

An evolutionary radiation of beeflies in semi-arid Australia: systematics of the Exoprosopini (Diptera : Bombyliidae)

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Abstract. Almost half of the 4822 described beeflies in the world belong to the subfamily Anthracinae, with most of the diversity found in three cosmopolitan tribes: Villini, Anthracini, and Exoprosopini. The Australian Exoprosopini previously contained three genera, *Ligyra* Newman, *Pseudopenthes* Roberts and *Exoprosopa* Macquart. *Pseudopenthes* is an Australian endemic, with two species including *Ps. hesperis*, sp. nov. from Western Australia. Two new species of the exoprosopine *Atrichochira* Hesse, *Atr. commoni*, sp. nov. and *Atr. paramonovi*, sp. nov., are also described from Australia, extending the generic distribution from Africa.

Cladistic analysis clarified the phylogenetic relationships between the recognised groups of the Exoprosopini and determined generic limits on a world scale. Inclusion of 18 Australian exoprosopines placed the Australian species in the context of the world fauna. The Exoprosopini contains six large groups. The basal group I contains species previously included in *Exoprosopa* to which the name *Defilippia* Lioy is applied. Group II contains *Heteralonia* Rondani, *Atrichochira*, *Micomitra* Bowden, *Pseudopenthes*, and *Diatropomma* Bowden. *Colossoptera* Hull is newly synonymised with *Heteralonia*. Group III is a paraphyletic assemblage of *Pterobates* Bezzi and *Exoprosopa* including the Australian *Ex. sylvana* (Fabricius). *Ligyra* is paraphyletic, forming two well-separated clades. The African clade is described as *Euligyra* Lambkin, gen. nov., which, together with *Litorhina* Bezzi and *Hyperalonia* Rondani, form group IV. The Australian group V is true *Ligyra*. The remaining monophyletic lineage of exoprosopines, group VI, the *Balaana*-group of genera, shows evidence of an evolutionary radiation of beeflies in semi-arid Australia.

Phylogenetic analysis of all 42 species of the *Balaana*-group of genera formed a basis for delimiting genera. Seven new genera are described by Lambkin & Yeates: *Balaana*, *Kapua*, *Larrpana*, *Munjua*, *Muwarnia*, *Palirika* and *Wurda*. Four non-Australian species belong to *Balaana*. Thirty two new Australian species are described: *Bal. abscondita*, *Bal. bicuspis*, *Bal. centrosa*, *Bal. gigantea*, *Bal. kingcascadensis*, *K. corusca*, *K. irwini*, *K. westralica*, *Lar. collessi*, *Lar. zwicki*, *Mun. erugata*, *Mun. lepidokingi*, *Mun.*

paralutea, *Mun. trigona*, *Muw. vitreilinearis*, *Pa. anxios*, *Pa. basilikos*, *Pa. blackdownensis*, *Pa. bouchardi*, *Pa. cyanea*, *Pa. danielsi*, *Pa. decora*, *Pa. viridula*, *Pa. whyalla*, *W. emu*, *W. impatientis*, *W. montebelloensis*, *W. norrisi*, *W. patrellia*, *W. skevingtoni*, *W. windorah*, and *W. wyperfeldensis*. The following new combinations are proposed: from *Colossoptera: Heteralonia latipennis* (Brunetti); from *Exoprosopa: Bal. grandis* (Pallas), *Bal. efflatounbeyi* (Paramonov), *Bal. latelimbata* (Bigot), *Bal. obliquebifasciata* (Macquart), *Bal. tamerlan* (Portschinsky), *Bal. onusta* (Walker), *Def. busiris* (Jaenicke), *Def. efflatouni* (Bezzi), *Def. eritreae* (Greathead), *Def. gentilis* (Bezzi), *Def. luteicosta* (Bezzi), *Def. minos* (Meigen), *Def. nigrifimbriata* (Hesse), *Def. rubescens* (Bezzi), *K. adalaidica* (Macquart), *Lar. dimidiatipennis* (Bowden), *Muw. stellifera* (Walker), and *Pa. marginicollis* (Gray); from *Ligyra: Eu. enderleini* (Paramonov), *Eu. mars* (Bezzi), *Eu. monacha* (Klug), *Eu. paris* (Bezzi), *Eu. sisyphus* (Fabricius), and *Eu. venus* (Karsch).

