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AN UPDATED CHECKLIST OF BEES OF SRI LANKA WITH NEW RECORDS

W.A.INOKA P. KARUNARATNE, JAYANTHI P. EDIRISINGHE & ALAIN PAULY

National Science Foundation

Sri Lanka

AN UPDATED CHECKLIST OF BEES OF SRI LANKA WITH NEW RECORDS

W. A. INOKA P. KARUNARATNE, JAYANTHI P. EDIRISINGHE & [1]ALAIN PAULY

Department of Zoology, Faculty of Science, University of Peradeniya, Sri Lanka

[1]Department Entomologie, Institut royal des Sciences naturelles de Belgique, Rue Vautier 29, 1000 Bruxelles, Belgium.

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E-mail: info@nsf.ac.lk

FOREWORD

The National Man and the Biosphere (MAB) Committee is the National focal point for UNESCO's Man and the Biosphere Programme. One of the activities of the MAB National Committee is collection and publication of the information related to biodiversity conservation, sustainable development and capacity building for the benefit of the nation. Hence, the text titled "An Updated Checklist of Bees of Sri Lanka with New Records" is the 23rd publication in the series.

Bees are of inestimable value as agents of cross-pollination and many plants are entirely dependent on particular kinds of bees for their reproduction. This text contains data on almost all the identified bee species arranged alphabetically by family, subfamily, genus and species.

I trust this publication would serve as a valuable reference guide to the scientists and others who are interested in this field. The NSF would welcome any additions, corrections and suggestions for improvement.

I acknowledge with gratitude the services of the National Committee on Man and the Biosphere and efforts of Ms Anusha Amarasinghe (Director-Scientific Affairs, Head/ILD, NSF) towards making this publication a reality.

Prof. Sirimali Fernando
Chairperson
National Science Foundation

December 2005

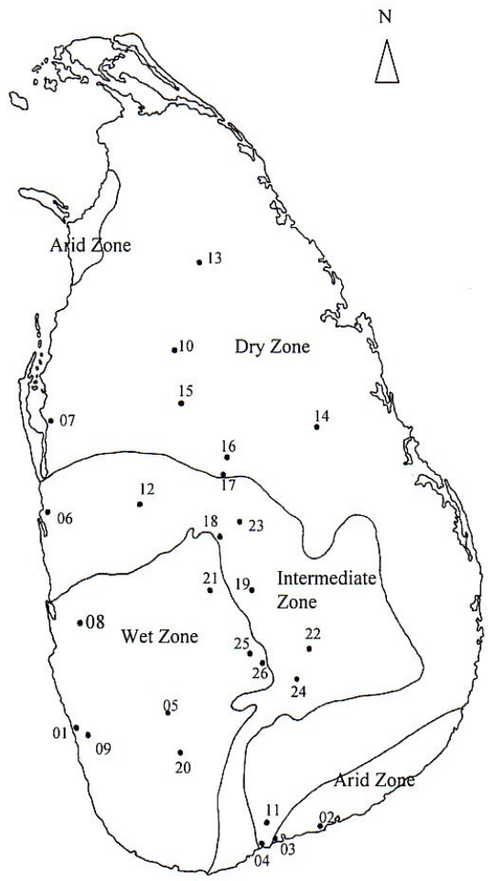
ABSTRACT

The updated checklist of bees of Sri Lanka is based on field collections made in 29 locations covering all the biogeographic regions in the island. The study resulted in the addition of 16 species and 5 genera of bees to the previous checklist resulting in a total bee fauna of 148 species in 38 genera and four families for Sri Lanka. A species of bees new to Science and a new genus of bees to Sri Lanka are reported. *Gnathonomia* Pauly n. gen. is included following the updating of the previously known genus *Nomia*. *Gnathonomia* in Sri Lanka is represented by two species. A description of the new species of bees *Lipotriches edirisinghei* Pauly n. sp. is included with a list of paratypes lodged in the Museum of the Department of Zoology, University of Peradeniya. Genus *Lipotriches* now includes 9 species in Sri Lanka. The new species of bees visit largely graminaceous flowers, especially in the early hours of the morning.

INTRODUCTION

Bees (Hymenoptera: Apoidea) undoubtedly are the most useful group of insects, being pollinators. There are over 16,000 described species of bees in the world with their highest diversity in temperate, xeric regions of the world (Michener, 2000). The very first checklist of bees of Sri Lanka (Wijesekara, 2001) puts together published details of 132 bee species collected during the British Colonial Period and thereafter by the Smithsonian – Sri Lanka Insect Survey. Four other species of bees from these collections have not been listed. A recent field study conducted by local scientists led to the identification of 16 bee species in five genera, previously unrecorded from Sri Lanka, including a species new to Science (Karunaratne, 2004).

The updated checklist includes 148 species of bees in 38 genera and four families, arranged according to the Family classification of Michener (2000). The checklist is arranged alphabetically by Family, Subfamily, Genus and Species. The source and the location in the country of the expert identified voucher specimens of the listed bee species are designated as *KVK-ZMP* (Karl V. Krombein collection in the Zoology Museum, Peradeniya), *KVK-NMC* (Karl V. Krombein collection in the National Museum, Colombo), *IK-ZMP* (first author's collection lodged in the Zoology Museum, Peradeniya) and *BMNH* (British Museum of Natural History). Distribution localities of species collected during the field study are given in Fig.1.



