; VII 1978 [1 ♀, BMNH]. **Germany:** North Rhine-Westphalia: Imbach (near Opladen), 1.XI 1962 (M. Boness) (from a polypore fungus) [7 ♂, NHMW]. Leverkusen, 16.II 1964 (M. Boness) (from a polypore fungus) [6 ♂, NHMW]. **Greece:** Central Macedonia, Lake Kerkini, Ecotourism site, 41°08'15.6''N 23°13'01.2''E, 65 m (G. Ramel): 9-15.V 2006 [1 ♀, UCRC]; 6-12.VI 2006 [1 ♀, UCRC]. **Hungary:** Vas, Köszeg, 20-22.IX 2002 (S. V. Triapitsyn, C. Thuróczy) [1 ♀, UCRC]. **Italy:** Campania, Napoli Prov., Portici, Parco Gussone: 18.III 1968 (G. Viggiani), in fallen leaves [1 ♀, 1 ♂, DEZA]; 11.IX 1968 (G. Viggiani) [1 ♀, DEZA]; 3.X 1968 (G. Viggiani), in fallen leaves [3 ♀, DEZA]; 14.X 1968 (G. Viggiani) [1 ♀, DEZA]; 4.XII 1970 (G. Viggiani) [4 ♀, 3 ♂, DEZA]; 3-4.VI 2003 (J. Munro, A. Owen, J. D. Pinto) [4 ♀, UCRC] (those collected by G. Viggiani determined by him as *C. aula*). Lazio, Roma Prov., Castelporziano Presidential Estate, Ponte Guidoni, 41°45.415'N 12°23.851'E, 80 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [6 ♀, 4 ♂, UCRC]. **Netherlands:** Limburg, Valkenburg, St. Ignatius Jesuit College (Ignatiuskolleg), VI 1932 (W. Soyka) (on window) [1 female, NHMW], labeled as a "Para-Type" and invalidly designated as a "Lectotype" by Soyka (1961). **Russia:** Dagestan, Botlikh, 9.IX 2003 (V. V. Kostjukov) [1 ♀, UCRC]. Moskovskaya oblast': Noginskiy rayon, Fryazevo (M. E. Tretiakov): 25.VII 2000 [1 ♀, UCRC]; 20.VII 2001 [1 ♀, UCRC]; 25.VII 2002 [1 ♀, UCRC]. Pushkinskiy rayon, Pushkino, Mamontovka, 10-20.VII 2000 (E. Ya. Shuvakhina) [1 ♀, UCRC]. **Slovakia:** Bratislava: Jurský Šúr Nature Reserve, 48°14'03''N 17°12'47''E, 133 m, 8.VIII 2008 (B. V. Brown) (alder forest) [1 ♂, UCRC]. Malacky District, Jakubov, 48°24'51''N 16°55'28''E, 147 m, 6-8.VII 2008 [1 ♀, UCRC]. **UK:** England: Dorset Co., Bournemouth, 8.X 1981 (S. G. C. Brown) [1 ♀, BMNH]. Essex Co., Epping Forest, High Beach (C. J. C. Pool): 10.VII 1916 [1 ♂, BMNH]; 22.VII 1916 [1 ♀, BMNH]. Herefordshire Co., Ross-on-Wye, 15-22.IX 1979 (R. S. George) [1 ♀, BMNH]. "Wythern Wds [Woods]", 6.VII 1959 (W. D. Hincks) [1 ♀, MMUE]. No data (F. Enock's slide # 1355) [1 ♀, MMUE] (identified by F. Enock as *Camptoptera* "NEW 3 *longipennis*" [his manuscript name]).

EXTRALIMITAL RECORDS. **Canada:** Manitoba, Aweme (R. M. White) ("Bred from Aspen fungus"): 3.VII 1924 [6 ♀, MLPA]; 4.VII 1924 [3 ♀, MLPA]. **USA:** Illinois, "N. Ill. R.C. Groves – ex fungi #15" [7 ♀, USNM] (anonymously misidentified as *C. pulla* Girault, 1909).

REDESCRIPTION. FEMALE (examined types listed above and non-type specimens from Europe). Body length of dry-mounted, critical point-dried specimens 365-660 µm, of slide-mounted specimens 395-584 µm. Head, mesosoma and petiole dark brown, gaster brown; antenna light brown to brown except pedicel often pale; legs pale or light brown except metacoxa brownish.

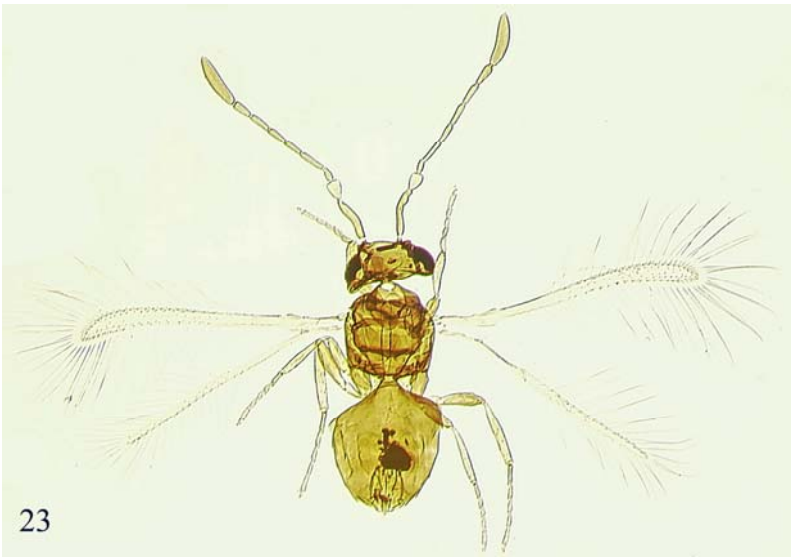


Fig. 23. *Camptoptera cardui*, female, habitus (High Beach, Epping Forest, Essex Co., England, UK).

Head (Fig. 18) slightly narrower than mesosoma; face smooth, vertex and occiput faintly striate. Antenna (Figs 11, 15, 17) with scape minus short radicle a little curved in dorsal view, 7.5-9.0× as long as wide in lateral view and longer than any flagellar segment; pedicel longer than F1; funicle 7-segmented, F1 the shortest funicle segment except for F2 (ringlike), F3 the longest (ratio of F3 length to F1 length 2.0-2.3:1, and ratio of F3 length to F4 length 1.4-1.6:1), following funicle segments subequal in length (F4 sometimes slightly shorter than F5) except F7 (the widest funicle segment) slightly shorter; clava with 4 mps, a little longer than combined length of F6 and F7 (usually as long as the combined length of about a half of F5 plus F6-F7).

Mesosoma (Figs 11, 15, 17) 1.6-1.7× as long as wide. Midlobe of mesoscutum faintly retuculate, with sculpture cells large and visible in well-prepared slide-mounted specimens; frenum of scutellum mostly smooth except with faint sculpture near sides. Propodeum with faint (often almost indistinct), wide apart linear submedian carinae slightly narrowing towards metanotum but not extending to it. Fore wing (Figs 11, 15, 17) 13.5-16.3× as long as wide, narrowing a little just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 1 seta; longest marginal seta 6.3-6.7× maximum wing width; disc with a slight brownish tinge (almost hyaline) and 2 or 3 irregular rows of setae (discal setae sparse). Hind wing (Figs 11, 15, 17) 28-29× as long as wide; disc slightly infumate (almost hyaline), with a row of setae along each margin; longest marginal seta 8.4-9.8× maximum wing width.

Metasoma (Figs 11, 15, 17) at least a little longer than mesosoma, usually markedly longer. Petiole (Figs 11, 17) usually at least a little longer than wide although sometimes wider than long (Fig. 16; particularly notably in one aberrant specimen from Epping Forest, England, Fig. 23), without a lateral lamella. Ovipositor not or slightly exserted beyond apex of gaster, occupying at most 0.45 (usually about 0.33) of its length, 0.6-0.8× length of metatibia.

Measurements (μm) of the lectotype of *Stichothrix cardui*. Body: 467; mesosoma 197; petiole 25; gaster 194; ovipositor 111. Antenna: scape (excluding radicle) 121; pedicel 37; F1 27; F2 3; F3 61; F4 45; F5 45; F6 45; F7 42; clava 106. Fore wing 576:36; longest marginal seta 227. Hind wing 515:18; longest marginal seta 176.

MALE (examined secondary types listed above and non-type specimens from Europe). Body length of dry-mounted, critical point-dried specimens 396-627 μm, of slide-mounted specimens 394-517 μm. Similar to female except for normal sexually dimorphic features and the following. Antenna (Figs 19, 22) with scape 6.0-6.2× as long as wide; F2 and F4 ringlike, all other flagellomeres very long, much longer than pedicel (F5 the longest flagellomere). Fore wing (Figs 13, 22) 14.5-17.5× as long as wide; hind wing (Figs 13, 22) 26-29× as long as wide. Gaster length varies; genitalia (Fig. 20) length 27-45 μm.

DIAGNOSIS. *Camptoptera cardui* is characterized by the combination of its female antenna (Figs 11, 15, 17) with clava usually as long as the combined length of about a half of F5 plus F6-F7, the fore wing with very sparse discal setae in both sexes (Figs 11, 13, 15, 17, 22), and a short ovipositor which is 0.6-0.8× as long as metatibia and occupying no more than 0.45 length of the gaster (usually only about 0.33). It is most similar to *C. zagvozdka* sp. n. from the Russian Far East, which usually has a more densely setose fore wing (Figs 127, 130), particularly in large specimens, and usually the clava of its female antenna is about as long as the combined length of F5-F7. More importantly, the male genitalia of *C. cardui* (Fig. 20) are much smaller (length 27-45 μm) and less sclerotized anteriorly than those of *C. zagvozdka* (Fig. 131) (length 54-66 μm).

Camptoptera cardui is also very similar, and in fact almost identical, to the Nearctic species *C. brunnea* Dozier, 1933, described from a single female specimen (Dozier, 1933). I have borrowed from the USNM the holotype of *C. brunnea* which is on slide (Fig. 24) labeled: 1. "*Camptoptera* ♀ *brunnea* Dozier On Sta. window Newark, Del. Aug. 12, 1929 H. L. Dozier"; 2. [red] "*Camptoptera brunnea* Dozier Type No. 65495 U.S.N.M."; 3. "+ 1 ♀ *Anagrus tretiakovae* S. Triapitsyn Det. S. Triapitsyn viii.2000". The type locality of this species is University of Delaware Agricultural Experiment Station in Newark, Delaware, USA. The holotype (Fig. 25) is in fair condition although rather poorly mounted dorsoventrally without clearing, complete; it is mounted under the same coverslip with a female of *Anagrus tretiakovae* Triapitsyn, 1998 (Mymaridae). *Camptoptera brunnea* has more or less similar proportions of the flagellar segments of the female antenna (Fig. 26) as *C. cardui* although the clava is about as long as the combined length of F5-F7 and the ratio of F3 length to F1 length is 1.5:1; the fore wing is as narrow (14.4× as long as wide) and sparsely setose. The ovipositor is about 0.8× as long as metatibia. Measurements (μm) of the holotype of *C. brunnea* are as follows. Body 376; head 76; mesosoma 130; petiole 18; gaster 173; ovipositor 80. Antenna: scape (including radicle) 91; pedicel 30; F1 24; F2 2; F3 36; F4 27; F5 27; F6 30; F7 30; clava 91. Fore wing 345:24; longest marginal seta 164. Hind wing 303:12; longest marginal seta 106. More good quality specimens of both sexes of the eastern Nearctic *Camptoptera* attributable to this species need to be properly slide-mounted and then examined to decide about a possible conspecificity (or otherwise) of *C. brunnea* and *C. cardui*. The examined females from Aweme, Manitoba, Canada and northern Illinois, USA, however, without any doubt belong to *C. cardui*: they fit in every regard the European specimens of this species.

I have examined two females that are almost identical to the holotype of *C. brunnea*, as follows. **USA**: Illinois, Centralia (county unknown: the town is located within four counties), 25.VIII 1909 (A. A. Girault) [1 ♀, USNM] (misidentified by A. A. Girault as *C. pulla*; according to Girault (1910, p. 238), all specimens identified by him as such were captured "on the panes of a small window in an unused pig-shed on a farm"). Texas, Brazos Co., College Station, Lick Creek Park, 31.V 1988 (R. Wharton) [1 ♀, UCRC]. Furthermore, I have examined several other, apparently undescribed, species of the *cardui* species group [=

former genus *Stichothrix*, members of which have an elongate body (particularly a long gaster), characteristic fore wing and female antenna, and petiole without a lateral lamella]: one from Pennsylvania (USA), one from Texas (USA), and two from New Zealand (material in UCRC). One of the latter species was illustrated by Noyes & Valentine (1989, p. 72, figs. 57, 58) as *Camptoptera* sp. *Camptoptera angustipennis* Ogloblin, 1947 from Argentina (Ogloblin, 1947), of which I examined the holotype male [MLPA] on slide labeled 1. "*Camptoptera angustipennis* A. Ogl. ♂ 1947. Act. Zool. Lill. IV: 504. Loreto, Misiones 30.XI.1936, A. O. Holotipo!" and 2. "3894/1", also belongs to the *cardui* species group.

DISTRIBUTION. Austria* (Soyka, 1953 [as *Stichothrix pechlaneri*]), Belgium* (Debauche, 1948 [as *C. aula*], Bulgaria* (Donev, 1985b [as *C. lapponica*, without referring to any specimens]), Czech Republic*, Finland* (Koponen, 2009 [as *C. aula*]), France*, Germany, Greece*, Hungary*, Italy* (Viggiani & Jesu, 1988 [as *C. aula*]), Netherlands (Soyka, 1953; Triapitsyn & Moraal, 2008 [as *C. aula*]), Russia* (Vikberg & Martikainen, 2011 [as *C. foersteri*]), Serbia* (Donev, 1985b [as *C. lapponica*]), Slovakia*, Sweden* (Heqvist, 1954 [as *C. lapponica*]), and UK* (England) (Kryger, 1950 [as *C. tarsalis*]; Huber, 2011 [as *C. foersteri*]). Nearctic region*: Canada*, and USA*.

HOSTS. Huber (2011) mentioned 20 specimens of *C. foersteri* in CNCI collected in an apparent association with *Cis* sp., probably *C. boleti* (Scopoli, 1763) (Coleoptera: Ciidae), although without providing any locality data. Earlier, Kryger (1950) indicated some male specimens reared from a *Boletus* sp. mashroom infested with *Cis micans* (Fabricius, 1792) in Godalming, Surrey Co., England. An apparently common parasitoid of Ciidae eggs in bracket (Triapitsyn & Moraal, 2008 [as *C. aula*]; Vikberg & Martikainen, 2011 [as *C. foersteri*]) and other fungi.

COMMENTS. The holotype of *Stichothrix stammeri* is just a small individual (body length 0.395 mm), and the type specimens of *S. pechlaneri* are large individuals (body length of the females 0.547-0.578 mm) of this common and widespread western Palaearctic species, *C. cardui*.

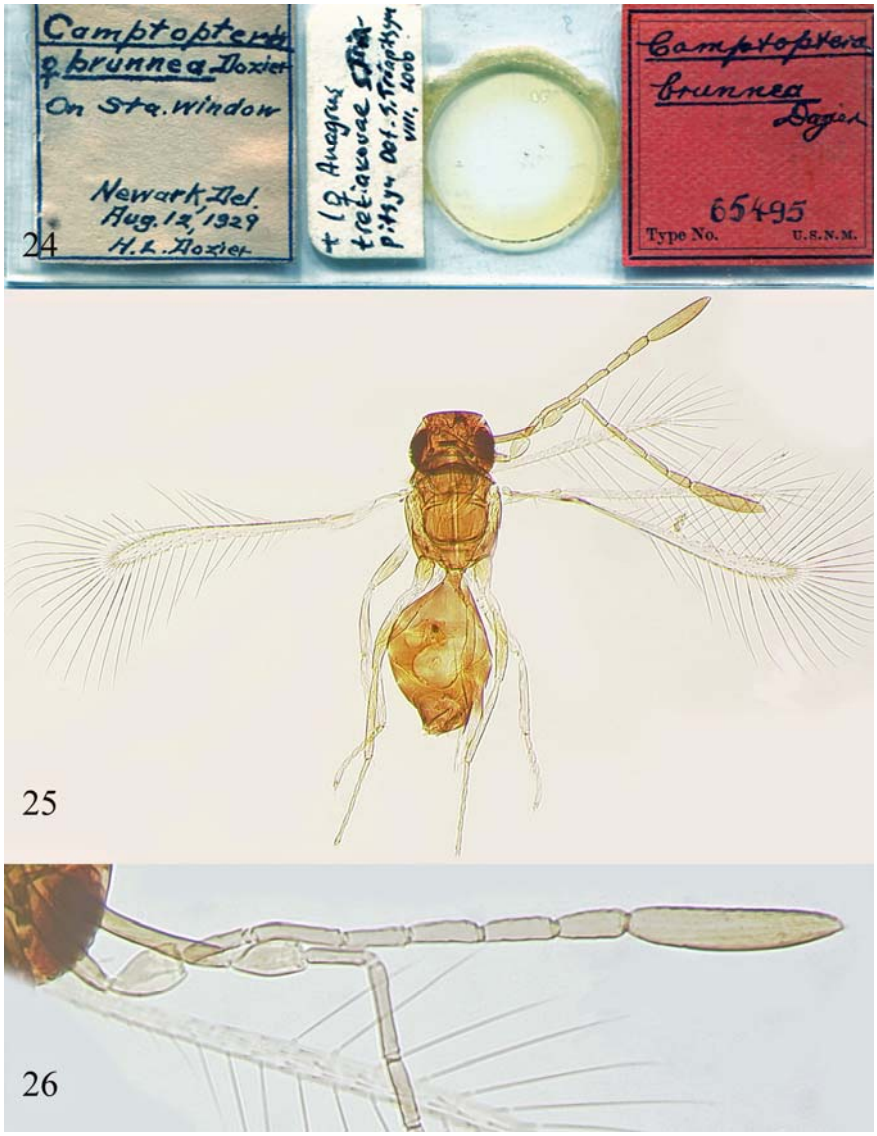
The original description of *C. lapponica* (Heqvist, 1954) leaves no doubt about its conspecificity with *C. cardui*, hence the synonymy. The holotype and paratype females of this species should be in the collection of the Forestry Research Institute of Sweden but my request for a loan was forwarded from them through the Swedish University of Agricultural Sciences in Uppsala to the the Swedish Museum of Natural History in Stockholm, where they neither could be found; nor they are present in BMNH where the K.-J. Heqvist (Hedqvist) collection has been sold to recently (H. Vårdal, personal communication).

***Camptoptera doptera* Triapitsyn, sp. n.**
Figs 27–31

TYPE MATERIAL. Holotype female [UCRC] on slide (Fig. 27): **Italy:** Lazio, Roma Prov., Caldara di Manziana, 42°05.607'N 12°05.906'E, 305 m, 10.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto), YPT, *Quercus* forest edge, pasture, UCR PEET 03-101P (UCRC ENT 315237).

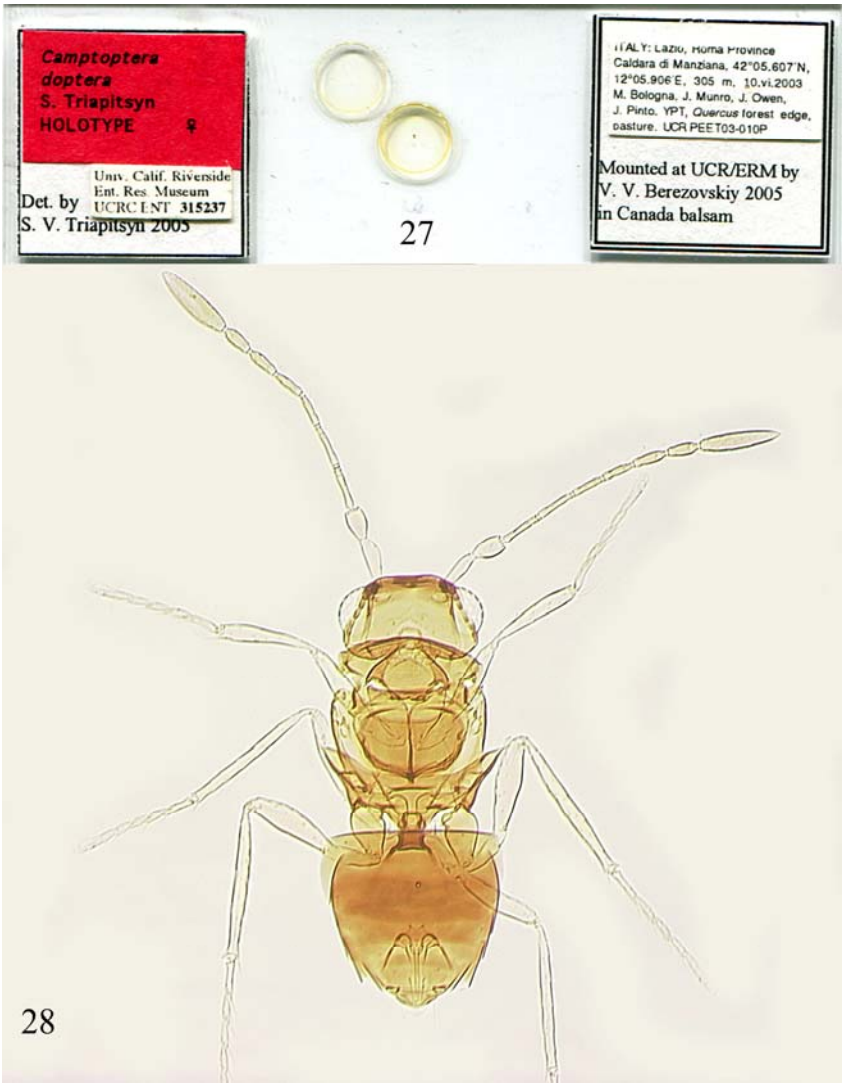
DESCRIPTION. FEMALE**.** Body brown to dark brown; scape and pedicel light brown, flagellum brown; legs light brown.

Head a little narrower than mesosoma; face smooth, vertex and occiput striate. Antenna (Fig. 29) with scape (including radicle) 3.7× as long as wide and smooth; pedicel a little shorter than F1; funicle 7-segmented (F2 ringlike), F1 slightly shorter than F3 (the longest funicle segment) and a little longer than F4, following funicle segments subequal in length, F6 and F7 the widest funicle segments; clava 4.2× as long as wide, with 2 visible mps, shorter than combined length of F5-F7.



Figs 24–26. *Camptoptera brunnea*, female (holotype). 24 – slide, 25 – habitus, 26 – antenna.

Mesosoma (Figs 28, 30) 1.25× as long as wide. Pronotum not visible in dorsal view. Midlobe of mesoscutum transversely striate, and its side lobes mostly longitudinally striate; frenum of scutellum longitudinally striate (Fig. 30). Propodeum with faint linear submedian carinae notably narrowing towards metanotum and not extending to it. Fore wing (Fig. 31) 13.7× as long as wide, narrowing a little just beyond venation and then gradually broadening



Figs 27, 28. *Camptoptera doptera* sp. n., female (holotype). 27 – slide, 28 – habitus (without wings).

and curving towards wing's apex; marginal vein with 2 setae; disc with a slight brownish tinge and 1 row of setae besides admarginal rows. Hind wing (Fig. 31) 30× as long as wide; disc slightly infumate, with 1 incomplete row of setae besides incomplete admarginal rows; longest marginal seta 8.6× maximum wing width.

Metasoma (Fig. 28) about as long as mesosoma. Petiole (Fig. 30) about as long as wide, with a lateral lamella close to its base. Ovipositor not exserted beyond apex of gaster, occupying about 0.4 of its length, and 0.45× length of metatibia.

Figs 29–31. *Camptoptera doptera* sp. n., female (holotype). 29 – antenna, 30 – mesosoma (part) and petiole, 31 – a pair of wings.

Measurements (μm) of the holotype. Body 397; head 76; mesosoma 179; petiole 18; gaster 163; ovipositor 64. Antenna: scape plus radicle 45; pedicel 30; F1 36; F2 1.5; F3 39; F4 30; F5 28; F6 28; F7 27; clava 77. Fore wing 412:30. Hind wing 390:13; longest marginal seta 112.

MALE. Unknown.

DIAGNOSIS. *Camptoptera doptera* is characterized by the unique combination of short flagellar segments of the female antenna, midlobe of mesoscutum transversely striate, frenum of the scutellum longitudinally striate, and faint linear submedian carinae notably narrowing towards metanotum and not extending to it.

ETYMOLOGY. The species name is a noun in apposition without any meaning.

HOSTS. Unknown.

***Camptoptera franciscae* (Debauche, 1948)**
Figs 32–38

Sphegilla franciscae Debauche, 1948: 63–65, planche VII (illustrations). Type locality: Egenhoven (as Eegenhoven in the original description), Leuven, Flemish Brabant, Belgium.

Sphegilla franciscae Debauche: Mathot, 1969: 2 (synonymy); Taguchi, 1971: 54 (key); Trjapitzin, 1978: 527 (short diagnosis, distribution).

Sphegilla japonica Taguchi, 1971: 52–53, 54 (key). Holotype female (not examined), lost from ZLMU according to Kenzou Yamagishi (personal communication). Type locality: Mt. Sanage, Aichi Prefecture, Honshu Island, Japan. **Syn. n.**

Camptoptera franciscae (Debauche): Yoshimoto, 1990: 32–33 (type information, discussion); Donev, 1999: 55 (record from Bulgaria); Huber & Lin, 1999: 28 (discussion), 30 (list).

Camptoptera japonica (Taguchi): Huber & Lin, 1999: 28 (discussion), 30 (list); Guo *et al.*, 2011: 408 (key), 409–410 (diagnosis; illustrations, in part: the wings likely of *C. magna* Soyka, 1946), 413 (list of specimens examined in English).

