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***Colletes wolffi* spec. nova from Italy, and Lectotype designation for Palaearctic Bees of the Genus *Colletes* LATR., with Notes on new Homonymies and Synonymies (Hymenoptera: Apidae: Colletinae)**

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A b s t r a c t : *Colletes wolffi* spec. nova is described as a new species. The bee is closely related to *C. anchusae* NOSKIEWICZ 1924. The following junior homonyms are rejected and replaced by a nomen novum: *C. asiaticus* nom. nov. for *C. grisescens* NOSKIEWICZ 1936 and *C. mourei* nom. nov. for *C. similis* JÖRGENSEN 1912. *Colletes amamiensis* HIRASHIMA 1958 is recognized as an unavailable name for *C. esakii* HIRASHIMA 1958. *C. nadigi* NOSKIEWICZ 1933 syn. nov. is recognized as a synonym of *C. canescens* SMITH 1853 and *Andrena riukiensis* MATSUMURA 1926 syn. nov. is synonymized with *Colletes collaris* DOURS 1872. Lectotypes are designated for the following *Colletes* species: *C. alluaudi* COCKERELL 1931 spec. rev., *C. bischoffi* NOSKIEWICZ 1936, *C. biskrensis* NOSKIEWICZ 1936 spec. rev., *C. canescens* SMITH 1853, *C. gigas* COCKERELL 1918, *C. kudiensis* COCKERELL 1924, *C. kudonis* COCKERELL 1927, *C. riukiensis* (MATSUMURA 1926) stat. nov., *C. speculiferus* COCKERELL 1927 spec. rev. and *C. ventraliformis* COCKERELL 1924 spec. rev.. The taxonomic status of all species and nomenclatural problems are discussed.

K e y w o r d s : Taxonomy, new species, nomenclature, lectotype designation, new synonymy, *Colletes*, Apidae, Hymenoptera, palaearctic

Introduction

The palaearctic species of the bee genus *Colletes* were reviewed by NOSKIEWICZ (1936). In his excellent revision he published detailed species descriptions, a key to the species and figured the male 7th sternite and genitalia of most species. He examined the type material of various authors (e.g. Radoszkowsky, Morawitz, Pérez, Friese) and clarified the status of the taxa they described. Unfortunately Noskiewicz was not able to study the types of all previously described species of *Colletes*, and the status of several taxa remained uncertain. Several species Noskiewicz described as new were only represented by a few or even a single specimen, and he was not able to study the morphological variation of several species. Sometimes he could not decide whether individuals belonged to species, subspecies or just represent individual variation and he described them as species. Today much more *Colletes* material is available that can be used as a basis to study these taxonomic problems and to critically review the equivocal nomenclatural decisions of WARNCKE (1978).

As a part of a project to revise the Old World species of *Colletes*, replacement names are proposed for two primary homonyms and lectotypes are designated. A specimen has been accorded holotype status when the holotype is explicitly identified or the species group name is definitely based on a single specimen. If no definite information was available to

identify the holotype, a lectotype was designated. For species described by T.D.A. Cockerell, see the regulations of DALY & ELSE (1988). Unless otherwise indicated the labels are rectangular and on white paper with black printed text. Written additions on printed labels (e.g. date of collecting) are not indicated separately. The information on the labels is read from top to bottom and separated by "/". The species described by T.D.A. Cockerell bear his hand written label with the species group name, "Ckll" (usually underlined), and "TYPE". Species are listed in alphabetical order. The taxonomic status of the species, some of which were not available for Noskiewicz, is discussed. Additionally a new species collected in Italy by Mr. H. Wolf, Plettenberg, is described. Detailed descriptions and identification keys for all species mentioned in this paper will be published later.

Abbreviations of the institutions are following ARNETT et al. (1993).

AMNH	American Museum of Natural History, New York (J.G. Rozen, Jr.)
BMNH	Natural History Museum, London (G. Else, S. Lewis, C. Taylor)
EIHU	Entomological Institute, Faculty of Agriculture, Hokkaido University, Sapporo (M. Ohara)
OÖLM	Oberösterreichisches Landesmuseum, Linz (F. Gusenleitner)
USNM	U.S. National Museum of Natural History, Washington, DC (R.J. McGinley)
ZMHB	Zoologisches Museum der Humboldt Universität, Berlin (F. Koch)

Colletes wolffi spec. nova ♂ ♀

Holotype (♀): "I: Umbria: Montefalco, 20.-30.6.93. H. Wolf" (OÖLM).

Paratypes: 2 ♀ ♀ and 1 ♂ (dates see Holotype) (Coll. Kuhlmann).