Full material examined list

Complete material examined lists including date of collection, collectors name, and database number is available in a file on the website for Invertebrate Systematics and also may be obtained from CL. Material examined lists report information provided by the collection label. Abbreviations on the collection label are used in the database and material examined lists. Extra information or interpretation of label data is included in square parentheses. Holotype label information is quoted verbatim. Collectors names are abbreviated to initials, as shown below, where possible. Specimens are placed in the next immediate deposition. Specimen database numbers are included immediately prior to the deposition. If referred to elsewhere in the text a '#' precedes the specimen database number. Where no latitude or longitude data was included on the collection label this information was obtained from atlases, gazetteers, or calculated using the 'distance from' option in Biolink™ (CSIRO, Div. of Entomology), and included in the material examined lists and database in square parentheses.

♀ = female

♂ = male

Collection abbreviations

AM	Australian Museum, Sydney.
ANIC	Australian National Insect Collection, CSIRO Division of Entomology, Canberra.
BMNH	The Natural History Museum, London.
BPBM	Bernice Pauahi Bishop Museum, Honolulu, Hawai'i, USA.
DJGC	David Greathead Collection, Wargrave, UK.
GDCB	Greg Daniels Collection, Brisbane.
HMUG	Hunterian Museum, University of Glasgow, Glasgow, UK.
HOPE	Hope Collection, University Museum, University of Oxford, Oxford, UK.
INHS	Illinois Natural History Survey, Champaign, Illinois, USA.
JJCA	John Jennings Collection, Adelaide.
MJC	Michael Jefferies Collection, Canberra.
MM	Macleay Museum, University of Sydney, Sydney.
MSC	M.J. Smart Collection, Wolverstholme, UK.
MV	National Museum of Victoria, Melbourne.
NLEC	Neal Evenhuis Collection, Honolulu, Hawai'i, USA.

NSWDA	New South Wales Department of Agriculture, Orange.
NTM	Northern Territory Museum, Darwin.
BPBM	Bernice Pauahi Bishop Museum, Honolulu, Hawai'i, USA.
QDPI	Queensland Department of Primary Industries Insect Collection, Brisbane.
QM	Queensland Museum, Brisbane.
SAM	South Australian Museum, Adelaide.
UQIC	University of Queensland Insect Collection, Brisbane.
VAIC	Victorian Agricultural Insect Collection
WADA	Western Australian Department of Agriculture, Perth.
WAM	Western Australian Museum, Perth.
WARI	Waite Agricultural Research Institute, Adelaide.

Collectors

Patrice Bouchard	PB
Greg Daniels	GD
Greg and Alice Daniels	GAD
Rebecca Montague-Drake	RMD
Mike Irwin	MI
Christine Lambkin	CL
Sergei J. Paramonov	SP
Narelle Power	NP
Margaret Schneider	MS
Jeffery Skevington	JS
Jeffery and Angela Skevington	JAS
Shaun Winterton	SW
David Yeates	DY

Balaana latelimbata (Bigot, 1892), **n. comb**

Holotype. 1 ♀, 'SYDNEY'/'AUSTRALIA: SYDNEY ex Bigot coll. BM 1960–539'/'Type'/'*Exoprosopa latelimbata* ♀/nov.sp.inedit/Quincey Aout/1886 M Bigot/ Australie'/'ex Bigot Coll. B.M.1960–539'/'HOLOTYPE, *Exoprosopa latelimbata* Bigot det J.E. Chainey, 1984' (E)# 240576, 1038 (BMNH).