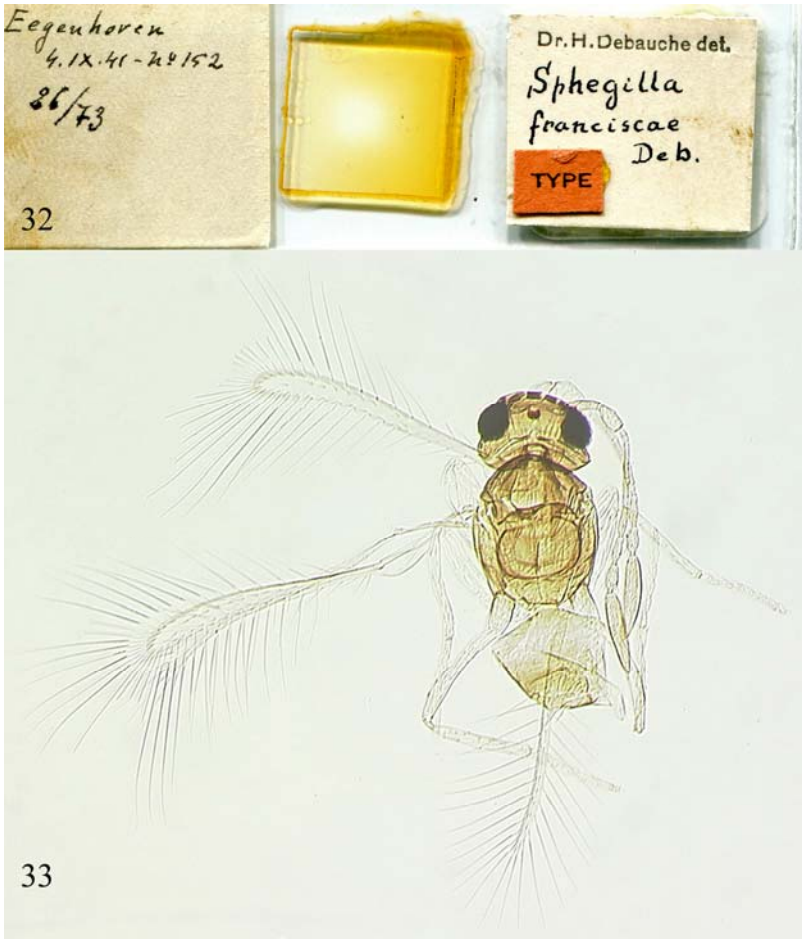
TYPE MATERIAL EXAMINED. Holotype female of *Sphegilla franciscae* Debauche [ISNB] on slide (Fig. 32) labeled: 1. "Dr. H. Debauche det. *Sphegilla franciscae* Deb. TYPE [red]"; 2. "Eegenhoven 4.IX.41 – no152 26/73". The holotype (Fig. 33) is poorly mounted dorsoventrally, insufficiently cleared, complete. According to the original description, the holotype specimen was collected on *Glechoma hederacea* in a very humid *Picea abies* (European spruce) plantation. ?Paratype: 1 ♀ [ISNB] on slide labeled: 1. "Université de Louvain LAB. ENTOMOLOGIE Tervueren 28.VIII.44 No267"; 2. "Dr. H. DEBAUCHE det. *Sphegilla franciscae* Deb. ♀ Para-type [red]". According to the footnote to the original description, this additional specimen, which was not formally designated as a paratype but could be regarded as one, was collected in a larch plantation.

MATERIAL EXAMINED. ?**Austria:** 1 ♀ [NHMW] on slide labeled: 1. [in pencil] "Sn 39 Hym coll. Janet-schek"; 2. [W. Soyka's slide number] "1003"; 3. "*Camptoptera janetscheki* [manuscript name] Soyka ♀ Type"; 4. [red] "Type" [the collector was H. Janetschek from Innsbruck, Tyrol, Austria, who also collected, using Berlese funnels, the type series of *Cleruchus janetscheki* Novicky, 1965 (Mymaridae) in Vorarlberg, Austria (Novicky, 1965)]. **China:** Xinjiang, Wusu, 44°27'N 84°37'E, 14.VII 2001 (H.-y. Hu) [1 ♀, ICXU] (labeled as "*C. japonica* Taguchi"). **Russia:** Moskovskaya oblast', Noginskiy rayon, Fryazevo, 25.VI-2.VII 2000 (M. E. Tretiakov) [1 ♀, UCRC].

REDESCRIPTION. FEMALE (holotype and ?paratype of *Sphegilla franciscae*, and non-type specimens). Body length 307-415 μm. Head and mesosoma brown, metasoma and appendages yellowish to light brown (slide-mounted specimens).

Head (Fig. 36) with faint transversely striate sculpture, more conspicuous on vertex; face almost smooth. Antenna (Figs 33, 34, 36) with scape 3.0-3.3× as long as wide (radicle fused with the rest of scape); pedicel notably longer than F1; funicle apparently 6-segmented (no ring segment clearly visible although it may be present in the well-cleared and nicely mounted female from Russia), F1 the shortest funicle segment, F2 a little yet clearly longer than following funicle segments which are subequal in length, F6 the widest funicle segment; clava with 2 mps, 4.3-5.0× as long as wide, slightly shorter than or about as long as combined length of F4-F6.

Mesosoma (Figs 33–35, 37). Mesoscutum transversely striate, axilla and frenum of scutellum longitudinally striate. Propodeum (Figs 35, 37) with faint, linear submedian carinae strongly widening towards metanotum and almost extending to it. Fore wing (Fig. 38)



Figs 32, 33. *Camptoptera franciscae*, female (holotype). 32 – slide, 33 – habitus.

11.4-11.6× as long as wide, notably narrowing just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 1 apical seta; longest marginal seta 5.3-5.9× maximum wing width; disc with a slight brownish tinge and an irregular row of setae. Hind wing (Fig. 38) narrow, 29-34× as long as wide; disc slightly infumate, with 1 row of setae; longest marginal seta 10-11× maximum wing width.

Metasoma (Figs 33, 34, 37) almost as long as mesosoma. Petiole about as wide as long, visible (although not entirely) in the ?paratype and clearly visible in well-mounted non-type specimen from Russia (Fig. 37), without a lateral lamella. Ovipositor occupying a little less than 0.5 length of gaster, not exserted, about 0.6× length of metatibia.

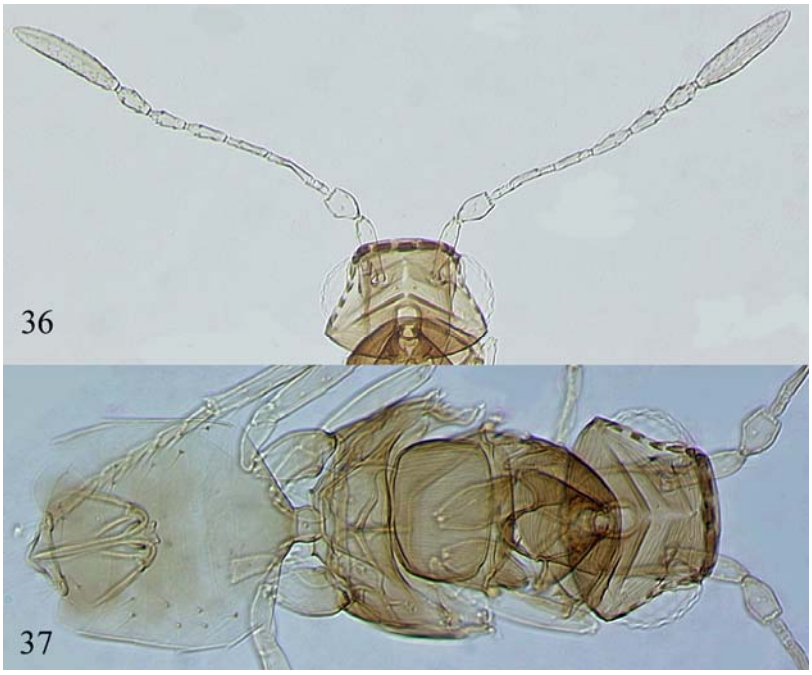
Measurements of the holotype of *Sphegilla franciscae* (μm). Body 320; head 64; mesosoma 152; gaster (partially folded) 109; ovipositor 66. Antenna: scape (including radicle) 45; pedicel 27 (30); F1 12; F2 33; F3 27; F4 27; F5 27; F6 27; clava 83. Fore wing 342:30; longest marginal seta 176. Hind wing 336:10; longest marginal seta 106.

Figs 34, 35. *Camptoptera franciscae*, female (?paratype). 34 – habitus (part), 35 – mesosoma and petiole.

MALE. Unknown.

DIAGNOSIS. *Camptoptera franciscae* is recognized by the combination of female antenna (Figs 33, 34, 36) with funicle apparently 6-segmented, F1 much shorter than F2-F6, and F2 being the longest funicle segment. It is extremely similar to *C. brevicornis*, from which it differs only by the relatively longer F2, as indicated in the diagnosis of the latter, assuming that in both species the female funicle is 6-segmented (or not counting a ringlike segment when it is apparently present).

Camptoptera franciscae is also very similar, including sculpture on the mesoscutum and scutellum, and the petiole lacking a lateral lamella, to the extralimital (Neotropical) species *C. minutissima* Dozier, 1932, described from a single female specimen (Dozier, 1932). I have



Figs 36, 37. *Camptoptera franciscae*, female (Fryazevo, Moskovskaya oblast', Russia). 36 – head and antennae, 37 – body.

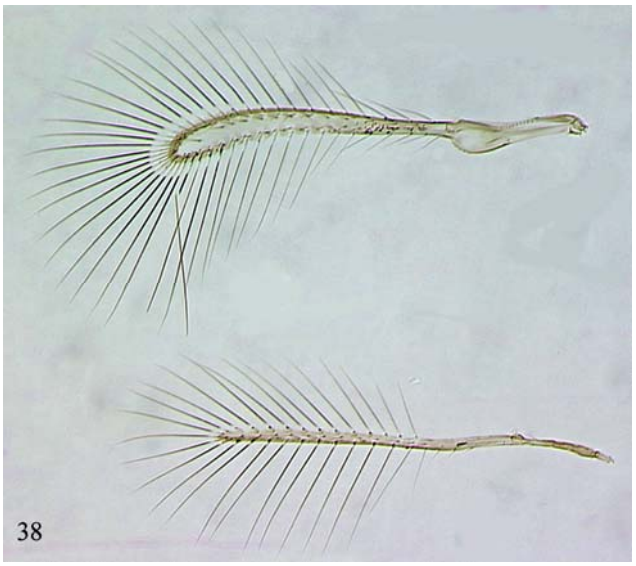
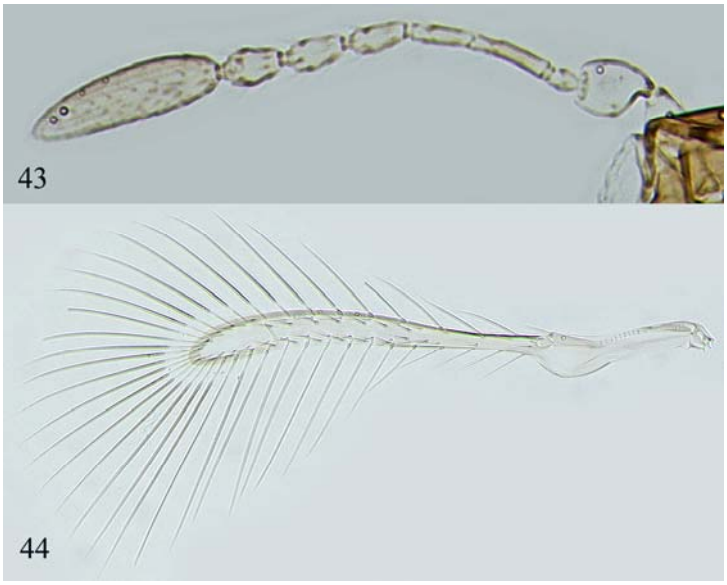


Fig. 38. *Camptoptera franciscae*, female, a pair of wings (Fryazevo, Moskovskaya oblast', Russia).

Figs 39, 40. *Camptoptera minutissima*, female (holotype). 39 – slide, 40 – habitus.

borrowed from the USNM the holotype of *C. minutissima* which is on slide (Fig. 39) labeled: 1. "*Camptoptera minutissima* Dozier Reared from avo-cado foliage infested with eggs of *Empoasca minuenda* Ball. Petionville, Haiti Dec. 16-1930 H. L. Dozier"; 2. [red] "*Camptoptera minutissima* Dozier Type No. 65496 U.S.N.M.". The type locality of this species is Pétionville (or Pétion-Ville), Haiti. The holotype (Fig. 40) is in fair condition, mounted dorsoventrally, lacking F3-F6 and clava of one antenna. *Camptoptera minutissima* has more or less similar proportions of the flagellar segments of the female antenna as *C. franciscae* (a ringlike segment is also apparently lacking), particularly F2 is also notably longer than F3 (Fig. 41); however, the fore wing (Fig. 42) is relatively narrower in the former (14.1× as long as wide) than in the latter species (at most 11.6× as long as wide).

Figs 41, 42. *Camptoptera minutissima*, female (holotype). 41 – antenna, 42 – a pair of wings.



Figs 43, 44. *Camptoptera* sp. near *minutissima*, female (Southampton Parish, Bermuda). 43 – antenna, 44 – fore wing.

Measurements (μm) of the holotype of *C. minutissima* are as follows. Body 290; head 67; mesosoma 127; petiole 12; gaster 94; ovipositor 61. Antenna: scape (including radicle) 39; pedicel 24; F1 12; F2 31; F3 21; F4 21; F5 21; F6 23; clava 73. Fore wing 297:21; longest marginal seta 139. Hind wing 288:9; longest marginal seta 100.

I have also examined a series of specimens (**Bermuda**: Southampton Parish, 4 Munro Lane, 16-24.X 2001 (J. Munro) [7 ♀, UCRC]) which can be attributable to either *C. franciscae* or *C. minutissima* (although probably more likely to the latter): their body size (of the dry-mounted, critical point-dried specimens) is 0.248-0.264 mm, the antenna (Fig. 43) has F2 clearly longer than F3, and the fore wing (Fig. 44) is 12-13× as long as wide. That makes separation of the three aforementioned described species of the *minutissima* species group [= the former genus *Sphegilla*, but see discussion in Huber & Lin (1999)], some members of which have an apparently 6-segmented funicle of the female antenna thus lacking the second, ringlike segment, a very short F1 of the female antenna, a characteristic fore wing (Figs 8, 38, 42, 44) with one (distal) seta on the marginal vein, and petiole without a lateral lamella, even more problematic. Unfortunately males of the members of this species group are unknown; otherwise, females are very similar in many respects, as noted by Huber & Lin (1999), to those of the subgenus *C.* (*Zemicamptoptera*) but in the known specimens of the latter a ringlike F2 is present and well visible in slide-mounted specimens.

DISTRIBUTION. ?Austria*, Belgium, Bulgaria (Donev, 1999), China* (Guo *et al.*, 2011 [as *C. japonica* Taguchi]), Japan* (Taguchi, 1971 [as *S. japonica*]), and Russia*.

HOSTS. Unknown.

COMMENTS. Debauche (1948) incorrectly described sculpture on the mesoscutum of this species as longitudinally striate: in fact, it is definitely transversely striate in both holotype and ?paratype of his *Sphegilla franciscae* (Figs 33, 35). Thus *Sphegilla japonica*, well described and illustrated by Taguchi (1971), is without any doubt the same species as *C. franciscae*, hence the synonymy.

Huber & Lin (1999) mentioned two unidentified specimens from Switzerland which are very similar to *S. japonica* (and thus they are likely to be *C. franciscae*), and also one unidentified specimen from Poland that differs from *C. franciscae* by the much longer scape. I have not had an opportunity to examine these specimens.

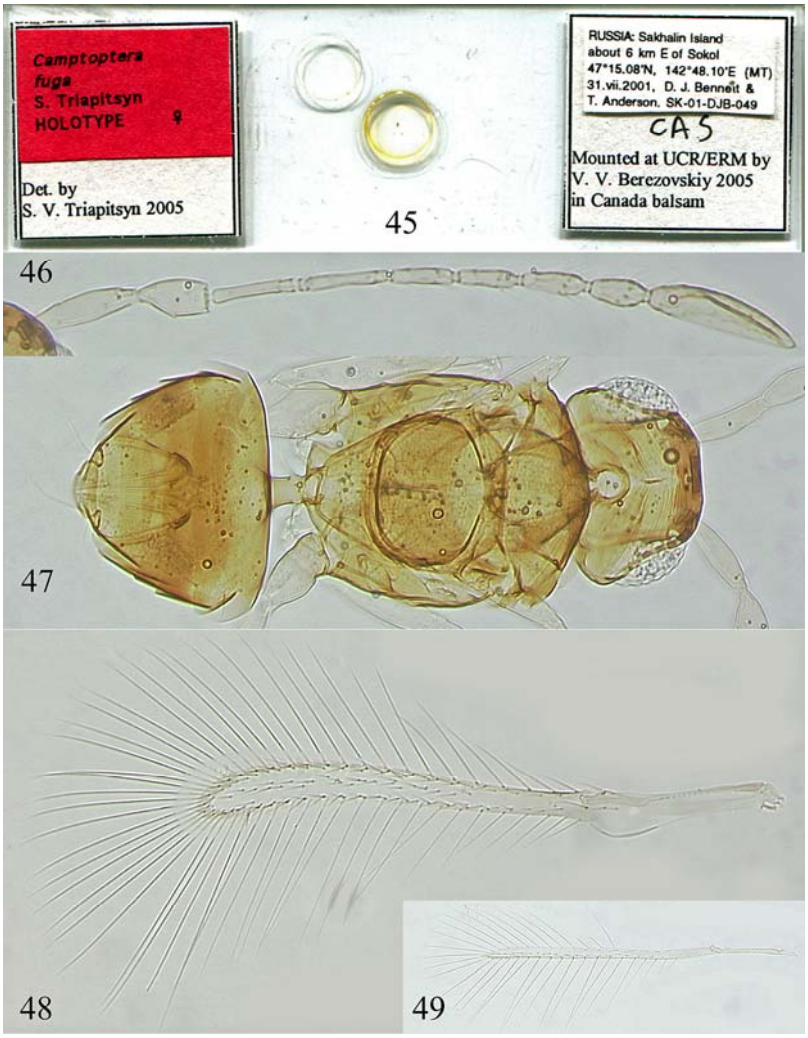
Camptoptera fuga **Triapitsyn, sp. n.**
Figs 45–52

TYPE MATERIAL. Holotype female [CAS] on slide (Fig. 45): **Russia:** Sakhalinskaya oblast', Sakhalin Island, ca. 6 km E of Sokol, 47°15.08'N 142°48.10'E, 31.VII 2001 (D. J. Bennett, T. Anderson), MT, SK-01-DJB-049. Paratypes (all on slides): same locality and collectors as the holotype except collected 12.VIII 2001, MT [1 ♀, UCRC, 3 ♂, CAS (2), UCRC (1)].

DESCRIPTION. FEMALE (holotype and paratype). Body length 388-403 μm. Body brown to dark brown, appendages light brown.

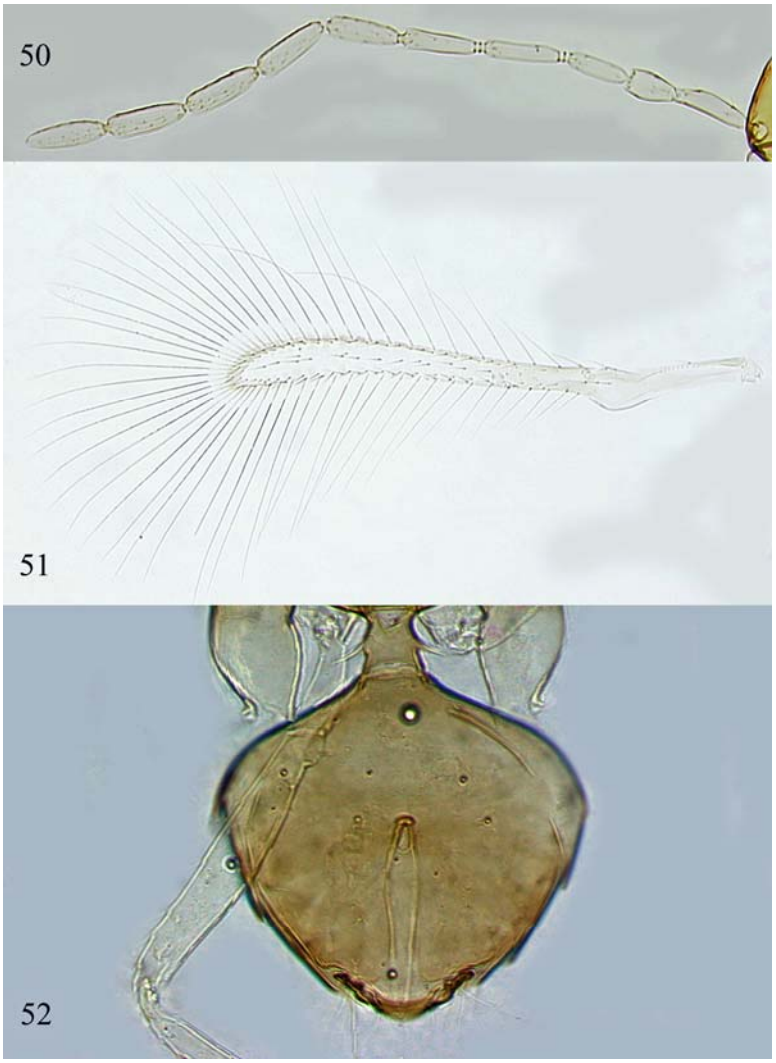
Head a little narrower than mesosoma; face smooth, vertex and occiput striate. Antenna (Fig. 46) with scape (including radicle) 3.6-4.0× as long as wide and longer than any funicle segment; pedicel slightly shorter than F1; funicle 7-segmented (F2 ringlike), F1 as long as F3 (the longest funicle segments), following funicle segments subequal in length, F7 the widest funicle segment; clava 3.0× as long as wide, apparently with 4 mps, shorter than combined length of F5-F7.

Mesosoma (Fig. 47) 1.2× as long as wide. Pronotum not visible in dorsal view. Midlobe of mesoscutum transversely striate, and its side lobes mostly longitudinally striate; frenum of



Figs 45–49. *Camptoptera fuga* sp. n., female (holotype). 45 – slide, 46 – antenna, 47 – body, 48 – fore wing, 49 – hind wing.

scutellum almost smooth (at most faintly, inconspicuously longitudinally striate). Propodeum with fine, wide apart linear submedian carinae slightly widening towards metanotum and extending to it. Fore wing (Fig. 48) 12.7-13.3× as long as wide, narrowing a little just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 1 seta; longest marginal seta 5.3-5.6× maximum wing width; disc with a slight brownish tinge and 2 irregular, incomplete rows of setae besides admarginal rows of setae. Hind wing (Fig. 49) 23.5-24.0× as long as wide; disc slightly infumate, with 1 incomplete row of setae besides admarginal rows of setae (the one along anterior margin incomplete apically); longest marginal seta 6.9-7.3× maximum wing width.



Figs 50–52. *Camptoptera fuga* sp. n., male (paratype). 50 – antenna, 51 – fore wing, 52 – metasoma.

Metasoma (Fig. 47) notably shorter than mesosoma. Petiole longer than wide, with a lateral lamella apparently a little closer to its base. Ovipositor not exserted beyond apex of gaster, occupying from a little more than 0.5 to a little less than 0.7 of its length, and 0.56× length of metatibia.

Measurements (μm) of the holotype. Body 388; head 85; mesosoma 175; petiole 21; gaster 121; ovipositor 70. Antenna: scape plus radicle 60; pedicel 33; F1 36; F2 1; F3 36; F4 28; F5 28; F6 28; F7 27; clava 73. Fore wing 439:33; longest marginal seta 188. Hind wing 424:18; longest marginal seta 124.

MALE (paratypes). Body length 369-378 μm. Similar to female except for normal sexually dimorphic features and the following. Antenna (Fig. 50) with flagellum 10-segmented (F2 and F4 ringlike), scape 4.3× as long as wide. Fore wing (Fig. 51) 11.0-12.0× as long as wide, often with just 1 incomplete, median row of discal setae besides admarginal rows of setae. Genitalia (Fig. 52) elongate (length 61-63 μm).

DIAGNOSIS. *Camptoptera fuga* is characterized by the female antenna (Fig. 46) with F1 and F3 rather short and equal in length, and also by the midlobe of mesoscutum transversely striate and frenum of scutellum almost smooth (at most faintly, inconspicuously longitudinally striate). The male of *C. fuga* differs from that of *C. yamagishii* Taguchi, 1971 from Japan in lacking a line connecting medially the faint, linear submedian carinae on the propodeum and also in having F3 longer than F1 whereas in *C. yamagishii* F3 is as long as F1 (Taguchi, 1971).

ETYMOLOGY. The species name is a noun in apposition without any meaning.

HOSTS. Unknown.

Camptoptera kloptera **Triapitsyn, sp. n.**
Figs 53–59

TYPE MATERIAL. Holotype female [ZIN] on slide (Fig. 53): **Russia:** Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye, IX 1999 (M. V. Michailovskaya), YPT. Paratypes (on slides), same locality and collector as the holotype, YPT: 29-30.VII 1999 [1 ♀, UCRC]; 10-15.IX 1999 [1 ♀, UCRC].

DESCRIPTION. FEMALE (holotype and paratypes). Body length of one paratype 430 μm. Body brown to dark brown; scape and pedicel light brown, flagellum brown; legs light brown.

Head (Fig. 54) slightly narrower than mesosoma. Face and vertex with reticulate sculpture, occiput striate. Antenna (Fig. 55) with scape curved, 5.0-5.3× as long as wide; pedicel longer than any funicle segment; funicle 7-segmented (F2 ringlike), F1 shorter than F3 (the longest funicle segment), following funicle segments subequal in length, F7 the widest funicle segment; clava 2.4-2.6× as long as wide, with 4 mps, a little longer than combined length of F5-F7.