D i a g n o s i s : The modified tibia I and the simple, non-bifurcate claws of the female are unique among palaearctic *Colletes* species and characterize *C. wolffi* as a member of the *anchusae* - group (sensu NOSKIEWICZ 1936). The only other known representative of this species group is *C. anchusae* NOSKIEWICZ 1924. In the key of NOSKIEWICZ (1936), *C. wolffi* runs to *C. anchusae*. *Colletes wolffi* very closely resembles *C. anchusae* and shows few but clear differences. *C. anchusae* was described in detail by NOSKIEWICZ (1924, 1936). For this reason the description of *C. wolffi* is restricted to the differences of both species.

Description ♀: Head and clypeus of *C. wolffi* (fig. 1a) broader than in *C. anchusae* (fig. 1b). Shape of the supraclypeal area of *C. wolffi* nearly square-like, in *C. anchusae* more like a triangle. Punctuation of the mesepisternum and scutum of *C. wolffi* more scattered and more shining than in *C. anchusae*.

Description ♂: Differences of head, clypeus, supraclypeal area and punctuation of mesepisternum and scutum between both species as in the females. Fovea facialis and basitarsus III of *C. wolffi* smaller than in *C. anchusae*. Gonostylus of *C. wolffi* (fig. 1c) smaller than in *C. anchusae* (fig. 1d) and showing a distinct angle in relation to the gonocoxite. In *C. anchusae* the gonostylus is more or less the linear continuation of the gonocoxite. The 7th sternite of *C. wolffi* (fig. 1e) is distinctly broader and the lateral and apical sides are more curved than in *C. anchusae* (fig. 1f).

Colletes wolffi and the closely related *C. anchusae* are well characterized by the modified

female forelegs and are normally not confused with other species of this genus. While such a bee is not mentioned in the catalogue of Italian bees (PAGLIANO 1994) *C. wolfi* seems to be a relatively rare species or its pollen source (Mr. Wolf collected it on *Anchusa* spec.) was not carefully investigated for bees.

C. anchusae is known from Poland, Hungary, Romania, Bulgaria, the former Yugoslavia and Turkey (WARNCKE 1978). While *C. wolfi* is hitherto only known from Italy, both species actually show a vicariant distribution.

Derivatio nominis: The species is dedicated to the well-known pompilid specialist Mr. Heinrich Wolf, Plettenberg (Germany), who collected this species in Italy.

***Colletes alluaudi* COCKERELL 1931 spec. rev.**

Colletes alluaudi COCKERELL 1931 — COCKERELL 1931: 415-416.

Lectotype (♂) (designated here): "B.M. Type Hym. 17.a.330 / (in Cockerell's handwriting): *Colletes alluaudi* CKLL. Type / (in handwriting): Asni, Morocco, Aug. 7, A. Mackie" (BMNH).

Colletes flavescens NOSKIEWICZ 1936 — NOSKIEWICZ 1936: 106-108.

In his description, Cockerell correctly recognized *C. alluaudi* as a member of the *nigricans*-group (sensu NOSKIEWICZ 1936) and compared it with *C. eous* MORICE and *C. cecrops* MORICE. NOSKIEWICZ (1936) suspected that *C. alluaudi* was the senior synonym of a species he described as *C. flavescens* in the same paper. But he was not able to prove his idea by examining the type of *C. alluaudi*. I compared the lectotype of *C. alluaudi* with specimens of *C. flavescens* determined by Noskiewicz from ZMHB and I agree with WARNCKE (1978) that *C. flavescens* is a junior synonym of *C. alluaudi*. WARNCKE (1978) erroneously synonymized *C. alluaudi* and *C. canescens* (see *C. canescens* for further information). Perhaps *C. siciliensis* NOSKIEWICZ is just a geographical variation of *C. alluaudi*. The type locality is Asni, a town in Morocco 40 km south of Marrakech.

***Colletes asiaticus* nom. nov.**

Colletes grisescens NOSKIEWICZ 1936 (nec COCKERELL 1930) — NOSKIEWICZ 1936: 442-444.

Colletes floralis grisescens NOSKIEWICZ 1936 — WARNCKE 1978: 354.

Colletes grisescens NOSKIEWICZ was first described from four males collected at Erdschias Dag and is only known from Turkey. WARNCKE (1978) interpreted it as a subspecies of the closely related *C. floralis* EVERSMAHN 1852, but it is clearly a distinct species. *Colletes grisescens* NOSKIEWICZ is a junior primary homonym of *C. grisescens* COCKERELL from Colorado (COCKERELL 1930: 4-5), that itself is a junior synonym of *C. paniscus* VIERECK 1903. While no known synonym of the junior homonym *Colletes grisescens* NOSKIEWICZ is available, the new replacement name *Colletes asiaticus* nom. nov. is proposed following article 60(c) ICZN.

***Colletes bischoffi* NOSKIEWICZ 1936**

Colletes bischoffi NOSKIEWICZ 1936 — NOSKIEWICZ 1936: 485-486.

Holotype (♂): "(grey label): illegible, remains of writing are visible / (yellow label, in handwriting): Himalaya / 2276 / *Colletes bischoffi* NOSK., det. Noskiewicz / (in Noskiewicz's handwriting): Type" (ZMHB).