Other material examined. **Australian Capital Territory**: 2 ♂, Black Mtn [35°17'S, 149°13'E], 19.i.1968, Z. Liepa, 1570–1; 1 ♂, Canberra [35°17'S, 149°13'E], 20.i.1932, 146; 2 ♂, same except 5.i.1948, 14.i.1950, SP, 147 150; 2 ♀, same except 7.i.1948, 9.ii.1948, 148–9 (ANIC); 1 ♀, Farrer Ridge, 35°23'S, 149°06'E, 25.i.1997, M.G. and N.G. Jefferies, 439; 1 ♂, Gibraltar Falls (dep) [35°29'S, 148°56'E], 26.i.1981, M.G. Jefferies, 441; 1 ♂, Mt Ainslie [35°16'S, 149°10'E], 4.i.1980, M.G. Jefferies, 440; 1 ♀, Tuggeranong Hill, Conder, 35°27'S, 149°06'E, on hilltop, 855m, 4.ii.1997, M.G. Jefferies, 438 (MJC). **New South Wales**: 1 ♀, Broken Bay [33°34'S, 151°18'E], 31.xii.1923, Mackerras, 142; 1 ♀, Cotter R. [35°40'S, 148°50'E], 1.i.1930, M. Fuller, 152 (ANIC); 1 ♀, 10 km S Coonabarabran [31°16'S, 149°17'E], Biol. Note No. 2806, 13–17.i.1980, H.E. Evans, 385; 1 ♂, Eulah Creek, Ningadoo, 30°20'S, 150°05'E, 18.i.1994, DY, 425 (UQIC); 1 ♀, Manly [33°53'S, 151°13'E],

SPHTM, 14.xii.1922, 1672 (ANIC); 1 ♀, Milson Island [33°31'S, 151°11'E], BM1917–104, Tasmania, 30.i.1915, A. White, 1147 (BMNH); 1 ♀, Mt Kaputar Natl Park, Bullawa Creek, 30°14'S, 150°06'E, 16–19.i.1994, MI, DY, 363; 1 ♂, Nundooka, Valley Tank Rd, wind sheltered dry creek beds, 30°51'37"S, 141°41'11"E, on *Scaevola spinescens* and *Ptilotus obovatus*, 14.i.1999, CL, NP, PB, 1315 (UQIC); 1 ♀, Savernake [35°44'S, 146°03'E], 6.iii.1929, G.McLean, 555 (MV); 1 ♀, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL, NP, PB, RMD, 1381 (UQIC); 1 ♂, Sydney [33°53'S, 151°13'E], 225, SPHTM, 1.i.1915, Gibsons, 3 (ANIC); 1 ♂, Tibooburra [29°26'S, 142°01'E], 17.i.1994, M.H. Dunn, 251 (AM); 1 ♂, Toronto [33°01'S, 151°36'E], 1532 (ANIC); 1 ♂, 1 ♀, Warrumbungles Natl Park, Brownes Creek, 31°17'S, 148°58'E, 13–15.i.1994, MI, DY, Malaise 383 401; 1 ♂, 1 ♀, same except Buckley's Creek, 31°16'S, 149°01'E, 12–15.i.1994, 380 359 (UQIC); 3 ♀, same except Buckley's Creek, 1.7 km N Camp Blackman [31°16'S, 149°01'E], on drying creek bed at 1st road crossing, 480 m, *Eucalyptus* woodlands, 23.xii.1992, MI, 750–2; 1 ♀, same except 29.xii.1992, 754; 1 ♀, same except Woolshed, Wambelong Creek [31°16'S, 148°48'E], on dry part of sandy spit near Wambelong Creek, 420 m, 759; 1 ♀, same except Wambelong Creek, on cutout in cyprus forest, some sunlight, dry area, 760 (INHS); 1 ♂, 1 ♀, Wee Jasper [35°07'S, 148°41'E], 29.i.1972, G.R. Brown, 272 269 (ASCT); 1 ♂, Helms Collection, 1189 (BPBM).