Collecting sites are numbered in order of increasing altitude: 1=Kalutara, 2=Hambanthota, 3=Rekawa, 4=Ussangoda, 5=Ratnapura, 6=Chillaw, 7=Puttalam, 8=Gampaha, 9=Bombuwala, 10=Anuradhapura, 11=Angunakolapelessa, 12=Wariyapola, 13=Vavuniya, 14=Giritale, 15=Mahailluppallama, 16=Dambulla, 17=Gallewela, 18=Matale, 19=Randenigala, 20=Sinharaja, 21=Peradeniya (includes 4 sites: Gannoruwa Ag. Field, Meewatura Ag. Field, R. Bot. Gardens & Univ. Park), 22=Badulla, 23=Knuckles, 24=Bandarawella, 25=Nuwara Eliya, 26=Sita Eliya.

Figure 1. Map of Sri Lanka showing the bee collection sites distributed in different agroecological regions of the country.

Abbreviations for collection sites of bees

ANG Angunakolapelessa (6.10^{0}N 80.54^{0}E)

ANU Anuradhapura (8.32^{0}N 80.41^{0}E)

BAD Badulla (6.99^{0}N 81.05^{0}E)

BAN Bandarawela (6.50^{0}N 80.59^{0}E)

BOM Bombuwela (6.35^{0}N 80.01^{0}E)

CHL Chillaw (7.34^{0}N 79.47^{0}E)

DAM Dambulla (7.85^{0}N 80.65^{0}E)

GAL Gallewela (7.45^{0}N 80.34^{0}E)

GAM Gampaha (6.59^{0}N 80.56^{0}E)

GTL Giritale (7.59^{0}N 80.56^{0}E)

HAM Hambantota (6.07^{0}N 81.07^{0}E)

KAL Kalutara (6.59^{0}N 79.96^{0}E)

KNU Knuckles (7.24^{0}N 80.48^{0}E)

MAT Matale (7.47^{0}N 80.62^{0}E)

MIP Mahaillupallama (8.06^{0}N 80.27^{0}E)

NUE Nuwara Eliya (6.58^{0}N 80.46^{0}E)

PER Peradeniya (7.29^{0}N 80.63^{0}E)

PUT Puttalam (8.04^{0}N 79.82^{0}E)

RAN Randenigala (7.18°N 80.86°E)

RAT Ratnapura (6.70^{0}N 80.38^{0}E)

REK Rekawa (6.03^{0}N 80.51^{0}E)

SIG Singharaja (6.23^{0}N 80.25^{0}E)

STE Sita Eliya (6.56^{0}N 80.48^{0}E)

USG Ussangoda (6.46^{0}N 80.23^{0}E)

VAV Vavunia (8.45^{0}N 80.30^{0}E)

WRP Wariyapola (7.25^{0}N 80.21^{0}E)

SYSTEMATIC LIST OF BEE GENERA AND SPECIES

FAMILY – COLLETIDAE
SUBFAMILY - HYLAEINAE

1. *HYLAEUS* Fabricius, 1793

1. Hylaeus krombeini Snelling, 1980
Source: Snelling 1980; Wijesekara, 2001; *KVK-NMC*

2. Hylaeus sedens Snelling, 1980
Source: Wijesekara, 2001; Krombein & Norden 2001

FAMILY - HALICTIDAE
SUBFAMILY - HALICTINAE

2. *HALICTUS* Latreille, 1804

3. Halictus (Seladonia) lucidipennis Smith, 1853
Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: ANU, PUT, CHL, PER, DAM, WRP, KNU, ANG, USG

3. *HOMALICTUS* Cockerell, 1919

4. Homalictus singhalensis (Blüthgen, 1926)
Source: Wijesekara 2001; KVK-NMC, KVK-ZMP, IK-ZMP
New localities: NUE, STE

5. *Homalictus paradnanus* (Strand, 1914)
Source: *KVK-NMC*

4. *LASIOGLOSSUM* Curtis, 1833

6.Lasioglossum (*Ctenonomia*) *amblypygus* (Strand, 1913)
Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP,IK- ZMP*
New localities: ANU, WRP, KNU, ANG, USG, GTL

7. Lasioglossum (*Ctenonomia*) *cire* (Cameron, 1897)
Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: KAL, BOM

8. Lasioglossum (*Ctenonomia*) *clarum* (Nurse, 1902)
Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP*

9. Lasioglossum (*Ctenonomia*) *semisculptum* (Cockerell, 1911)
Source: Wijesekara 2001

10. Lasioglossum (*Ctenonomia*) *vagans* (Smith, 1857)
Source: Wijesekara 2001; *KVK-ZMP, IK-ZMP*
New localities: PER

11. Lasioglossum (Evylaeus) carinifrons (Cameron, 1904)
Voucher specimen deposited in the NMC and DMP.determined by Sakagami 1992
Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: NUE, STE, KNU, BAD

12. Lasioglossum (Nesohalictus) halictoides (Smith, 1859)
Source: Wijesekara 2001; *IK-ZMP*
New localities: PUT, CHL, HAM, REK