This species is closely related to *C. collaris* DOURS. The slight differences between *C. bischoffi* and *C. collaris* are described by NOSKIEWICZ (1936). The latter is widely distri-

buted through the palaearctic region. It is known from Japan, China, Mongolia, parts of Central Asia and the Mediterranean and shows remarkably little variation. But very little is known about the bee fauna of the Himalayas and adjacent mountains and the variation of *C. collaris* in this region. Additional material is necessary to confirm the status of *C. bischoffi* as a species different from *C. collaris*.

***Colletes biskrensis* NOSKIEWICZ 1936 spec. rev.**

Colletes biskrensis NOSKIEWICZ 1936 — NOSKIEWICZ 1936: 110-111.

Holotype (♀): "(blue label): Biskra, 6.IV.14, R. Heymons S. / *Colletes* ♀ *biskrensis* NOSK., det. Noskiewicz / (in Noskiewicz' handwriting): Typus / (red label, in handwriting): Typus" (ZMHB).

In ZMHB are two females of *C. biskrensis* from the same locality, but just one bears the identification and type label of Noskiewicz. While the description of *C. biskrensis* is based on a single female, the specimen is designated as the holotype.

WARNCKE (1978) treated *C. biskrensis* as a junior synonym of *C. perezi* MORICE and considered it as an intermediate form between *C. perezi* and a species he called "*C. canescens*". The latter (sensu WARNCKE 1978) is conspecific with *C. alluaudi* (see *C. canescens* for further information). By their morphology and pilosity, *C. perezi*, *C. alluaudi* and *C. biskrensis* are definitely distinct species (see NOSKIEWICZ 1936 for details). The examination of the genitalia and the 7th sternite of the hitherto unknown male of *C. biskrensis* support this view. But actually it is not clear whether *C. biskrensis* is a separate species or just a geographical variation of *C. eous* MORICE.

The present nomenclatural situation within the *C. dimidiatus*-group (sensu WARNCKE 1978) is very confusing. It is partly caused by the obscure subspecies concept of Warncke and some of his nomenclatural decisions. Additionally some of the species in this group show remarkable variation, and vicariant forms are known. WARNCKE (1978) interpreted all species of the *nigricans*-group (sensu NOSKIEWICZ 1936) as subspecies of *C. dimidiatus* BRULLÉ that is endemic to the Canary Islands and quite different from the other species. Therefore the circummediterranean taxa of the *dimidiatus*-group can definitely not be treated as subspecies of *C. dimidiatus*. Some of Warncke's "subspecies" have a sympatric distribution. For example *C. perezi*, *C. biskrensis* and *C. nigricans* GISTEL were found at the same location near Kasserine (Tunisia). A careful analysis of this species complex is necessary to solve the remaining taxonomic problems. The type locality of *C. biskrensis* is Biskra, a town in Algeria.

***Colletes canescens* SMITH 1853**

Colletes canescens SMITH 1853 — SMITH 1853: 4.

Holotype (♀): "B.M. Type Hym. 17.a.329 / (in handwriting): *canescens* (Type) Sm. / (round label): Algeria / (reverse side): 49/69 / (red label): Holotype ♀ *Colletes canescens* Sm., 1853, rev. Baker 1993" (BMNH).

Colletes nadigi NOSKIEWICZ 1933 — NOSKIEWICZ in NADIG & NADIG 1933: 48-50. **syn. nov.**

Dr. D.B. Baker correctly labelled this specimen as the holotype but failed to publish his designation. WARNCKE (1978) erroneously treated *C. canescens* as the senior synonym of *C. alluaudi* COCKERELL and understood *C. nadigi* (synonymous with *C. canescens*) as a subspecies of the closely related *C. carinatus* RADOSZKOWSKI. At the moment it is not quite clear whether *C. nadigi* really is a subspecies of the latter or a distinct species because both show a close resemblance.

***Colletes collaris* DOURS 1872**

Colletes collaris DOURS 1872 — DOURS 1872: 296-297.

Colletes incertus RADOSZKOWSKI 1891 — RADOSZKOWSKI 1891: 252.

Colletes frigidus PÉREZ 1903 — PÉREZ 1903: 227-228.

Andrena riukiensis MATSUMURA 1926 — MATSUMURA 1926: 69. stat. nov., syn. nov.

Lectotype (♂): „Japan, Matsumura (in handwriting): 444 / (reverse side, in handwriting): Okinawa, XI '07" (EIHU).

Paralectotypes: 1♂ "Japan, Matsumura (in handwriting): 445 / (reverse side, in handwriting): Okinawa, XI '07" and 2♂♂ "Japan, Matsumura (in handwriting): 448 / (reverse side, in handwriting): Okinawa, XII '07" (EIHU).

