



Zootaxa 5037 (1): 001–078

<https://www.mapress.com/j/zt/>

Copyright © 2021 Magnolia Press

Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

<https://doi.org/10.11646/zootaxa.5037.1.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:0A80B8F9-34E3-4C40-A70C-EA911619C711>

ZOOTAXA

5037

The type specimens of bees (Hymenoptera, Apoidea) deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg. Contribution IV. Family Andrenidae, genus *Andrena* Fabricius, 1775, species described by F. Morawitz



YULIA V. ASTAFUROVA¹, MAXIM YU. PROSHCHALYKIN^{2,5}, DMITRY A. SIDOROV³ & ANNA Z. OSYTSHNJUK^{4†}

¹Zoological Institute, Russian Academy of Sciences, Universitetskaya Nab., 1, Saint Petersburg, 199034, Russia.



 Yulia.Astafurova@zin.ru;  <https://orcid.org/0000-0003-0557-7792>

²Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far Eastern Branch of Russian Academy of Sciences, Vladivostok-22, 690022, Russia.

³Kemerovo State University, Kemerovo, 650000, Russia.

 raddimus@yandex.ru;  <https://orcid.org/0000-0002-75057-7436>

^{4†}Deceased

⁵Corresponding author.  proshchalikin@biosoil.ru;  <https://orcid.org/0000-0001-7870-8226>



Magnolia Press
Auckland, New Zealand

YULIA V. ASTAFUROVA, MAXIM YU. PROSHCHALYKIN, DMITRY A. SIDOROV & ANNA Z. OSYTS
SHNJUK

THE TYPE SPECIMENS OF BEES (HYMENOPTERA, APOIDEA) DEPOSITED IN THE ZOOLOGICAL INSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES, ST. PETERSBURG. CONTRIBUTION IV. FAMILY ANDRENIDAE, GENUS *ANDRENA* FABRICIUS, 1775, SPECIES DESCRIBED BY F. MORAWITZ

(*Zootaxa* 5037)

78 pp.; 30 cm.

13 Sept. 2021

ISBN 978-1-77688-364-6 (paperback)

ISBN 978-1-77688-365-3 (Online edition)

