



<http://dx.doi.org/10.11646/zootaxa.3856.4.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:76364451-1292-4506-893D-90E626657578>

The Bees of the Genus *Colletes* (Hymenoptera: Apoidea: Colletidae) from China

ZE-QING NIU¹, CHAO-DONG ZHU^{1,3} & MICHAEL KUHLMANN^{2,3}

¹Key Laboratory of Zoological Systematics and Evolution, Institute of Zoology, Chinese Academy of Sciences, 1 Beichen West Road, Chaoyang District, Beijing, 100101, P. R. China.

E-mail: niuzq@ioz.ac.cn; zhucd@ioz.ac.cn

²Department of Life Sciences, Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom.

E-mail: m.kuhlmann@nhm.ac.uk

³Corresponding author

Abstract

Available information about the bees of the genus *Colletes* from China is summarized. Currently, 66 species are recorded from China, of which two species, *Colletes linzhiensis* sp. nov. and *C. spinatus* sp. nov., are described as new. Type specimens are deposited in the Insect Collection of the Institute of Zoology, Chinese Academy of Sciences, Beijing, China. Thirteen species are recorded for China for the first time: *C. edentulooides* Kuhlmann, 2011, *C. pauljohni* Kuhlmann, 2002, *C. tuberculatus* Morawitz, 1894, *C. annapurnensis* Kuhlmann, 2002, *C. laevigena* Noskiewicz, 1936, *C. annejohnae* Kuhlmann, 2003, *C. eous* Morice, 1904, *C. squamosus* Morawitz, 1879, *C. wollmanni* Noskiewicz, 1936, *C. bhutanicus* Kuhlmann, 2003, *C. kaszabi* Kuhlmann, 2002, *C. uralensis* Noskiewicz, 1936, and *C. dorni* Kuhlmann, 2002. The male of *C. edentulooides* Kuhlmann, 2011 and the female of *C. pseudolaevigena* Kuhlmann, 2002 are described for the first time. *Colletes dudgeonii* Bingham, 1897 was erroneously recorded from China and is removed from the list of Chinese species.

Key words: taxonomy, floral association, fauna, distribution, new species

Introduction

In order to understand bee diversity and distribution patterns in the Palaearctic region, knowledge about the Chinese fauna is essential. China is geographically and climatically extremely diverse and is neighbouring the Middle Asian centre of bee diversity in the west (Kuhlmann 2005, 2006). However, the Chinese *Colletes* fauna has been largely unexplored and only 37 species have been recorded (Kuhlmann 2000, 2002a, b, 2007, 2009a, b; Noskiewicz 1936; Wu 1965, 1982, 1987, 1992) before the authors in 2013 started a systematic investigation of the genus. So far three species-groups have been studied, the *Colletes succinctus*-group, *C. clypearis*-group and *C. flavicornis*-group (Niu *et al.* 2013a, b, 2014). The goal of the present paper is to review the remaining species-groups, mainly based on the examination of specimens from the Insect Collection of the Institute of Zoology, Chinese Academy of Sciences (IZCAS). In total 66 *Colletes* species are now recorded from China. Two species are described as new, one species is removed from the list of Chinese species, thirteen species are recorded from China for the first time and the male of *C. edentulooides* Kuhlmann and the female of *C. pseudolaevigena* Kuhlmann respectively are here described for the first time. A checklist of all *Colletes* species from China in alphabetical order of species-groups is provided (definition of species-groups following Noskiewicz (1936) and Kuhlmann *et al.* (2009)).

Materials and Methods

If not mentioned otherwise all specimens examined are deposited in the Insect Collection of IZCAS, Beijing, China. The specimens were examined with a NIKON SMZ 1500 stereomicroscope. Attributes were recorded with a NIKON D7000 digital camera and stacked with Helicon Focus software. The terminology used in the

Wu (1982, 1987, 1992) recorded *C. dudgeonii* for China based on specimens collected in Yunnan, Sichuan and Xizang. However, no specimens of this very characteristic species, that is only known from north-western India (Kuhlmann 2003a, 2014), could be found in the collections of the Institute of Zoology in Beijing. Bees labelled as *C. dudgeonii* collected in Yunnan turned out to be *C. yanruae*, so *C. dudgeonii* is here removed from the list of Chinese *Colletes* species.