13. Lasioglossum (Nesohalictus) serenum (Cameron, 1897)
Source: Wijesekara 2001; *KVK-NMC, IK-ZMP*
New localities: PER, CHL

14. Lasioglossum (Sudila) alphenum (Cameron, 1897)

Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: NUE, STE, KNU, BAD

15. Lasioglossum (Sudila) aulacophorum (Strand, 1913)

Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: STE, KNU, BAD

16. Lasioglossum (Sudila) bidentatum (Cameron, 1898)

Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: NUE, KNU

17. Lasioglossum (Sudila) kandiense (Cockerell, 1913)

Source: Wijesekara 2001; *IK-ZMP*

New localities: SIG

5. *PACHYHALICTUS* Cockerell, 1929

18. Pachyhalictus bedanus (Blüthgen, 1926)

Source: Wijesekara 2001

19. Pachyhalictus kalutarae (Cockerell, 1911)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP,IK-ZMP*

New localities: PER, KNU

20. Pachyhalictus sigiriellus (Cockerell, 1911)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP*

21. Pachyhalictus vinctus (Walker, 1860)

Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: RAN

6. *SPHECODES* Latreille, 1804

22. Sphecodes biroi Friese, 1909
Source: *KVK-NMC, IK-ZMP*
New localities: PER

23. Sphecodes crassicornis Smith, 1875
Source: *KVK-NMC, IK-ZMP*
New localities: ANU, RAN, ANG, GTL

24. Sphecodes decorus (Cameron, 1897)
Source: *KVK-NMC*

SUBFAMILY - NOMIINAE

7. *AUSTRONOMIA* Michener, 1965

25. Austronomia notiomorpha Hirashima, 1978
Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: PER, ANG, RAN, WRP, PUT, SIG, MIP, GTL, KNU

26. Austronomia krombeini Hirashima, 1978
Source: Wijesekara 2001; KVK-NMC, KVK-ZMP, IK-ZMP
New localities: PER, DAM, HAM, REK, WRP, CHL, PUT, BOM, ANU, MIP, KAL

27. Austronomia sp. 1 determined by Pauly 2003
Source: *IK-ZMP*
New localities: *ANU, PER, DAM, RAN, WRP, CHL, PUT, BAD, RAT, SIG*

28. Austronomia sp. 2 determined by Pauly 2003

Source: *IK-ZMP*

New localities: PER, RAN, DAM, WRP

8. *CURVINOMIA* Michener, 1944

29. *Curvinomia formosa* (Smith, 1858) determined by Pauly 2003

Source: *IK-ZMP*

New localities: PER, RAT, SIG, BOM, BAD

30. Curvinomia iridiscens (Smith, 1857) determined by Pauly 2003

Source: *IK-ZMP*

New localities: RAN, PER, CHL, PUT, SIG, KNU

9. *GNATHONOMIA* Pauly, **NEW GENUS** [description in appendix]

31. Gnathonomia nasicana (Cockerell, 1911)

Source: *IK-ZMP*

New localities: PER, KNU, ANG, RAN, WRP, CHL, ANU

32. Gnathonomia sp. 2

Source: *IK-ZMP*

New localities: PER, WRP, ANU

10. *HOPLONOMIA* Ashmead, 1904

33. Hoplonomia westwoodi (Gribodo, 1894) based on Bingham, 1897

Source: *IK-ZMP*

New localities: *DAM, HAM, ANG, REK, PER, RAT, RAN, KNU, WRP, CHL, PUT, MIP*

11. ***LEUCONOMIA*** Pauly, 1980

34. Leuconomia sp. determined by Pauly 2003
Source: *IK-ZMP*
New localities: *DAM, USG, HAM, ANG, WRP, CHL, PUT, BOM, ANU, PER, KNU*

12. LIPOTRICHES Gerstaecker, 1857

35. Lipotriches basipicta (Wickwar, 1908)
Source: Wijesekara 2001

36. Lipotriches bombayensis (Cameron, 1908) determined by Pauly 2003
Source: col. K.V. Krombein, Washington

37. Lipotriches comberi (Cockerell, 1911) determined by Pauly 2003
Source: *IK-ZMP*
New localities: ANG, RAT, RAN, WRP, PUT, SIG

38. Lipotriches sp nr. comperta (Cockerell, 1912) determined by Pauly 2003
Source: *IK-ZMP*
New localities: PER, GTL

39. Lipotriches exagens (Walker, 1860)
Source: Wijesekara 2001; *IK-ZMP*
New localities: PER, RAT

40. Lipotriches fervida (Smith, 1875) (= *Nomia carinicollis* Cameron, 1902)
Source: BMNH

41. Lipotriches fulvinerva (Cameron, 1907) determined by Pauly 2003
Source: *IK-ZMP*
New localities: HAM, ANG, WRP, PER

42. Lipotriches edirisinghei Pauly n. sp. [description in appendix]

Source: *IK-ZMP*

New localities: PER, SIG, ANG, RAT, WRP, KNU

43. Lipotriches pulchriventris (Cameron, 1897) determined by Pauly 2003

Source: *IK-ZMP*

New localities: PER

13. ***MACRONOMIA*** Cockerell, 1917 (previously unrecorded genus from Sri Lanka, examined by Pauly 2003)