FIRST PUBLISHED IN 2021 BY

Magnolia Press

P.O. Box 41-383

Auckland 1041

New Zealand

e-mail: magnolia@mapress.com

<https://www.mapress.com/j/zt>

© 2021 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

Table of Contents

Abstract	4
Introduction	4
Materials and methods	6
List of types of <i>Andrena</i> Fabricius, 1775, described by F. Morawitz and deposited in ZISP	7
1. <i>Andrena aciculata</i> Morawitz, 1886	7
2. <i>Andrena adjacens</i> Morawitz, 1875	8
3. <i>Andrena aeneiventris</i> Morawitz, 1872	9
4. <i>Andrena alpina</i> Morawitz, 1872	10
5. <i>Andrena anthracina</i> Morawitz, 1880	11
6. <i>Andrena atrohirta</i> Morawitz, 1893	12
7. <i>Andrena bisulcata</i> Morawitz, 1877	13
8. <i>Andrena caspica</i> Morawitz, 1886	14
9. <i>Andrena colonialis</i> Morawitz, 1886	15
10. <i>Andrena cordialis</i> Morawitz, 1877	16
11. <i>Andrena croceiventris</i> Morawitz, 1871	17
12. <i>Andrena cussariensis</i> Morawitz, 1886	18
13. <i>Andrena dentiventris</i> Morawitz, 1873	19
14. <i>Andrena derbentina</i> Morawitz, 1886	20
15. <i>Andrena dolosa</i> Morawitz, 1893	21
16. <i>Andrena ehnbergi</i> Morawitz, 1888	22
17. <i>Andrena erberi</i> Morawitz, 1871	23
18. <i>Andrena erythrocnemis</i> Morawitz, 1871	24
19. <i>Andrena figurata</i> Morawitz, 1866	25
20. <i>Andrena formosa</i> Morawitz, 1877	26
21. <i>Andrena fuscocalcarata</i> Morawitz, 1877	27
22. <i>Andrena genalis</i> Morawitz, 1880	28
23. <i>Andrena glasunowi</i> Morawitz, 1894	29
24. <i>Andrena inconspicua</i> Morawitz, 1871	30
25. <i>Andrena inconstans</i> Morawitz, 1877	31
26. <i>Andrena induta</i> Morawitz, 1894	32
27. <i>Andrena jagnobensis</i> Morawitz, 1893	33
28. <i>Andrena jakowlewi</i> Morawitz, 1893	34
29. <i>Andrena jugorum</i> Morawitz, 1877	35
30. <i>Andrena laticeps</i> Morawitz, 1877	36
31. <i>Andrena lederi</i> Morawitz, 1886	37
32. <i>Andrena longiceps</i> Morawitz, 1894	38
33. <i>Andrena melanura</i> Morawitz, 1877	39
34. <i>Andrena mongolica</i> Morawitz, 1880	40
35. <i>Andrena mucronata</i> Morawitz, 1871	41
36. <i>Andrena nigrobarbata</i> Morawitz, 1871	42
37. <i>Andrena nobilis</i> Morawitz, 1873	43
38. <i>Andrena nylanderi</i> Morawitz, 1865	44
39. <i>Andrena ochracea</i> Morawitz, 1872	45
40. <i>Andrena opaca</i> Morawitz, 1868	46
41. <i>Andrena opacicollis</i> Morawitz, 1886	47
42. <i>Andrena orbitalis</i> Morawitz, 1871	48
43. <i>Andrena ornata</i> Morawitz, 1866	49
44. <i>Andrena paliuri</i> Morawitz, 1877	50
45. <i>Andrena pretiosa</i> Morawitz, 1893	51
46. <i>Andrena punctatissima</i> Morawitz, 1866	52
47. <i>Andrena quadraticeps</i> Morawitz, 1894	53
48. <i>Andrena ranunculorum</i> Morawitz, 1877	54
49. <i>Andrena rotundilabris</i> Morawitz, 1877	55
50. <i>Andrena sahlbergi</i> Morawitz, 1888	56
51. <i>Andrena salicina</i> Morawitz, 1877	57
52. <i>Andrena scabrosa</i> Morawitz, 1866	58
53. <i>Andrena schencki</i> Morawitz, 1866	58
54. <i>Andrena scutellaris</i> Morawitz, 1880	60
55. <i>Andrena semirubra</i> Morawitz, 1875	61
56. <i>Andrena sexguttata</i> Morawitz, 1877	62
57. <i>Andrena sibirica</i> Morawitz, 1888	63
58. <i>Andrena splendidicollis</i> Morawitz, 1894	64

59. <i>Andrena stigmatica</i> Morawitz, 1894	65
60. <i>Andrena sylvatica</i> Morawitz, 1877	66
61. <i>Andrena tenuis</i> Morawitz, 1877	67
62. <i>Andrena tomentosa</i> Morawitz, 1877	68
63. <i>Andrena transitoria</i> Morawitz, 1871	69
64. <i>Andrena truncatilabris</i> Morawitz, 1877	70
65. <i>Andrena tscheki</i> Morawitz, 1872	71
66. <i>Andrena virago</i> Morawitz, 1894	72
67. <i>Colletes parvulus</i> Morawitz, 1871	73
68. <i>Melitta curiosa</i> Morawitz, 1877	74
Primary types of Morawitz's <i>Andrena</i> absent from the ZISP collection	75
Acknowledgements	75
References	76