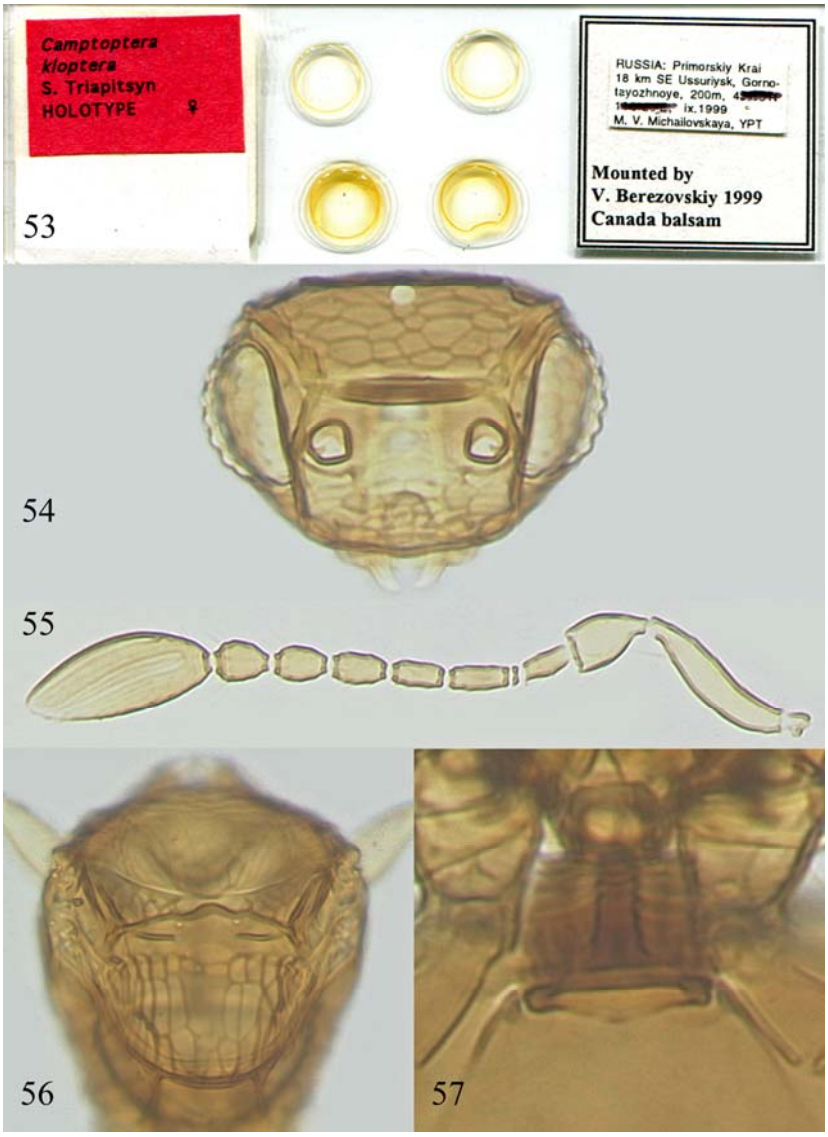
Mesosoma (Fig. 56) 1.3× as long as wide. Pronotum not visible in dorsal view. Mesoscutum and frenum of scutellum retuculate; notauli not evident. Propodeum with distinct, wide apart, straight submedian carinae and with a few spicules between them. Fore wing (Fig. 58) 10.0-10.6× as long as wide, curving slightly towards wing's apex; marginal vein with 2 setae: a short proximal seta and a very long distal seta; longest marginal seta 4.1-4.3× maximum wing width; disc with a slight brownish tinge and 4 rows of setae besides admarginal rows of setae. Hind wing (Fig. 59) 20-22× as long as wide; disc slightly infumate, with 1 row of setae besides admarginal rows of setae (the one along anterior margin incomplete apically); longest marginal seta 7.1-7.4× maximum wing width.

Metasoma longer than mesosoma. Petiole (Fig. 57) peculiar, strongly ridged, a little wider than long, without a lateral lamella. Ovipositor not exserted beyond apex of gaster, occupying about 0.5 of its length, and 0.62-0.73× length of metatibia.

Measurements (μm) of the holotype. Mesosoma 154; petiole 27; gaster 191; ovipositor 91. Antenna: scape plus radicle 76; pedicel 33; F1 18; F2 3; F3 23; F4 18; F5 20; F6 20; F7 20; clava 77. Fore wing 412:39; longest marginal seta 166. Hind wing 394:18; longest marginal seta 133.

MALE. Unknown.

DIAGNOSIS. *Camptoptera kloptera* is characterized by the female antenna (Fig. 55) with very short funicle segments (particularly F1), a reticulate sculpture on the head (Fig. 54), mesoscutum, and frenum of the scutellum (Fig. 56), a rather wide fore wing (Fig. 58)

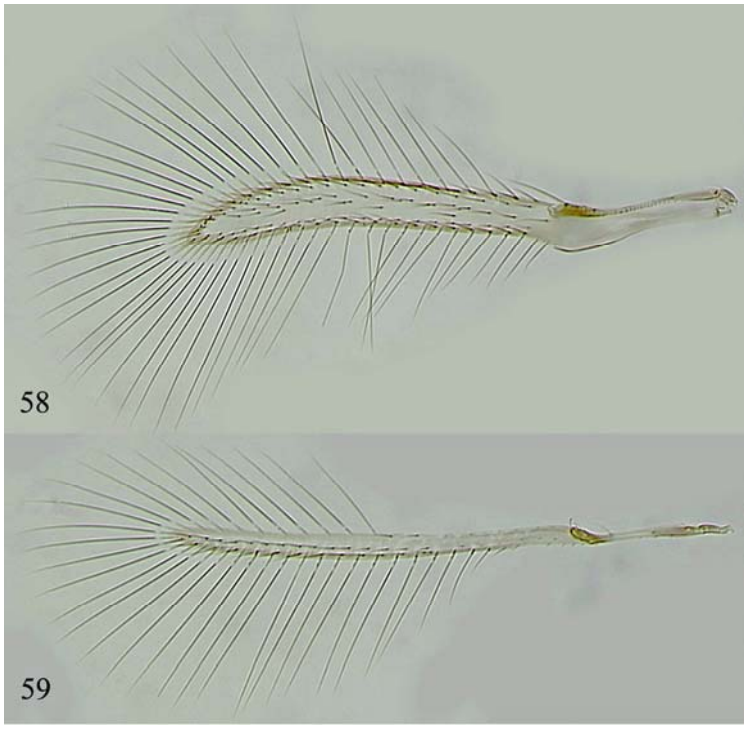


Figs 53–57. *Camptoptera kloptera* sp. n., female (holotype). 53 – slide, 54 – head (frontal view), 55 – antenna, 56 – mesosoma, 57 – petiole.

with 4 rows of setae on the disc besides the admarginal rows, and a peculiar, ridged petiole (Fig. 57). It differs from *C. minorui* Taguchi, 1971 from Japan, which has a reticulate petiole without a lateral lamella, in having a much wider fore wing and also the propodeum without a reticulate sculpture (according to Taguchi (1971), in *C. minorui* the fore wing is about 15.5× as long as wide and the propodeum has a reticulate sculpture).

ETYMOLOGY. The species name is an arbitrary combination of letters treated as a noun in apposition.

HOSTS. Unknown.



Figs 58, 59. *Camptoptera kloptera* sp. n., female (holotype). 58 – fore wing, 59 – hind wing.

***Camptoptera magna* Soyka, 1946**
Figs 60–75

Camptoptera magna Soyka, 1946: 43–44. Type locality: St. Ignatius Jesuit College (Ignatiuskolleg), Valkenburg, Limburg, Netherlands.

Camptoptera strobilicola Heqvist, 1956: 37–39. Holotype female [ZMUN according to the original description] (not examined, not found there along with the allotype male [Vladimir I. Gusarov, personal communication]). Type locality: "on Gammelseterberget", Romedal, Stange, Hedmark, Norway. **Syn. n.**

Camptoptera hundsheimensis Soyka, 1961: 75 (key, as "*hundheimensis*" [sic]; I am acting here as First Reviser and based on the etymology of this species select *hundsheimensis* as the correct original spelling), 78 (as "*hundsheimensis*"). Type locality: Hundsheim, Lower Austria, Austria. **Syn. n.**

Camptoptera kressbachi Soyka, 1961: 74 (key), 80. Type locality: Krössbach, Neustift im Stubaital Municipality, Tyrol, Austria. **Syn. n.**

Camptoptera magna Soyka: Soyka, 1961: 75 (key), 80–81 (diagnosis, type information); Huber & Lin, 1999: 30 (list).

Camptoptera nigrosimilis Soyka, 1961: 74 (key), 81. Type locality: Hundsheim, Lower Austria, Austria. **Syn. n.**

Camptoptera nigra Soyka, 1961: 74 (key), 81–82. Type locality: Krössbach, Neustift im Stubaital Municipality, Tyrol, Austria. **Syn. n.**

Camptoptera signatipennis Soyka, 1961: 74 (key), 85. Type locality: Arzler Alm (ca. 1200 m), Innsbruck, Tyrol, Austria. **Syn. n.**

Camptoptera strobilicola Hedqvist [sic]: Trjapitzin, 1978: 524 (key, distribution); Huber & Lin, 1999: 31 (list).

Camptoptera hundsheimensis Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera kressbachi Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera nigra Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera nigrosimilis Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera signatipennis Soyka: Huber & Lin, 1999: 31 (list).

Camptoptera japonica (Taguchi): Guo *et al.*, 2011: 409–410 (in part, misidentification of the specimen from Keping, Xinjiang, China).

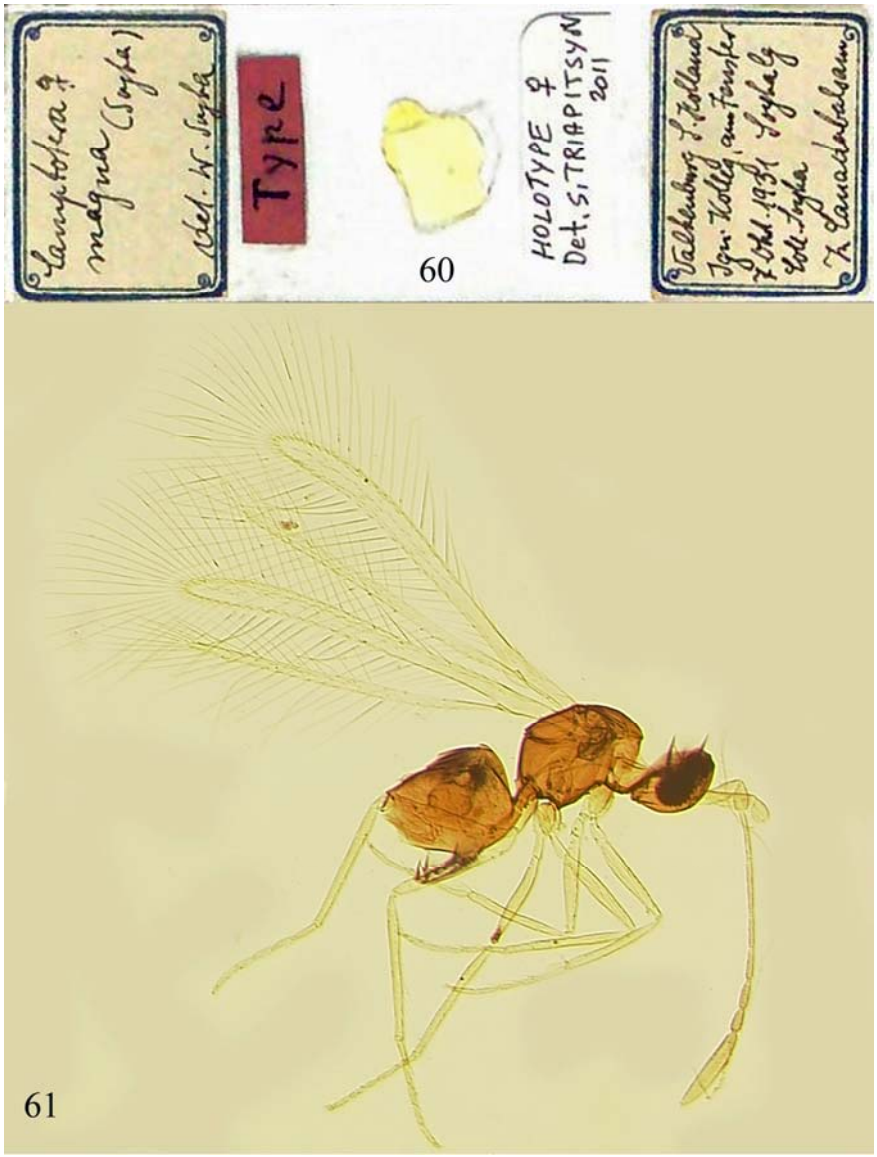
Camptoptera minorignatha Hu & Lin *in* Guo *et al.*, 2011: 409 (key), 410–411, 413 (diagnosis and list of type specimens in English). Type locality: Shihezi (44°55'N 86°07'E), Xinjiang Uyghur Autonomous Region, China. **Syn. n.**

TYPE MATERIAL EXAMINED. *Camptoptera magna* Soyka: Holotype female [NHMW] on slide (Fig. 60) labeled: 1. "*Camptoptera* ♀ *magna* (Soyka) det. W. Soyka", 2. [red] "Type", 3. "Valkenburg S. Holland Ign. Kolleg, am Fenster 7. Okt. 1931 Soyka lg Coll. Soyka In Canadabalsam". The holotype (Fig. 61) is in fair condition, mounted laterally, lacking flagellum of one antenna. This species was described from the single female holotype (Soyka, 1946); later, however, Soyka (1961) mentioned that there was also one male but I found in NHMW one female from the same collection event as the holotype and labeled as a "Co-Type", and also two males from Jettchens Hof (near Malchin), Mecklenburg-Western Pomerania, Germany, labeled one as a "Type" (most likely the specimen mentioned by W. Soyka) and the other as a "Co-Type". None of these, which are listed below under "Material examined", in fact has any type status.

Camptoptera hundsheimensis Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *hundsheimensis* Soyka Type", 2. [red] "Holo-Type", 3. "Hundsheim FG 22. Sept. 1954 lg Soyka Coll. Soyka In Canadab.". The holotype is in fair condition, mounted laterally, complete. The specimen was collected on a window from hay (Soyka, 1961).

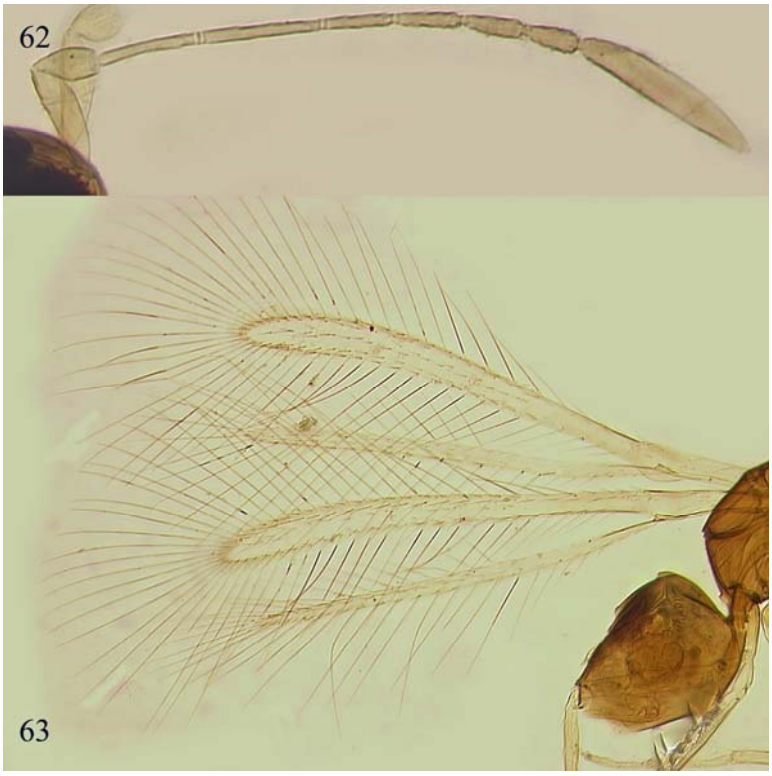
Camptoptera kressbachi Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *kressbachi* (Soyka) Type", 2. [red] "Type", 3. "Krössbach Tirol am Fenster 5.IX.1949 lg Soyka Coll. Soyka In Canadab.". The holotype is in fair condition, mounted semi-laterally/semi-dorsoventrally, complete.

Camptoptera minorignatha Hu & Lin: Holotype female [ICXU; in the original description (Guo *et al.*, 2011), the holotype depository is indicated in the Chinese abstract (p. 408)] on slide labeled: 1. "China: Xinjiang Shihezi [Chinese characters] 150 [Chinese character] Sweeping 12.VII.2001 Hu Hongying"; 2. "*Camptoptera minorgnatha* [sic] Hu et Lin [Chinese characters] Holotype ♀". The holotype is in fair condition, well-cleared, mounted dorsoventrally, lacking one hind wing and flagellum of one antenna; one pair of wings is detached from the body. Note that in the original description in Chinese (p. 411) the correct collection date ("2001-07-12") of the holotype is indicated whereas it is listed as "12 June 2001" in the English abstract (p. 413) (Guo *et al.*, 2011). Paratypes [ICXU]: 1 ♀ on slide labeled: 1. "China: Xinjiang Bohu [Chinese characters] Sweeping 7.VIII.2001 Hu Hongying", 2. "*Camptoptera minorgnatha* [sic] Hu et Lin [Chinese characters] Paratype ♀"; 2 ♂ on



Figs 60, 61. *Camptoptera magna*, female (holotype). 60 – slide, 61 – habitus.

slides labeled identically except one as an allotype and the other as a paratype (on the second label): 1. “China: Xinjiang Wusu [Chinese characters] Sweeping 14.VII.2001 Hu Hongying”, 2. “*Camptoptera minorgnatha* [sic] Hu et Lin [Chinese characters] ♂”. The collection date for these male paratypes was indicated in the original description as 17.VII 2001.



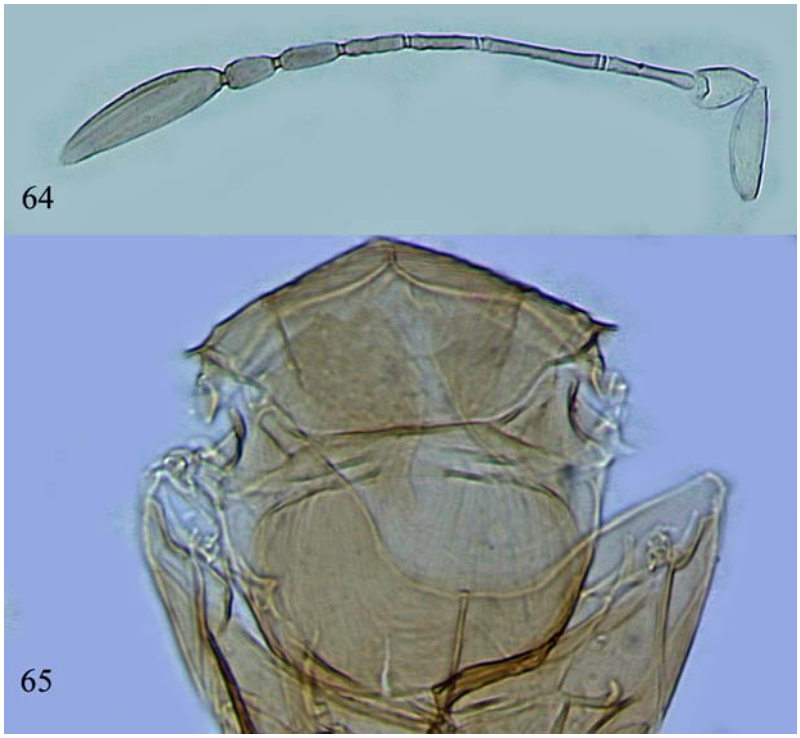
Figs 62, 63. *Camptoptera magna*, female (holotype). 62 – antenna, 63 – wings.

Camptoptera nigra Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *nigra* Soyka Type", 2. [red] "Type", 3. "Krössbach Tirol am Fenster 5. Sept. 1949 lg Soyka Coll. Soyka In Canadab.". The holotype is in fair condition, mounted laterally partially in excess balsam not under the coverslip, complete.

Camptoptera nigrosimilis Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *nigrosimilis* Soyka Type", 2. [red] "Type", 3. "Hundsheim FG 22. Sept. 1954 lg Soyka Coll. Soyka In Canadab.". The holotype is in fair condition, mounted laterally, complete. The specimen was collected on a window (Soyka, 1961), who erroneously indicated its collection date as 27.IX 1954.

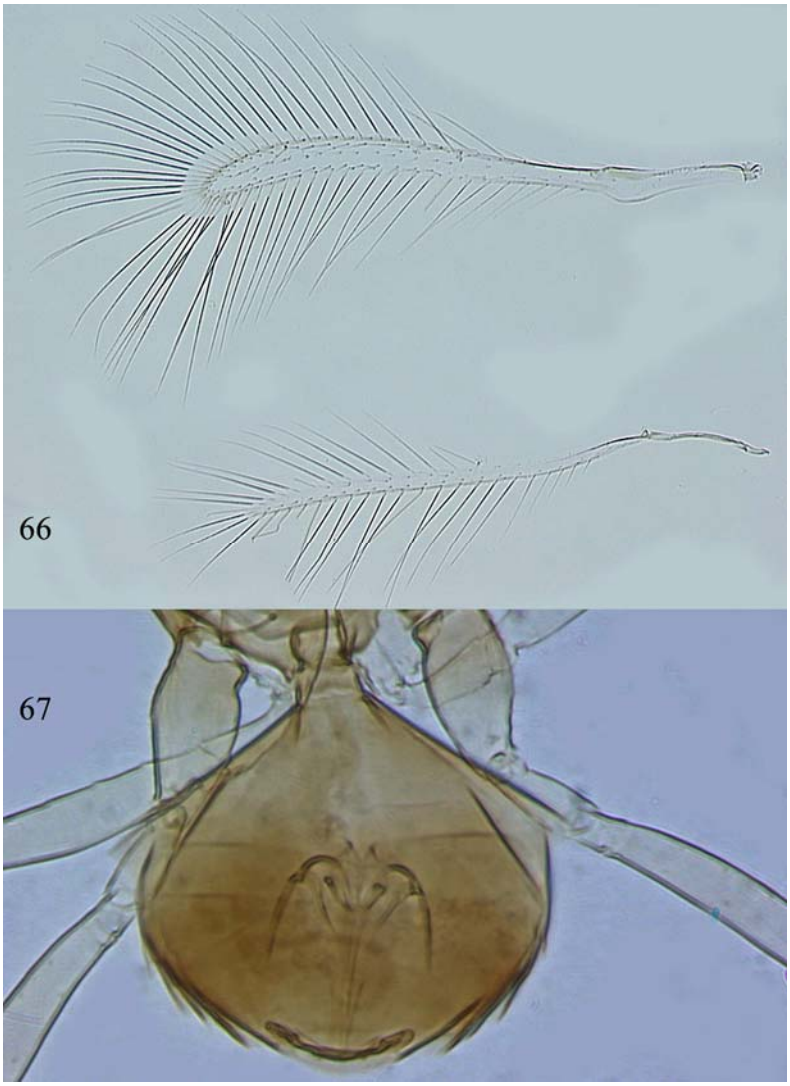
Camptoptera signatipennis Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *signatipennis* Soyka Type", 2. [red] "Type", 3. "Innsbruck Arzler Alm 1200 m lg Pechlaner 12. Sept. 1948 Coll. Soyka In Canadab.". The holotype, collected by sweeping with a net (Soyka, 1961), is in fair condition, mounted laterally, complete.

MATERIAL EXAMINED. **Austria:** Lower Austria, Hundsheim (W. Soyka): 2.X 1941 (on window) [1 ♂, NHMW]; 3.X 1953 (on window) [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. nigrosimilis*; the species was described from the single holotype female, therefore this specimen has no type status); 10.X 1954 (from hay in the garden) [1 ♀, NHMW] (incorrectly labeled by W. Soyka as a "Para-Type" of *C. hundsheimensis* because the latter was described by Soyka (1961) from the single female holotype, thus this



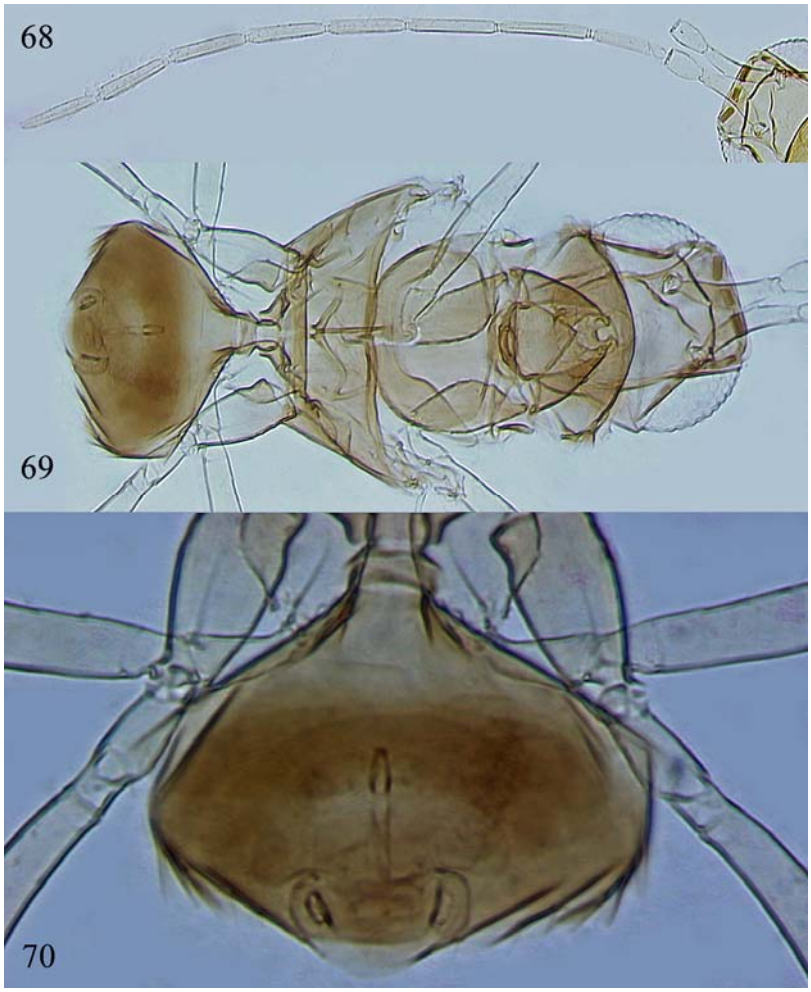
Figs 64, 65. *Camptoptera magna*, female (Romedal, Hedmark, Norway). 64 – antenna, 65 – mesosoma (part).

specimen has no type status); 5.IX 1965 (on window) [1 ♀, NHMW]. Tyrol: Innsbruck, 26.VII 1950 (E. Pechlaner) (on window from hay) [1 ♀, NHMW] (labeled by W. Soyka as a "Type" of *C. lucidiventris* Soyka, which is his unpublished manuscript name). Krössbach (W. Soyka): 25.VII 1945 (on window) [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. kressbachi*; the species was described from the single holotype female, therefore this specimen has no type status); 5.IX 1949 (on window) [1 ♂, NHMW] (erroneously labeled by W. Soyka as a "Type" of *C. kressbachi*; the species was described from the single holotype female, therefore this specimen has no type status); 11.VIII 1953 (on window) [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. signatipennis*; the species was described from the single holotype female, therefore this specimen has no type status); 12.VIII 1954 (on window) [1 ♀, NHMW] (labeled by W. Soyka as a "Type" of *C. annuloparva* Soyka, which is his unpublished manuscript name); 11.VIII 1959 (on window) [1 ♀, NHMW] (misidentified by W. Soyka as a "Typic. Piece" of *C. papaveris* Foerster, 1856); 4.VII 1965 (on window) [1 ♀, NHMW]. **Belgium:** Liège, Wanze, Antheit, Corphalie (R. Detry): 28.VII-11.VIII 1989 [1 ♂, ISNB]; 14-28.IX 1990 [1 ♀, ISNB]. **China:** Xinjiang, Keping, 40°30.340'N 79°03.133'E, 1154 m, 23.VI 2008 (Z.-q. Zhang, J.-w. Guo) [1 ♀, ICXU] (labeled as "*C. japonica* Taguchi"). **Czech Republic:** Central Bohemian Region, Křivoklátsko Protected Lanscape Area, Suchá mýť [forest], 50°01'15.462''N 14°00'01.371''E, 30.vi-12.VII 1994 (J. Macek) [1 ♀, CUPC]. Pardubice,



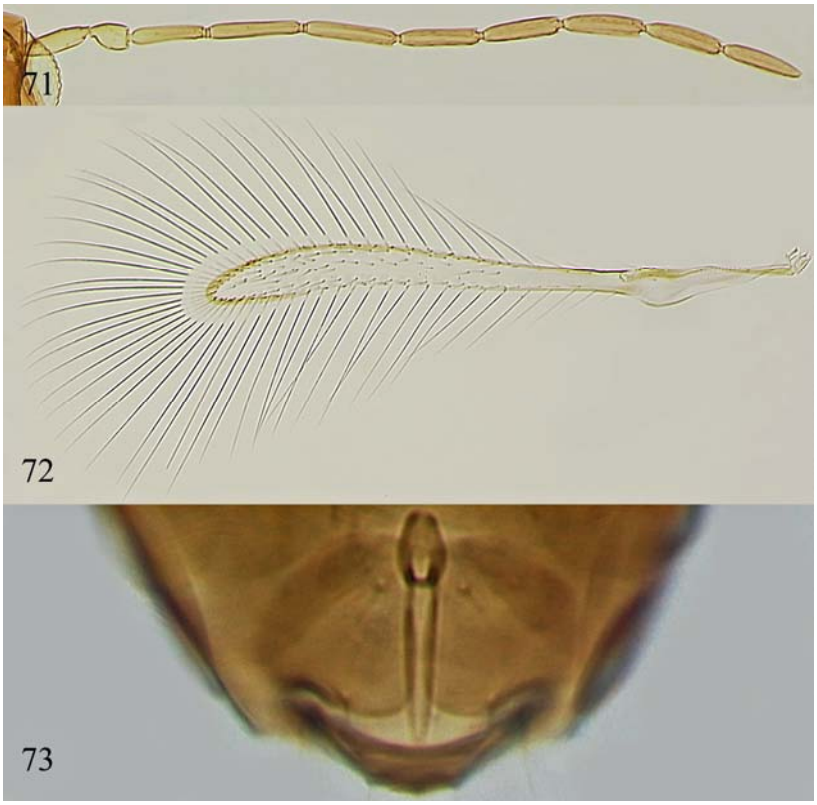
Figs 66, 67. *Camptoptera magna*, female (Romedal, Hedmark, Norway). 66 – a pair of wings, 67 – metasoma.