44. Macronomia rustica (Westwood, 1875) (= *Nomia rustica* Westwood, 1875)

Source: BMNH

14. ***MAYNENOMIA*** Pauly, 1984 (previously unrecorded genus from Sri Lanka, determined by Pauly 2003)

45. Maynenomia sp. 1

Source: *IK-ZMP*

New localities: PER

46. Maynenomia sp. 2

Source: *IK-ZMP*

New localities: WRP

15. ***NOMIA*** Latreille, 1793

47. Nomia crassipes Fabricius, 1798

Source: Wijesekara 2001; *IK-ZMP*

New localities: DAM, HAM, ANG, RAN, PER, KNU, WRP, CHL, PUT, BOM, ANU

16. ***PACHYNOMIA*** Pauly, 1980 (previously unrecorded genus from Sri Lanka, determined by Pauly 2003)

48. Pachynomia sp.
Source: *IK-ZMP*
New localities: HAM, KNU, ANU, PUT

17. ***PSEUDAPIS*** Kirby, 1900

49. Pseudapis oxybeloides (Smith, 1875)
Source: Wijesekara 2001; Gupta 2003; *IK-ZMP*
New localities: DAM, USG, HAM, ANG, WRP, CHL, PUT, BOM, ANU, MIP, PER

18. ***STEGANOMUS*** Ritsema, 1873

50. Steganomus nodicornis Smith, 1875 (= *Nomia matalea* Strand, 1913)
Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*
New localities: RAN, PUT, HAM, REK, CHL

SUBFAMILY – NOMIOIDINAE

19. ***CEYLALICTUS*** Strand, 1913

51. Ceylalictus appendiculata (Cameron, 1903) determined by Sakagami, 1984
Collected from Manner , Jaffna as per specimen.
Source: *KVK-NMC, KVK-ZMP*

52. Ceylalictus horni (Strand, 1913)
Source: Wijesekara 2001

53. Ceylalictus cereus (Nurse, 1901)

Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: PER, RAN

54. Ceylalictus taprobanae (Cameron, 1897)

Source: Wijesekara 2001; *IK-ZMP*

New localities: KAL, ANG, REK

SUBFAMILY – ROPHITINAE

20. *SYSTROPHA* Illiger, 1806

55. Systropha tropicalis Cockerell, 1911

Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*

New localities: PUT, RAN, WRP, ANG, KNU

FAMILY – MEGACHILIDAE

Tribe – Anthidiini

21. *ANTHIDIELLUM* Cockerell, 1904

56. Anthidiellum butarsis Griswold, 2001

Source: Krombein and Norden 2001

57. Anthidiellum krombeini Griswold, 2001

Source: Krombein and Norden 2001

58. Anthidiellum ramakrishnae (Cockerell, 1919)

Source: Wijesekara 2001

22. *EXANTHIDIUM* Pasteels, 1969

59. Exanthidium rotundiventre Pasteels, 1987
Source: Pasteels 1987

23. *EUASPIS* Gerstaecker, 1857

60. Euaspis edentata Baker,1995
Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: MIP, ANU, PUT, GAN, DAM, WRP, KNU, ANG, HAM

24. *PACHYANTHIDIUM* Friese, 1905 (previously unrecorded from Sri Lanka) based on descriptions in Michener 2000

61. Pachyanthidium sp. 1
Source: *IK-ZMP*
New localities: WRP, HAM, CHL, PUT

25. *PSEUDOANTHIDIUM* Friese, 1898 (previously unrecorded from Sri Lanka) based on descriptions in Michener 2000

62. *Pseudoanthidium* sp. 1
Source: *IK-ZMP*
New localities: ANU, ANG

Tribe – Lithurgini

26. *LITHURGUS* Berthold, 1827

63. Lithurgus atratus Smith, 1854
Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*
New localities: WRP, KNU, PUT, CHL, DAM, ANG, PER, HAM, REK, USG

Tribe - Megachilini

27. *COELIOXYS* Latreille, 1809

64. Coelioxys angulata Smith, 1870
Source: Wijesekara 2001
New localities: *KVK-NMC, KVK-ZMP*

65. Coelioxys apicata Smith, 1854
Source: Wijesekara 2001
New localities: *KVK-NMC*

66. Coelioxys capitata Smith, 1854
Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: PER, ANG, WRP, PUT

67. Coelioxys confusus Smith, 1875
Source: Wijesekara 2001; *KVK-NMC, IK-ZMP*
New localities: PER, PUT, BAD

68. Coelioxys fenestrata Smith, 1873
Source: Wijesekara 2001

69. Coelioxys fuscipennis Smith, 1854
Source: Wijesekara 2001

70. Coelioxys minutus Smith, 1879 (previously unrecorded from Sri Lanka)
based on descriptions in Bingham 1897
Source: *IK-ZMP*
New localities: PER, RAN, GAL, ANG, REK, MAT