Abstract

The type specimens for names of bee taxa in the genus *Andrena* Fabricius, 1775 of family Andrenidae described by F. Morawitz and deposited in the Zoological Institute, Russian Academy of Sciences (St. Petersburg) are reviewed. Name-bearing types of 68 species are illustrated and detailed information is provided. Lectotypes are designated here for the following 32 nominal taxa: *Andrena adjacens* Morawitz, 1875, *A. anthracina* Morawitz, 1880, *A. atrohirta* Morawitz, 1893, *A. croceiventris* Morawitz, 1871, *A. ehnerbergi* Morawitz, 1888, *A. formosa* Morawitz, 1877, *A. glasunowi* Morawitz, 1894, *A. inconspicua* Morawitz, 1871, *A. laticeps* Morawitz, 1877, *A. melanura* Morawitz, 1877, *A. mongolica* Morawitz, 1880, *A. mucronata* Morawitz, 1871, *A. nigrobarbata* Morawitz, 1871, *A. nylanderi* Morawitz, 1865, *A. ochracea* Morawitz, 1872, *A. opaca* Morawitz, 1868, *A. orbitalis* Morawitz, 1871, *A. paliuri* Morawitz, 1877, *A. pretiosa* Morawitz, 1893, *A. ranunculorum* Morawitz, 1877, *A. rotundilabris* Morawitz, 1877, *A. sahlbergi* Morawitz, 1888, *A. salicina* Morawitz, 1877, *A. schencki* Morawitz, 1866, *A. semirubra* Morawitz, 1875, *A. sexguttata* Morawitz, 1877, *A. sylvatica* Morawitz, 1877, *A. transitoria* Morawitz, 1871, *A. truncatilabris* Morawitz, 1877, *A. tscheki* Morawitz, 1872, *A. virago* Morawitz, 1894, *A. curiosa* Morawitz, 1877.

Key words: Anthophila, Apiformes, lectotypes, Palaearctic region, taxonomy

Introduction

The present paper is the fourth part (and first for the family Andrenidae) of a series of works dealing with the primary type specimens of bee taxa deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZISP). The main goal of this work is to make the ZISP collection of bees more accessible and useful to scientists. A detailed history of the formation of this collection and description of its current state are given in the first parts of the series, in which we catalogued the genus *Lasioglossum* Curtis, 1833 (Astafurova & Proshchalykin 2018), the subfamilies Rophitinae, Nomiinae, and Nomioiinae (Astafurova & Proshchalykin 2019), and the genera *Halictus* Latreille, 1804, and *Sphecodes* Latreille, 1804 (Astafurova & Proshchalykin 2020a). Halictidae species described by F. Morawitz from the collection of A. Fedtschenko from Turkestan were also cataloged separately (Astafurova & Proshchalykin 2020b).

Andrena Fabricius, 1775 is the one of the largest bee genera, numbering about 1550 species worldwide, of which about 950 are known from the Palaearctic region (Gusenleitner & Schwarz 2002; Ascher & Pickering 2021). The genus is distributed throughout the Holarctic region, south in the Western Hemisphere to Panama, in Africa through the East African highlands and south to the Cape of Good Hope, and in Asia to the mountains of southern India and of Malaysia (Michener 2007). Only three species of *Andrena* are distributed in both the Palearctic and the Holarctic regions, whereas the others occur in only one of these zoogeographic realms. Many species appear to be widespread and many are bivoltine, which has led to separate descriptions in different regions, especially in the Palearctic. Thus, about 3000 species descriptions were recognized at the beginning of 21st century (Gusenleitner & Schwarz 2002).

The ZISP collection of *Andrena* is housed in 63 drawers and comprises more than 20,000 pinned, labelled and identified specimens, belonging to about 380 species. The most valuable part of the general collection, along with the 138 primary types of *Andrena*, consists of the numerous secondary type specimens (paratypes, paralectotypes:

References

- 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.
- Ariana, A., Scheuchl, E., Tadauchi, O. & Gusenleitner, F. (2009) A taxonomic revision of the subgenus *Andrena* (*Brachyandrena*) (Hymenoptera: Andrenidae). *Zootaxa*, 2281 (1), 21–39.
<https://doi.org/10.11646/zootaxa.2281.1.2>
- Ascher, J.S. & Pickering, J. (2021) Discover Life—Bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). Available from: http://www.discoverlife.org/mp/20q?guide=Apoidea_species (accessed 6 July 2021)
- Astafurova, Yu. V. & Proshchalykin, M. Yu. (2018) The type specimens of bees (Hymenoptera, Apoidea) deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg. Contribution I. Family Halictidae, genus *Lasioglossum* Curtis, 1833. *Zootaxa*, 4408 (1), 1–66.
<https://doi.org/10.11646/zootaxa.4408.1.1>
- Astafurova, Yu. V. & Proshchalykin, M. Yu. (2019) The type specimens of bees (Hymenoptera, Apoidea) deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg. Contribution II. Family Halictidae, subfamilies Rophitinae, Nomiinae, and Nomioidinae. *Zootaxa*, 4650 (1), 1–71.
<https://doi.org/10.11646/zootaxa.4650.1.1>
- Astafurova, Yu. V. & Proshchalykin, M. Yu. (2020a) The type specimens of bees (Hymenoptera, Apoidea) deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg. Contribution III. Family Halictidae, genera *Halictus* Latreille, 1804, and *Sphecodes* Latreille, 1804. *Zootaxa*, 4790 (3), 401–446.
<https://doi.org/10.11646/zootaxa.4790.3.1>
- Astafurova, Yu. V. & Proshchalykin, M. Yu. (2020b) The bees of the family Halictidae (Hymenoptera) described by Ferdinand Morawitz from the collection of Aleksey Fedtschenko. *ZooKeys*, 994, 35–104.
<https://doi.org/10.3897/zookeys.994.58441>
- Christ, I.L. (1791) *Naturgeschichte, Klassifikation und Nomenclatur der Insekten vom Bienen-, Wespen- und Ameisengeschlecht*. Hermannische Buchhandlung, Frankfurt am Main, 535 pp., 60 col. pls.
- Dours, J.A. (1873) Hyménoptères du bassin méditerranéen *Andrena* (suite). *Biareolina, Eucera*. *Revue et Magasin de Zoologie*, 1 (3), 274–325.
- Ebmer, A.W. (2021) Abweichende Datierungen der von Ferdinand Morawitz beschriebenen Bienenarten (Insecta: Hymenoptera: Apoidea) durch Vorausdrucke. *Annalen des Naturhistorischen Museums in Wien*, 123, 277–294.
- Eversmann, E. (1852) Fauna hymenopterologica volgo-uralensis (Continuatio). *Bulletin de la Société Impériale Naturalistes de Moscou*, 25 (3), 3–137.
- Fabricius, J.C. (1775) *Systema entomologiae sistens insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus*. Korte, Flensburgi et Lipsiae, xxviii + 832 pp.
<https://doi.org/10.5962/bhl.title.36510>
- Frey-Gessner, E. (1901) Bemerkungen über die Imhoffschen Apiden—Arten in der „Isis“ von Oken 1832, 1834. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 10 (8+9), 311–332 + 412–418.
- Frey-Gessner, E. (1903) Die Männchen der *Andrena aeneiventris* Mor., *incisa* Evers., *parviceps* Krchb. und *rogenhoferi* Mor. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 11, 40–45.
- Friese, H. (1922) Neue Formen der Bienengattung *Andrena* (Hym.). *Konowia: Zeitschrift für systematische Insektenkunde*, 1, 209–217.
- Gusenleitner, F. & Schwarz, M. (2001) Zur Morphologie verschiedener von F. Morawitz beschriebener *Andrena*-Arten (Hymenoptera: Apidae: Andreninae). *Entomofauna*, 22 (7), 93–196.
- Gusenleitner, F. & Schwarz, M. (2002) Weltweite Checkliste der Bienengattung *Andrena* mit Bemerkungen und Ergänzungen zu paläarktischen Arten (Hymenoptera, Apidae, Andreninae, *Andrena*). *Entomofauna*, Supplement 12, 1–1280.
- Imhoff, L. (1832) Entomologica. *Isis, Oken, Jena*, 1832, 1198–1208.
- Imhoff, L. (1834) Entomologica. *Isis, Oken, Jena*, 1834, 370–382.
- Kerzhner, I.M. (1984) Dates of publication of „Trudy Russkogo Entomologicheskogo Obshchestva“ and „Horae Societatis Entomologicae Rossicae“, 1861–1932. *Entomologicheskoye Obozrenie*, 63 (4), 849–857. [in Russian]
- Kirby, W. (1802) *Monographia Apum Angliae. Vol. 2*. J. Raw, Ipswich, 387 pp.
- Kriechbaumer, J. (1873) Hymenopterologische Beiträge. III. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*, 23, 49–68.
- Lepelletier de Saint-Fargeau, A.L.M. (1841) *Histoire Naturelle des Insectes – Hyménoptères. Vol. 2*. Roret, Paris, 680 pp.
- Michener, C.D. (2007) *The Bees of the World*. Johns Hopkins University Press, Baltimore, Maryland, xvi + [i] + 953 pp., 20 pls.
- Morawitz, F.F. (1865) Ueber *Vespa austriaca* Panzer und drei neue Bienen. *Bulletin de la Société Impériale Naturalistes de Moscou*, 37 (2/4), 439–449.
- Morawitz, F.F. (1866) Bemerkungen über einige vom Prof. Eversmann beschriebene Andrenidae, nebst Zusätzen. *Horae Societatis Entomologicae Rossicae*, 4 (1), 3–28
- Morawitz, F.F. (1868) Ueber einige Faltenwespen und Bienen aus der Umgegend von Nizza. *Horae Societatis Entomologicae Rossicae*, 5 (4), 145–156.