In 1926 MATSUMURA described the female of *Andrena riukiensis* from "zahlreichen ♀ Exemplaren". But from the Matsumura collection in Sapporo I received only four males (syntypes) that I identified as *C. collaris* (sensu NOSKIEWICZ 1936). The short description of *A. riukiensis* fully agree with these males. Matsumura noted that the legs were sparsely covered with long white hairs ("Beine sparsam lang weiss behaart"). Because the females of *Colletes* normally have a dense scopa, it can be concluded that Matsumura did not realized that he described a male instead of a female. But it is also possible that a printer's error was responsible for the mistake.

NOSKIEWICZ (1936) interpreted the short and inadequate description of *C. collaris* by DOURS (1872) and gave an unequivocal description of what he understood as this species. WESTRICH (1997) recently doubted the interpretation of NOSKIEWICZ (1936) for reasons of colour of pilosity and problems with distributional data and concluded that the best way to clarify this problem would be the examination of type material. Unfortunately the Dours collection was destroyed during World War I (BROOKS 1988, HORN et al. 1990). But Mr. Ebmer (Linz, Austria) kindly informed me that BLÜTHGEN (1922) found that at least a few specimens of the Dours collection are among the Radoszkowski collection, now in the Institute of Systematics and Evolution of the Polish Academy of Sciences, Department of Invertebrate Zoology, in Krakow (HORN et al. 1990). The specimens can easily be recognized by a round golden label (BLÜTHGEN 1922). Dr. Waldemar Celary kindly checked the Radoszkowski collection but could not find any specimen of a *Colletes* species described by Dours. From this fact it can be concluded that the *Colletes* of the Dours collection are completely lost. For this reason it is impossible to clarify the status of *C. collaris* from specimens of the type series.

The body length of *C. collaris* ♀ in the description of DOURS (1872) is given as 15 mm. There is no other *Colletes* of a comparable size in the mediterranean basin that has a considerable number of black hairs on the mesonotum and that also agrees with the other characters of the description. Worn females of *C. collaris* that have lost some of their pilosity of the thorax could give the impression of having a band of dark hairs on the mesonotum. The decision of NOSKIEWICZ (1936) to treat the species described by DOURS (1872) as *C. collaris* in the sense we actually understand this species is consistent from the morphological point of view. But as mentioned by WESTRICH (1997) there is a problem with the distributional data of *C. collaris* given by DOURS (1872). He mentioned it from Algeria and Greece, from where it is not currently known. *C. collaris* is wide-spread in the palaearctic (from Spain to Japan) but it seem to have a patchy instead of continuous distribution. For this reason it is possible that it occurs in Algeria and Greece, too. But it is also possible that Dours had incorrect information about the origin of the specimens he examined. In conclusion there is in my opinion no need for nomenclatural change in *C. collaris*.

BAKER (1995) recognized that IKUDOME (1989) erroneously synonymized *C. collaris* with *C. perforator* SMITH 1869.

***Colletes esakii* HIRASHIMA 1958**

Colletes esakii HIRASHIMA 1958 — HIRASHIMA 1958: 69-70.

Colletes amamiensis HIRASHIMA 1958 — HIRASHIMA 1958: plate 11 following p. 76. **unavailable name** (ICZN article 13[a][i])

Females of *Colletes esakii* HIRASHIMA and other bees were originally collected from Amami-Oshima (main island of the Amami Islands, Japan). Dr. Y. Hirashima described *C. esakii* as the only species of this genus together with other bees from that archipelago and included two plates with 10 photographs of nine species in his paper. The bee on the first photograph is mentioned as "*Colletes amamiensis* n. sp., female" in the figure caption, probably by a printer's error. Through the kindness of Dr. O. Tadauchi, Kyushu University, Japan, I received a reference collection of the Japanese species of *Colletes* including a female of *C. esakii*. The female on the photograph agrees with the description of *C. esakii* as well as with the reference specimen and can easily be identified by its characteristically shaped tergal bands that are unique among Japanese *Colletes*.

Following article 13(a)(i) ICZN *C. amamiensis* is not an available name because the photograph was published after 1930 without a written description or definition. Nevertheless both *C. esakii* and *C. amamiensis* were mentioned as new species in the Zoological Record (Vol. 95: 455). But the name *C. amamiensis* has never been used again and is even not mentioned in the revision of Japanese Colletidae (IKUDOME 1989). For this reason *C. amamiensis* cannot be treated as a synonym of *C. esakii* but is an unavailable name.

IKUDOME (1989) mentions *Colletes esakii* as the only species of the *caspicus*-group (sensu NOSKIEWICZ 1936) in Japan. Obviously he was not aware of *C. seitzi* described by ALFKEN (1900) from a single female from Yokohama that also belongs to the *caspicus*-group. NOSKIEWICZ (1936) gave a detailed redescription of the female of *C. seitzi* and for the first time described the male. Both specimens Noskiewicz studied were collected in Tientsin, China, and were handed over to him by Alfken. Alfken informed him that the female from Tientsin is identical with the type specimen from Yokohama (NOSKIEWICZ [1936] erroneously mentions Tokio as the type locality).