Železné hory [Mountains] Protected Lanscape Area, Doubrava R., Svatomariánské údolí Nature Reserve, 49°44’49.04’’N 15°40’55.959’’E, 10.VIII 2006 (F. Bárta) [1 ♂, CUPC]. **Denmark:** Hovedstaden, Hillerød, Præstevangen: 14.IX 1924 (O. Bakkendorf) [1 ♂, ZMUC] (identified by O. Bakkendorf as *C. papaveris*); 10.IX 1927 (J. P. Kryger) [1 ♀, ZMUC]. **France:** Gironde, Sainte Colombe, 44°54’N 00°02’W, 17.VIII 2000 (M. van Helden) [1 ♀, UCRC]. **Germany:** Mecklenburg-Western Pomerania, Jettchens Hof (near Malchin) (H.-J. Stammer): VIII 1935 [1 ♂, NHMW] (erroneously labeled by W. Soyka as a



Figs 68–70. *Camptoptera magna*, male (Romedal, Hedmark, Norway). 68 – antenna, 69 – body, 70 – metasoma.

"Co-Type" of *C. magna*, see above); VIII 1936 [1 ♂, NHMW] (erroneously labeled by W. Soyka as a "Type" of *C. magna*, see above). **Greece:** Central Macedonia, Lake Kerkini: Kerkini Marsh, 41°13'32.8''N 23°05'04.2''E, 45 m (G. Ramel): 18-24.IV 2007 [1 ♀, UCRC]; 25.IV-1.V 2007 [2 ♀, UCRC]. Pumping station, 41°12'48.7''N 23°06'11.9''E, 40 m, 2-8.V 2007 (G. Ramel) [1 ♀, UCRC]. **Italy:** Campania: Benevento Prov., Dugenta, 1.VII 1929 (F. Silvestri) [1 ♀, DEZA]. Napoli Prov., Portici, Parco Gussone (oakwood), 3-4.VI 2003 (J. Munro, A. Owen, J. D. Pinto) [1 ♀, UCRC]. Lazio: Roma Prov., Castelporziano Presidential Estate: coastal dunes in N corner, 41°42.150'N 12°21.038'E, 5 m, 11-12.VI 2003 (J. Munro, A. Owen) [2 ♀, UCRC]; Fosso di Trafusina, 41°46.670'N 12°24.751'E, 30 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [4 ♀, 10 ♂, UCRC]; La Focetta, 41°41.474'N



Figs 71–73. *Camptoptera magna*, male (Fryazevo, Moskovskaya oblast', Russia). 71 – antenna, 72 – fore wing, 73 – genitalia.

12°22.633'E, 10 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [1 ♂, UCRC]; Ponte Guidoni, 41°45.415'N 12°23.851'E, 80 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [2 ♀, 1 ♂, UCRC]. Viterbo Prov.: 5.5 km E of Monte Romano, 42°15.284'N 11°57.315'E, 760 m, 9.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [1 ♂, UCRC]. San Giovenale, near Civitella Cesi, 42°13.568'N 12°00.039'E, 225 m, 9.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [1 ♀, UCRC]. **Netherlands:** Limburg: Aalbeck (a small village near Maastricht; Villa Aalbeck was a Jesuit property where Walter Soyka had an opportunity to collect while attending St. Ignatius College in Valkenburg), 24.IX 1929 (on window) [1 ♀, NHMW]. Valkenburg, 7.X 1931 (W. Soyka) (on window, Ignatiuskolleg) [2 ♀, EMEC, NHMW] (the female in NHMW erroneously labeled by W. Soyka as a "Co-Type" of *C. magna*, see above). **Norway:** Hedmark, Stange Municipality, Romedal (A. Bakke): V 1954 [1 ♂, ZMUN]; ?spring of 1954 [11 ♀, 1 ♂, ZMUN] (anonymously identified as *C. strobilicola*). **Russia:** Moscovskaya oblast': Noginskiy rayon, Fryazevo (M. E. Tretiakov): 24.VII 2000 [1 ♂, UCRC]; 25.VII 2000 [1 ♂, UCRC]; 26.VII-14.VIII 2000 [1 ♀, UCRC]; 15-25.VIII 2000 [2 ♂, UCRC, ZIN]; 23.VIII 2000 [2 ♀, UCRC, ZIN]; 25-31.VIII 2000 [1 ♀, UCRC]; 21.VI 2001 [1 ♀, 1 ♂, UCRC]; 20.VII 2001 [1 ♀, UCRC]; 13.VIII 2001 [1 ♀, UCRC]; 24.VIII 2001 [3 ♀, UCRC]; 14.VII 2002 [1 ♀, UCRC];

25.VII 2002 [2 ♀, UCRC]; 1.VIII 2002 [1 ♂, UCRC]. Pushkinskiy rayon, Pushkino, Mamontovka, 20-31.VII 2000 (E. Ya. Shuvakhina) [1 ♂, UCRC]. Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye (M. V. Michailovskaya): 5-11.VIII 1999 [1 ♀, UCRC]; 9-10.VIII 1999 [1 ♀, UCRC]; 15-17.VII 2000 [1 ♂, UCRC]; VIII 2000 [1 ♀, IBPV]; 17-23.VII 2003 [1 ♀, UCRC].

EXTRALIMITAL RECORDS. **USA:** Delaware, New Castle Co., Newark, 8.X 1927 (H. L. Dozier) ("on Expt. Station window") [1 ♀, USNM] (identified by H. L. Dozier as *C. pulla*). Iowa, Story Co., Ames (A. A. Ogloblin) (identified by A. A. Ogloblin as *C. pulla*): 17.X 1943 [1 ♀, MLPA]; 26.X 1943 [5 ♀, MLPA]. Nebraska, Lancaster Co., Lincoln, 6.IX 1962 (C. McCoy) ("*Stomoxys* pupa mat.[erial]") [1 ♀, USNM] (identified by B. D. Burks as *C. pulla*; my identification as *C. magna* is tentative). Texas, Dallas (county unknown), XII 1906 ("in storage room containing bruchid infested beans") [1 ♀, USNM] (identified by A. A. Girault as *C. pulla*).

REDESCRIPTION. FEMALE (holotypes of *C. magna* and its synonyms listed above under "Type material examined", and non-type specimens from Europe). Body length of dry-mounted specimens 330-462 µm, of slide-mounted specimens 400-500 µm. Body (Fig. 61) mostly brown (gaster) to dark brown (head, mesosoma and petiole), appendages mostly pale light brown except antennal flagellum often slightly darker (brownish, but still notably lighter than body).

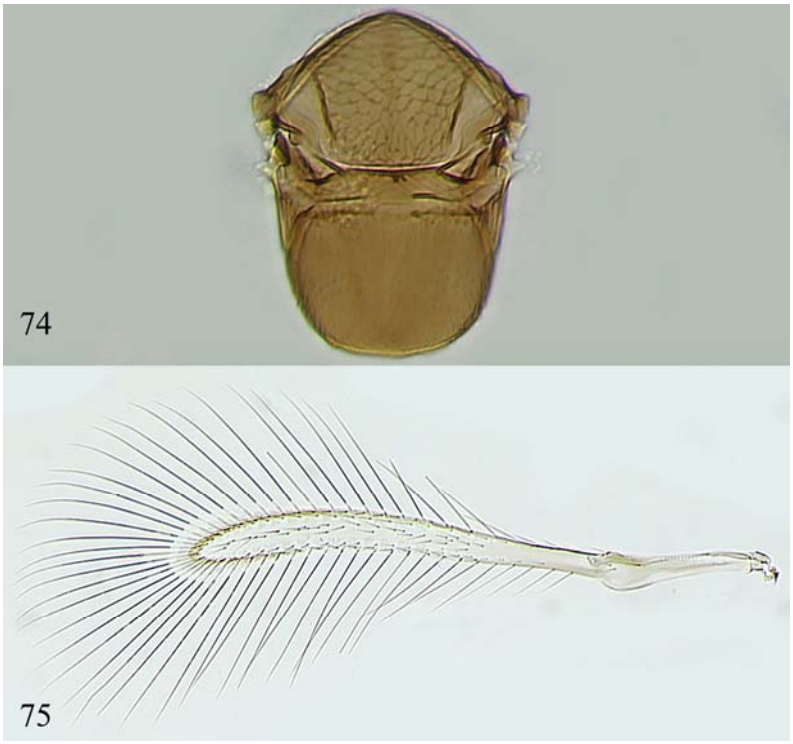
Head a little narrower than mesosoma; face faintly striate, vertex and occiput striate. Antenna (Figs 61, 62, 64) with scape minus short radicle a little curved in dorsal view, 3.2-4.0× as long as wide in lateral view and about as long as F3; pedicel much shorter than F1; funicle 7-segmented (F2 ringlike), F1 at least slightly shorter than F3 (the longest funicle segment) and notably longer than F4, following funicle segments each slightly shorter than preceding one, F7 the widest funicle segment; clava 5.1-5.4× as long as wide, with 4 mps, about as long as (or slightly longer or shorter) than combined length of F5-F7.

Mesosoma (Figs 61, 65) 1.2-1.3× as long as wide. Midlobe of mesoscutum retuculate, with sculpture cells well visible in good quality slide-mounted specimens, and its side lobes mostly longitudinally striate; frenum of scutellum longitudinally striate. Propodeum with faint, wide apart linear submedian carinae slightly widening towards metanotum and extending or almost extending to it. Fore wing (Figs 61, 63, 66) 11.8-14.6× as long as wide (length 530-584 µm), narrowing a little just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 2 setae; longest marginal seta 4.3-5.9× maximum wing width; disc with a slight brownish tinge and 1 to 3 irregular rows of setae. Hind wing (Figs 61, 63, 66) 24-30× as long as wide; disc slightly infumate, with a row of setae along each margin all the way to wing's apex; longest marginal seta 7.1-8.4× maximum wing width.

Metasoma (Figs 61, 67) about as long as (or often slightly longer than) mesosoma. Petiole from about as long as wide to a little wider than long, with a lateral lamella. Ovipositor not of just barely exserted beyond apex of gaster, occupying at most 0.5 of its length (often about 0.3 or a little more), and 0.4-0.46× length of metatibia.

Measurements (µm) of the holotype of *C. magna.* Body: 458; head (as length:height): 82:121; mesosoma 188; petiole 33; gaster 190; ovipositor 76. Antenna: scape (including radicle) 73; pedicel 39; F1 61; F2 2; F3 73; F4 43; F5 39; F6 36; F7 33; clava 127. Fore wing 572:39; longest marginal seta 230. Hind wing 539:18; longest marginal seta 152.

Measurements (µm, length only) of non-type specimens of *C. strobilicola* (Norway). Females: body: (dry-mounted) 330-380, slide-mounted 440-490; fore wing: 578, hind wing: 548, gaster: mesosoma: about 0.7. Males: body: dry-mounted 330-350, slide-mounted 490 (350 when the same specimen was dry-mounted); fore wing: 620, hind wing: 590, gaster: mesosoma: about 0.5.



Figs 74, 75. *Camptoptera magna*, male (Železné hory Protected Lanscape Area, Svatomariánské údolí Nature Reserve, Pardubice, Czech Republic). 74 – mesosoma (part), 75 – fore wing.

MALE (non-type specimens from Europe). Body length of dry-mounted specimens 330-350 µm, of slide-mounted specimens 418-492 µm. Similar to female, including sculpture on the mesoscutum and scutellum (Figs 69, 74), except for normal sexually dimorphic features and the following. Antenna (Figs 68, 71) with scape usually at least slightly shorter than F3; F2 and F4 ringlike, all other flagellomeres very long, much longer than pedicel. Fore wing (Figs 72, 75) 13.3-14.0× as long as wide; hind wing 26-28× as long as wide. Gaster length varies (0.5-0.9× as long as mesosoma); genitalia (Figs 70, 73) length 39-48 µm.

DIAGNOSIS. Separation of *C. magna* from *C. papaveris* is not clearcut, particularly between small specimens of the former and large specimens of the latter: in fact, *C. magna* could very well be just a large *C. papaveris*. Yet, synonymizing them is not advisable without having at hand supporting molecular evidence because generally the two species can be separated, although quite often with difficulty, by the body size and using the fore wing dimentions indicated in the key. Also see the diagnoses of *C. papaveris* and *C. punctum*.

DISTRIBUTION. Austria* (Soyka, 1961 [as *C. hundsheimensis*, *C. kressbachi*, *C. nigra*, *C. nigrosimilis*, and *C. signatipennis*]), Belgium*, China* (Guo *et al.*, 2011 [as *C. minorignatha*]), Czech Republic*, Denmark*, France*, Germany*, Greece*, Italy*, Netherlands, Norway* (Heqvist, 1956 [as *C. strobilicola*]), Russia* (Grebenshchikova, 1973 [as *C. strobilicola*]), and Sweden* (Hedqvist, 2003 [as *C. strobilicola*]). Nearctic region*: USA*.

HOSTS. Unknown. According to Heqvist (1956), Grebenshchikova (1973), and Trjapitzin (1978), *C. strobilicola* is associated with cones of spruce, *Picea* sp.

COMMENTS. According to Heqvist (1956), 42 paratypes (their sex was not indicated in the original description) of *C. strobilicola* were deposited in the Forest[ry] Research Institute of Sweden in Stockholm, but I could not locate and examine them. The synonymy of that species under *C. magna* is based on examination of the apparently non-type specimens in ZMUN (two females and one male were remounted from points onto slides in Canada balsam at UCRC) which had been captured by the same collector at about the same time in the type locality of *C. strobilicola* and labeled as such by an anonymous identifier. The specimens attributable to *C. strobilicola* (such are also known from Denmark and other countries) have rather long, setose fore wings (length at least 0.5 mm), which are longer than the bodies.

***Camptoptera minorui* Taguchi, 1971**

Camptoptera minorui Taguchi, 1971: 49–51. Holotype female (not examined), lost from EUMJ according to Kenzou Yamagishi (personal communication). Type locality: Mt. Odaigahara, Nara Prefecture, Honshu Island, Japan.

DIAGNOSIS. *Camptoptera minorui*, well described and illustrated (except for the fore wing disc) from the single female by Taguchi (1971), is characterized by the entire mesosoma and petiole (ventrally and laterally only, and lacking a lateral lamella) with reticulate sculpture except for the middle part of the propodeum which is smooth and with a number of spicules. Also see the diagnosis of *C. kloptera*.

DISTRIBUTION. Japan.

HOSTS. Unknown.

***Camptoptera papaveris* Foerster, 1856**
Figs 76–95

Camptoptera Papaveris [sic] Foerster, 1856: 119. Type locality: not specified in the original description but almost certainly Aachen [area], North Rhine-Westphalia, Germany because one syntype male was collected in Aachen (see "Type material examined" below).

Camptoptera papaveris Foerster [or Förster]: Kirchner, 1867: 201 (catalog); Dalla Torre, 1898: 431 (catalog); Girault, 1909: 22–26 (history, redescription, illustration), 28 (key); Girault, 1915a: 154 (mentioned); Girault, 1915b: 65 (mentioned); Soyka, 1946: 43 (remains of the type specimen mentioned, diagnosis); Debauche, 1948: 68 (key), 69–71 (redescription), planche VIII (illustrations); Kryger, 1950: 46 (diagnosis, distribution); Soyka, 1961: 75 (key), 82–83 (diagnosis, type information); Boţoc, 1962: 107–108 (measurements, record from Romania); Viggiani, 1973: 278–279 (male genitalia); Hellén, 1974: 14 (diagnosis, distribution); Trjapitzin, 1978: 524 (key, distribution); Donev, 1981: 248 (distribution); Donev, 1985a: 63 (distribution); Donev, 1988: 195 (distribution); Viggiani, 1989: 147 (illustration of male genitalia); Donev, 1990: 69 (record from Bulgaria); Huber & Lin, 1999: 31 (list); Huber *et al.*, 2009: 292 (illustration of male genitalia); Pricop, 2009: 125 (list); Pricop, 2010: 71 (record from Romania, taxonomic comments), 73 (illustrations); Huber, 2011: 56, 58 (mentioned).

Camptoptera pulla Girault, 1909: 27–28. Type locality: Urbana, Champaign Co., Illinois, USA. **Syn. n.**

Camptoptera pulla Girault: Girault, 1910: 236–238 (diagnosis, description of the male, and records from Illinois, USA); Girault, 1911: 254 (additional record from Illinois); Girault, 1915a: 154 (mentioned); Girault, 1915b: 65 (mentioned); Girault, 1915c: 276 (mentioned); Girault, 1915d: 8 (record from California, USA); Girault, 1929: 22 (brief diagnosis); Ogloblin & Annecke, 1961: 296–299 (distribution, redescription of the female based on specimens from South Africa, illustrations based on specimens from Iowa, USA), 307 (key); Peck, 1963: 20 (catalog); Taguchi, 1971: 49 (distribution); Huber & Lin, 1999: 31 (list).

Camptoptera saintpierrei Girault, 1915a: 154 [= *C. papaveris* Foerster sensu Girault (1909)]. Type locality: unknown, England (presumed), UK. **Syn. n.**

Camptoptera saintpierri [sic] Girault, 1915c: 276 (mentioned, misspelling).

Camptoptera saintpierrei Girault: Girault, 1915d: 8 (type information); Huber & Lin, 1999: 31 (list); Huber, 2011: 56–58, 60 (redescription, diagnosis, discussion, illustrations of the holotype).

Sphegilla transilvanica Boţoc, 1960: 82–84. Type status not indicated, ?possibly single female holotype (not examined: the entire M. Boţoc collection is lost [Emilian Pricop, personal communication]). Type locality: Galcer, Cluj, Romania. **Syn. n.**

Camptoptera andradae Soyka, 1961: 74 (key), 75. Type locality: Resende (indicated as "Rezenda" in the original description), Resende Municipality, Viseu, Portugal. **Syn. n.**

Camptoptera annulata Soyka, 1961: 74 (key), 76. Type locality: Pruszowice (near Wrocław, Gmina Długołęka, Wrocław County), Lower Silesian Voivodeship, Poland [mentioned in the original description (p. 76) as "Bruschewitz b.[ei] Breslau, Schlesien" (at the time of collection part of Germany; the place name was changed in 1937 to Möwengrund); Vidal (2001) and Noyes (2013) incorrectly listed it in Germany]. **Syn. n.**

Camptoptera aequilonga Soyka, 1961: 75 (key), 76–77. Type locality: Hundsheim, Lower Austria, Austria. **Syn. n.**

Camptoptera colorata Soyka, 1961: 74 (key), 77. Type locality: "Ziklake" near Sankt Andrä am Zicksee and Neusiedler See, Burgenland, Austria [that most likely is Zicksee near Sankt Andrä am Zicksee because Zicklacke is near Illmitz and Neusiedler See]. **Syn. n.**

Camptoptera intermedia Soyka, 1961: 75 (key), 78–79. Type locality: Resende (indicated as "Rezenda" in the original description), Resende Municipality, Viseu, Portugal. **Syn. n.**

Camptoptera interposita Soyka, 1961: 75 (key), 79. Type locality: Hundsheim, Lower Austria, Austria. **Syn. n.**

Camptoptera parva Soyka, 1961: 75 (key), 83. Type locality: Jettchenshof (indicated as "Jettchensdorf" in the original description, collected on a window), Malchin, Mecklenburg-Western Pomerania, Germany. **Syn. n.**

Camptoptera setipaupera Soyka, 1961: 74 (key), 84. Type locality: St. Ignatius Jesuit College (Ignatiuskolleg), Valkenburg, Limburg, Netherlands. **Syn. n.**

Camptoptera tenuis Soyka, 1961: 75 (key), 85–86. Type locality: Małkowice (near Wrocław, Gmina Kąty Wrocławskie, Wrocław County), Lower Silesian Voivodeship, Poland [mentioned in the original description (p. 86) as "Schlesien, Malkwitz bei Breslau" (at the time of collection part of Germany, the place name was changed in 1937 to Waldtal); Vidal (2001) and Noyes (2013) incorrectly listed it in Germany]. **Syn. n.**

Camptoptera (*Camptoptera*) *pulla* Girault: De Santis, 1967: 107 (distribution in Argentina).

Camptoptera papavenis [sic] Forst. [sic]: Donev, 1987b: 74 (distribution).

Camptoptera aequilonga Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera andradae Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera annulata Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera colorata Soyka: Huber & Lin, 1999: 30 (list).