- Morawitz, F.F. (1871a) Beitrag zur Bienenfauna Russlands. [Schluß]. *Horae Societatis Entomologicae Rossicae*, 7 (4), 321–333.
- Morawitz, F.F. (1871b) Neue sudeuropäische Bienen. *Horae Societatis Entomologicae Rossicae*, 8 (3), 201–231.
- Morawitz, F.F. (1872) Ein Beitrag zur Bienenfauna Deutschlands. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*, 22, 355–388.
- Morawitz, F.F. (1873) Die Bienen Daghestans. *Horae Societatis Entomologicae Rossicae*, 10 (2/4), 129–189.
- Morawitz, F.F. (1875) Zur Bienenfauna der Caucasusländer. *Horae Societatis Entomologicae Rossicae*, 12 (1), 3–69.
- Morawitz, F.F. (1876) *Bees (Mellifera). II. Andrenidae*. 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). M. Stanyukevich's Printing house, Moscow, pp. 161–303, 3 pls. [Proceedings of the Royal Society of Amateurs of Natural History Sciences, Anthropology and Ethnography, 21 (3), in Russian]
- Morawitz, F.F. (1877) Nachtrag zur Bienenfauna Caucasiens. *Horae Societatis Entomologicae Rossicae*, 14 (1), 3–112.
- Morawitz, F.F. (1880) Ein Beitrag zur Bienen-Fauna Mittel-Asiens. *Bulletin de l'Académie Impériale des Sciences de St.-Petersbourg*, 26 (22/36), 337–389.
- Morawitz, F.F. (1885) Notiz über *Mellita curiosa* Mor. *Horae Societatis Entomologicae Rossicae*, 19 (1/2), 181–182.
- Morawitz, F.F. (1886) Neue transcaucasische Apidae. *Horae Societatis Entomologicae Rossicae*, 20 (1/2), 57–81.
- Morawitz, F.F. (1888) Hymenoptera aculeata nova. *Horae Societatis Entomologicae Rossicae*, 22 (3/4), 224–302.
- Morawitz, F.F. (1893) Supplement zur Bienenfauna Turkestans. *Horae Societatis Entomologicae Rossicae*, 28 (1/2), 3–87.
- Morawitz, F.F. (1894) Beitrag zur Bienenfauna Turkmeniens. *Horae Societatis Entomologicae Rossicae*, 29 (1/2), 1–76.
- Osytschnjuk, A.Z. (1977) *Fauna of the Ukraine. Vol. 12. Bees. No. 5. Family Andrenidae*. Naukova Dumka, Kiev, 328 pp. [in Ukrainian]
- Osytschnjuk, A.Z. (1984a) New and little-known bees of the subgenus *Carandrena* War. (Hymenoptera, Andrenidae; *Andrena* F.) in the fauna of the USSR. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 128, 3–15. [in Russian]
- Osytschnjuk, A.Z. (1984b) New Palearctic subgenus and new species of genus *Andrena* F. (Hymenoptera, Andrenidae). *Vestnik zoologii*, 2, 23–30. [in Russian]
- Osytschnjuk, A.Z. (1993) New subgenera and new species of Palearctic *Andrena* bees (Hymenoptera, Andrenidae). Communication 2. *Vestnik zoologii*, 5, 60–66. [in Russian]
- Osytschnjuk, A.Z. (1995) Family Andrenidae. In: Lehr, P.A. (Ed.), *Keys to Insects of the Far East of Russia. Vol. 4. Megaloptera, Raphidioptera, Neuroptera, Mecoptera, Hymenoptera. Pt 1*. Nauka, St. Petersburg, pp. 489–527. [in Russian]
- Osytschnjuk, A.Z., Panfilov, D.V. & Ponomareva A.A. (1978) Superfamily Apoidea – Bees. In: Medvedev, G.S. (Ed.), *A Key to insects of the European part of the USSR. Vol. 3. Hymenoptera. Pt 1*. Nauka, Leningrad, pp. 279–519. [in Russian]