In ZMHB I examined the type of *C. seitzi* and a female from Chotan, Chinese Turkestan, labeled by Noskiewicz as *C. seitzi*. Both specimens show clear differences in the density and diameter of punctures and pattern of abdominal pilosity. Alfken obviously overlooked these slight differences. But while the females of the *caspicus*-group are very difficult to distinguish I am not yet able to give a final statement on whether the specimens from Yokohama and the Asian mainland belong to the same or different species. If the specimens of *C. seitzi* from Japan and the Asian mainland are not conspecific, the species from the continent has to be given a new name.

C. seitzi from Yokohama unequivocally is a separate species, but closely related to *C. esakii*. As far as is known to me, *C. seitzi* is only known in Japan from the type specimen and has never been collected again (IKUDOME 1989). Possibly *C. seitzi* is a very rare species in Japan or it has been confounded with the similar *C. esakii*.

***Colletes floralis* EVERSMAAN 1852**

Colletes floralis EVERSMAAN 1852 — EVERSMAAN 1852: 46.

Colletes montanus MORAWITZ 1876 — MORAWITZ 1876: 262-263.

Colletes suecica AUREVILLIUS 1903 — AURIVILLIUS 1903: 214-215.

Colletes kudiensis COCKERELL 1924 — COCKERELL 1924: 594-595.

Holotype (♂): "B.M. Type Hym. 17.a.328 / (in Cockerell's handwriting): *Colletes kudiensis* CKLL. Type / Kudia River, Amaga Siberia, Cockerell, July 1923 / (in handwriting): Coll-K-I / Brit. Mus. 1936-415, T.D.A. Cockerell." (BMNH).

NOSKIEWICZ (1936) suspected that *C. kudiensis* is a junior synonym of *C. floralis*, but he was not able to prove his suspicion. I examined the Holotype of *C. kudiensis* and can confirm his presumption of synonymy.

***Colletes gigas* COCKERELL 1918**

Colletes gigas COCKERELL 1918 — COCKERELL 1918: 158-159.

Holotype (♀) "Foochow, XI.16.14, Fukien / C.R. Kellogg Collector / No. 243 / (red label): Type No. 55598 USNM / (in Cockerell's handwriting): *Colletes gigas* CKLL. Type" (USNM).

This species presumably is the largest palaearctic representative of the genus (about 17 mm). By its general appearance, *Colletes gigas* belongs to the *succinctus*-group (sensu NOSKIEWICZ 1936). NOSKIEWICZ (1936: 293) did not study the species but suspected that *C. gigas* is related to *C. lacunatus* DOURS. The male was described by YASUMATSU in 1936, but most of the text is in Chinese and he failed to describe the genitalia and the 7th ventral plate, that are among the most important characters. The type locality is Foochow (Fuzhou) in the province Fukien (Fujian), a city in China (119°20'E, 25°05'N).

***Colletes kudonis* COCKERELL 1927**

Colletes kudonis COCKERELL 1927 — COCKERELL 1927: 16.

Holotype (♂) "(in handwriting): N. Japan, 1910 / (reverse side, in handwriting): Ac. 3804 / (in Cockerell's handwriting): *Colletes kudonis* CKLL. Type" (AMNH).

Colletes kudonis closely resembles the North American *C. simulans armatus* PATTON. I compared the former with two males of the latter from Hidalgo County, New Mexico. The genitalia and the 7th ventral plate are exactly the same, but a little bigger in *C. kudonis*. Beside some minor differences in the sculpture of head, thorax and abdomen, *C. kudonis* has black hairs on the mesonotum whereas *C. simulans armatus* has no black pilosity. The propodeum of *C. kudonis* is narrower than the postscutellum, in *C. s. armatus* the propodeum is broader than the postscutellum.

This is the second known member of the palaearctic *uralensis*-group (sensu NOSKIEWICZ 1936) along with *C. uralensis* NOSKIEWICZ. The species of this group are morphologically distant from other palaearctic *Colletes* but show close relationships to the nearctic *simulans*-group (sensu STEPHENS 1954). The latter is very diverse in North America (18 species and subspecies were described) and presumably synonymous with the *uralensis*-group. Very probably *C. uralensis* and *C. kudonis* are palaearctic derivatives of the *simulans*-group that has its origin in the nearctic zoogeographic region. Following the subspecies-concept of STEPHEN (1954), *C. kudonis* would be a subspecies of *C. simulans* CRESSON.

In his revision of the Japanese species of *Colletes*, IKUDOME (1989) removed *C. kudonis*

from the Japanese fauna. He suspected that Dr. Kudo, a specialist of the flora of Hokkaido, Sakhalin and Chishima-rettô, collected the species not in Japan but during one of his expeditions to islands that belong nowadays to Russia.