Camptoptera intermedia Soyka: Huber & Lin, 1999: 30 (list).
Camptoptera interposita Soyka: Huber & Lin, 1999: 30 (list).
Camptoptera parva Soyka: Huber & Lin, 1999: 31 (list).
Camptoptera setipaupera Soyka: Huber & Lin, 1999: 31 (list).
Camptoptera tenuis Soyka: Huber & Lin, 1999: 31 (list).
Camptoptera transilvanica (Boţoc): Pricop, 2009: 125 (list); Noyes, 2013 (database).
Camptoptera grandithoracala Guo & Wang *in* Guo *et al.*, 2011: 409 (key), 411–412, 413 (diagnosis and list of type specimens in English). Holotype female [ICXU; its depository is indicated in the Chinese abstract (p. 408)] (not examined). Type locality: Wujiaqu (44°09'N 87°32'E), Xinjiang Uyghur Autonomous Region, China. **Syn. n.**

TYPE MATERIAL EXAMINED. *Camptoptera papaveris* Foerster: Foerster (1856, p. 119) indicated an unspecified number of male and female specimens of this species which he had reared from capsules of *Papaver rhoeas* and *P. dubium* collected on 12-18.VIII 1851 with galls of *Aylax papaveris* (Perris, 1841) [as "*Aulax Rhoeadis*"] (Hymenoptera: Cynipidae), but he was not sure (p. 120) about any connection between them. Designation of a lectotype by Soyka (1961), based on his own female (Figs 81, 82) from Valkenburg, Limburg, the Netherlands, was obviously invalid because it was not part of Foerster's original material of *C. papaveris*. I found three females, three males, and one poorly preserved specimen of an unidentifiable sex in A. Foerster's collection at NHMW all of which are undoubtedly the syntypes of *C. papaveris*. Lectotype female [NHMW], here designated to avoid the existing confusion regarding the status of the type specimens of this taxon, on slide (Fig. 76) labeled in W. Soyka's handwriting (almost certainly copied from the original A. Foerster's labels now glued onto one of the female paralectotype slides listed below; it is very likely that some specimens of the type series had been originally mounted on separate minuten pins inserted in the same balsa wood piece on the same pin – based on the number of pin holes under this species in A. Foerster's drawer of Mymaridae in NHMW, probably there were five original pins): 1. "*Camptoptera* ♀ *papaveris* Förster Urtype [i.e., the oldest (original) type]"; 2. "Collect. G. Mayr Förster, Type p. 4 d. G 14-22./8.51. [these most likely are the dates (14-22.VIII 1851) when the specimens of the type series emerged from the poppy capsules collected by A. Foerster on 12-18.VIII 1851] In Canadab."; 3. [Soyka's slide number] "322"; 4. [red, Soyka's label, partially (apparently "Geno-") crossed-out] "Type". The specimen (Figs 77, 78) was remounted by Soyka apparently from a minuten pin; it is in a very poor condition, mounted more or less dorsoventrally, with the head collapsed; missing are both antennae except for scape and pedicel of one antenna, one hind wing (the other is detached from the body), and four legs (except for one metacoxa). Soyka (1946, 1961) mentioned this specimen as a "Type" of *C. papaveris* in NHMW but that was not a valid lectotype designation (Article 74.5) (ICZN, 1999) because it is very clear from the short original description that Foerster (1856) based this species on an unspecified number of both female and male specimens. Paralectotypes [NHMW], as follows. 1 ♀ on slide labeled: 1. [in W. Soyka's handwriting] "*Camptoptera* ♀ *papaveris* Förster ohne Fühler"; 2. "*Camp. Papaveris* [in India ink] Förster, Type [printed]"; 3. [printed] "Collect. G. Mayr"; 4. [In India ink, the original A. Foerster's label in his handwriting, with a pin hole] "p. 4 d. G 14-22./8.51."; 5. [Soyka's slide number] "324". The specimen is mounted more or less laterally with a piece of a minuten pin going through its mesosoma (Fig. 79); missing are flagella of both antennae, one pedicel, all the wings, and two legs. 1 ♀ on slide labeled [in W. Soyka's handwriting]: 1. "*Camptoptera* ♂ [sic] *papaveris* Förster ohne [an illegible word] Fühler"; 2. "Collect. G. Mayr ♀ Förster, Type. p. 4 d. G 14-22./8.51. In Canadab."; 3. [Soyka's slide number] "318". The specimen is poorly mounted more or less dorsoventrally,

Figs 76–78. *Camptoptera papaveris*, female (lectotype). 76 – slide, 77 – habitus, 78 – mesosoma (part).

with the head detached from the body; missing are both antennae (except for one scape) and four legs. 1 ♂ on slide labeled: 1. [in W. Soyka's handwriting] "*Camptoptera* ♂ *papaveris* Förster ohne Fühler (Canadabals.)"; 2. "*Camp. Papaveris* [in India ink] Förster, Type [printed]"; 3. [printed] "Collect. G. Mayr"; 4. [Soyka's slide number] "321". The poorly preserved specimen is mounted more or less dorsoventrally; missing are the head and both

Figs 79, 80. *Camptoptera papaveris*, habitus. 79 – female (paralectotype on W. Soyka's slide No 320), 80 – male (paralectotype on W. Soyka's slide No 324).

antennae, one pair of wings, and both fore legs. 1 ♂ on slide labeled [in W. Soyka's handwriting]: 1. "*Camptoptera* ♂ *papaveris* Förster ohne Fühler"; 2. "Collect. G. Mayr Förster, Type ♂ (Canadabals.)"; 3. [Soyka's slide number] "319". The specimen is poorly mounted dorsoventrally; missing are the head and both antennae, one hind wing, and both fore legs. 1 ♂ on slide labeled [in W. Soyka's handwriting]: 1. "*Camptoptera* ♂ *papaveris* Förster ohne Fühler"; 2. "Collect. G. Mayr Aachen, Förster Förster, Type ♂ (Canadabals.)"; 3. [Soyka's slide number] "320". The specimen (Fig. 80) is poorly mounted laterally, with one pair of wings detached from the body; missing are both antennae and several leg segments. Also 1 specimen of unknown sex (most likely a male, but that is a guess), of which only a poorly preserved body remains, on a mini-slide on a transparent plastic card labeled: 1. [in W. Soyka handwriting] "*Camptoptera papaveris* Först. Typ. "; 2. "*Camptoptera papaveris* Först. Det. Biro".

Camptoptera aequilonga Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *aequilonga* Soyka Type", 2. [red] "Type", 3. "Hundsheim FG 22. Sept. 1954 lg Soyka Coll. Soyka In Canadab.". The holotype is in fair condition, mounted laterally, complete. The specimen was collected on a window from hay (Soyka, 1961).

Camptoptera andradae Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *andradae* (Soyka) Type det. Soyka", 2. [red] "Type", 3. "Rezenda Portugal 10.10.1949 lg de Andrada Coll. Soyka In Canadab". The holotype is in good condition, mounted laterally, complete.

Camptoptera annulata Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *annulata* [several illegible words (in German), in pencil]", 2. [red] "Type", 3. "Bruschewitz b. Breslau September 1934 W. Soyka Canadabalsam". The holotype is in good condition, mounted dorsoventrally, complete. According to Soyka (1961), the specimen was collected by sweeping with a net.

Camptoptera colorata Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *colorata* (Soyka) Type", 2. [red] "Type", 3. "St. Andrä, Ziklake Neusiedlersee 11. Aug. 1942 lg Novicky Coll. Soyka In Canadab. 1944". The holotype is in good condition, mounted more or less dorsoventrally, complete. According to Soyka (1961), the specimen was collected by sweeping with a net.

Camptoptera grandithoracala Guo & Wang: Paratypes [ICXU]: 1 ♀ and 1 ♂ on slides labeled identically except for the symbols (in parentheses) indicating to their respective sex on the second label: 1. "China: Xinjiang Wujiaqu [Chinese characters] Sweeping 20.VII.2001 Sun Tao", 2. "[Chinese characters] *Camptoptera grandithoracala* Guo *et* Wang Paratype"; 1 ♀ on slide labeled: 1. " [Chinese characters] N41°08.671' E80°15.241' 2008.6.19 1103 m", 2. "[Chinese characters] *Camptoptera grandithoracala* Guo *et* Wang Paratype (♀)" (collection locality: Akesu, Xinjiang, China); 1 ♂ on slide labeled: 1. "China: Xinjiang Urumqi [Chinese characters] Sweeping 22.VIII.2001 Ciu Weidong", 2. "[Chinese characters] *Camptoptera grandithoracala* Guo *et* Wang Paratype (♂)" (a different date (23.VIII 2001) and collector (H.-y. Hu) are indicated in the original description for that locality); 1 ♂ on slide labeled: 1. "China: Xinjiang Wusu [Chinese characters] Sweeping 14.VII.2001 Hu Hongying", 2. "[Chinese characters] *Camptoptera grandithoracala* Guo *et* Wang Paratype (♂)" (a different date (17.VII 2001) is indicated in the original description for that locality).

Camptoptera intermedia Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *intermedia* (Soyka) Type", 2. [red] "Type", 3. "Rezenda – Portugal 10.10.1949 lg Andrada Coll. Soyka In Canadab.". The holotype is in good condition, mounted dorsoventrally, complete.

Camptoptera interposita Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *interposita* Soyka Type", 2. [red] "Type", 3. "Hundsheim – am Fenster aus Heu - 20. Juli 1944 lg Soyka - Coll. Soyka In Canadab. 1945". The holotype is in good condition, mounted dorsoventrally, complete.

Camptoptera parva Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera parva* ♀ (Soyka) Type", 2. [red] "Type", 3. "Jettchens Hof August 1936 Coll. Dr. Stammer In Canadabalsam". The holotype is in fair condition, mounted laterally, complete.

Camptoptera pulla Girault: ?Holotype female [INHS] on slide (Fig. 89) labeled: 1. "Urbana, Ill., Jul. 15,'08 – J. D. Hood. On inside window of wood-shed. Sl. 1307 1 [circled, in pencil]"; 2. [red, glued onto label 1] "LECTOTYPE *Camptoptera pulla* Girault. ♀"; 3. "*Camptoptera* *pulla* Girault no. 39116. J. DOUGLAS HOOD University of Illinois [illegible] 1807"; 4. [recent database label] "INHS Insect Collection 508,943". The presumed holotype (Figs 90–95) is in good condition, mounted dorsoventrally, complete. It might be invalidly designated as a lectotype by Frison (1927, p. 227) because Girault (1909, p. 28) clearly designated just one female under INHS Accession No. 39116 as the "type" (= the holotype), unless the second (now missing) female, on which the original description of this species was also based, and which was captured in the same locality by the same collector on 17.VII 1908, was also marked by A. A. Girault as "type" and had the same INHS accession number, thus making recognition of the true holotype impossible.

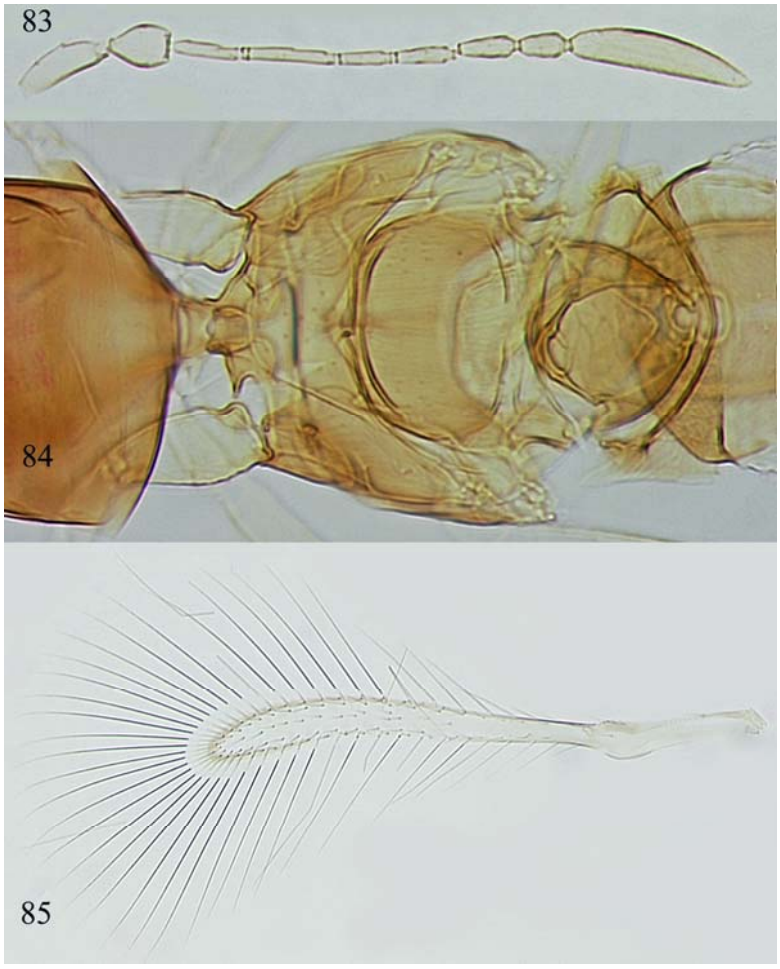
Figs 81, 82. *Camptoptera papaveris*, female (Valkenburg, Limburg, the Netherlands; invalidly designated by Soyka (1961, p. 83) as a "Lectotype"). 81 – slide, 82 – habitus.

Camptoptera saintpierrei Girault: Holotype female [USNM] on slide (see Huber, 2011) labeled: 1. [the original F. Enock's label printed] "FRED^{c} ENOCK 19188 [USNM Catalog number added later by A. A. Girault in India ink] *Order* Hymenoptera *Family* Mymaridæ *Genus* Camptoptera *Species* papaveris [crossed out in India ink by A. A. Girault] *saintpierrei* Gir. [added by A. A. Girault in India ink] PREPARER.", 2. [red, patially in faint India ink] "*Camptoptera saintpierrei* Girault ♀ Type. Type No. 19188 U.S.N.M.". The holotype is uncleared but otherwise in very good condition, perfectly spread out, complete, mounted dorsoventrally (see Huber, 2011).

Camptoptera setipaupera Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *setipaupera* Soyka Type", 2. [red] "Type", 3. "Valkenburg S. Holland Ign. Kolleg, am Fenster 15. Okt. 1930, Soyka lg Coll. Soyka In Canadabalsam". The holotype is in fair condition, mounted laterally, complete.

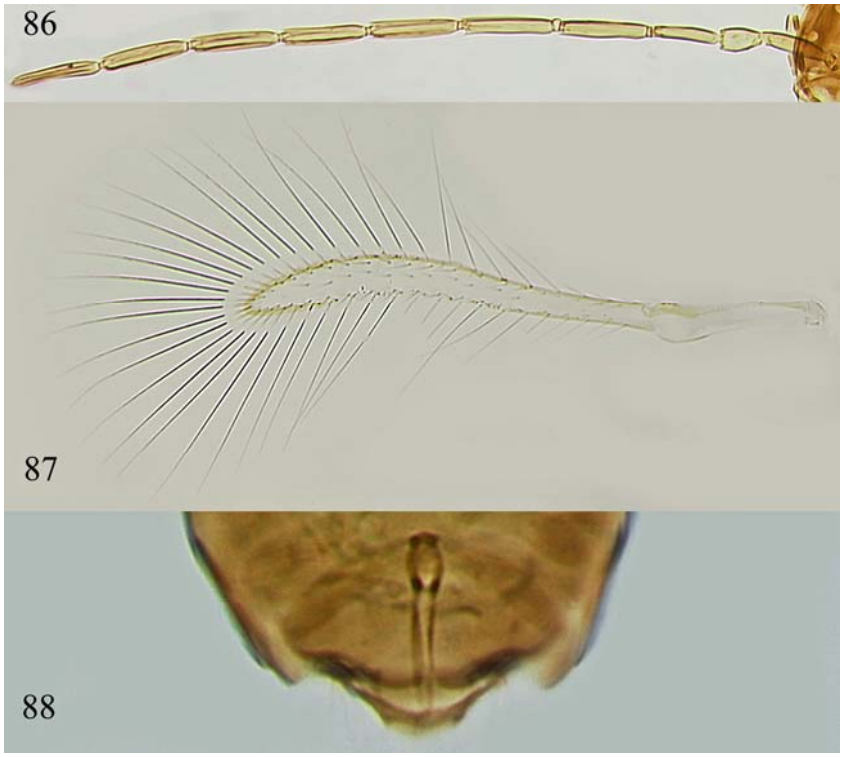
Camptoptera tenuis Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *tenuis* (Soyka) Type", 2. [red] "Type", 3. "Malkwitz Mai 1934 lg Soyka In Canadab. 1944". The holotype is in fair condition, mounted semi-laterally/semi-dorsoventrally, complete.

MATERIAL EXAMINED. **Austria**: Lower Austria: Hainburg an der Donau, 48°08'45''N 16°55'31''E, 142 m, 17.VI 2007 (S. V. Triapitsyn, C. Thuróczy) [1 ♀, UCRC]. Hunsdsheim (W. Soyka): 9.VII 1942 (on window from hay) [1 ♂, NHMW]; 22.VII 1943 (on window from hay) [1 ♀, NHMW]; VII 1943 (on window from hay) [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. colorata*; the species was described from the single holotype female, therefore this specimen has no type status); 27.VII 1946 (on window) [1 ♀, 2 ♂, NHMW]; 2.IX 1954 [1 ♂, NHMW] (erroneously labeled by W. Soyka as a "Type" of *C. aequilonga*; the species was described from the single holotype female, therefore this specimen has no type status); VI 1966 (on window) [8 ♀, 2 ♂, NHMW]. Tyrol: Innsbruck (E. Pechlaner): 26.VII 1950 (on window from hay) [2 ♀, NHMW] (one labeled by W. Soyka as a "Type" and the other as a "Para Type" of *C. innsbrucki* Soyka, which is his unpublished manuscript name); Hötting, 1.IX 1950 [1 ♂, NHMW] (similarly labeled by W. Soyka as a "Type" of *C. innsbrucki*); Hötting, VII 1951 [1 ♀, NHMW] (labeled by W. Soyka as a "Co-Type" of *C. innsbrucki*). Krössbach (W. Soyka) (on window): 29.VII 1945 [1 ♀, NHMW]; 20.IX 1945 [1 ♀, NHMW]; 5.IX 1949 [1 ♀, NHMW]; 8.VIII 1950 [1 ♂, NHMW]; 11.VIII 1953 [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. hundsheimensis*; the species was described from the single holotype female, therefore this specimen has no type status); 11.VIII 1953 [1 ♀, NHMW]; 12.VIII 1954 [1 ♀, NHMW]; 7.VIII 1957 [1 ♀, NHMW]; 15.VII 1958 [1 ♀, NHMW]; 10.VIII 1958 [2 ♀, 1 ♂, NHMW]; 15.VIII 1958 [1 ♀, NHMW]; 10.VIII 1959 [1 ♀, NHMW]; 17.VII 1960 [1 ♀, NHMW]; 20.VII 1960 [6 ♀, NHMW]; 25.VII 1960 [1 ♀, NHMW]; 30.VII 1960 [1 ♀, NHMW]; 4.VIII 1960 [2 ♀, 1 ♂, NHMW]; 7.VIII 1960 [1 ♀, NHMW]; 22.VIII 1960 [1 ♂, NHMW]; IX 1960 [1 ♀, NHMW]; 20.VII 1961 [3 ♀, NHMW]; 1.X 1961 [2 ♀, NHMW]; X 1961 [3 ♀, NHMW]; 9.VIII 1962 [2 ♀, NHMW]; 16.VIII 1962 [2 ♀, NHMW]; IX 1962 [1 ♂, NHMW]; 3.VII 1963 [4 ♀, NHMW]; 11.VII 1963 [1 ♀, NHMW]; 3.VIII 1963 [1 ♀, NHMW]; 8.VIII 1963 [1 ♀, 1 ♂, NHMW]; 15.VIII 1963 [1 ♀, NHMW]; 1.IX 1963 [1 ♀, NHMW]; 10.VII 1964 [2 ♀, 1 ♂, NHMW]; 5.VIII 1964 [1 ♀, NHMW]; 27.VIII 1964 [1 ♀, NHMW]; 14.VII 1965 [20 ♀, 4 ♂, NHMW]; 8.VIII 1965 [1 ♀, NHMW]. Obernberger Tribulaun (Stubai Alps), 7.X 1951 (E. Pechlaner) [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. signatipennis*; the species was described from the single holotype female, therefore this specimen has no type status). **Belgium:** Flemish Brabant: Leuven: Egenhoven (H. R. Debauche): 4.IX 1941 [1 ♀, ISNB]; 11.V 1942 [1 ♀, ISNB]. Heverlee, 19.IX 1941 (H. R. Debauche) [1 ♀, ISNB]. Tervuren, Étang du Merisier (H. R. Debauche): 14.VII 1945 [1 ♀, ISNB]; 7.VIII 1945 [1 ♀, ISNB]. Liège, Wanze, Antheit, Corphalie (R. Detry): 20.X-3.XI 1989 [2 ♀, ISNB]; 28.IX-12.X 1990 [1 ♀, ISNB]. **Czech Republic:** Central Bohemian Region: Český kras Protected Lanscape Area, Bubovický potok, 49°57'26.026''N 14°09'24.625''E, 22.VI 2007 (J. Macek) [1 ♀, 1 ♂, CUPC]. Křivoklátsko Protected Lanscape Area, Suchá mýť [forest], 50°01'15.462''N 14°00'01.371''E, 30.VI-12.VII 1994 (J. Macek) [2 ♂, CUPC]. Hradec Králové, Orlické hory [Mountains] Protected Lanscape Area, Ošerov, 50°19'28.895''N 16°20'26.43''E (J. Hájek): 24.VII 2008 [1 ♀, 2 ♂, CUPC]; 7.X 2008 [1 ♂, CUPC]. Pardubice, Železné hory [Mountains] Protected Lanscape Area: Doubrava R., Svatomariánské údolí Nature Reserve, 49°44'49.04''N 15°40'55.959''E (F. Bárta): 10.VIII 2006 [3 ♀, 1 ♂, CUPC]; 3.X 2006 [1 ♀, CUPC]. Včelákov, 49°49'29.514''N 15°52'39.02''E, 12.X 2006 (F. Bárta) [1 ♂, CUPC]. Environs of Včelákov, u Bystřice, 49°48'58.738''N 15°52'15.243''E, 3.VII 2006 (F. Bárta) [1 ♀, CUPC]. South Moravian



Figs 83–85. *Camptoptera papaveris*, female (83 – Prietokskiy, Stavropol'skii krai, Russia; 84 – Jurský Šúr Nature Reserve, Bratislava, Slovakia; 85 – Fryazevo, Moskovskaya oblast', Russia). 83 – antenna, 84 – mesosoma and petiole, 85 – fore wing.

Region, Bílé Karpaty Protected Lanscape Area (White Carpathians Mountain Range), Machová Nature Reserve: Louka, 48°49'20.763''N 17°31'24.674''E, 2.VIII 2007 (J. Macek) [1 ♀, CUPC]; potok, 48°49'38.632''N 17°32'29.934''E, 18.V 2007 (J. Macek) [1 ♂, CUPC]. Ústí nad Labem, České Švýcarsko National Park: Brtnický most, 50°54'02.246''N 14°23'19.017''E, 18.VII 2007 (J. Macek) [1 ♀, CUPC]; Růžák National Nature Reserve, 50°50'00.492''N 14°19'49.508''E, 16.V 2007 (J. Macek) [1 ♀, 1 ♂, CUPC]. **Denmark:** Locality unclear, 18.I 1981 (R. Fardal) [2 ♀, ZMUC]. **France:** Gironde, Sainte Colombe, 44°54'N 00°02'W, 17.VIII 2000 (M. van Helden) [6 ♀, 1 ♂, UCRC]. **Germany:** Baden-Württemberg (locality illegible, in Schwarzwald), 12.IX 1962 (M. Boness) (on window) [1 ♀, NHMW]. Hesse, Kronberg im Taunus, 21.X 1949 (R. zur Strassen) [1 ♀, SMF] (paratype



Figs 86–88. *Camptoptera papaveris*, male (Fryazevo, Moskovskaya oblast', Russia). 86 – antenna, 87 – fore wing, 88 – genitalia.

of *C. ellifranzae* zur Strassen, 1950). Mecklenburg-Western Pomerania, Jettchens Hof (near Malchin) (H.-J. Stammer): VIII 1935 (on window) [3 ♀, NHMW]; VII 1936 [1 ♂, EMEC]; VIII 1936 (on window) [1 ♀, NHMW]. North Rhine-Westphalia, Leverkusen (M. Boness) (on window): 12-16.IX 1966 [1 ♀, NHMW]; 26-30.IX 1966 [1 ♀, NHMW]. **Greece:** Central Macedonia, Lake Kerkini: Ecotourism site, 41°08'15.6''N 23°13'01.2''E, 65 m (G. Ramel): 16-22.V 2006 [1 ♀, UCRC]; 13-19.VI 2006 [1 ♀, UCRC]. Kerkini Marsh, 41°13'32.8''N 23°05'04.2''E, 45 m (G. Ramel): 11-17.IV 2007 [1 ♀, UCRC]; 18-24.IV 2007 [1 ♀, UCRC]. **Hungary:** Vas, Köszeg, 20-22.IX 2002 (S. V. Triapitsyn, C. Thuróczy) [1 ♂, UCRC]. **Italy**: Campania, Napoli Prov., Portici: 12.IX [year unknown] (F. Silvestri) [4 ♀, DEZA]; Parco Gussone: 20.VII 1916 (F. Silvestri) [1 ♀, DEZA]; 2.VIII [year unknown] (F. Silvestri) [1 ♂, DEZA]; 22.VII 1980 (G. Viggiani) [1 ♀, DEZA]; 3-4.VI 2003 (J. Munro, A. Owen, J. D. Pinto) [1 ♂, UCRC]. Lazio: Roma Prov.: Caldara di Manziana, 42°05.607'N 12°05.906'E, 305 m, 10.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [1 ♀, 1 ♂, UCRC]. Castelporziano Presidential Estate: costal dunes in N corner, 41°42.150'N 12°21.038'E, 5 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [1 ♀, UCRC]; Fosso di Trafusina, 41°46.670'N 12°24.751'E, 30 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [6 ♀, 7 ♂, UCRC]; La Focetta, 41°41.474'N 12°22.633'E, 10 m, 11-12.VI 2003 (J. Munro, A. Owen) [10 ♀, UCRC]; Ponte Guidoni, 41°45.415'N 12°23.851'E,

80 m, 11-12.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [9 ♀, 2 ♂, UCRC]. Umbria, Terni Prov., Terni, IV 1933 (F. Silvestri), on *Pinus* sp. [1 ♀, DEZA]. Viterbo Prov.: 5.5 km E of Monte Romano, 42°15.284'N 11°57.315'E, 760 m, 9.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [1 ♀, UCRC]. Ponte San Pietro, 42°31.669'N 11°36.353'E, 75 m, 10.VI 2003 (M. Bologna, J. Munro, A. Owen, J. D. Pinto) [2 ♀, UCRC]. San Giovenale, 42°13.568'N 12°00.039'E, 9.VI 2003 (J. Munro *et al.*) [4 ♀, UCRC]. **Kyrgyzstan:** Talas, near Boo-Terek, 42°35'15''N 71°45'49''E, 1000 m, 15.VI 1999 (C. H. Dietrich) [2 ♂, UCRC]. **Netherlands:** Limburg: Aalbeck (near Maastricht), 24.IX 1929 (on window) [1 ♀, NHMW]. Valkenburg, St. Ignatius Jesuit College (Ignatiuskolleg) (W. Soyka) (on window): 15.X 1930 [3 ♀, NHMW]; 7.X 1931 [6 ♀, NHMW] (one of them (Figs 81, 82) incorrectly labeled by W. Soyka as a "Type" of *C. papaveris*, apparently that specimen was invalidly designated by him (1961, p. 83) as a "Lecto-type" of this species, another one incorrectly labeled by him as a "Para-Type" of *C. papaveris*; and also two labeled by him as a "Type" and a "Co-Type" of *C. neoflava* Soyka, which is his unpublished manuscript name); 7.X 1931 [1 ♀, EMEC]. **Poland:** Lower Silesia, near Wrocław, Pruszowice [as "Kl. Bruschewitz (aus See)" in the former Schlesien, Germany], VIII 1934 [1 ♂, NHMW]. Lubusz, Sława Lake (near Sława; on the original label as "Schlawa-See, Schlesien", now Jezioro Sławskie), 22.VII 1934 (H.-J. Stammer) [1 ♂, NHMW]. **Portugal:** Viseu, Resende Municipality, Resende (labeled as "Rezenda"), 10.X 1949 (de Andrada) [6 ♀, NHMW] (one specimen erroneously labeled by W. Soyka as a "Para-Type" of *C. andradae*; the species was described from the single holotype female, therefore this specimen has no type status). **Russia:** Krasnodarskii krai, Krasnodar, All-Russian Research Institute of Biological Plant Protection, 27-28.VIII 2001 (V. V. Kostjukov) [1 ♀, UCRC]. Moskovskaya oblast', Noginskiy rayon, Fryazevo (M. E. Tretiakov): 7-15.VII 2000 [1 ♂, UCRC]; 25.VII 2000 [1 ♂, UCRC]; 26.VII-14.VIII 2000 [1 ♀, UCRC]; 15-25.VIII 2000 [1 ♀, 3 ♂, UCRC]; 23.VIII 2000 [5 ♀, UCRC (3), ZIN (2)]; 25-31.VIII 2000 [4 ♀, 1 ♂, UCRC]; 20.VII 2001 [4 ♀, UCRC]; 13.VIII 2001 [7 ♀, 2 ♂, UCRC]; 24.VIII 2001 [2 ♀, 1 ♂, UCRC]; 14.VII 2002 [1 ♀, UCRC]; 25.VII 2002 [1 ♀, 1 ♂, UCRC]; 1.VIII 2002 [1 ♀, 1 ♂, UCRC]. Pushkinskiy rayon, Pushkino, Mamontovka, 20-31.VII 2000 (E. Ya. Shuvakhina) [1 ♀, 1 ♂, UCRC]. Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye (M. V. Michailovskaya): 17-18.VIII 1999 [1 ♀, 1 ♂, UCRC]; 1-5.IX 1999 [1 ♀, UCRC]; 25-26.IX 1999 [1 ♀, UCRC]; IX 1999 [1 ♂, UCRC]; 21-26.VIII 2000 [1 ♂, UCRC]; 26-31.VIII 2000 [1 ♀, IBPV]; 15-30.IX 2000 [1 ♀, 1 ♂, UCRC]; 1-5.VIII 2003 [1 ♀, 1 ♂, UCRC]; 11-15.VIII 2003 [1 ♀, UCRC]; 15-19.IX 2003 [1 ♀, UCRC]. Stavropol'skii krai: Achikulak, 19.VIII 2002 (V. V. Kostjukov) [1 ♀, UCRC]. Prietokskiy (V. V. Kostjukov): 7.IX 2002 [3 ♀, 3 ♂, UCRC]; 7.VIII 2003 [2 ♀, UCRC, ZIN]. **Slovakia:** Bratislava, Jurský Šúr Nature Reserve, 48°14'03''N 17°12'47''E, 133 m, 8.VIII 2008 (B. V. Brown) (alder forest) [1 ♀, UCRC]. **Switzerland:** Bern, Langenthal (H. Gisin) (from soil near water) [1 ♀, NHMW]. **UK:** England: Berkshire Co., Slough (on window) [1 ♀, BMNH]. Dorset Co., Bournemouth, 8.X 1981 (S. G. C. Brown) [1 ♀, BMNH]. Hampshire Co., Awbridge (near Romsey), VIII 1981 (C. Vardy) [1 ♀, BMNH]. Herefordshire Co., Ross-on-Wye, 15-22.IX 1979 (R. S. George) [1 ♀, BMNH]. No data (F. Enock): "84.63" [2 ♀, BMNH]; [1 ♀, 1 ♂, MMUE]. **Country unknown (Europe):** Locality unknown (illegible W. Soyka's handwriting), 18.VI 1953 (on window) [1 ♀, NHMW] (erroneously labeled by W. Soyka as a "Para-Type" of *C. parva*; the species was described from the single holotype female, therefore this specimen has no type status).