71. Coelioxys nitidoscutellaris Pasteels, 1987
Source: Pasteels 1987

72. Coelioxys taiwanensis Cockerell, 1911
Source: Wijesekara 2001; *KVK-NMC*

28. *MEGACHILE* Latreille, 1802

73. Megachile albolineata Cameron, 1897
Source: Wijesekara 2001

74. Megachile amputata Smith, 1858 (previously unrecorded from Sri Lanka) based on descriptions in Bingham 1897
Source: *IK-ZMP*
New localities: WRP, PER

75. Megachile ardens Smith, 1879
Source: Wijesekara 2001; *IK-ZMP*
New localities: ANG

76. Megachile ceylonica Bingham, 1896
Source: Wijesekara 2001

77. Megachile conjuncta Smith, 1853
Source: Wijesekara 2001; *IK-ZMP*
New localities: RAN, PER

78. Megachile disjuncta Fabricius, 1781
Source: Wijesekara 2001; *IK-ZMP*
New localities: MIP, ANU, GAN, DAM, WRP, ANG, GTL, MAT, USG

79. Megachile hera Bingham, 1897 (previously unrecorded from Sri Lanka) based on descriptions in Bingham 1897
Source: *IK-ZMP*
New localities: MIP, ANU, PUT, CHL, RAN, DAM, WRP, KNU, ANG, PER, HAM, BAD

80. Megachile kandyca Friese, 1918

Source: Wijesekara 2001

81. Megachile lanata Fabricius, 1793

Source: Wijesekara 2001; *IK-ZMP*

New localities: MIP, RAN, PER, DAM, ANG, BAD, GTL, MAT, USG

82. Megachile mystacea Fabricius, 1775

Source: Wijesekara 2001; *IK-ZMP*

New localities: SIG

83.Megachile nana Bingham, 1897 (previously unrecorded from Sri Lanka) based on descriptions in Bingham 1897

Source: *IK-ZMP*

New localities: PER, DAM, WRP, ANG, REK, GTL, MAT

84. Megachile nigricans Cameron, 1898

Source: Wijesekara 2001

85. Megachile reepeni Friese, 1918

Source: Wijesekara 2001

86. Megachile relata Smith, 1879

Source: Wijesekara 2001

87. Megachile umbripennis Smith, 1853

Source: Wijesekara 2001; *IK-ZMP*

New localities: SIG, MIP, ANU, PUT, CHL, RAN, PER, DAM, WRP

88. Megachile vestita Smith, 1853 (previously unrecorded from Sri Lanka) based on descriptions in Bingham 1897

Source: *IK-ZMP*

New localities: BOM, CHL, WRP, PER

89. Megachile vigilans Smith, 1878

Source: Wijesekara 2001; *IK-ZMP*

New localities: MIP, PUT, CHL, DAM, ANG, PER

Tribe – Osmiini

29. *HERIADES* Spinola, 1808

90. Heriades binghami Cameron, 1897determined by D.S. Peters 1983

Source: *KVK-ZMP, IK-ZMP*

New localities: RAN, PER, WRP, KNU, ANG, HAM

FAMILY – APIDAE

Tribe - Anthophorini

30. *AMEGILLA* Friese, 1897

91. *Amegilla (Amegilla) confusa* Smith, 1854 (= *vigilans* Smith, 1878)

Source: Gupta 2003

92. Amegilla (*Amegilla*) *quadrifasciata* de Villers, 1789

Source: Gupta 2003, Wijesekara 2001

93. Amegilla (*Glossamegilla) violacea* Lepeletier, 1841

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, PUT, WRP, ANG, BAD, GTL

94. Amegilla (Micramegilla) mucorea (Klug, 1845) (=*Anthophora delicata* Cockerell, 1911)
Source: Gupta 2003

95. Amegilla (*Zebramegilla*) *fallax* Smith, 1879
Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*
New localities: ANU, PUT, DAM, ANG, USG

96. Amegilla (*Zebramegilla) subcoerulea* Lepeletier, 1841
Source: Gupta 2003; Wijesekara 2001

97. Amegilla (*Zonamegilla) cingulata* Fabricius, 1775
Source: Gupta 2003; Wijesekara 2001

98. *Amegilla (Zonamegilla) cingulifera* Cockerell, 1910
Source: Gupta 2003; *KVK-NMC, KVK-ZMP*; Wijesekara 2001

99. Amegilla (Zonamegilla) comberi Cockerell, 1911
Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP.*
New localities: ANU, PUT, PER, DAM, WRP, ANG, REK, GTL, KNU, MAT

100. Amegilla (Zonamegilla) niveocincta (Smith, 1854) determined by Lieftinck, 1977
Sources: *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: ANG, PER, KNU

101. Amegilla (Zonamegilla) perasserta Rayment, 1947 (=*Anthophora perasserata* Rayment, 1947)
Source: Gupta 2003

102. Amegilla (Zonamegilla) puttalama Strand, 1913
Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*
New localities: PER, DAM, ANG, KNU, MAT, GTL, BAD

103. Amegilla (*Zonamegilla) subinsularis* (Strand): Cockerell, 1919

[Brooks (1988: 573) states 'listed by Cockerell, 1919, as *insularis* subsp. but original description is not found']