***Colletes mourei* nom. nov.**

Colletes similis JÖRGENSEN 1912 (nec SCHENCK 1853, nec ROBERTSON 1904) — JÖRGENSEN 1912: 96.

Colletes similis JÖRGENSEN from Argentina is a junior primary homonym of the well-known palaearctic bee *C. similis*, described by SCHENCK (1853: 172) from Germany, and of the North American *Colletes similis* ROBERTSON 1904 (junior synonym of *C. mandibularis* SMITH 1853) (ROBERTSON 1904: 276). While no known synonym of the junior homonym *Colletes similis* JÖRGENSEN is available, the new replacement name *Colletes mourei* nom. nov. is proposed following article 60(c) ICZN. The species is dedicated to Prof. Dr. J.S. Moure, Curitiba (Brasil).

***Colletes speculiferus* COCKERELL 1927 spec. rev.**

Colletes speculiferus COCKERELL 1927 — COCKERELL 1927: 15-16.

Lectotype (♂) (designated here): "(in handwriting): N. Japan, 1910 / (reverse side, in handwriting): Ac. 3804 / (in Cockerell's handwriting): *Colletes speculiferus* CKLL. Type" (AMNH).

In his revision of the Japanese species of *Colletes*, IKUDOME (1989) removed *C. speculiferus* (as *C. laevifrons* MORAWITZ) from the Japanese fauna. As for *C. kudonis* he suspected that Dr. Kudo collected the species from one of the islands that nowadays belong to Russia.

NOSKIEWICZ (1936) treated *C. speculiferus* as a synonym of *C. laevifrons* without studying type material. I examined the types of *C. speculiferus*, a male and a female, and *C. laevifrons* and found both clearly belonging to different species. The body of *C. speculiferus* on the whole, and especially the head and eyes, are conspicuously smaller than in *C. laevifrons*. Additionally *C. speculiferus* differs from *C. laevifrons* in the following characters: disk of first tergite impunctate and shining, tergal bands broader, flagellar segments of the males longer than broad (*C. laevifrons*: as long as broad), ventral wings of the penis valvae broader and 7th ventral plate of the male distinctly smaller, only about half the length of the one of *C. laevifrons*.

***Colletes ventraliformis* COCKERELL 1924 spec. rev.**

Colletes ventraliformis COCKERELL 1924 — COCKERELL 1924: 595-596.

Holotype (♂) "(in handwriting): Ok., Aug. 5. / Okeanskya, Siberia, Cockerell, August 1923 / (red label): Type No. 40250 USNM / (in Cockerell's handwriting): *Colletes ventraliformis* CKLL. Type" (USNM).

NOSKIEWICZ (1936) treated *C. ventraliformis* as a synonym of *C. jankowskyi* RADOSZKOWSKI without examination of the type. I compared both species and found some slight differences. For example the 7th ventral plate is a little smaller in *C. ventraliformis* than in *C. jankowskyi*. I treat both as distinct species until more material is available to prove the taxonomic status of *C. ventraliformis* as a geographic variation of *C. jankowskyi*. The type locality is a village a few kilometers north of Vladivostok.

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Zusammenfassung

Die Seidenbiene *Colletes wolffi* spec. nova wird beschrieben. Die Art ist nah verwandt mit *C. anchusae* NOSKIEWICZ 1924. Die Namen der folgenden Arten sind jüngere Homonyme und werden durch neue Namen ersetzt: *C. asiaticus* nom. nov. für *C. griseus* NOSKIEWICZ 1936 und *C. mourei* nom. nov. für *C. similis* JÖRGENSEN 1912. *Colletes amamiensis* HIRASHIMA 1958 ist ein nicht verfügbarer Name für *C. esakii* HIRASHIMA 1958. *Colletes nadigi* NOSKIEWICZ 1933 syn. nov. wird mit *C. canescens* SMITH 1853 und *Andrena riukiensis* MATSUMURA 1926 syn. nov. mit *Colletes collaris* DOURS 1872 synonymisiert. Für die folgenden *Colletes* Arten werden Lectotypen festgelegt: *C. alluaudi* COCKERELL 1931 spec. rev., *C. bischoffi* NOSKIEWICZ 1936, *C. biskrensis* NOSKIEWICZ 1936 spec. rev., *C. canescens* SMITH 1853, *C. gigas* COCKERELL 1918, *C. kudiensis* COCKERELL 1924, *C. kudonis* COCKERELL 1927, *C. riukiensis* (MATSUMURA 1926) stat. nov., *C. speculiferus* COCKERELL 1927 spec. rev. und *C. ventraliformis* COCKERELL 1924 spec. rev.; Es werden Angaben zum Artstatus und zur Nomenklatur der behandelten Arten gemacht.