Acknowledgements

The authors wish to thank Prof. Yan-Ru Wu, Dr. Yan-Zhou Zhang for their encouragements through the preparation of this paper, and to Dr. Claus Rasmussen, Dr. Maxim Proshchalykin for their comments on the earlier drafts of the manuscript. We also appreciate all previous collectors who made the rich collection of *Colletes* in IZCAS for our study.

This work was supported mainly by grants from the National Science Foundation, China (Grants Nos. 31272264, J0930004) and the National Specific Research Funds for Public Benefit Department (Agriculture) (Grant No. 201303108) to Ze-Qing Niu, the National Science Foundation, China (Grants Nos. 30870268, 31172048, J1211002) and the grant from Key Laboratory of Zoological Systematics and Evolution, Chinese Academy of Sciences (No. Y229YX5105) to Chao-Dong Zhu.

References

- Alfken, J.D. (1900) Zwei neue *Colletes*-Arten des palaearktischen Gebietes. *Entomologische Nachrichten*, 26, 74–77.
- Alfken, J.D. (1932) Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (II). 1. Hymenoptera IV. Apidae. *Mitteilungen aus dem Zoologischen Museum in Berlin*, 16, 823–844.
- Atdayev, T. (1972) Associations of bees (Hymenoptera, Apoidea) with wild-growing plants in the Lower Murgab and Tedzhen. In: Tokgayev, T. & Myartseva, S.N. (Eds.), *Insects of Southern Turkmenia*. Ashkhabad (Ylym), pp. 116–145. [in Russian]
- Aurivillius, C. (1903) Svensk Insektfauna. 13. Hymenoptera. 1. Gaddsteklar. Aculeata. *Entomologisk Tidskrift*, 24, 129–218.
- Bingham, C.T. (1897) *The fauna of British India, including Ceylon and Burma. Hymenoptera. - Vol. I. Wasps and bees*. Taylor and Francis, London, 579 pp., 4 plates.
- Cameron, P. (1897) Hymenoptera Orientalia, or contributions to a knowledge of the Hymenoptera of the Oriental zoological region. Part V. *Memoirs and Proceedings of the Manchester Literary & Philosophical Society*, 41, 87–144, 2 plates.
- Cameron, P. (1898) Hymenoptera Orientalia, or contributions to a knowledge of the Hymenoptera of the Oriental zoological region. Part VII. *Memoris and Proceedings of the Manchester Literary & Philosophical Society*, 42 (11), 1–84, pl. 4.
- Cockerell, T.D.A. (1910) Some bees from high altitudes in the Himalaya mountains. *The Entomologist*, 43, 238–242.
- Cockerell, T.D.A. (1918) Descriptions and records of bees. – LXXIX. *Annals and Magazine of Natural History*, Series 9, 1, 158–167.
- Cockerell, T.D.A. (1922) Descriptions and records of bees. – XCIII. *Annals and Magazine of Natural History*, Series 9, 9, 360–367.
- Cockerell, T.D.A. (1924) Descriptions and records of bees. – C. *Annals and Magazine of Natural History*, Series 9, 13, 594–606.
- Cockerell, T.D.A. (1926) Some bees in the collections of the California Academy of Sciences. *Pan-Pacific Entomologist*, 3, 80–90.
- Davydova, N.G. & Pesenko, Yu. A. (2002) Bee fauna (Hymenoptera, Apoidea) of Yakutia. I. *Entomologicheskoe Obozrenie*, 81 (3), 382–599. [in Russian]
- Dours, J.A. (1872) Hyménoptères nouveaux du bassin méditerranéen. *Revue et Magasin de Zoologie*, 23, 293–311, 349–359, 396–399, 419–434.
- Dubitzky, A. & Kuhlmann, M. (2004) First record of the bee genus *Colletes* for Taiwan with description of a new species (Hymenoptera, Apoidea, Colletidae). *Deutsche Entomologische Zeitschrift*, 51, 271–278.
<http://dx.doi.org/10.1002/mmnd.20040510209>
- Eversmann, E. (1852) Fauna Hymenopterologica Volgo-Uralensis. *Bulletin de la Société Impériale Naturalistes de Moscou*, 25 (3), 3–137.
- Friese, H. (1913) Vorläufige Diagnosen von neuen Bienenarten, die von den Expeditionen Roborovsky-Koslov (1893–95) und von Koslov (1899–1901) aus Centralasien mitgebracht wurden und im Zoologischen Museum der Kaiserl. Akademie der Wissenschaften in St. Petersburg aufbewahrt werden. *Annuaire de Musée Zoologique de l'Académie Impériale des Sciences de St. Pétersbourg*, 18, 59–61.
- Fourcroy, A.F. de (1785) *Entomologia Parisiensis; sive catalogus Insectorum quae in agro Parisiensi reperiuntur; secundum methodum Geoffroeanam in sectiones, genera & species distributus: cui addita sunt nomina trivialia & fere trecentae*