Queensland: 1 ♂, Amiens [28°35'S, 151°48'E], 18.xii.1911, C.F. Ashby, 1544 (ANIC); 1 ♂, Amiens State Forest nr Stanthorpe, 4.ii.1984, GAD, 14222; 1 ♂ same except 27.xii.1987, 14221 (GDCB); 1 ♀, Ballon State Forest; dry sandy creek bed E of Turkey Mountain, 26°20'48"S, 150°53'24"E, 6.i.1998, CL, 968 (UQIC); 1 ♀, 6 km S of Banana, 24°31'S, 150°08'E, 4.iii.1991, GD, 1443 (GDCB); 1 ♂, Barakula State Forest #302, summit Round Mtn, 26°22'13"S, 150°58'09"E, 8.i.2000, JAS, M. Mathieson, 1784 (UQIC); 2 ♂, 1 ♀, Biloela [24°24'S, 150°31'E], 11.xi.1932, 18.xi.1932, 12.xi.1932, 1646–8 (QDPD); 1 ♀, same except 12.i.1947, A.R. Bird, 427 (UQIC); 1 ♂, Binjour Plateau, Swains Rd, 25°01'S, 151°12'E, 340 m, softwood scrub, 21.xii.1997, C.J. Burwell, S. Evans, 1028 (QM); 1 ♂, 1 ♀, 10 mls [16 km] S Bowen [20°01'S, 148°15'E], 26.ix.1950, E.F. Riek, 129–30; 1 ♀, same except 27.ix.1950, 131 (ANIC); 1 ♀, Brisbane [27°28'S, 153°01'E], 11.xii.1911, H. Hacker, 313 (QM); 1 ♀, same except 12.xii.1912, 1914–267, 1178 (BMNH); 1 ♂, 1 ♀, same except 22.xii.1912, 310–11; 1 ♀, same except 17.xi.1914, 312 (QM); 1 ♀, same except 2.xii.1922, A.N. Burns, 1667 (ANIC); 1 ♂, same except 2.i.1993, D. Teakle, 1508; 1 ♀, Brisbane, Mt Coot-tha [27°29'S, 152°57'E], hill topping, 8.ii.1997, CL, 292; 2 ♂, same except 9.ii.1997, 24.ii.1997, 293–4; 1 ♂, same except 170m, 26.xi.1997, JS, 729; 2 ♂, same except 7.xii.1997, JAS, 730 732; 1 ♂, same except 30.xi.1997, SW, 734; 4 ♂, same except 21.xii.1997, CL, 721 725–6 728; 1 ♀, 1 ♂, same except in cop, 722–3; 2 ♂, same except 8.xi.1997, 998–9; 2 ♂, same except 16.xi.1997, 996–7; 5 ♂, Brisbane, Mount Coot-tha, 27°29'S, 152°57'E, 20.i.1998, CL, 971–5 (UQIC); 2 ♂, same except 23.iii.1998, 1029–30 (BMNH); 1 ♂, same except 18.x.1998, 1510 (DJGC); 1 ♂, same except 14.xi.1998, 1183 (BPBM); 3 ♂, same except 1182 1184 1198 (UQIC); 1 ♀, Cairo Station [22°26'S, 147°19'E], 15–31.i.1957, C.McC., 554 (MV); 4 ♂, Capricorn Coast National Park, Rosslyn Head Sect., hill between Statue Bay & Kemp Beach, 23°09'58"S, 150°47'05"E, summit, 31.xii.1997, CL, 917–20; 1 ♂, same except 30.xi.1998, 1220; 2 ♂, same except Kemp Beach, 23°10'14"S, 150°47'20"E, 29.xi.1998, CL, NP, D. White, 1221–2; 2 ♂, same except 30.xi.1998, 1223–4; 3 ♂, Mt Moffatt Section, Carnarvon Natl Park, summit of Mt Moffatt, 25°04'S, 148°03'E, 1097 m, 23.xi.1995, DY, C.J. Burwell, 419 422–3 (UQIC); 1 ♂, same except C.J. Burwell, 304 (QM); 1 ♂, same except 25°03'35"S, 148°02'38"E, 2.xii.1997, JS, CL, S.Evans, 874; 1 ♂,