- Osytschnjuk, A., Romasenko, L., Banaszak, J. & Cierzniak, T. (2005) *Andreninae of the Central and Eastern Palearctic. Part 1. Polish Entomological Monographs. Vol. 2*. Polish Entomological Society, Poznań, Bydgoszcz, 235 pp.
- Osytschnjuk, A., Romasenko, L., Banaszak, J. & Motyka, E. (2008) *Andreninae of the Central and Eastern Palearctic. Part 2. Polish Entomological Monographs. Vol. 5*. Polish Entomological Society, Poznań, Bydgoszcz, 233 pp.
- Pesenko, Yu.A. & Astafurova, Yu. V. (2003) Annotated bibliography of Russian and Soviet publications on the bees (Hymenoptera: Apoidea; excluding *Apis mellifera*): 1771–2002. *Denisia*, 11, 1–616.
- Pittioni, B. (1950) Hymenoptera aculeata I. In: On the insectfauna of Cyprus. Results of the expedition of 1939 by Harald, Hakan and P.H. Lindberg. *Commentationes Biologicae*, 10, 1–94.
- Popov, V.B. (1949) The subgenus *Plastandrena* Hedicke and its new forms (Hymenoptera, Apoidea). *Entomologicheskoye Obozrenie*, 30 (3/4), 389–404. [in Russian]
- Popov, V.B. (1958) On three subgeneric andrenid groupings (Hymenoptera, Andrenidae). *Transactions of the Russian Entomological Society*, 46, 109–161. [in Russian]
- Popov, V.B. (1960) New and little-known species of bees (Hymenoptera, Apoidea) from Turkmenia. *Proceedings of the Zoological Institute of the Academy of Sciences of the USSR*, 27, 247–263. [in Russian]
- Proshchalykin, M. Yu., Astafurova, Yu. V. & Sidorov, D.A. (2017a) Family Andrenidae. In: Lelej, A.S., Proshchalykin, M. Yu. & Loktionov, V.M. (Eds.), *Annotated Catalogue of the Hymenoptera of Russia. Volume I. Symphyta and Apocrita: Aculeata. Proceedings of the Zoological Institute RAS, Supplement 6*, pp. 263–276.
- Proshchalykin, M. Yu., Astafurova, Yu. V. & Osytschnjuk, A.Z. (2017b) The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from Crimea, North Caucasus, European part of Russia and Ural. Part II. Families Andrenidae and Megachilidae. *Far Eastern Entomologist*, 328, 1–34.
- Radchenko, V.G., Ivanov, S.P. & Budashkin, Yu. I. (2005) First record of bee *Andrena (Poliandrena) ornata* (Hymenoptera, Apoidea) for Ukrainian fauna with a designation of lectotype. *Vestnik zoologii*, 39 (5), 88. [in Russian]
- Radoszkowski, O. (1867) Matériaux pour servir à l'étude des insectes de la Russie. IV. Notes sur quelques Hyménoptères de la tribu des Apides. *Horae Societatis Entomologicae Rossicae*, 5 (3), 73–90.
- Rossi, P. (1792) *Mantissa insectorum, exhibens species nuper in Etruria collectas, adjectis Faunae Etruscae illustrationibus ac emendationibus*. Polloni, Pisa, 148 pp.
- Schmiedeknecht, O. (1880) Über einige seltene, zum Theil neue Arten der Bienen-Gattung *Andrena* aus Thüringen. *Entomologische Nachrichten*, 6, 1–5 + 8–15 + 21–27 + 51–55.
- Schmiedeknecht, O. (1882–1884) *Apidae Europaeae (Die Bienen Europas) per genera, species et varietates dispositae atque*