- novae species*. Via et Aedibus Serpentineis, Parisiis, viii + [1] + 544 pp.
- Gmelin, J.C. (1790) *Caroli a Linné, systema naturae per regna tria naturae secundum classes, ordines, genera, species, cum caracteribus, differentiis, synonymis, locis. Editio decima tertia, aucta, reformata. Tom. I. Pars V.* G.E. Beer, Lipsiae, 2225–3020.
- Hirashima, Y. & Tadauchi, O. (1979) New or little known bees of Japan. II. Bees of *Colletes* and *Epeolus* of Niigata prefecture with description of a new *Colletes* species. *Journal of the Faculty of Agriculture, Kyushu University*, 24 (2/3), 113–123.
- Ignatenko, E.V. (2004) The fauna and biology of bees of the family Colletidae (Hymenoptera, Apoidea) in Amur Province. *A.I. Kurentsov's Annual Memorial Meetings*, 15, 108–115. [in Russian]
- Ikudome, S. (1989) A revision of the family Colletidae of Japan (Hymenoptera, Apoidea). *Bulletin of the Institute of Minamikyūshū Regional Science*, 5, 43–314.
- Jørgensen, P. (1912) Revision der Apiden der Provinz Mendoza, Republica Argentina. *Zoologische Jahrbücher, Abteilung für Systematik, Geographie und Biologie der Tiere*, 32, 89–162.
- Kirby, W. (1802) *Monographia Apum Angliae. Vol. 2.* J. Raw, Ipswich, 387 pp.
- Kuhlmann, M. (1998) Lectotype Designation and new Synonymy for Afrotropical and Oriental Bees of the Genus *Colletes* Latr. (Hymenoptera, Apidae, Colletinae). *Linzer biologische Beiträge*, 30 (2), 559–577.
- Kuhlmann, M. (1999) *Colletes wolffi* spec. nova from Italy, and lectotype designation for palaeartic bees of the genus *Colletes* Latr. with notes on new homonymies and synonymies (Hymenoptera: Apidae: Colletinae). *Linzer biologische Beiträge*, 31, 71–81.
- Kuhlmann, M. (2000) Katalog der paläarktischen Arten der Bienengattung *Colletes* Latr., mit Lectotypenfestlegungen, neuer Synonymie und der Beschreibung von zwei neuen Arten (Hymenoptera: Apidae: Colletinae). *Linzer biologische Beiträge*, 32 (1), 155–193.
- Kuhlmann, M. (2002a) Neue paläarktische Arten der Bienengattung *Colletes* Latr. mit Anmerkungen zu weiteren Arten der Alten Welt (Hymenoptera: Apidae: Colletinae). *Linzer biologische Beiträge*, 34, 743–770.
- Kuhlmann, M. (2002b) Neue Arten der Bienengattung *Colletes* Latr. aus Südtibet mit Beschreibung der Route der "Deutschen Tibet Expedition Ernst Schäfer 1938/39" (Hymenoptera: Apidae: Colletinae). *Linzer biologische Beiträge*, 34 (2), 1155–1178.
- Kuhlmann, M. (2003a) Die Bienengattung *Colletes* Latr. in Indien mit Erstrnachweis für die Orientalische Faunenregion (Hymenoptera: Apidae: Colletinae). *Linzer biologische Beiträge*, 35 (2), 889–899.
- Kuhlmann, M. (2003b) Zur Kenntnis paläarktischer Bienen der Gattung *Colletes* Latr. mit Beschreibung neuer Arten (Hymenoptera: Apidae: Colletinae). *Linzer biologische Beiträge*, 37 (2), 723–746.