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: SIG, PER, KNU

104. Amegilla (Zonamegilla) zonata Linnaeus, 1758

Source: Gupta 2003; Wijesekara 2001

105. Amegilla sp.[manuscript name *scintillans* of Lieftinck, 1977]

Source: *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: BOM, MIP, PUT, WRP, KNU, ANG, PER, BAD, NUE

Tribe - Allodapini

31. *BRAUNSAPIS* Michener, 1969

106. Braunsapis cupulifera Vachal, 1894 (=*Allodape cupulifera bakeri* Cockerell, 1916) (previously unrecorded from Sri Lanka) based on

Description in Bingham 1897

Source: *IK-ZMP*

New localities: PER

107. Braunsapis flaviventris Reyes, 1991

Source: Gupta 2003; Wijesekara 2001

108. Braunsapis mixta Smith, 1852 (=*Allodape mixta* Meade-Waldo, 1923)

Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*

New localities: ANU, RAN, PER, WRP, KNU, ANG

109. Braunsapis picitarsis Cameron, 1902

Source: Gupta 2003; Wijesekara 2001

Tribe – Ceratinini

32. CERATINA Latreille, 1802

110. Ceratina (Ceratinidia) hieroglyphica Smith, 1854
Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*
New localities: ANU, ANG, MIP, GTL, BAD, BAN, HAM, REK, USG, BOM, KAL, GAM, PER, RAN, MAT, GAL, DAM, KNU, NUE, STE, PUT, CHL, WAR, RAT, SIG, VAV

111. Ceratina (Pithitis) binghami Cockerell, 1910 (=*C. viridissima* Dalla Torre, 1896)
Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*
New localities: ANU, ANG, MIP, GTL, BAD, HAM, REK, USG, BOM, KAL, GAM, PER, RAN, MAT, GAL, DAM, KNU, PUT, CHL, WAR, RAT, SIG, VAV

112. Ceratina (Pithitis) smaragdula Fabricius, 1787 (=*C. sexmaculata* Smith, 1879 = *Pithitis smaragdula* Hirashima, 1969*)*
Source: Wijesekara 2001; *IK-ZMP*
New localities: MIP, DAM, KNU

113. Ceratina (*Simoceratina*) *tanganyicensis* Strand, 1911 determined by M. Terzo
(Previously unrecorded from Sri Lanka)
Source: *IK-ZMP*
New localities: WRP, KNU

114. Ceratina (Xanthoceratina) beata Cameron, 1897
Source: Gupta 2003; Wijesekara 2001

115. Ceratina (Xanthoceratina) picta Smith, 1854
Source: Gupta 2003; Wijesekara 2001

Tribe – Nomadini

33. *NOMADA* Scopoli, 1770

116. Nomada adusta Smith, 1875

Source: Gupta 2003; Wijesekara 2001

117. Nomada antennata Meade-Waldo, 1913

Source: Gupta 2003; *KVK-ZMP, KVK-ZMP*; Wijesekara 2001

118. Nomada bicellularis Schwarz, 1990

Source: Wijesekara 2001; *KVK-NMC*

119. Nomada ceylonica Cameron, 1897

Source: Gupta 2003; Wijesekara 2001

120. Nomada lusca Smith, 1875

Source: Gupta 2003; Wijesekara 2001

121. Nomada priscilla Nurse, 1902

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK- ZMP, IK-ZMP*

New localities: NUE, KNU

122. Nomada wickwari Meade-Waldo, 1913

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANG

Tribe - Eucerini

34. *TETRALONIA* Spinola, 1839

123. Tetralonia commixtana Strand, 1913

Source: Gupta 2003; Wijesekara 2001

124. Tetralonia taprobanicola Strand, 1913

Source: Gupta 2003; Wijesekara 2001

125. Tetralonia fumida Cockerell, 1911

Source: Gupta 2003; Wijesekara 2001

Tribe – Melectini

35. *THYREUS* Panzer, 1806

126. Thyreus ceylonicus Friese, 1905 (=*Crocisa ceylonica* Friese, 1905)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: WRP, KNU, ANG, PER, REK, USG, GTL

127. Thyreus histrio Fabricius, 1775 (=*Crocisa histrio* Strand, 1913)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, PUT, PER, DAM, WRP, KNU, ANG, REK

128. Thyreus insignis Meyer, 1912 (=*Crocisa insignis* Meyer, 1912)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: SIG, KNU

129. Thyreus ramosellus Cockerell, 1919 (=*Crocisa ramosellus* Cockerell, 1919)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: PER, ANU, REK, ANG

130. Thyreus surniculus Lieftinck, 1959

Source: Gupta 2003; Wijesekara 2001 *VK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANG, GTL, BAD

131. Thyreus takaonis Cockerell, 1911

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: PUT, CHL, PER, DAM, WRP, ANG, BAD, KNU

Tribe – Xylocopini

36. *XYLOCOPA* Latreille, 1802

132. Xylocopa aestuans Lepeletier, 1841

Source: Gupta 2003; Wijesekara 2001

133. Xylocopa amethystina Fabricius, 1793 (*X. amethystina sigiriana* Cockerell, 1911)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, RAN, WRP, BAD, GTL