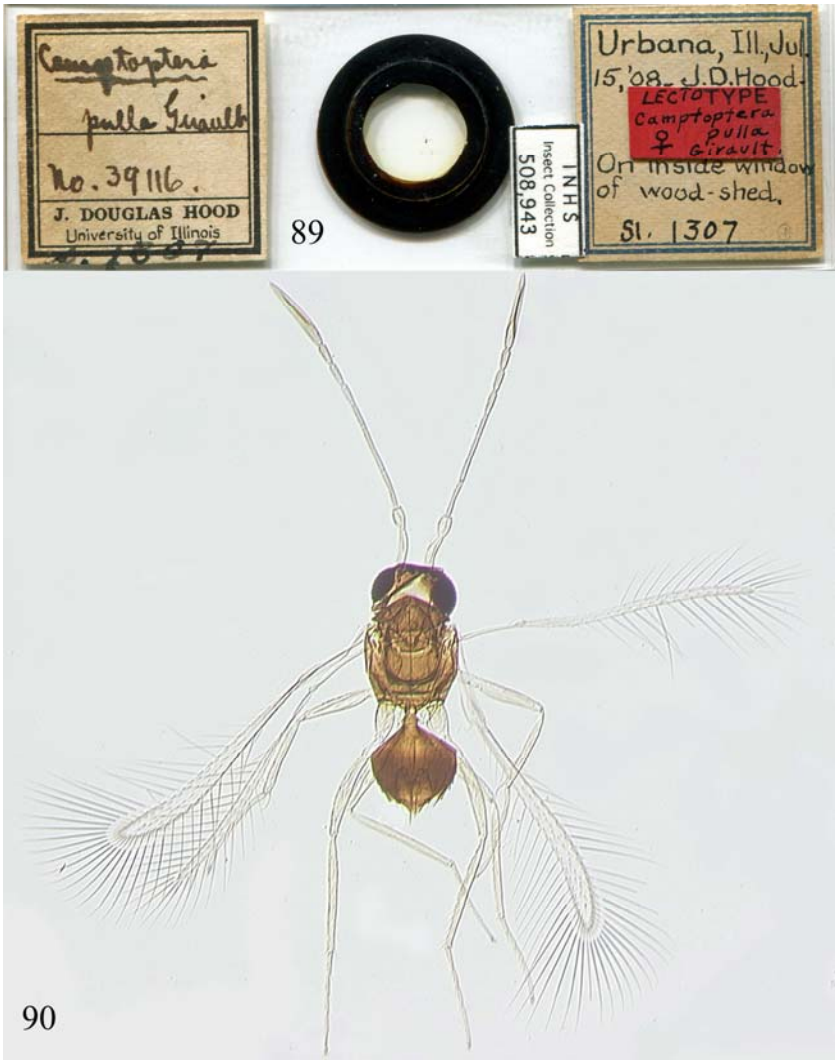
EXTRALIMITAL RECORDS. **Mexico:** Tamaulipas, Ciudad Victoria, Universidad Autónoma de Tamaulipas campus, 12-14.II 2001 (S. V. Triapitsyn) [1 ♀, UCRC]. **USA:** California: Amador Co., Sutter Creek, 38°23'39''N 120°46'59''W, 373 m, 10.V 2012 (E. F. Drake) [3 ♀, UCRC]. Fresno Co., Reedley, Smeds Vineyard: 27.IX 1993 (G. Yokota) (on grapes) [1 ♀, UCRC]; 2.IX 1995 (K. M. Daane) (on grapes) [1 ♀, UCRC]. Los Angeles Co.,

Compton (H. M. Russell) ("Reared from leaves with *Aleyrodes* sp + *Heliothrips fasciatus*") [2 ♀, USNM] (identified by A. A. Girault as *C. pulla*). Madera Co., Madera, Nadler Vineyard (K. M. Daane): 9.IV 1996 [1 ♀, UCRC]; 18.IV 1996 [1 ♀, UCRC]. Ripperdan Ranch, E. & J. Gallo Organic Vineyard (W of Ripperdan) (D. Dexter-Mendez): 31.VIII 1993 [1 ♀, UCRC]; 13.IX 1994 [1 ♀, 2 ♂, UCRC]. Orange Co., Irvine, 24.VIII 1998 (S. V. Triapitsyn) (in *Melilotus albus* blossoms) [1 ♀, UCRC]. Riverside Co.: Menifee Valley (hills on W end), 33°39'N 117°13'W, 508 m (J. D. Pinto): 28.VI-12.VII 1995 [3 ♀, UCRC]; 19.VII-1.VIII 1995 [1 ♀, UCRC]. Sandia Creek near De Luz Rd. (near Temecula), 33°28.234'N 117°16.111'W, 161 m, 23.VII 2004 (E. A. Boyd) [1 ♀, UCRC]. Santa Barbara Co., Santa Barbara, Hope Ranch, 2.VIII 1911 (P. H. Timberlake) (on *Sambucus glauca*) [1 ♂, UCRC]. Tulare Co., 11.IX 1987 [1 ♀, UCRC]. Connecticut, Litchfield Co., Cornwall, Cathedral Pines Preserve, soil sample taken from virgin white pine and hemlock stand 1-2.V 1951, emerged 16.V 1951 (P. Bellinger) [1 ♀, USNM] (identified by B. D. Burks as *C. pulla*). Delaware, New Castle Co., Newark (L. C. Marston, Jr.): 1.VIII 1929 ("on insectary window") [1 ♀, USNM] (identified by H. L. Dozier as *C. pulla*); 27.VIII 1929 ("reared from grape berries infested with eggs of *Polychrosis viteana*") [1 ♀, USNM] (identified by H. L. Dozier as *C. pulla*). Georgia, Clarke Co., Athens, 1.IV 2004 (C. S. Hartley, J. V. Mittough) [1 ♂, UCRC]. Iowa, Story Co., Ames (A. A. Ogloblin) (identified by A. A. Ogloblin as *C. pulla*): 10.X 1943 [1 ♀, MLPA]; 17.X 1943 [1 ♀, MLPA]; 22.X 1943 [5 ♀, MLPA]. Illinois: Centralia (county unknown: located within four counties) (A. A. Girault) [according to Girault (1910, p. 238), all specimens identified by him as *C. pulla* were captured "on the panes of a small window in an unused pig-shed on a farm"]: 25.VIII 1909 [1 ♀, USNM]; 26.VIII 1909 [1 ♀, 2 ♂, USNM]; 2.IX 1909 [2 ♀, USNM]. Champaign Co., Urbana, 1.VII 1910 (A. A. Girault) [1 ♀, USNM] (identified by A. A. Girault as *C. pulla*). LaSalle Co., Deer Park Township, Starved Rock State Park, 9.X 1956 (C. J. Rohde) [1 ♀, USNM] (identified by B. D. Burks as *C. pulla*). Marion Co., 8 mi. E of Centralia, 7.IX 1993 (J. D. Pinto) [1 ♀, UCRC]. Louisiana, Iberia Parish, New Iberia, 8.X 1937 (H. L. Dozier) ("sweeping in dry creek bed") [1 ♀, USNM] (identified by H. L. Dozier as *C. pulla*). Pennsylvania, Montgomery Co., Lansdale, 40°14'12''N 75°18'47W (R. Kaufhold): 12-19.VIII 2000 [1 ♀, UCRC]; 19-26.VIII 2000 [1 ♀, 2 ♂, UCRC]; 26.VIII-2.IX 2000 [1 ♂, UCRC]. Texas: Brazos Co., College Station, Lick Creek Park, 31.V 1988 (R. Wharton) [1 ♂, UCRC]. Fort Bend Co., Brazos Bend State Park, 18.IV 1999 [1 ♂, UCRC].

REDESCRIPTION. FEMALE (types of the nominal species listed under "Type material examined", and non-type specimens). Body length 313-430 µm, usually at most 400 µm (slide-mounted specimens); body length of dry-mounted, critical point-dried specimens 265-365 µm. Body (Figs 77, 82, 90, 91) brown to dark brown (base of gaster sometimes lighter than the rest of body); scape, pedicel, and legs light brown, flagellum brown.

Head a little narrower than mesosoma; face almost smooth, vertex and occiput striate. Antenna (Figs 82, 83, 93) with scape 2.8-4.75× as long as wide; pedicel much shorter than F1; funicle 7-segmented (F2 ringlike), F1 a little shorter than F3 (the longest funicle segment) and longer than F4, following funicle segments each slightly shorter than preceding one, F7 the widest funicle segment; clava apparently with 4 mps, slightly longer than combined length of F5-F7.

Mesosoma (Figs 82, 84, 91, 92) 1.2-1.3× as long as wide. Mesoscutum retuculate, with sculpture cells largest in apical half; frenum of scutellum longitudinally striate (Fig. 78). Propodeum with faint (often difficult to see), wide apart linear submedian carinae slightly widening towards metanotum and extending or almost extending to it. Fore wing (Figs 77, 82, 85, 90, 94) 12.8-16.0× as long as wide, narrowing a little just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 2 setae (one of



Figs 89, 90. *Camptoptera papaveris*, female (presumed holotype of *C. pulla*). 89 – slide, 90 – habitus.

them apical); longest marginal seta 5.7-6.4× maximum wing width; disc with a slight brownish tinge and 1 or 2 irregular, incomplete rows of setae besides admarginal setae. Hind wing (Figs 82, 90, 95) 29-30× as long as wide; disc slightly infumate, with 2 rows of setae besides admarginal setae; longest marginal seta 8.0-9.1× maximum wing width.

Metasoma (Figs 77, 79, 82, 90, 91) about as long as or a little shorter than mesosoma. Petiole (Figs 77, 84, 91, 92) slightly wider than long, with a lateral lamella. Ovipositor occupying about 0.5 length of gaster or a little less, exserted slightly beyond its apex or not exserted, and 0.4-0.5× length of metatibia.

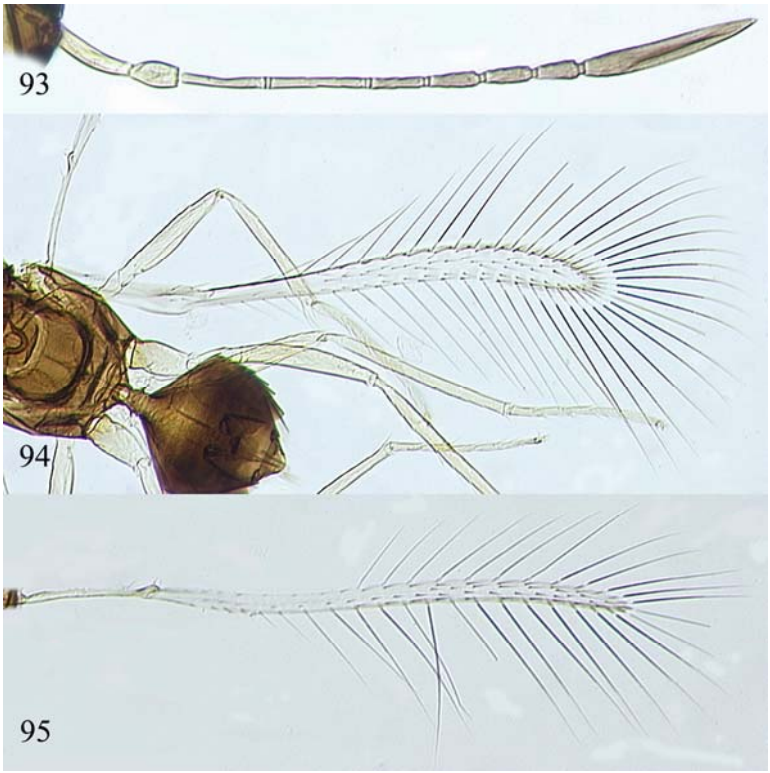
Figs 91, 92. *Camptoptera papaveris*, female (presumed holotype of *C. pulla*). 91 – body, 92 – mesosoma and petiole.

Measurements of the lectotype of *C. papaveris* (μm). Body 272 (obviously incorrect because the head is collapsed); mesosoma 124; petiole 21; gaster 100; ovipositor 58. Antenna: scape (including radicle) 52; pedicel 30. Fore wing 424:27; longest marginal seta 164.

Measurements of the holotype of *C. pulla* (μm). Body 364; head 97; mesosoma 66; petiole 15; gaster 133; ovipositor 82. Antenna: scape (including radicle) 58; pedicel 32; F1 55; F2 1; F3 62; F4 36; F5 35; F6 32; F7 29; clava 114. Fore wing 470:30; longest marginal seta 185. Hind wing 436:15; longest marginal seta 130.

MALE (paralectotypes of *C. papaveris* and non-type specimens from Europe). Body length 300-460 μm, usually 300-400 μm (slide-mounted specimens); body length of dry-mounted, critical point-dried specimens 295-365 μm. Similar to female except for normal sexually dimorphic features and the following. Antenna (Fig. 86) with scape 3.0-4.5× as long as wide; F2 and F4 ringlike, all other flagellomeres long, usually longer than scape but sometimes F1 about as long as scape. Fore wing (Fig. 87) 11.5-16.0× as long as wide, longest marginal seta 5.2-7.0× maximum wing width; hind wing 24-25× as long as wide. Gaster length varies (0.7-0.9× as long as mesosoma); genitalia (Fig. 88) length 30-42 μm.

DIAGNOSIS. *Camptoptera papaveris* is characterized by its minute size (usually less than 0.4 mm in slide-mounted specimens and 0.365 mm in dry-mounted, critical point-dried



Figs 93–95. *Camptoptera papaveris*, female (presumed holotype of *C. pulla*). 93 – antenna, 94 – fore wing and metasoma, 95 – hind wing.

specimens). Also see the diagnosis of *C. magna*, from which it differs by the usually relatively smaller size, as indicated above, and the fore wing length which is at most 0.492 mm whereas body size of *C. magna* is usually at least 0.4 mm in slide-mounted specimens and 0.38 mm in dry-mounted, critical point-dried specimens, and the fore wing length is at least 0.53 mm.

DISTRIBUTION. Austria (Soyka, 1961 [as *C. aequilonga*, *C. colorata*, and *C. interposita*]; Hellén, 1974), Belgium (Debauche, 1948), Bulgaria (Donev, 1981, 1987a,b, 1988), China* (Guo *et al.*, 2011 [as *C. grandithoracala*]), Czech Republic*, Denmark (Kryger, 1950), Finland (Hellén, 1974), France*, Germany, Greece (Donev, 1985a), Hungary*, Italy (Viggiani & Jesu, 1988), Japan* (Taguchi, 1971 [as *C. pulla*]); Kyrgyzstan*, Netherlands (Soyka, 1946, 1961), Poland* (Soyka, 1961 [as *C. annulata* and *C. tenuis*]), Portugal* (Soyka, 1961 [as *C. andradae* and *C. intermedia*]), Romania (Boţoc, 1960 [as *Sphegilla transilvanica*], 1962; Pricop, 2009, 2010), Russia*, Serbia (Donev, 1985b), Slovakia*, Spain (Huber *et al.*, 2009), Switzerland*, and UK (Girault, 1909; Girault, 1915a [as *C. saintpierrei*]; Kryger, 1950 (England); Bouček & Graham, 1978). Nearctic region*: Mexico*, and USA* (Girault, 1909 [as *C. pulla*]). Afrotropical region*: South Africa* (Ogloblin & Annecke, 1961 [as *C. pulla*]). Neotropical region*: Argentina* (Ogloblin & Annecke, 1961; De Santis, 1967) [as *C. pulla*]. Region unknown (either Nearctic or Neotropical): Mexico (De Santis, 1979 [as *C. pulla*]).

Records of this species (as *C. pulla*) outside of the Holarctic region need confirmation. I have examined the following specimens from Argentina, all determined by A. A. Ogloblin as either *C. pulla* or "*C. pulla* ssp. *australis*" (the latter is his manuscript name), at least on some of which Ogloblin & Annecke (1961) based their record from that country without, however, providing any information on the material examined: **Argentina:** Buenos Aires, Bella Vista, 20.III 1959 (A. A. Ogloblin) [1 ♀, MLPA] (as "*C. pulla* ssp. *australis*"). Jujuy, Caimancito, 25.V 1948 (A. A. Ogloblin) [1 ♀, MLPA] (as *C. pulla*). Salta, Río Caraparí, 29.V 1948 (A. A. Ogloblin) (on *Baccharis* sp.) [1 ♀, MLPA] (as "*C. pulla australis*"). While the specimens from Bella Vista, Buenos Aires and Caimancito, Jujuy indeed are practically indistinguishable from the European specimens of *C. papaveris*, the female from Río Caraparí, Salta has a different pattern of striations on frenum of the scutellum and thus definitely belongs to a different species.

HOSTS. *Oulema melanopus* (Linnaeus, 1758) (Coleoptera: Chrysomelidae) (Donev, 1987a). Other hosts are mostly unknown, but it is quite likely that this species is a polyphagous egg parasitoid of various Coleoptera. Dozier *et al.* (1932), however, reported seven specimens of *C. pulla* reared in Newark, Delaware, USA from eggs of the grape berry moth, *Paralobesia viteana* (Clemens, 1860) [as *Polychrosis viteana* (Clemens)] (Lepidoptera: Tortricidae). This host record needs confirmation. I have examined two of these specimens in USNM; they without any doubt belong to *C. papaveris*.

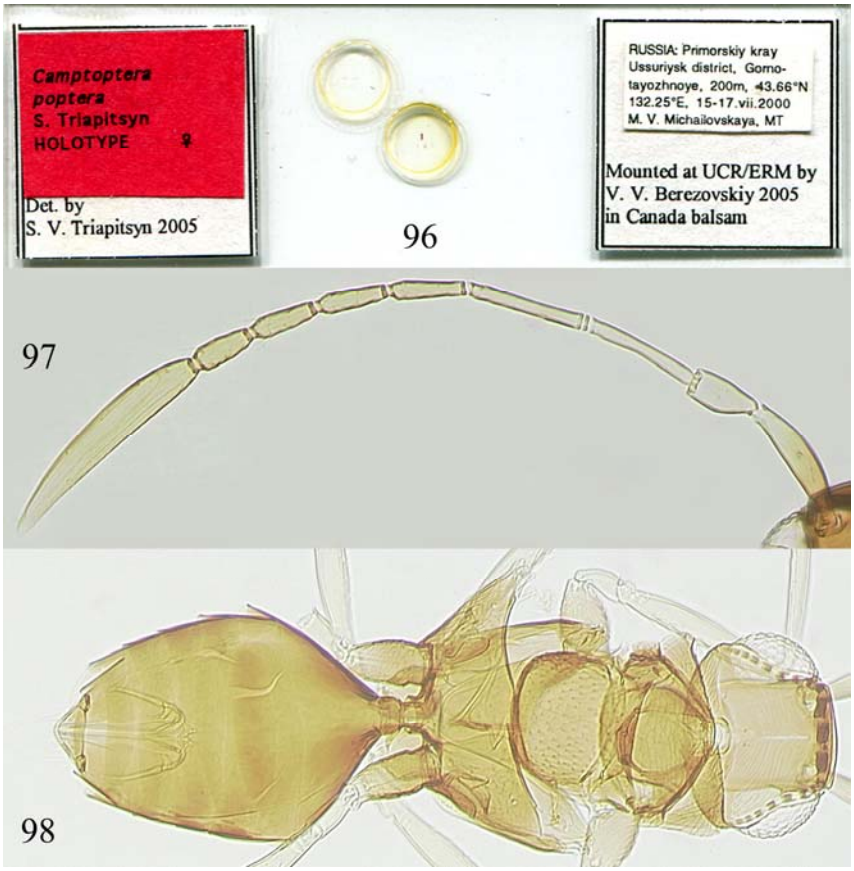
COMMENTS. *Sphegilla transilvanica*, according to the original description and the illustrations provided in it (Boţoc, 1960), obviously did not fit the former genus *Sphehilla* as it has a long F1 of the female antenna. Most likely, Margareta Boţoc simply just did not notice a ringlike F2; much less likely, it was an aberrant specimen that lacked it. I think the first possibility is by far more likely because in the reprint of the article containing her original description that was sent by M. Boţoc to my father Vladimir A. Trjapitzin upon its publication, the entire description of this species was crossed out by her. That makes me believe that she later realized her mistake and the ring segment was actually present. The type material of this species is lost. All other morphological characters of *Sphegilla transilvanica* fit well those of *C. papaveris* including the body size (0.397 mm) (Boţoc, 1960), hence the synonymy.

***Camptoptera poptera* Triapitsyn, sp. n.**
Figs 96–103

TYPE MATERIAL. Holotype female [ZIN] on slide (Fig. 96): **Russia:** Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye, 15-17.VII 2000 (M. V. Michailovskaya), MT. The holotype is lacking one fore leg except for the coxa. Paratypes (all on slides): **Russia:** Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye (M.V. Michailovskaya): 10-14.VI 1999, MT [1 ♀, UCRC]; 11-14.VII 1999, MT [1 ♂, ZIN]; 27-28.VII 1999, YPT [1 ♂, UCRC]; 5-11.VIII 1999, MT [1 ♂, UCRC]; 12-17.VIII 1999, MT [1 ♂, UCRC]; 6-14.IX 1999, MT [1 ♀, UCRC]; 21-31.VII 2000, MT [1 ♀, IBPV]; 12-15.VIII 2002, MT [1 ♂, UCRC]; 11-15.VIII 2003, MT [1 ♀, UCRC]. Sakhalinskaya oblast', Sakhalin Island, ca. 6 km E of Sokol, 47°15.08'N 142°48.10'E, 12.VIII 2001 (D.J. Bennett, T. Anderson), MT [2 ♀, 1 ♂, CAS].

DESCRIPTION. FEMALE (holotype and paratypes). Body length (slide-mounted specimens) 492-720 μm. Body (Fig. 98) dark brown; antenna brown except pedicel often light brown; legs light brown except metacoxa brown.

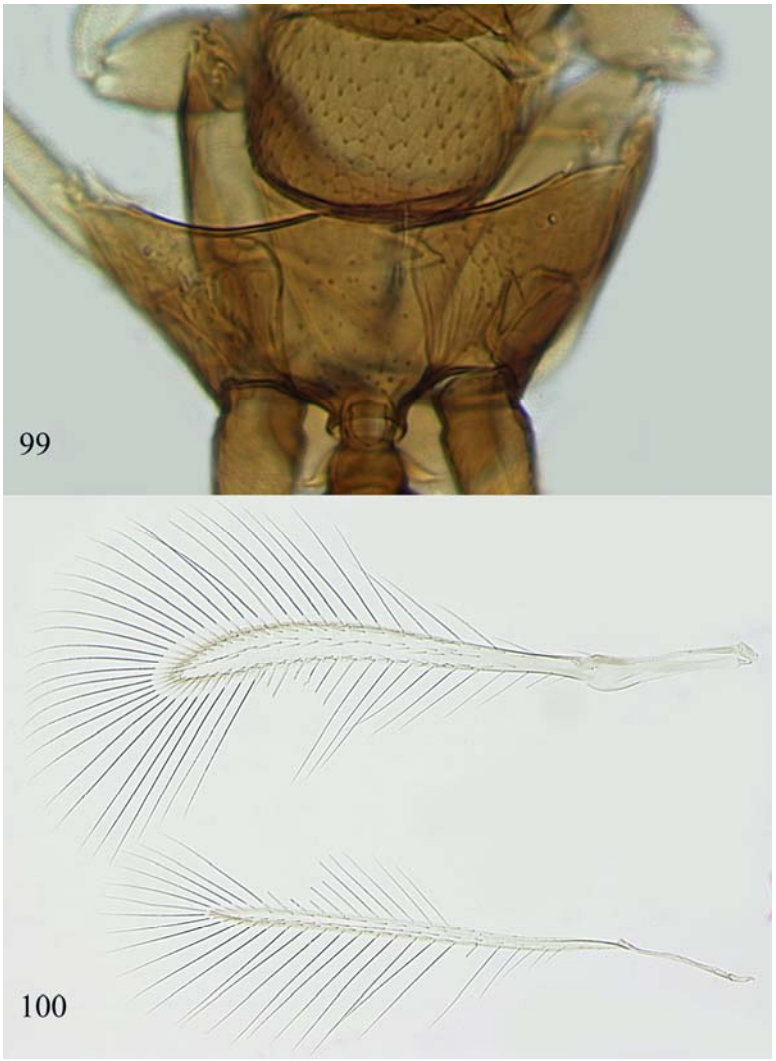
Head slightly narrower than mesosoma; face smooth, vertex reticulate-striate, and occiput striate. Antenna (Fig. 97) with scape including radicle 4.3-5.2× as long as wide; pedicel notably shorter than F1; funicle 7-segmented (F2 ringlike), F1 about as long as or a



Figs 96–98. *Camptoptera poptera* sp. n., female (holotype). 96 – slide, 97 – antenna, 98 – body.

little shorter than F3 (the longest funicle segment), following funicle segments each slightly shorter than preceding one, F7 the widest funicle segment; clava long, 6.1-7.5× as long as wide, with 4 mps, longer than combined length of F5-F7 (occasionally just a little but sometimes almost as long as combined length of F4-F7).