- Kuhlmann, M. (2005) Faunistik und Zoogeographie der Bienengattung *Colletes* Latreille 1802 (Hymenoptera: Apidae: Colletinae) in Mittelasien. *Linzer biologische Beiträge*, 35 (2), 723–746.
- Kuhlmann, M. (2006) Zur Biogeographie der Seidenbienen (Hymenoptera: Colletidae: *Colletes* Latr.) im Bienen-Diversitätszentrum Mittelasiens. *Mitteilungen der Deutschen Gesellschaft für Allgemeine und Angewandte Entomologie*, 15, 89–92.
- Kuhlmann, M. (2007) Neue *Colletes*-Arten aus China mit Anmerkungen zu weiteren Arten (Hymenoptera: Apoidea: Colletidae). *Linzer biologische Beiträge*, 39 (1), 463–474.
- Kuhlmann, M. (2009a) Bees of the genus *Colletes* (Hymenoptera, Colletidae) from Central Asia collected by the Kyushu University Expeditions. *Esakia*, 49, 15–20.
- Kuhlmann, M. (2009b) Erster Nachtrag zur Kenntnis der Bienengattung *Colletes* Latreille 1802 in der Mongolei mit Beschreibung einer neuen Art. *Beitrage Entomologische Keltern*, 59 (1), 19–32.
- Kuhlmann, M. (2014) *Colletes kinabalu* n. sp., first record of the genus for the Malay Archipelago and Southeast Asia (Hymenoptera: Anthophila: Colletidae). *Journal of Melittology*, 28, 1–6.
- Kuhlmann, M., Almeida, E.A.B., Laurence, N. & Quicke, D.L.J. (2009) Molecular phylogeny and historical biogeography of the bee genus *Colletes* Latreille, 1802 (Hymenoptera: Apiformes: Colletidae), based on mitochondrial COI and nuclear 28S sequence data. *Insect Systematics and Evolution*, 40, 291–318.
<http://dx.doi.org/10.1163/139956009X12475840653733>
- Kuhlmann, M. & Dorn, M. (2002) Die Bienengattung *Colletes* Latreille, 1802 in der Mongolei sowie Beschreibungen neuer Arten aus Sibirien und den Gebirgen Zentralasiens (Hymenoptera, Apidae, Colletinae). *Beitrage Entomologische Keltern*, 52 (1), 85–109.
- Kuhlmann, M. & Proshchalykin, M.Yu. (2011) Bees of the genus *Colletes* Latreille 1802 of the Asian part of Russia, with keys to species (Hymenoptera: Apoidea: Colletidae). *Zootaxa*, 3068, 1–48.
- Kuhlmann, M. & Proshchalykin, M.Yu. (2013a) The genus *Colletes* (Hymenoptera: Apoidea: Colletidae) in Central Asia. *Zootaxa*, 3750 (5), 401–449.
<http://dx.doi.org/10.11646/zootaxa.3750.5.1>
- Kuhlmann, M. & Proshchalykin, M.Yu. (2013b) The bees of the genus *Colletes* Latreille 1802 of Mongolia (Hymenoptera, Apoidea: Colletidae). *Beiträge zur Entomologie: Contributions to Entomology*, 63 (1), 255–269.
- Kuhlmann, M. & Quest, M. (2006) A new species of the bee genus *Colletes* Latreille, 1802 (Hymenoptera: Colletidae) from the Russian Far East and Mongolia. *Far Eastern entomologist*, 157, 1–4.
- Latreille, P.A. (1802) *Histoire Naturelle des Fourmis*. Crapelet, Paris, xvi + 445 pp., 12 pls.
- Lepeletier de Saint Fargeau, A.L.M. & Audinet-Serville, J.G. (1825–1828). In: Latreille, P.A. (Ed.), *Encyclopédie méthodique*