same except 1097 m, 20.i.1998, JAS, SW, 979; 1 ♂, same except Marlong Arch summit, 24°59'28"S, 147°53'48"E, 820 m, 26.xi.1995, DY, C.J. Burwell, 420; 1 ♂, same except 3 km SE Ranger Station, 25°04'39"S, 148°00'30"E, 740 m, 18.xi.1995, DY, 421 (UQIC); 1 ♀, same except Western Branch of Maranoa River, 25°08'22"S, 147°50'37"E, 660 m, 16–26.xi.1995, MI, S.D. Gaimari, 748 (INHS); 1 ♀, same except base of the Tombs, 25°05'19"S, 147°53'00"E, 28.xi.-3.xii.1997, Malaise, JS, CL, S.Evans, 710 (UQIC); 1 ♀, Carnarvon Range [25°15'S, 148°24'E], Feb.1944, N. Geary, 245 (AM); 1 ♀, Chinchilla [26°44'S, 150°38'E], Nov. 1926, 364 (UQIC); 2 ♀, Eidsvold [25°22'S, 151°07'E], 136–7; 1 ♀, same except Jan. 1923, Mackerras, 2 (ANIC); 1 ♂, Esk [27°14'S, 152°25'E], 14.xii.1958, JK., 588 (MV); 1 ♀, Fletcher [28°46'S, 151°51'E], Jan. 1967, E. Sutton, 1625 (ANIC); 1 ♂, Gayndah [25°37'S, 151°37'E], K36814, Masters, 248 (AM); 1 ♂, Kroombit Tops, 45 km SSW Calliope [24°22'S, 151°01'E], 3.ii.1984, DY, 390 (UQIC); 1 ♀, Lake Broadwater nr Dalby, 27°21'S, 151°06'E, 26.xii.1986, GAD, 14166 (GDCB); 1 ♀, Lawes [27°34, 152°20], 1.i.1946, W. Arndt, 391; 1 ♀, Leyburn [28°01'S, 151°35'E], 10.i.1964, A. Macqueen, 392 (UQIC); 1 ♀, 5 km N of Leyburn, 27°58'S, 151°38'E, 23.i.1988, GAD, 14170 (GDCB); 1 ♂, Mt Beerburum summit, 26°58'S, 152°58'E, 31.xii.1996, C.L. and K.J. Lambkin, 295; 4 ♂, Mt. Greville near Boonah, summit, 28°05'S, 152°30'E, 4.xii.1996, C and J.S. Lambkin, S Evans, C Burwell, SW, 121 291 1782–3; 1 ♂, Mt Marlay, near Stanthorpe [28°40'S, 151°56'E], 30.xi.1981, GD, MS, 389; 1 ♀, same except 10.xii.1988, DY, 428; 1 ♂, same except 28°39'27"S, 151°57'03"E, 3.i.2000, JAS, M. Mathieson, 1770 (UQIC); 1 ♂, Mt Scoria 6 km S of Thangool, 24°32'S, 150°36'E, 1.i.1991, GAD, 14152 (GDCB); 1 ♂, Mt Tinbeerwah nr Cooroy, 26°24'S, 152°58'E, hilltopping, 7.ii.1997, CL and SW, 296 (UQIC); 1 ♂, Mt Walsh National Park, Bluff Range [25°37'S, 152°03'E], 2000 ft [695 m], 5.i.1972, H. Frauca, 1017 (ANIC); 1 ♂, same except Mt Walsh base, 2.xii.1998, NP, CL, C. Burwell, DY, S. Evans, D. White, 1227; 1 ♀, same except Mt Walsh summit, 3.xii.1998, CL, C. Burwell, DY, 1225 (UQIC); 1 ♀, Mulgildie Plateau, 25°01'S, 151°12'E, 320 m, softwood scrub, 21.xii.1997, Burwell, Evans, Ewart, 1027 (QM); 1 ♂, stony bluff near Nappa Merrie, hilltopping, 27°46'42"S, 141°22'24"E, 110 m, 5.i.1999, CL, DY, NP, PB, 1395 (UQIC); 1 ♂, Passchendaele [28°33'S, 151°51'E], 14.xii.1969, C.F. Ashby, 1581 (ANIC); 2 ♀, Port Denison [20°02'S, 148°15'E], 1130–1 (MM); 1 ♀, Rannes [24°06'S, 150°07'E], 21.xi.1964, K.R. Norris, 135 (ANIC); 1 ♀, "Rockwood" via Chinchilla [26°44'S, 150°38'E], Mar.1986, W. McKenzie, 309 (QM); 1 ♂, Sherwood [Brisbane] [27°28'S, 153°01'E], 10.xii.1924, 1653 (QDPI); 1 ♀, Stanthorpe [28°40'S, 151°56'E], 20.ii.1925, 365 (UQIC); 1 ♂, same except 10.xii.1926, 1656 (QDPI); 1 ♂, same except 10.i.1930, 47133, 718; 1 ♂, same except, 6.i.1930, 47147, 963; 1 ♂, 1 ♀, same except 14.i.1930, W.B. Barnard, 47142 47139, 965 714 (WADA); 1 ♂, same except 28.ii.1964, P. Kerridge, 386 (UQIC); 1 ♂, 4 ♀, 6 km N of Taroom, 25°36'S, 149°46'E, 14.i.1991, GAD, 1435 1438–9 1441 14149; 2 ♂, same except 26.xi.1992, 27.xi.1992, GD, 1442 14151 (GDCB); 2 ♂, 2 ♀, Townsville [19°16'S, 146°49'E], 620–1 612 614 (SAM); 2 ♀, near Wallumbilla, Warrego Hwy, on mud at water beside road, 26°35'56"S, 149°18'31"E, 28.xii.1998, CL, NP, PB 1433–4 (UQIC); 1 ♀, same except 1431 (DJGC); 1 ♀, same except 1430 (BPBM); 1 ♀, Westwood [23°37'S, 150°09'E], 18.xi.1924, AB[urns], 553 (MV); 2 ♀, Yeppoon [23°08'S, 150°44'E], 20.xii.1961, 23.xii.1961, I.F.B. Common, 178–9; 1 ♀, same except 3.i.1962, 133 (ANIC); 1 ♀, same except 17.xi.1978, R. Eastwood, 14200 (GDCB); 2 ♂, 7 ♀, S. Queensland, 1908, Dr T Bancroft, 72, 1151–9 (BMNH); 1 ♀, K14207, 249 (AM). **South Australia:** 1 ♀, Dalhousie Spring [26°21'S, 135°28'E], 14.ii.1911, G.T.Hill, 558 (MV). **State Unknown:** 1 ♂, 181 (ANIC).