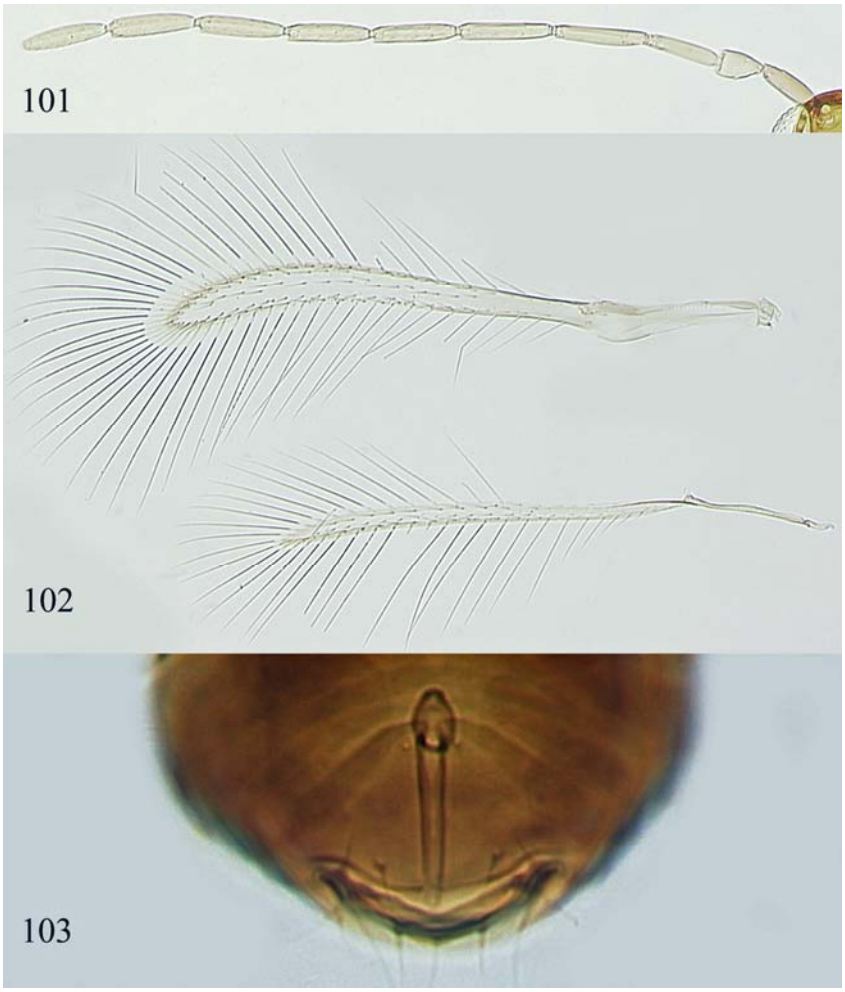
Mesosoma (Figs 98, 99) 1.3× as long as wide. Mesoscutum and scutellum reticulate, sculpture cells on frenum of scutellum finer than on midlobe of mesoscutum. Propodeum with linear submedian carinae slightly widening towards metanotum and extending or almost extending to it, the area between submedian carinae bearing minute spicules; lateral lobes of propodeum with a faint sculpture. Fore wing (Fig. 100) 11.9-12.5× as long as wide, curving slightly towards wing's apex; marginal vein with 2 setae: a short proximal seta and a longer distal seta; longest marginal seta 3.8-5.1× maximum wing width; disc with a slight brownish tinge and 1 or 2 incomplete rows of setae besides 2 rows of setae (1 on dorsal surface and 1 on ventral serface) along each margin. Hind wing (Fig. 100) 25-28× as long as wide; disc slightly infumate, with 1 row of setae besides admarginal rows of setae; longest marginal seta 7.6-8.4× maximum wing width.



Figs 99, 100. *Camptoptera poptera* sp. n., female (holotype). 99 – mesosoma (part) and petiole, 100 – a pair of wings.

Metasoma (Fig. 98) about as long as or longer than mesosoma. Petiole (Fig. 99) 1.8-2.0× wider than long, with a lateral lamella. Ovipositor not or just barely exserted beyond apex of gaster, occupying up to 0.4 of its length, and 0.49-0.58× length of metatibia.

Measurements (μm) of the holotype. Body 612; head 118; mesosoma 236; petiole 16; gaster 258; ovipositor 103. Antenna: scape plus radicle 78; pedicel 40; F1 66; F2 1.5; F3 67; F4 42; F5 39; F6 36; F7 33; clava 142. Fore wing 591:48; longest marginal seta 215. Hind wing 560:22; longest marginal seta 167.



Figs 101–103. *Camptoptera poptera* sp. n., male (paratype). 101 – antenna, 102 – a pair of wings, 103 – genitalia.

MALE (paratypes). Body length (slide-mounted specimens) 461-689 µm. Similar to female except for normal sexually dimorphic features and the following. Antenna (Fig. 101) with flagellum 10-segmented (F2 and F4 ringlike), scape 3.8-4.8× as long as wide, Fl a little longer than scape. Wings (Fig. 102) sometimes relatively more setose than in female; fore wing 10.9-12.3× as long as wide. Genitalia (Fig. 103) length 51-60 µm.

DIAGNOSIS. *Camptoptera poptera* is similar to *C. punctum* from which it differs by the much shorter petiole and a longer F1 relative to F4, as indicated in the key.

ETYMOLOGY. The species name is an arbitrary combination of letters treated as a noun in apposition.

HOSTS. Unknown.

***Camptoptera punctum* (Shaw, 1798)**
Figs 104–114

Ichneumon punctum Shaw, 1798: 189 (description), 192 (illustration – plate 18, fig. 1). Original type material lost (Huber, 2011). Neotype female [BMNH], designated by Huber, 2011: 56 (not examined). Original type locality: unknown, but presumably and almost certainly England, UK (Huber, 2011); type locality (of the neotype): 51°01'18"N 1°32'27"W, 52 m, Awbridge (near Romsey), Hampshire Co., England, UK.

Camptoptera ellifranzae zur Strassen, 1950: 145–150. Type locality: Kronberg im Taunus, Hesse, Germany. **Syn. n.**

Camptoptera gschnitzi Soyka, 1961: 74 (key), 77–78. Type locality: Trins Padaster (ca. 2000 m) according to the original description but the road between Steinach am Brenner and Trins on the label of the holotype, Gschnitztal, Tyrol, Austria. **Syn. n.**

Camptoptera perpilosa Soyka, 1961: 74 (key), 83–84. Type locality: St. Ignatius Jesuit College (Ignatiuskolleg), Valkenburg, Limburg, Netherlands. **Syn. n.**

Camptoptera ellifranzae zur Strassen: Soyka, 1961: 86 (probably a synonym of *C. magna*); Trjapitzin, 1978: 524 (key, distribution); Huber & Lin, 1999: 30 (list).

Camptoptera gschnitzi Soyka: Huber & Lin, 1999: 30 (list).

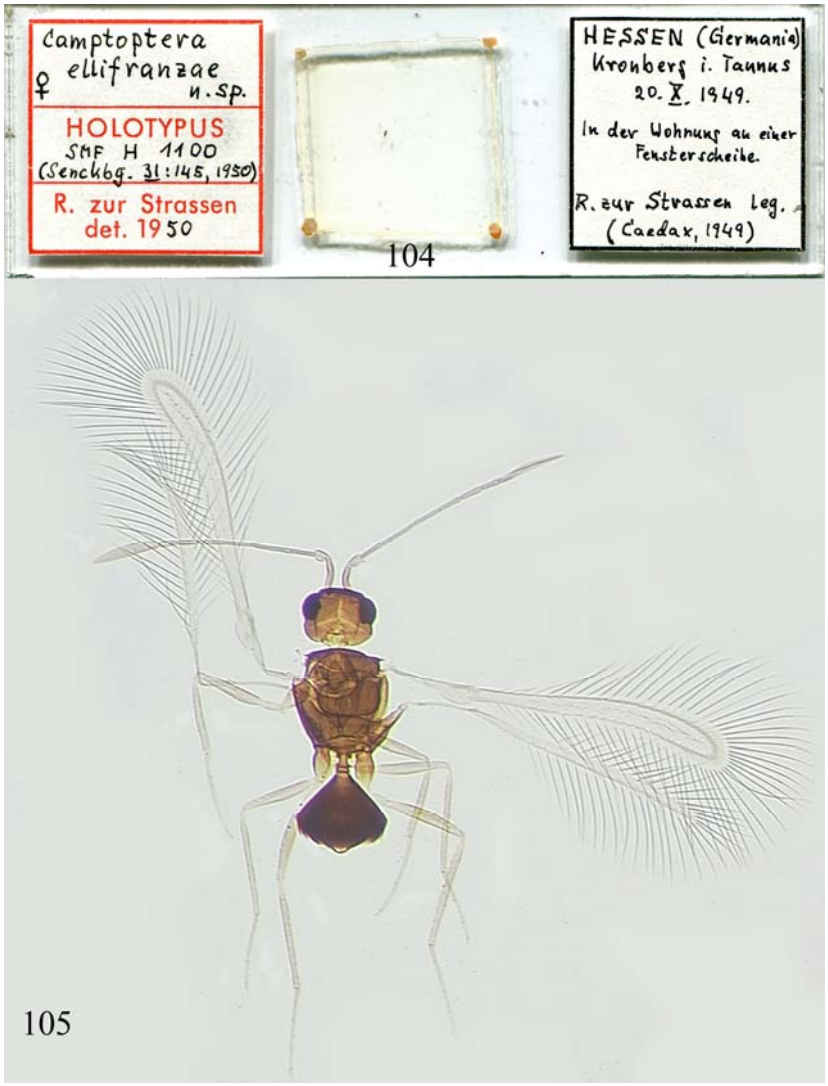
Camptoptera perpilosa Soyka: Huber & Lin, 1999: 31 (list).

Camptoptera punctum (Shaw): Huber, 2011: 47–61 (historical review, generic placement, neotype designation, redescription, illustrations, discussion, etc.). Huber (2011) also gave a detailed list of the use of this name in the genera *Anaphes* Haliday, 1833 and *Mymar* Curtis, 1829; it is not provided here to avoid repetition.

TYPE MATERIAL EXAMINED. *Camptoptera ellifranzae* zur Strassen: Holotype female [SMF] on slide (Fig. 104) labeled: 1. "HESSEN (Germania) Kronberg i. Taunus 20.X.1949 In der Wohnung an einer Fensterscheibe. R. zur Strassen Leg. (Caedax, 1949)"; 2. "*Camptoptera ellifranzae* n. sp. ♀ HOLOTYPUS [red] SMF H 1100 (Senckbg. 31: 145, 1950) R. zur Strassen det. 1950 [in red except "50"]". The holotype (Fig. 105) is in good condition, complete, and mounted dorsoventrally in "Caedax" (a synthetic resin) medium, as indicated on the data label. Paratypes [SMF]: 4 ♀ on points, labeled: 1. "Kronberg i. Ts 20.X.1949" [2 ♀] or "21.X.1949" [2 ♀] "R. z. S."; 2. [red] "Para-typoid"; 3. [orange] "*Camptoptera elli-franzae* R. z. Strassen". The paratypes are in good condition although one laking several apical flagellar segments of one antenna and another (one of the two collected on 20.X 1949) lacking the head and antennae; the latter was slide-mounted at UCRC, it belongs either to *C. magna* (more likely although I am not sure, but it definitely has the frenum of the scutellum longitudinally striate) or, otherwise, to *C. papaveris*. One paratype (one of the two females collected 21.X 1949) actually belongs to *C. papaveris* (its body length is only about 0.3 mm). The other two paratypes examined (their body length is about 0.4 mm) may either be conspecific with the holotype of *C. ellifranzae* or belong to *C. magna*, so good slide mounts are needed to figure out their true identity. The remaining 6 female paratypes (all in SMF) have not been examined.

Camptoptera gschnitzi Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *gschnitzi* (Soyka) Type", 2. [red] "Type", 3. "Gschnitztal Tirol Weg Steinach – Trins 16.9.1948 lg Pechl. Coll Soyka In Canadab". The collector was E. Pechlaner. The holotype is in fair condition, complete, mounted laterally.

Camptoptera perpilosa Soyka: Holotype female [NHMW] on slide labeled: 1. "*Camptoptera* ♀ *perpilosa* (Soyka) Type", 2. [red] "Type", 3. "Valkenburg S. Holland Ign Kolleg, am Fenster 15. Okt. 1930 Soyka lg Coll. Soyka In Canadabalsam". The holotype is in fair



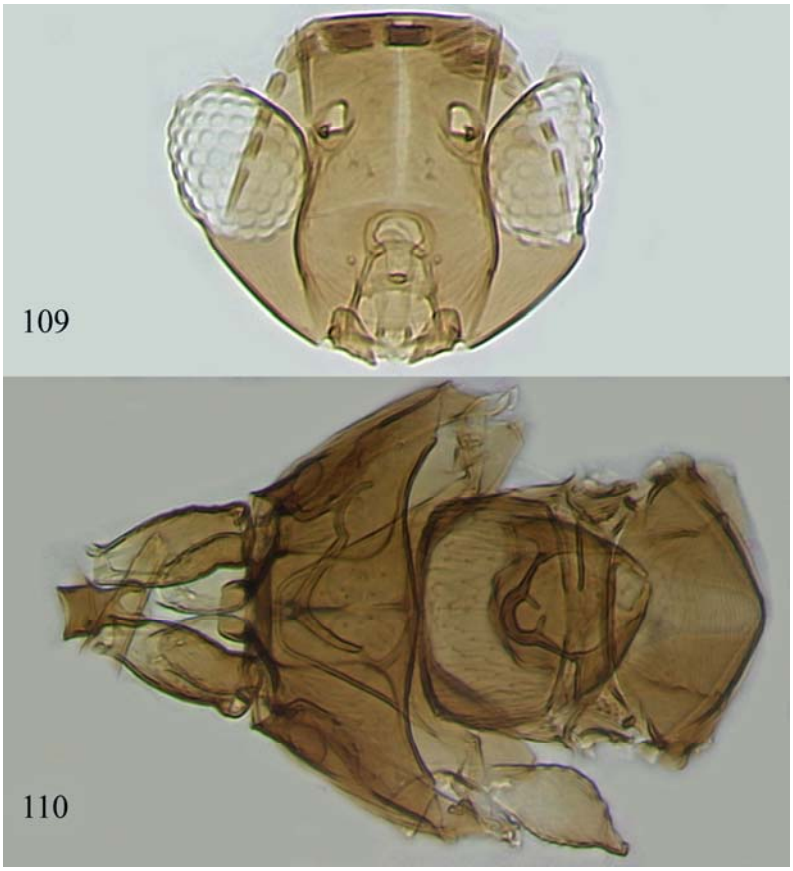
Figs 104, 105. *Camptoptera punctum*, female (holotype of *C. ellifranzae*). 104 – slide, 105 – habitus.

condition, with head and mesosoma mounted more or less dorsoventrally and metasoma detached and mounted laterally, lacking both fore legs (except for one procoxa) and one middle leg.

MATERIAL EXAMINED. **Austria:** Tyrol: Innsbruck: Hötting (E. Pechlaner): 26.VII 1950 (from hay on window) [1 ♀, NHMW] (incorrectly labeled by W. Soyka as a "Para-Type" of *C. signatipennis* because the latter was described by Soyka (1961) from the single female holotype, thus this specimen has no type status); 1.IX 1950 [1 ♀, NHMW] (labeled by

Figs 106–108. *Camptoptera punctum*, female (holotype of *C. ellifranzae*). 106 – antenna, 107 – body, 108 – a pair of wings.

W. Soyka as a "Type" of *C. boidli* Soyka, which is his unpublished manuscript name); VII 1951 [3 ♀, NHMW] (one of them labeled by W. Soyka as a "Co-Type" of *C. innsbrucki* Soyka, his unpublished manuscript name, and the other two incorrectly labeled by him as "Para-Type"s of *C. gschnitzi*; because the latter was described by Soyka (1961) from the single female holotype both specimens have no type status). Krössbach (W. Soyka) (on window): IX 1948 [1 ♀, NHMW]; 5.IX 1949 [1 ♀, NHMW]; 10.VIII 1956 [1 ♀, NHMW]; 15.VIII 1958 [1 ♀, NHMW]; 22.VIII 1960 [2 ♀, NHMW]; 10.VIII 1961 [1 ♀, NHMW]; 10.VIII 1962 [1 ♀, NHMW]; 16.VIII 1962 [1 ♀, NHMW]; 11.VII 1963 [1 ♀, NHMW]; 3.VIII 1963 [1 ♀, NHMW]; 10.VII 1964 [1 ♀, NHMW]; 14.VII 1965 [2 ♀, NHMW]. **France:** Vaucluse, Mt. Ventoux, VI 1978 (P. du Merle) [1 ♀, BMNH]. **Germany:** North Rhine-Westphalia, Imbach (near Opladen), 1.XI 1962 (M. Boness) (from a polypore fungus) [1 ♀, NHMW].



Figs 109, 110. *Camptoptera punctum*, female (Mt. Ventoux, Vaucluse, France). 109 – head (frontal view), 110 – mesosoma.

REDESCRIPTION. FEMALE (holotypes of *C. ellifranzae*, *C. gschnitzi* and *C. perpilosa*, and non-type specimens, all slide-mounted). Body length 430-590 µm (usually at least 500 µm). Body (Figs 105, 107, 111) dark brown, antenna brown except pedicel lighter, legs light brown except metacoxa brown to dark brown.

Head (Fig. 109) narrower than mesosoma. Antenna (Figs 106, 111, 112) with scape minus short radicle a little curved in dorsal view, 3.8-4.3× as long as wide in lateral view and about as long as F3; pedicel shorter than F1; funicle 7-segmented (F2 ringlike), F1 notably shorter than F3 (the longest funicle segment) and about as long as F4 (or sometimes slightly shorter or longer), following funicle segments each slightly shorter than preceding one, F6 and more so F7 the widest funicle segments; clava with 4 mps, about as long as or a little longer than combined length of F5-F7.

Mesosoma (Figs 107, 110, 113) 1.0-1.1× as long as wide. Pronotum not visible in dorsal view. Notauli faint anteriorly, indistinct posteriorly. Mesoscutum retuculate (partially transversely retuculate-striate anteriorly); scutellum (including frenum) with a faint, raised mesh-like reticulation (Figs 110, 113). Metanotum very narrow. Propodeum with faint, very

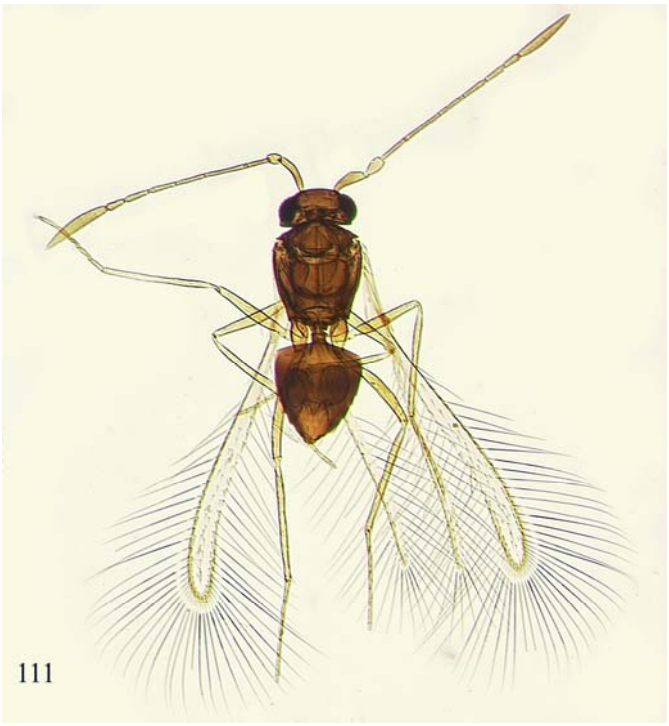


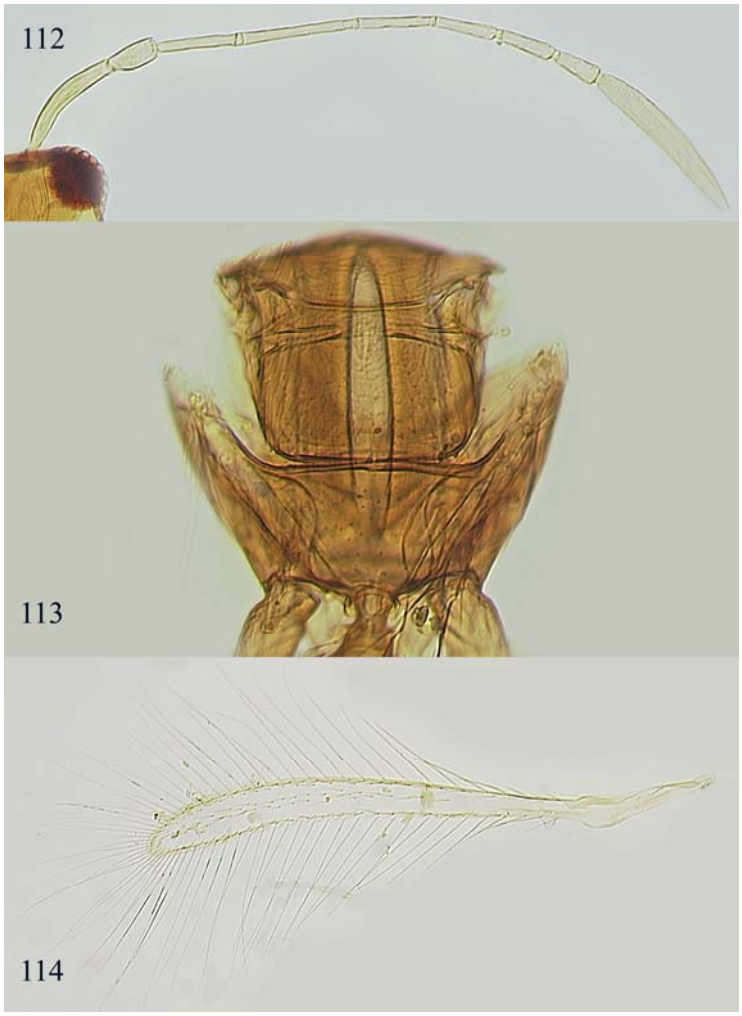
Fig. 111. *Camptoptera punctum*, female, habitus (Krössbach, Tyrol, Austria).

wide apart linear, curved submedian carinae slightly widening towards metanotum and extending or almost extending to it, the area between submedian carinae bearing minute spicules. Fore wing (Figs 105, 108, 111, 114) 11.1-12.2× as long as wide, narrowing a little just beyond venation and then gradually broadening and curving towards wing's apex; marginal vein with 2 setae; longest marginal seta 4.0-5.0× maximum wing width; disc with a slight brownish tinge and 1 to 3 irregular rows of setae. Hind wing (Figs 105, 108, 111) 23-29× as long as wide; disc slightly infumate, with 2 irregular rows of setae (mostly along anterior margin, bare along posterior margin apically); longest marginal seta 7.8-8.2× maximum wing width.

Metasoma (Figs 107, 111) at least slightly longer than mesosoma. Petiole 1.0-1.2× as long as wide, with a lateral lamella (see "Comments" below). Ovipositor not or slightly exserted beyond apex of gaster, usually occupying less than 0.5 of its length, 0.45-0.49× length of metatibia.

Measurements (μm) of the holotype of *C. ellifranzae.* Body: 520; head: 112; mesosoma 212; petiole 33; gaster 170; ovipositor 97. Antenna: scape (including radicle) 70; pedicel 31; F1 45; F2 3; F3 75; F4 52; F5 47; F6 40; F7 33; clava 138. Fore wing 652:54; longest marginal seta 239. Hind wing 608:21; longest marginal seta 173.

Measurements (μm) of the holotype of *C. gschnitzi.* Body: 560; mesosoma 221; petiole 36; gaster 273; ovipositor 94. Antenna: scape (excluding radicle) 78; F1 52; F2 3; F3 75; F4 55; F5 43; F6 39; F7 33; clava 136. Fore wing 646:58; longest marginal seta 290. Hind wing 560:24; longest marginal seta 191.



Figs 112–114. *Camptoptera punctum*, female (Hötting, Tyrol, Austria). 112 – antenna, 113 – mesosoma and petiole, 114 – fore wing.

MALE. Unknown.

DIAGNOSIS. *Camptoptera punctum*, a relatively large species which is known only from female sex, is characterized by the frenum of the scutellum with a faint, raised mesh-like reticulation (Huber, 2011), who redescribed it based on a card-mounted neotype. From *C. magna*, which has a similar habitus, *C. punctim* differs, besides having a retuculate frenum of the scutellum (longitudinally striate in *C. magna*), also by having the apical part of the hind wing bare along the posterior margin (Fig. 111) whereas in *C. magna* there is a row of setae along the entire posterior margin of the hind wing (Figs 63, 66). Also, in *C. punctum* F1 of the female antenna is about as long as F4 (or sometimes just slightly shorter or longer) whereas in *C. magna* it is usually notably longer than F4.