- ou par ordre des matières. *Histoire naturelle. Entomologie, ou histoire naturelle des crustacés, des arachnides et des insectes. Tome Dixième.* Veuve Agasse, Paris, pp. 1–832. [(1825) pp. 1–344, (1828) pp. 345–832]
- Linnaeus, C. (1758) *Systema Naturae per Regna Tria Naturae, secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis. Tomus I. Editio Decima Reformata.* Laurentii Salvii, Holmiae [= Stockholm]. [4] + 823 + [5] pp.
- Linnaeus, C. (1760 ["1761"]) *Fauna Suecica sistens animalia Sueciae renga: Mammalia, Aves, Amphibia, Pisces, Insecta, Vermes.* Laurentii Salvii, Stockholmiae, [48] + 578 pp.
- Matsumura, S. & Uchida, T. (1926) Die Hymenopteren-Fauna von den Riukiu-Inseln. *Insecta Matsumurana*, 1 (1) & 1 (2), 32–52 & 63–77 + pls. 3.
- Mavromoustakis, G. A. (1952) On the bees (Hymenoptera, Apoidea) of Cyprus – Part III. *Annals and Magazine of Natural History*, Series 12, 5, 814–843.
- Michener, C.D. (2007) *The Bees of the World. 2nd Edition.* Johns Hopkins University Press, Baltimore, Maryland, 953 pp.
- Morawitz, F. (1872) Ein Beitrag zur Bienenfauna Deutschlands. *Verhandlungen derkaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien*, 22, 355–388.
- Morawitz, F. (1876) Pchely (Mellifera) [Bees (Mellifera)]. In: *A travel to Turkestan by the member-founder of the society A.P. Fedtschenko accomplished from the Imperial society of naturalists, anthropologists, and ethnographers on a commission from the general-governor of Turkestan K.P. von Kaufmann. Issue 13. Vol. II. Zoogeographical Investigations. Pt V. (Division 7).* St. Petersburg, Moscow, 161–303 + 3 pls. [*Proceedings of the Royal Society of Amateurs of Natural History Sciences, Anthropology and Ethnography*], 21 (3), in Russian]
- Morawitz, F. (1879) Nachtrag zur Bienenfauna Caucasiens. *Horae Societatis Entomologicae Rossicae*, 14 (1878), 3–112.
- Morawitz, F. (1894) Supplement zur Bienenfauna Turkestans. *Horae Societatis Entomologicae Rossicae*, 28, 1–87.
- Morice, F.D. (1904) Illustrations of the male terminal segments and armatures in thirty-five species of the hymenopterous genus *Colletes*. *Transactions of the Royal Entomological Society of London*, 1904, 25–63, plates vi–ix.
- Niu, Z.Q., Wu, Y.R. & Huang, D.W. (2004) A Taxonomic Study on the Subgenus *Seladonia* (Hymenoptera, Halictidae, *Halictus*) in China with Description of One New Species. *Zoological Studies*, 43 (4), 647–670.
- Niu, Z.Q., Kuhlmann, M. & Zhu, C.D. (2013a) A review of *Colletes succinctus*-group (Hymenoptera: Colletidae: Colletinae: *Colletes*) from China with redescription of the male of *C. gigas*. *Zootaxa*, 3626 (1), 1731–1787. <http://dx.doi.org/10.11646/zootaxa.3626.1.7>
- Niu, Z.Q., Zhu, C.D. & Kuhlmann, M. (2013b) Bees of the *Colletes clypearis*-group (Hymenoptera: Apoidea: Colletidae) from China with description of seven new species. *Zootaxa*, 3745 (2), 101–151. <http://dx.doi.org/10.11646/zootaxa.3745.2.1>