134. Xylocopa auripennis Lepeletier, 1841

Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*

New localities: RAN

135. Xylocopa bryorum (Fabricius, 1775)

Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*

New localities: HAM

136. Xylocopa coerulea (Fabricius, 1804)

Source: Gupta 2003

137. Xylocopa dejeanii Lepeletier, 1841

Source: Wijesekara 2001; *KVK-NMC, KVK-ZMP*

138. Xylocopa fenestrata (Fabricius, 1798)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: MIP, PUT, CHL, NUE, PER, DAM, WRP, ANG, MAT, GTL

139. Xylocopa nasalis Westwood, 1842

Source: Gupta 2003; Wijesekara 2001; *IK-ZMP*

New localities: GTL

140. Xylocopa nigrocaerulea Smith, 1874

Source: Wijesekara 2001

141. Xylocopa ruficornis Fabricius, 1804

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: RAN, KNU, ANG, REK, MAT

142. Xylocopa tenuiscapa Westwood, 1840

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: SIG, ANU, PUT, RAN, NUE, PER, DAM, WRP, KNU, BAD, GTL, MAT

143. Xylocopa tranquibarica (Fabricius, 1804)

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, IK-ZMP*

New localities: GTL

Tribe – Apini

37. *APIS* Linnaeus, 1758

144. Apis cerana Fabricius, 1793

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, ANG, MIP, GTL, BAD, BAN, HAM, REK, USG, BOM, KAL, GAM, PER, RAN, MAT, GAL, DAM, KNU, NUE, STE, PUT, CHL, WAR, RAT, SIG, VAV

145. Apis dorsata Fabricius, 1793

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, ANG, MIP, GTL, BAD, BAN, HAM, REK, USG, BOM, KAL, GAM, PER, RAN, MAT, GAL, DAM, KNU, NUE, STE, PUT, CHL, WAR, RAT, SIG, VAV

146. Apis florea Fabricius, 1787

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, ANG, MIP, GTL, BAD, BAN, HAM, REK, USG, BOM, KAL, GAM, PER, RAN, MAT, GAL, DAM, KNU, PUT, CHL, WAR, RAT, SIG, VAV

Tribe – Meliponini

38. *TRIGONA* Jurine, 1807

147. Trigona iridipennis Smith, 1854

Source: Gupta 2003; Wijesekara 2001; *KVK-NMC, KVK-ZMP, IK-ZMP*

New localities: ANU, ANG, MIP, GTL, BAD, BAN, HAM, REK, USG, BOM, KAL, GAM, PER, RAN, MAT, GAL, DAM, KNU, NUE, STE, PUT, CHL, WAR, RAT, SIG, VAV

148. Trigona sp. (previously unrecorded from Sri Lanka)

Source: *IK-ZMP*

New localities: KNU

Appendix

Description of thé new species

Lipotriches edirisinghei **Pauly n.sp.**

Holotype male:

SRI LANKA : Arakawida, 55 km NE Colombo, 1.iii.1971 (J & M. Sedlacek; Bishop Museum).

Paratypes:

SRI LANKA: Kandy District, University Pond, 20.v.2001, 1male (I. Karunaratne & S. Chandra). – Kandy district, Peradeniya University Park, 15.iv.2001, 1 female (I. Karunaratne & S. Chandra). Kandy District, Peradeniya University Park, 3-7.ii.2003, 4 females (I. Karunaratne & N. Ratnayake). - Kandy District, Peradeniya University Park, 3-7.ii.2003, 1 male (I. Karunaratne & N. Ratnayake). Kandy District, Peradeniya University Park, 8.ii.2002, 1 female (I. Karunaratne & S. Chandra.). Kandy District, Peradeniya University Park, 16.v.2001, 2 males (I. Karunaratne & S. Chandra.). Kandy District, Peradeniya University Park, 6.iv.2001, 3 females (I. Karunaratne & S. Chandra.). Kandy District, Peradeniya Botanical Gardens, 14.iii.2001, 1 female (I. Karunaratne & S. Chandra.). Kandy District, Peradeniya University Park, 16.iv.2001, 4 females (I. Karunaratne & S. Chandra.). Kandy District, Peradeniya University Park, 20.iii.2001, 3 females (I. Karunaratne & S. Chandra.). Kandy District, Peradeniya Botanical Gardens, 18.viii.2003, 1 female (I. Karunaratne & N. Ratnayake). Kandy District, Peradeniya Botanical Gardens, 25.ii.2003, 1 female (I. Karunaratne & N. Ratnayake). Kandy District, Peradeniya Botanical Gardens, 25.ii.2003, 1 male (I. Karunaratne & N. Ratnayake). Kandy District, Peradeniya Botanical Gardens, 28.iv.2003, 1 male (I. Karunaratne & N. Ratnayake). Kandy District, Peradeniya Botanical Gardens, 21.iii.2003, 1 male (I.