- descriptae. Tomus I. Nomada, Bombus, Psithyrus et Andrena*. s.n., Gumperda and Berlin, 866 pp.
<https://doi.org/10.5962/bhl.title.14097>
- Schuberth, J., Grünwaldt, W. & Schönitzer, K. (2001) Klärung und Neubeschreibung der Sandbiene *Andrena asiatica* Friese, 1921. *Beiträge zur Entomologie*, 51 (1), 65–71.
<https://doi.org/10.21248/contrib.entomol.51.1.65-71>
- Smith, F. (1847) Description of British bees belonging to the genus *Andrena* of Fabricius. *Zoologist*, 5, 1662–1670, 1732–1753 + 1916–1931.
- Smith, F. (1849) Descriptions of new species of British bees. *Zoologist*, 7, LVII–LX.
- Smith, F. (1853) *Catalogue of Hymenopterous insects in the collection of the British Museum. Andrenidae and Apidae. Part 1*. British Museum, London, 198 pp., taf. 1–6.
- Thomson, C.G. (1870) s.n. In: *Opuscula entomologica. Vol. 2*. Håkan Ohlson, Lund, pp. 83–304.
<https://doi.org/10.5962/bhl.title.8248>
- Walckenaer, C.A. (1802) *Faune Parisienne. Ou Histoire abrégée des Insectes des environs de Paris. Vol. 2*. Dentu, Paris, 22 + 438 pp.
- Warncke, K. (1965) Beitrag zur Kenntnis der Bienengattung *Andrena* F. in der Türkei (Hymenoptera, Apoidea). *Mitteilungen der Münchner Entomologischen Gesellschaft*, 55, 244–273.
- Warncke, K. (1966) Beitrag zur Kenntnis der Bienengattung *Andrena* F. im Kaukasus, mit Beschreibung einer neuen Art aus Südeuropa (Hymenoptera). *Acta Entomologica Bohemoslovaca*, 63, 116–127.
- Warncke, K. (1967) Beitrag zur Klärung paläarktischer *Andrena*-Arten. *Eos*, 43 (1/2), 171–318.
- Warncke, K. (1969) A contribution to the knowledge of the genus *Andrena* (Apoidea) in Israel. *Israel Journal of Entomology*, 4, 377–408.
- Xu, H.-L. & Tadauchi, O. (1997) Subgeneric positions and redescriptions of Asian *Andrena* preserved in the Zoological Institute, Russian Academy of Sciences, St. Petersburg (Hymenoptera, Andrenidae). *Journal of the Faculty of Agriculture, Kyushu University*, 41 (3–4), 165–178.
<https://doi.org/10.5109/24142>