References

- ALFKEN J.D. (1900): Zwei neue *Colletes*-Arten des palaearktischen Gebietes. — Entomol. Nachr. **26**: 74-76.
- ARNETT R.H., SAMUELSON G.A. & G.M. NISHIDA (1993): The insect and spider collections of the world. — Flora & Fauna Handbook No. 11 (2nd Edition), Sandhill Crane Press, Gainesville, 309 pp.
- AURIVILLIUS C. (1903): Svensk Insektafauna. 13. Hymenoptera. 1. Gaddsteklar. Aculeata. — Ent. Tidskr. **24**: 129-218.
- BAKER D.B. (1995): The nomenclature of Japanese *Colletes* LATREILLE (Hymenoptera: Colletidae) - a correction. — Ent. Gaz. **46**: 194.
- BLÜTHGEN P. (1922): Beiträge zur Synonymie der Bienengattung *Halictus* LATR. — Dtsch. Ent. Ztschr. **1922**: 46-66.
- BROOKS R.W. (1988): Systematics and phylogeny of the anthophorine bees (Hymenoptera: Anthophoridae; Anthophorini). — Univ. Kans. Sci. Bull. **53**: 436-575.
- COCKERELL T.D.A. (1918): Descriptions and records of bees. - LXXIX. — Ann. Mag. nat. Hist (9) **1**: 158-167.
- COCKERELL T.D.A. (1924): Descriptions and records of bees. - C. — Ann. Mag. nat. Hist (9) **13**: 594-606.
- COCKERELL T.D.A. (1927): Some bees, principally from Formosa and China. — Amer. Mus. Novit. **274**: 1-16.
- COCKERELL T.D.A. (1930): Bees from Mesa Verde, Colorado, in the American Musum of Natural History. — Amer. Mus. Novit. **397**: 1-8.
- COCKERELL T.D.A. (1931): Descriptions and records of bees. - CXXIX. — Ann. Mag. nat. Hist (10) **8**: 411-418.

- DALY H.V. & G.R. ELSE (1988): Lectotype designations for African bees of the genus *Ceratina* described by T.D.A. Cockerell (Hymenoptera: Apoidea). — Pan-Pac. Ent. **64**: 87-91.
- DOURS J.A. (1872): Hyménoptères nouveaux du bassin méditerranéen. — Rev. Mag. Zool. **23**: 293-311, 349-359, 396-399, 419-434.
- EVERSMANN E. (1852): Fauna Hymenopterologica Volgo-Uralensis. — Bull. Soc. Nat. Moscou **25**: 1-137.
- HIRASHIMA Y. (1958): Bees of the Amami Islands. I (Hymenoptera, Apoidea). — Mushi **32** (6): 69-76 + 2 plates.
- HORN, W., I. KAHLE, G. FRIESE & R. GAEDIKE (1990): Collectiones entomologicae. Teil I + II — Akademie der Landwirtschaftswissenschaften der Deutschen Demokratischen Republik, Berlin, 573 S.
- IKUDOME S. (1989): A revision of the family Colletidae of Japan (Hymenoptera: Apoidea). — Bull. Inst. Minami-kyushu Reg. Sci. No. **5**: 43-314.
- JØRGENSEN P. (1912): Revision der Apiden der Provinz Mendoza, Republica Argentina (Hym.). — Zool. Jb. Syst. **32**: 89-162.
- MATSUMURA S. & T. UCHIDA (1926): Die Hymenopteren-Fauna von den Riukiu-Inseln. — Insecta Matsumurana **1**: 32-77.
- MORAWITZ F. (1876): Bienen (Melliifera). II. Andrenidae. In: FEDTSCHENKO, A.P.: Reisen in Turkestan I. — Izv. imp. Obshch. Ljubit. Estest. Antrop. Etnog. **21**: 161-303, 3 plates (in Russian).
- NADIG A. & A. NADIG (1933): Beitrag zur Kenntnis der Hymenopterenfauna von Marokko und Westalgerien. Erster Teil: Apidae, Sphegidae, Vespidae. — Jhb. naturf. Ges. Graubünden **71**: 38-107.
- NOSKIEWICZ J. (1924): Dwie nowe pszczoły (Apidae, Hym.) z Polskie. — Kosmos **49**: 118-127.
- NOSKIEWICZ J. (1936): Die paläarktischen *Colletes*-Arten. — Pr. nauk. Wyd. Tow. Nauk, Lwow **3**: 1-531.
- PAGLIANO G. (1994): Catalogo degli Imenotteri Italiani. IV. (Apoidea: Colletidae, Andrenidae, Megachilidae, Anthophoridae, Apidae). — Mem. Soc. ent. ital. **72**: 331-467.
- PÉREZ J. (1903): Espèces nouvelles de mellifères. — Proc.-verb. Soc. linn. Bordeaux **58**: 78-93, 208-236.
- RADOSZKOWSKI O. (1891): Révision des armatures copulatrices des males du genre *Colletes*. — Hor. Soc. ent. Ross. **25**: 249-260.
- ROBERTSON C. (1904): Synopsis of *Prosopis* and *Colletes*, with supplementary notes and descriptions. — Can. Ent. **36**: 273-278.
- SCHENCK A. (1853): Nachtrag zu der Beschreibung nassauischer Bienenarten. — Jb. Ver. Naturk. Nassau **9**: 88-306.
- SMITH F. (1853): Catalogue of hymenopterous insects in the collection of the British Museum. Part I. Andrenidae and Apidae. — Taylor and Francis, London, 197 pp.
- STEPHEN W.P. (1954): A revision of the bee genus *Colletes* in America north of Mexico (Hymenoptera, Colletidae). — Univ. Kans. Sci. Bull. **36**: 149-527.
- WARNCKE K. (1978): Über die westpaläarktischen Arten der BienenGattung *Colletes* LATR. (Hymenoptera, Apoidea). — Polskie Pismo ent. **48**: 329-370.
- WESTRICH P. (1997): Zur Verbreitung und Ökologie der Seidenbiene *Colletes collaris* DOURS (Hym., Apidae). — Ent. Nachr. Ber. **41**: 141-148.
- YASUMATSU K. (1936): A list of the known species of Colletidae from China and Japan, with description of the male of *Colletes gigas* CKLL. (Hym.). — Entomology and Phytopathology **4** (12): 241-246.