Karunaratne & N. Ratnayake). Hambanthota District, Angunakolapelessa, 16-19.i.2002, 3 females (I. Karunaratne & S. Chandra.). Hambanthota District, Angunakolapelessa, 4.iv.2001, 1 male (I. Karunaratne & S. Chandra.). Ratnapura District, Ratnapura, 21.xii.2002, 1 female (I. Karunaratne & S. Chandra.). Ratnapura District, Sinharaja, 9-10.iv.2003, 12 females (I. Karunaratne & N. Ratnayake). Ratnapura District, Sinharaja, 9-10.iv.2003, 3 males (I. Karunaratne & N. Ratnayake). Kurunegala District, Gonagama, 27.i.2002, 1 female (I. Karunaratne & S. Chandra.). Kurunegala District, Gonagama, 1.ii.2002, 2 females (I. Karunaratne & S. Chandra.). Matale District, Knuckles (Panawellawadiya), 12.xii.2003, 4 females (I. Karunaratne & N. Ratnayake). Polonnaruwa District, Giritale, 25.v.2003, 1 female (D.D. Jayathilake).

(All paratypes listed above are in the collection of the Zoology Museum of the Department of Zoology, University of Peradeniya, Sri Lanka).

Description:

6 mm long. Male close to *Lipotriches pulchriventris* (Cameron, 1897) but differing by the sternite 4 not depressed, with plumose setae only on posterior margin. Long setae of sternite 5 white (black in *L. pulchriventris*).

The female differs from *L. pulchriventris* by the elevated suture between the clypeus and the supraclypeal area (at the same level in *L. pulchriventris*).

Figure 1: ***Lipotriches edirisinghei*****- female head**

Figure 2: ***Lipotriches pulchriventris*** **- female head**

Figure 3: ***Lipotriches edirisinghei*** **– Male abdomen – ventral view**

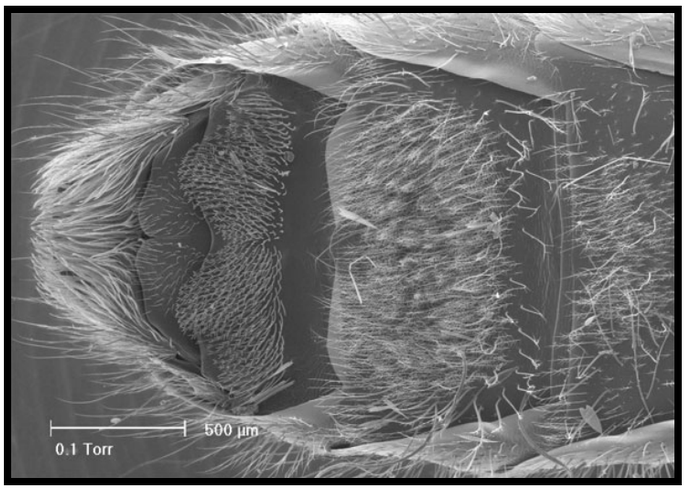


Figure 4 : ***Lipotriches pulchriventris*** **– Male abdomen – ventral view**

Description of new genus

Gnathonomia Pauly, new genus

This is a manuscript name of late D.B. Baker, without published description.

Description: A genus of moderate-sized species (7-12mm), with coloured tergal bands.

Females: basitibial plate completely margined by carinae; middle tibial spur finely toothed to the apex. Male with large mandible each with a median tooth on the upper margin (this character is not found in all other banded Nomiine genera).

Type-species: *Nomia nasicana* Cockerell, 1911.

Included species: *Nomia albofasciata* Smith, 1875; *Nomia dorsalis* Smith, 1853; *Nomia excellens* Cockerell, 1931; *Nomia thoracica* Smith, 1875.

Figure 5: ***Gnathonomia thoracica*** **– male head – side view**

Figure 6: ***Gnathonomia thoracica*** **– male head – anterior view**

INDEX TO GENERA OF APIFORMES

ACKNOWLEDGEMENTS

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REFERENCES

Bingham, C. T. (1897) *The Fauna of British India including Ceylon and Burma, Hymenoptera Vol. 1, Wasps and Bees.* Taylor and Francis. London.;568.

Gupta, R. K. (2003) *An annotated catalogue of bees of the Indian Region*, online http://geocities.com/BeesInd2/braunsapis.htm

Karunaratne, W. A. I. P. (2004) *Taxonomy and Natural History of Bees in Selected Areas of Sri Lanka.* Ph.D. Thesis (unpublished). PGIS, University of Peradeniya, Sri Lanka.

Krombein, K. V. & Norden, B. B. (2001) Notes on trap-nesting Sri Lankan wasps and bees (Hymenoptera: Vespidae, Pompilidae, Sphecidae, Colletidae, Megachilidae), *Proceedings of the Entomological Society*, Washington, 103(2): 274-281.

Michener, C. D. (2000) *The Bees of the World*, pp 913. Baltimore, Maryland, USA: Johns Hopkin University Press.

Pasteels, J. J. (1987) Megachilidae (Hymenoptera, Apoidea) recoltes par le Dr. K. V. Krombein et son equipe au Sri Lanka. *Bulletin et Annales de la Société royale belge d'Entomologie,* 123: 225-235.

Snelling, R. R. (1980) New bees of the Genus *Hylaeus* from Sri Lanka and India (Hymenoptera: Colletidae). *Contributions in Science*, Natural History Museum of Los Angeles County, 328: 1-18.

Wijesekara, A. (2001) An annotated list of bees (Hymenoptera: Apodea: Apiformes) of Sri Lanka, *Tijdschrift voor Entomologie* , 144: 145-158.