- Niu, Z.Q., Zhu, C.D. & Kuhlmann, M. (2014) Bees of the *Colletes flavicornis*-group from China with description of one new species (Hymenoptera: Apoidea: Colletidae). *Zootaxa*, 3780 (3), 534–546. <http://dx.doi.org/10.11646/zootaxa.3780.3.5>
- Noskiewicz, J. (1936) *Die Palearktischen Colletes-Arten.* Prace Naukowe, Lwowie, v + 532 pp., 28 pls.
- Noskiewicz, J. (1959) Weitere Beiträge zur Kenntnis der paläarktischen Arten der Gattung *Colletes* Latr. (Hym., Apidae). *Polskie Pismo Entomologiczne*, 29, 35–53.
- Nylander, W. (1852) Revisio synoptica apum borealium, comparatis speciebus Europae mediae. *Notiser ur Sällskapetets pro Fauna et Flora Fennica Förhandlingar*, 2, 225–348.
- Ortiz-Sánchez, F.J., Ornos, C. & Kuhlmann, M. (2004) Keys to the Iberian species of the genus *Colletes* Latreille, 1802 (Hymenoptera, Colletidae). *Zoologica Baetica*, 15, 3–38.
- Osytsnjuk, A.Z. (1970) *Fauna of the Ukraine. Vol. 12. Bees [Apoidea]. No. 4. Family Colletidae.* Naukova Dumka, Kiev, 158 pp. [in Ukrainian]
- Osytsnjuk, A.Z., Panfilov, D.V. & Ponomareva, A.A. (1978) Superfamily Apoidea. In: Medvedev, G.S. (Ed.), *Key to the Insects of the European Part of the USSR. Vol. III. Hymenoptera. Pt I.* Nauka, Leningrad, 279–519. [in Russian]
- Osytsnjuk, A.S. & Romankova, T.G. (1995) Colletidae. In: Lehr, P.A. (Ed.), *Key to the insects of Russian Far East. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Part I.* Nauka, St. Petersburg, pp. 480–489. [in Russian]
- O'Toole, C. (1974) A new subspecies of the vernal bee, *Colletes cunicularius* (L.) (Hymenoptera: Colletidae). *Journal of Entomology Series B, Taxonomy and Systematics*, 42, 163–169.
- Pérez, J. (1903) Espèces nouvelles de mellifères. *Actes de la Société Linnéenne de Bordeaux*, 58, 78–93, 208–236.
- Pérez, J. (1905) Hyménoptères recueillis dans le Japon central, par M. Harmand, ministre plénipotentiaire de France à Tokio. *Bulletin du Muséum d'Histoire Naturelle*, Series 11, 1–3 (1), 23–39, 79–87, 148–158.
- Ponomareva, A.A. (1960) Bee pollinators of leguminous plants in western Kopet Dagh Mts. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 27, 94–166. [in Russian]
- Popov, V.B. (1934) The bee fauna of the Kokchetav district in northern Kazakhstan (Hymenoptera, Apoidea). *Trudy Tajikskoi Basy Akademii Nauk SSSR*, 1, 51–63, pl. 1. [in Russian]
- Popov, V.B. (1935) Contributions to the bee fauna of Tajikistan (Hymenoptera, Apoidea). *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 5, 351–408. [in Russian]
- Popov, V.B. (1949) Notes on the bee fauna of Tajikistan (Hymenoptera, Apoidea). *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 8, 688–699. [in Russian]
- Popov, V.B. (1952) The fauna of bees (Hymenoptera, Apoidea) of south-western Turkmenia and their landscape distribution.

- Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 10, 61–117. [in Russian]
- Popov, V.B. (1967) The bees (Hymenoptera, Apoidea) of Middle Asia and their associations with angiosperm plants. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 38, 11–329. [in Russian]
- Proshchalykin, M.Yu. (2003a) Bee fauna (Hymenoptera, Apoidea) of Middle and Lower Amur region. *Euroasian Entomological Journal*, 2 (1), 2–529. [in Russian]
- Proshchalykin, M.Yu. (2003b) The bees (Hymenoptera, Apoidea) of the Kuril Islands. *Far Eastern entomologist*, 132, 1–21.
- Proshchalykin, M.Yu. (2004) A check list of the bees (Hymenoptera, Apoidea) of the southern part of the Russian Far East. *Far Eastern entomologist*, 143, 1–17.
- Proshchalykin, M.Yu. (2007a) The fauna of bees (Hymenoptera, Apoidea) of the Jewish Autonomous Region. *A.I. Kurentsov's Annual Memorial Meetings*, 18, 88–93. [in Russian]
- Proshchalykin, M.Yu. (2007b) Fam. Colletidae. In: Lelej, A.S. (Ed.), *Key to the insects of Russian Far East. Vol. 4. Pt 5*. Dalnauka, Vladivostok, pp. 878–883. [in Russian]
- Proshchalykin, M.Yu. (2008a) The endemic bees (Hymenoptera, Apoidea) to the fauna of the Russian Far East. *A.I. Kurentsov's Annual Memorial Meetings*, 19, 42–51. [in Russian]
- Proshchalykin, M.Yu. (2008b) The bees of family Colletidae (Hymenoptera, Apoidea) of Transbaikalia. *Far Eastern Entomologist*, 187, 1–9.
- Proshchalykin, M.Yu. (2010) The short-tongued bees (Hymenoptera, Apoidea: Colletidae, Andrenidae, Halictidae, Melittidae) of Transbaikalia. *Euroasian Entomological Journal*, 9 (3), 508–514. [in Russian]
- Proshchalykin, M.Yu. (2012) Family Colletidae. In: Lelej, A.S. (Ed.), *Annotated catalogue of the insects of Russian Far East. Vol. I. Hymenoptera*. Dalnauka, Vladivostok, pp. 449–451. [in Russian]
- Proshchalykin, M.Yu., Lelej, A.S. & Kupianskaya, A.N. (2004) Bee fauna (Hymenoptera, Apoidea) of Sakhalin Island. In: Bogatov, V.V. (Ed.), *Flora and Fauna of Sakhalin Island (Materials of International Sakhalin Island Project). Part 2*. Dalnauka, Vladivostok, pp. 154–192. [in Russian]
- Proshchalykin, M.Yu. & Kuhlmann, M. (2012) The bees of the genus *Colletes* Latreille 1802 of Ukraine, with a key to species (Hymenoptera: Apoidea: Colletidae). *Zootaxa*, 3488, 1–40.
- Proshchalykin, M.Yu. & Kuhlmann, M. (2013) A new species of the genus *Colletes* Latreille, 1802 (Hymenoptera, Colletidae) from Kazakhstan. *Proceedings of the Russian Entomological Society. St. Petersburg*, 84 (2), 88–91.
- Proshchalykin, M.Yu. & Kupianskaya, A.N. (2005) The bees (Hymenoptera, Apoidea) of the northern part of the Russian Far East. *Far Eastern entomologist*, 153, 1–39.
- Proshchalykin, M.Yu. & Lelej, A.S. (2013) The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from Siberia. *Euroasian Entomological Journal*, 12 (4), 315–327.
- Proshchalykin, M.Yu. & Quest, M. (2009) Section Apiformes – Bees. In: Storozhenko, S.Yu. (Ed.), *Insects of Lazovsky Nature Reserve*. Dalnauka, Vladivostok, pp. 238–250. [in Russian]
- Quest, M. (2009) Artbestand, Ökologie und Habitattwahl von Bienen ausgewählter Offenlebensräume im Lazovski Zapovednik (Ferner Osten Russland) (Hymenoptera, Apiformes). *Entomofauna*, 15 (Supplement), 1–357.