DISTRIBUTION. Austria* (Soyka, 1961 [as *C. gschnitzi*]), France*, Germany* (zur Strassen, 1950 [as *C. ellifranzae*]); Netherlands* (Soyka, 1961 [as *C. perpilosa*]), and UK (England).

HOSTS. Unknown.

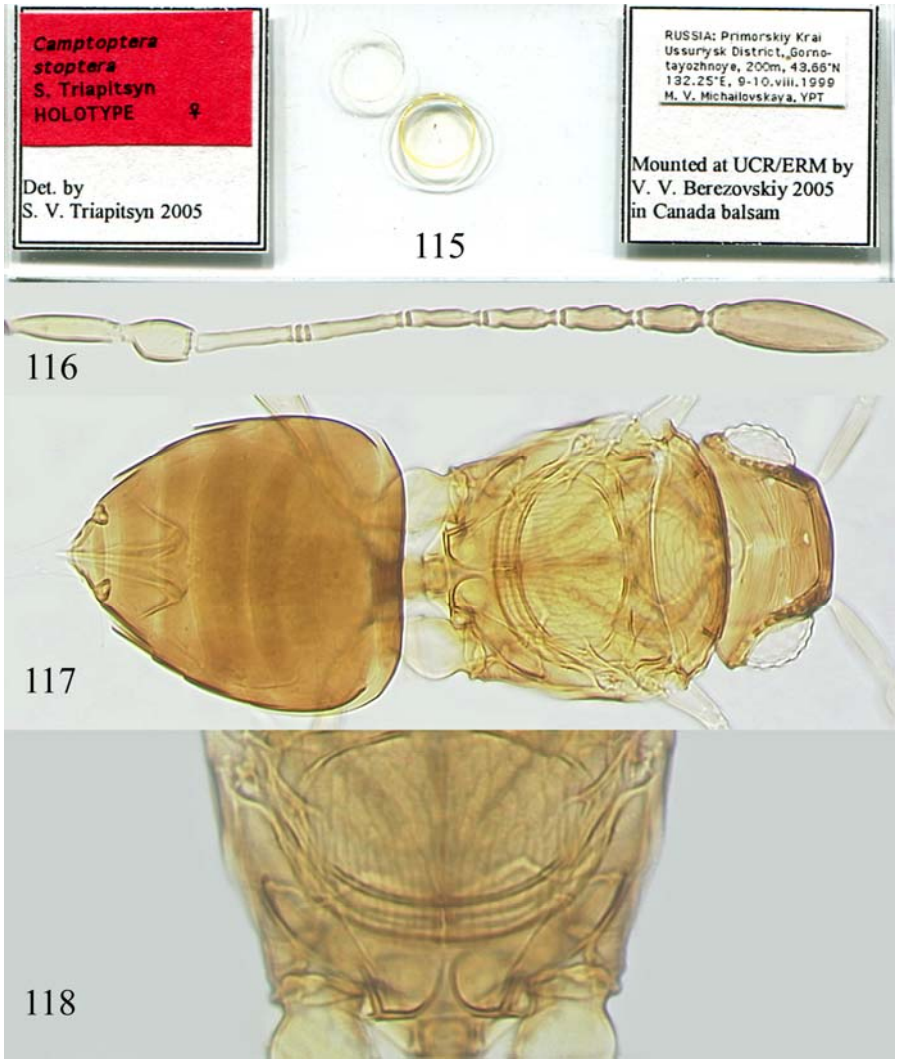
COMMENTS. This European species appears to be quite rare. In my opinion, a good dorsoventral slide mount in Canada balsam of the neotype is necessary to better see and illustrate the details of the sculpture on the mesonotum and especially the structure of the petiole even though good quality digital photohraphs of the dry-mounted specimen are available (Huber, 2011). According to John T. Huber (personal communication) and possibly contrary to the published diagnosis of *C. punctum* (Huber, 2011, p. 56), the petiole of its neotype female may not have a clearly visible lateral lamella (it is difficult to see in a dry-mounted specimen). However, in the holotype of *C. ellifranzae* (Fig. 107) and also in two adequately, dorsoventrally slide-mounted non-type specimens in NHMW from Hötting, Innsbruck, Austria (Fig. 113), such a lamella is present closer to the apex of the petiole, and in the specimens from Krössbach, Tyrol, Austria (Fig. 111) it is also present but closer to the base of the petiole; these large females definitely belong to *C. punctum* because their frenum of the scutellum has the typical faint, raised mesh-like reticulation described and illustrated by Huber (2011); no other European species of *Camptoptera* has this feature. In one well-mounted although incomplete female from Mt. Ventoux, France, which is attributable to *C. punctum* (it also has a characteristic sculpture on the frenum, Fig. 110), a lateral lamella is also clearly present on the petiole (Fig. 110). In other specimens attributable to *C. punctum* that I have examined presence of a lateral lamella on the petiole is not as evident although most of W. Soyka's poorly cleared slide mounts are lateral and thus not ideal for observing details of their anatomy.

***Camptoptera stoptera* Triapitsyn, sp. n.**
Figs 115–123

TYPE MATERIAL. Holotype female [ZIN] on slide (Fig. 115): **Russia:** Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye, 9-10.VIII 1999 (M. V. Michailovskaya), YPT. The holotype is lacking one fore leg except for the coxa. Paratypes, same locality and collector as the holotype (all on slides), YPT except when indicated otherwise: 21-22.VI 1999 [1 ♀, UCRC]; 23-24.VI 1999 [1 ♀, 1 ♂, UCRC]; 3-4.VII 1999 [3 ♀, UCRC]; 13-14.VII 1999, MT [2 ♂, UCRC, ZIN]; 21-22.VII 1999 [2 ♀, 5 ♂, UCRC]; 25-26.VII 1999 [1 ♂, UCRC]; 27-28.VII 1999 [2 ♀, 6 ♂, UCRC]; 29-30.VII 1999 [7 ♀, UCRC (6), ZIN (1); 3 ♂, CNCI, IBPV, UCRC]; 5-11.VIII 1999, MT [1 ♂, UCRC]; 9-10.VIII 1999 [2 ♀, IBPV, UCRC]; 15-17.VIII 1999 [2 ♀, 1 ♂, UCRC]; 17-18.VIII 1999 [8 ♀, CNCI (1), IBPV (1), UCRC (6)]; 22-28.VIII 1999 [2 ♀, UCRC]; 10-15.IX 1999 [2 ♀, UCRC]; 11-12.IX 1999 [2 ♀, UCRC]; 22-23.IX 1999 [2 ♀, UCRC]; 25-26.IX 1999 [2 ♀, UCRC]; IX 1999 [4 ♀, 2 ♂, UCRC]; 2-4.V 2000 [1 ♀, UCRC]; V 2000 [2 ♀, UCRC]; 11-12.VI 2000 [5 ♀, UCRC]; 13-15.VI 2000 [1 ♀, UCRC]; 12.VII 2000, MT [1 ♀, UCRC]; VIII 2000 [5 ♀, CNCI (1), UCRC (2)]; 15-18.IV 2003, MT [1 ♀, UCRC].

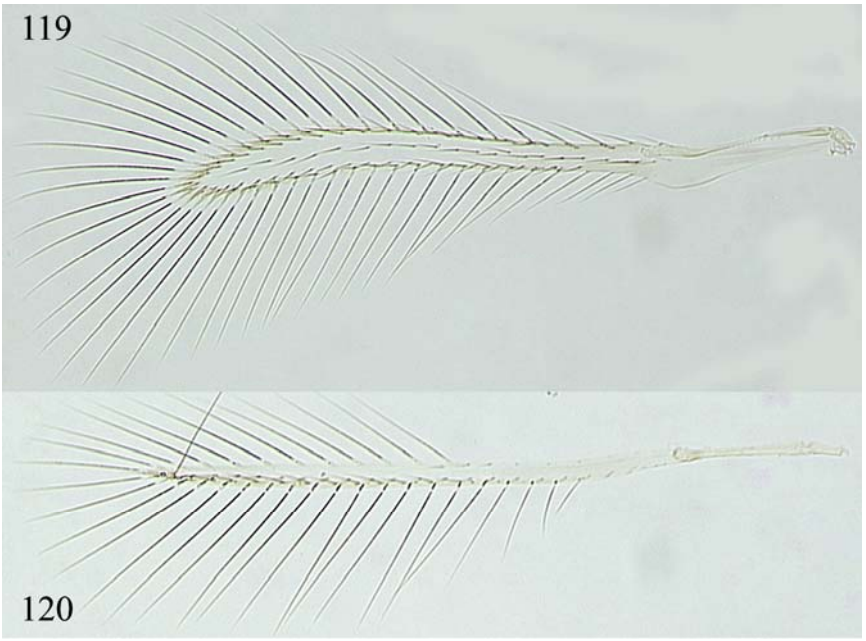
EXTRALIMITAL RECORDS. **Taiwan (Pepublic of China):** Nantou Pilu Chi Hydroelectric Station, 2000 m, 15-30.VI 1997 (M. Yang), MT [3 ♀, UCRC]. These specimens, which are not included in the paratype series of *C. stoptera* sp. n., are virtually identical to those from its type locality. The high altitude fairyfly fauna of Taiwan's "sky islands" thus definitely has some Palaearctic elements such as this species.

DESCRIPTION. FEMALE (holotype and paratypes)**.** Body length (slide-mounted specimens) 394-474 μm. Head and mesosoma brown; scape and pedicel light brown to brown, flagellum brown; metasoma dark brown; legs light brown.



Figs 115–118. *Camptoptera stoptera* sp. n., female (holotype). 115 – slide, 116 – antenna, 117 – body, 118 – mesosoma (part).

Head a little narrower than mesosoma; face smooth, vertex and occiput striate. Antenna (Fig. 116) with scape plus radicle 2.5-4.8× as long as wide; pedicel shorter than F1; funicle 7-segmented (F2 ringlike), F1 either as long as F3 (the longest funicle segments) or slightly longer, following funicle segments subequal in length (F7 slightly shorter), F6 and F7 the widest funicle segmenst; clava short, 3.4-3.8× as long as wide, with 4 mps, usually about as long as combined length of F6, F7, and 0.5 length of F5 but occasionally about as long as combined length of F5-F7.



Figs 119, 120. *Camptoptera stoptera* sp. n., female (holotype). 119 – fore wing, 120 – hind wing.

Mesosoma (Figs 117, 118) 1.0-1.1× as long as wide. Pronotum not visible in dorsal view. Mesoscutum retuculate (notauli not evident), with sculpture cells mostly transverse, particularly medially; axillae, scutellum, and metanotum reticulate, with sculpture cells on frenum of scutellum and metanotum longitudinal. Propodeum (Fig. 118) smooth, with a very wide, complete median carina and incomplete lateral carinae not extending to metanotum. Fore wing (Fig. 119) 13.4-14.9× as long as wide, gradually curving towards wing's apex; marginal vein with 1 seta; longest marginal seta 5.1-5.6× maximum wing width; disc almost hyaline and with 1 complete row of setae besides admarginal rows of setae. Hind wing (Fig. 120) 27-29× as long as wide; disc slightly infumate, with 2 rows of setae along posterior margin and 1 short, incomplete (absent apically) row of short setae along anterior margin; longest marginal seta 8.1-8.6× maximum wing width.

Metasoma (Fig. 117) usually a little longer than mesosoma but sometimes about as long as mesosoma. Petiole 1.3-1.6× as long as wide, with a lateral lamella. Ovipositor not or just barely exserted beyond apex of gaster, occupying 0.3-0.4 of its length, and 0.46-0.49× length of metatibia.

Measurements (µm) of the holotype. Body 412; head 72; mesosoma 164; petiole 27; gaster 184; ovipositor 70. Antenna: scape plus radicle 51; pedicel 30; F1 42; F2 1.5; F3 42; F4 30; F5 30; F6 30; F7 28; clava 79. Fore wing 458:33; longest marginal seta 170. Hind wing 433:16; longest marginal seta 130.

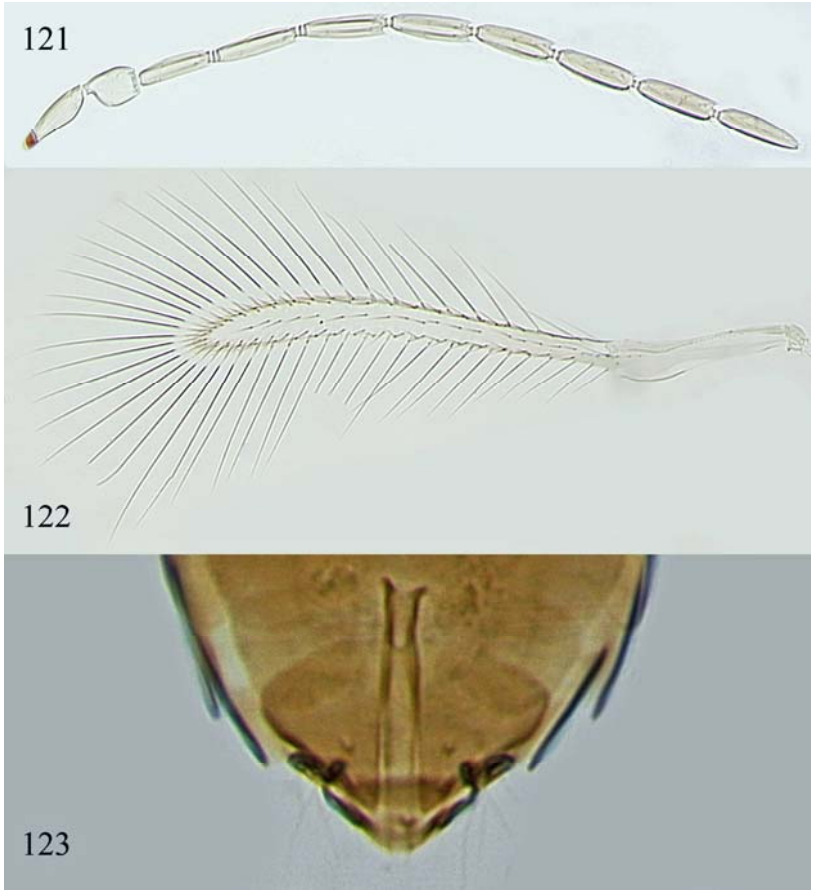
MALE (paratypes). Body length (slide-mounted specimens) 387-522 µm. Similar to female except for normal sexually dimorphic features and the following. Antenna (Fig. 121) with flagellum 10-segmented (F2 and F4 ringlike, very short and thus inconspicuous), scape

3.3-3.4× as long as wide, Fl about as long as scape. Mesosoma from a little longer to a little shorter than metasoma. Fore wing (Fig. 122) 12.3-14.1× as long as wide. Genitalia (Fig. 123) length 55-66 μm.

DIAGNOSIS. *Camptoptera stoptera* differs from all other Palaearctic species of this genus by the peculiar carinae on the propodeum (Fig. 118).

ETYMOLOGY. The species name is an arbitrary combination of letters treated as a noun in apposition.

HOSTS. Unknown.



Figs 121–123. *Camptoptera stoptera* sp. n., male (paratype). 121 – antenna, 122 – fore wing, 123 – genitalia.

***Camptoptera yamagishii* Taguchi, 1971**

Camptoptera yamagishii Taguchi, 1971: 51–52. Holotype male (not examined), lost from ZLMU according to Kenzou Yamagishi (personal communication). Type locality: Anbo, Yakushima Island (Ōsumi Islands), Kagoshima Prefecture, Japan.

DIAGNOSIS. *Camptoptera yamagishii*, a minute species (body length 0.242 mm) which is not included in the key, was known only from the single male holotype. According to Taguchi (1971), who described and illustrated it quite well, its antennal flagellum is 10-segmented, with F2 and F4 ringlike. The species may be recognized by a characteristic sculpture on the mesonotum (the midlobe of mesoscutum, axillae, frenum of the scutellum, and metanotum are reticulate whereas the propodeum is mostly smooth except for faint, linear submedian carinae and a line connecting them medially); a lateral lamella on the petiole is present. A matching, conspecific female needs to be found to proper recognize and diagnose this species.

DISTRIBUTION. Japan.

HOSTS. Unknown.

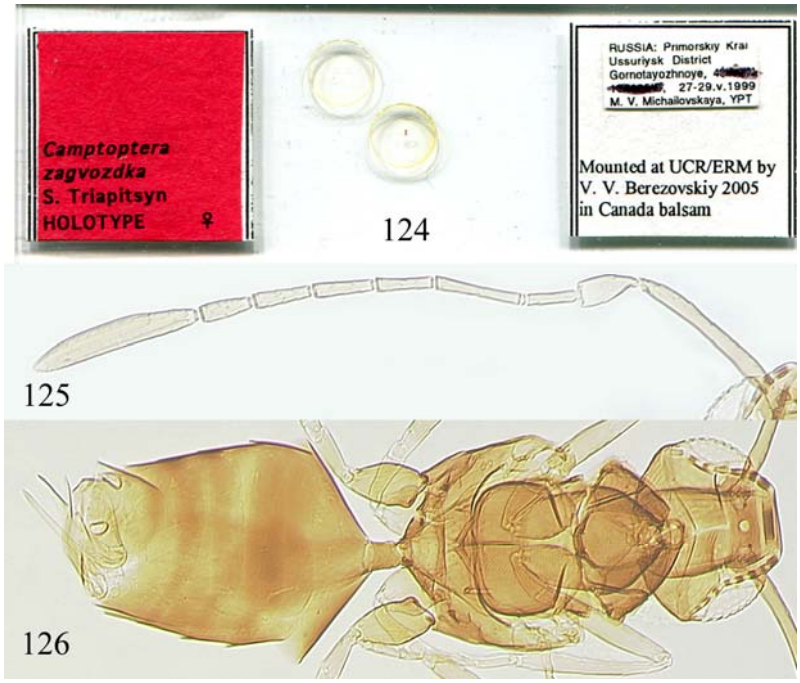
Camptoptera zagvozdka **Triapitsyn, sp. n.**
Figs 124–131

TYPE MATERIAL. Holotype female [ZIN] on slide (Fig. 124): **Russia:** Primorskii krai, Ussuriyskiy rayon, Gornotayozhnoye, 27-29.V 1999 (M. V. Michailovskaya), YPT. Paratypes (all on slides): **Russia:** Primorskii krai: Ussuriyskiy rayon, Gornotayozhnoye (M. V. Michailovskaya): 27-29.V 1999 [1 ♂, UCRC]; 28.V 1999 [1 ♂, UCRC]; 5-11.VI 1999 [2 ♂, UCRC]; 10-14.VI 1999 [1 ♂, UCRC]; 17-27.VI 1999 [1 ♂, UCRC]; 11-14.VII 1999 [1 ♂, UCRC]; 24.VII-1.VIII 1999 [3 ♂, IBPV, UCRC]; 1-4.VIII 1999 [2 ♂, UCRC, ZIN]; 5-11.VIII 1999 [1 ♂, UCRC]; 12-17.VIII 1999 [4 ♂, UCRC]; 28.VIII-5.IX 1999 [1 ♂, UCRC]; VIII-IX 1999 [4 ♂, CNCI (1), IBPV (1), UCRC (1), ZIN (1)]; 6-14.IX 1999 [1 ♂, UCRC]; 2-4.V 2000 [1 ♀, UCRC]; 11-12.VI 2000 [1 ♀, UCRC]; 15-30.IX 2000 [1 ♂, UCRC]; 10-20.V 2002 [1 ♀, UCRC]; 12-15.VIII 2002 [2 ♂, UCRC]; 15-18.IV 2003 [2 ♀, UCRC, ZIN]; 24-30.VII 2003 [1 ♀, UCRC]; 11-15.VIII 2003 [1 ♂, UCRC]; 15-19.IX 2003 [1 ♀, 1 ♂, UCRC]. Sakhalinskaya oblast', Sakhalin Island: 2 km E of Sokol, near Belaya River, 21.VII 2001 (D. J. Bennett, T. Anderson) [1 ♂, CAS]. 6 km E of Sokol, near Belaya River (D. J. Bennett, T. Anderson): 24.VII 2001 [3 ♀, 2 ♂, CAS]; 31.VII 2001 [1 ♀, CAS]; 12.VIII 2001 [2 ♂, CAS].

DESCRIPTION. FEMALE (holotype and paratypes). Body length (slide-mounted specimens) 492-716 μm. Body (Fig. 126) dark brown; antenna brown except pedicel light brown; legs light brown to brown.

Head narrower than mesosoma; face smooth, vertex at most with a faint, inconspicuous sculpture, and occiput striate. Antenna (Fig. 125) with scape minus radicle 7.8-9.7× as long as wide; pedicel slightly longer than F1; funicle 7-segmented (F2 ringlike), F1 much shorter than F3 (the longest funicle segment) and either about as long as F4 and F7 or slightly to notably shorter than F4 (ratio of F3 length to F1 length 1.5-1.9:1, and ratio of F3 length to F4 length 1.2-2.2:1), F5 usually longer than F4 and F6, F7 the widest funicle segment; clava 5.1-6.3× as long as wide, with 4 mps, usually about as long as combined length of F5-F7 but sometimes a little shorter.

Mesosoma (Fig. 126) 1.2-1.3× as long as wide. Mesoscutum with a faint, inconspicuous sculpture, scutellum smooth. Propodeum without defined submedian carinae, at most with a few short, very faint, inconspicuous sculpture lines and cells. Fore wing (Fig. 127) narrow, 12.5-14.9× as long as wide, curving slightly towards wing's apex; marginal vein with 1 seta; longest marginal seta 5.0-6.2× maximum wing width; disc with a slight brownish tinge and 1 (in smaller specimens) or 2 (in larger specimens) incomplete rows of setae besides 2 rows of setae (1 on dorsal surface and 1 on ventral serface) along each margin. Hind wing (Fig. 128) 22-27× as long as wide; disc slightly infumate, with 2 incomplete rows of setae besides admarginal rows of setae; longest marginal seta 7.6-8.6× maximum wing width.



Figs 124–126. *Camptoptera zagvozdka* sp. n., female (holotype). 124 – slide, 125 – antenna, 126 – body.

Metasoma (Fig. 126) longer than mesosoma. Petiole 0.9-1.5× wider than long, without a lateral lamella. Ovipositor slightly exserted beyond apex of gaster, occupying 0.3-0.4 of its length, and 0.6-0.75× length of metatibia.

Measurements (μm) of the holotype. Body 606; head 121; mesosoma 227; petiole 27; gaster 258; ovipositor 106. Antenna: scape plus radicle 130; pedicel 39; F1 36; F2 1.5; F3 62; F4 36; F5 45; F6 39; F7 36; clava 121. Fore wing 573:39; longest marginal seta 242. Hind wing 518:23; longest marginal seta 181.

MALE (paratypes). Body length (slide-mounted specimens) 387-596 μm. Similar to female except for normal sexually dimorphic features and the following. Antenna (Fig. 129) with flagellum 10-segmented (F2 and F4 ringlike, very short and thus inconspicuous), scape 6.4-7.8× as long as wide, Fl notably longer than scape. Mesosoma usually at least a little longer than metasoma but sometimes as long as or, rarely, a little shorter than metasoma. Fore wing (Fig. 130) 12.2-14.3× as long as wide. Genitalia (Fig. 131) length 54-66 μm.

DIAGNOSIS. *Camptoptera zagvozdka* is very similar to its European sibling species *C. cardui*; the main difference between them is the length of the male genitalia, as indicated in the diagnosis of the latter (relatively significantly longer even in the smallest specimens of the new species). Both sexes of *C. zagvozdka* also differ from those of *C. cardui* in lacking any defineable submedian carinae on the propodeum.

ETYMOLOGY. The species name, which is treated as a noun in apposition, vaguely stands for an obstacle in Russian, thus referring to the difficulty of defining this species whose female is very hard to distinguish morphologically from that of *C. cardui*.

HOSTS. Unknown.

Figs 127, 128. *Camptoptera zagvozdka* sp. n., female (holotype). 127 – fore wing, 128 – hind wing.

Nomina dubia

***Camptoptera dryophantae* Kieffer, 1902**
(species *incertae sedis*)

Camptoptera dryophantae Kieffer, 1902: 8–9. Type status not indicated (famele(s), not examined, type depository unknown). Type locality: Bitche, Moselle, Lorraine, France.
Camptoptera dryophantae Kieffer: Huber & Lin, 1999: 30 (list).

DISTRIBUTION. France.

HOST. Obtained from galls of *Cynips quercusfolii* Linneaus, 1758 [as *Dryophanta folii* Linnaeus] (Kieffer, 1902), but the host association is not apparent and thus needs confirmation.

COMMENTS. Placement of this species in *Camptoptera* is considered to be very doubtful because the original description is very poor. Its "citrus" yellow body color is uncharacteristic of *Camptoptera* species, and its body size (0.7 mm), as indicated by Kieffer (1902), seems to be quite large for most European species of the genus except for *C. cardui*, but the latter has different proportions of the funicle segments of the female antenna (F1 is much shorter than F3) whereas in *C. dryophantae* (in the very unlikely case if that were indeed a *Camptoptera*) the first two funicle segments are equal (Kieffer, 1902). In such case

he obviously overlooked a ringlike F2 so his F2 should have corresponded to F3; but his description of a 7-segmented "funicle" almost certainly referred to the entire flagellum. The most important morphological feature of *C. dryophantae* mentioned in the original description is though the fore wing, the longest marginal setae of which are "1½ to 2 times" maximum fore wing width" (Kieffer, 1902, p. 9). All the European species of *Camptoptera*, however, have the longest marginal setae much longer than that.

I have failed to locate the type material of this species; at least it was not found in MNHN (Claire Villemant, personal comminication).

Figs 129–131. *Camptoptera zagvozdka* sp. n., male (paratype). 129 – antenna, 130 – fore wing, 131 – genitalia.

***Camptoptera elongatula* Kryger, 1950**

Camptoptera elongatula Enock: Kryger, 1950: 46. Type status not indicated [in C. O. Waterhouse collection at BMNH]. Type locality not indicated in the original description, although most likely it was in England, UK.

Camptoptera elongatula Kryger: Huber & Lin, 1999: 30 (list).

DISTRIBUTION. ?UK: England (most likely).

HOSTS. Unknown.

COMMENTS. The type specimen(s) of this species, not specified in the original, unintended, description were not found in BMNH (Suzanne Ryder, personal communication) and thus is(are) presumed lost. From Kryger's short diagnosis it is possible to guess that this nominal species could likely be the same as *C. magna* (a more common species) or, far less likely, *C. punctum* (a rare species).

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