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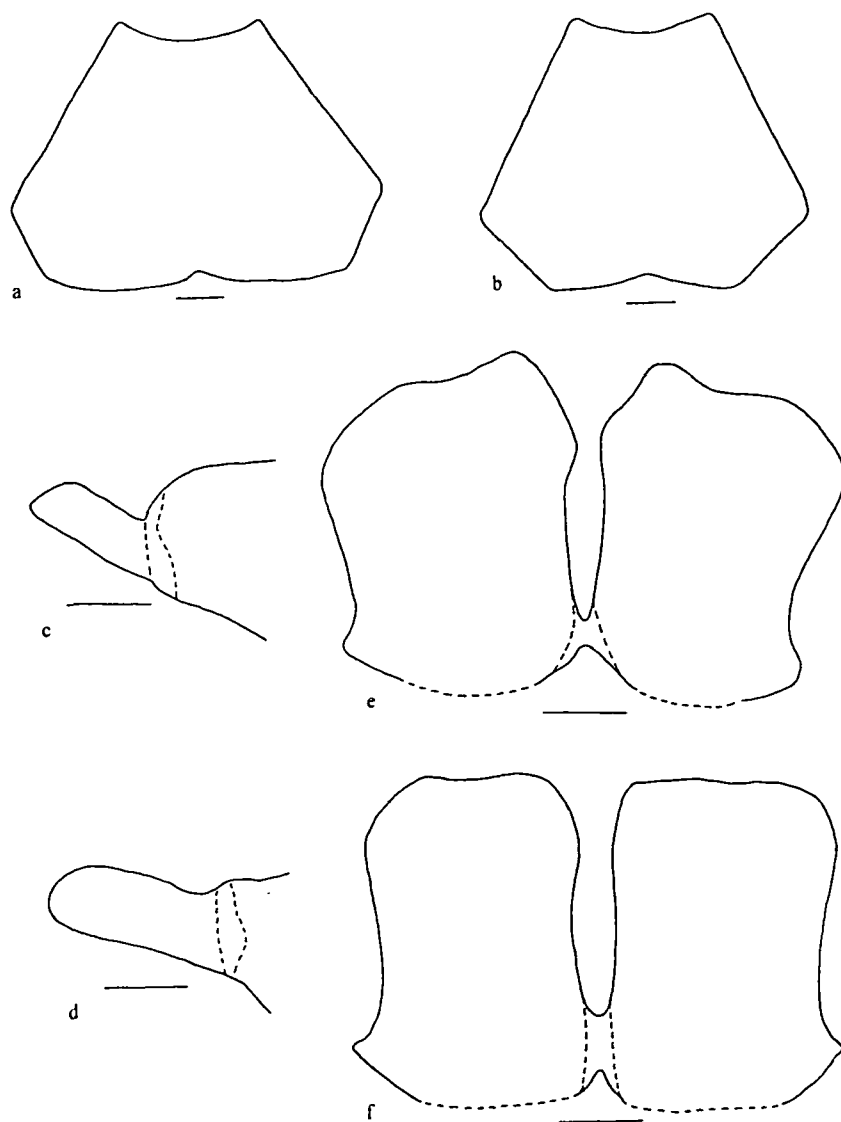


Fig. 1: a – *C. wolffi* sp. n. ♀: shape of clypeus. b – *C. anchusae* ♀: shape of clypeus. c – *C. wolffi* ♂: shape of gonostylus (lateral view, without pilosity). d – *C. anchusae* ♂: shape of gonostylus (lateral view, without pilosity). e – *C. wolffi* ♂: shape of 7th sternite (dorsal view, without pilosity). f – *C. anchusae* ♂: shape of 7th sternite (dorsal view, without pilosity). Scale-bar: 0.2 mm.

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