- Radoszkowski, O. (1867) Matériaux pour servir à l'étude des insectes de la Russie. IV. Notes sur quelques Hyménoptères de la tribu de Apides. *Horae Societatis Entomologicae Rossicae*, 5, 73–90.
- Radoszkowski, O. (1891) Révision des armatures copulatrices des mâles du genre *Colletes*. *Horae Societatis Entomologicae Rossicae*, 25, 249–260.
- Razoumowsky, G. de (1789) *Histoire naturelle du jorat et de ses environs; et celle des trois lacs de Neufchatel, Morat et Bienné. Tome I*. J. Mourer, Lausanne, 344 pp.
- Robertson, C. (1904) Synopsis of Anthophila. *The Canadian Entomologist*, 36, 37–43.
<http://dx.doi.org/10.4039/Ent3637-2>
- Schenck, A. (1853) Nachtrag zu der Beschreibung nassauischer Bienenarten. *Jahrbücher des Vereins für Naturkunde im Herzogthum Nassau*, 9, 88–306.
- Smith, F. (1846) Description of the British species of Bees comprised in the genera *Colletes* of Latreille and *Macropis* of Klug with observations on their economy. *Zoologist*, 4, 1274–1281.
- Smith, F. (1869) Descriptions of Hymenoptera from Japan. *Entomologist*, 4, 205–208.
- Spinola, M. (1838) Compte rendu des hyménoptères recueillis par M. Fischer pendant son voyage en Égypte, et communiqués par M. le Docteur Waltl à Maximilien Spinola. *Annales de la Société Entomologique de France*, 7, 437–546.
- Strand, E. (1921) Apidologisches, insbesondere über paläarktische *Halictus*-Arten, auf Grund von Material des Deutschen Entomologischen Museums. *Archiv für Naturgeschichte*, 87A, 305–322.
- Thomson, C.G. (1872) *Hymenoptera Scandinaviae, Tom II. (Apis Lin.)*. Berling, Lund, 286 pp.
- Verhoeff, C. (1890) Ein Beitrag zur deutschen Hymenopteren-Fauna. *Entomologische Nachrichten*, 16, 321–336.
- Warncke, K. (1978) Über die westpaläarktischen Arten der Bienengattung *Colletes* Latr. (Hymenoptera, Apoidea). *Polskie pismo entomologiczne*, 48, 329–370.
- Wu, Y.R. (1965) *Economic Insect Fauna of China. Fasc. 9. Hymenoptera: Apoidea*. Science Press, Beijing, 83pp. [in Chinese]
- Wu, Y.R. (1982) Hymenoptera: Apoidea. In: Huang, F.S. (Ed.), *Insects of Xizang. Vol. II*. Science Press, Beijing, pp. 379–426. [in Chinese]
- Wu, Y.R. (1987) Hymenoptera: Apoidea. In: Zhang, S.M. (Ed.), *Agricultural Insects, Spiders, Plant Diseases and Weeds of Xizang. Vol. II*. Xizang People's Press, Lhasa, pp. 237–245. [in Chinese]

- Wu, Y.R. (1992) Hymenoptera: Apoidea. In: Huang, F.S. (Ed.), *Insects of the Hengduan Mountains Region. Vol. II*. Science Press, Beijing, pp. 1378–1421. [in Chinese]
- Yasumatsu, K. (1935) Insect of Jehol (VIII) – Order Hymenoptera (II), Superfamily Apoidea. *Report of the first scientific expedition to Manchoukuo under the leadership of Shigeyasu Tokunaga*, June–October 1933. Section V, Division I, Part XII, Article 67, 1–47, 7 tables.
- 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, 241–246.
- Yasumatsu, K. (1948[“1946”]) Hymenoptera Aculeata collected by Mr. K. Tsuneki in North China and Inner Mongolia. III. Apoidea. 1. *Mushi*, 17, 19–26.
- Zhao, Y.H., Ding, L., Yuan, F., Zhang, Y.Z., Tu, L.H. & Zhu, C.D. (2010) Nesting biology of *Colletes gigas* Cockerell (Hymenoptera: Colletidae). *Acta Entomologica Sinica*, 53, 1287–1294.