Balaana abscondita Lambkin & Yeates

Holotype. ♂, 'AUSTRALIA: NSW: Valley Tank Rd: Nundooka, 30°51'37"S 141°11'11"E, 11am:14.i.1999: C.Lambkin N.Power P.Bouchard, wind-sheltered dry creek beds: on *Scaevola spinescens* and *Ptilotus obovatus*' 1322 (QM).

Paratypes. New South Wales: 2♂, same as type 1319, 1321; 1♂, 6♀, Fowlers Gap Tank, on mud and *Eucalyptus* leaf litter at water edge in sun, 3–4 pm, 30°08'07"S, 141°39'49"E, 14.i.1999, CL, NP, PB, 1293 1295 1297–9 1301–2 (UQIC). Queensland: 1♀, plateau near Bundeena, at *Eucalyptus* flowers, 3–5pm, 27°21'41"S, 142°28'36"E, 200m, 7.i.1999, CL, DY, NP, PB, 1290; 1♂, Baldy Top near Quilpie, hilltopping, 26°38'27"S, 144°13'31"E, 8.i.1999, CL, DY, NP, PB, 1263; 2♂, Grey Range near Quilpie, at *Eucalyptus*, 27°37'24"S, 143°57'01"E, 244 m, 8.i.1999, CL, DY, NP, PB, 1264–5 (UQIC); 1♂, stony bluff near Nappa Merrie, hilltopping, 27°46'42"S, 141°22'24"E, 110 m, 5.i.1999, CL, DY, NP, PB, 1394 (BMNH); 1♂, 77 km S Noccundra, Wompi Ck, on rocky ground, 28°14'20"S, 142°05'45"E, 3.i.1999, CL, DY, NP, PB, 1419; 1♀, near Wallumbilla, Warrego Hwy, on mud at water beside road, 26°35'56"S, 149°18'31"E, 28.xii.1998, CL, NP, PB, 1432; 1♂, 35 km SE Windorah, on mud at water beside road, 11 am, 25°33'03"S, 142°56'39"E, 30.xii.1998, CL, NP, PB, 1427 (UQIC).

Other material examined. **Australian Capital Territory:** 1♀, Urlarra, 26.i.1965, D.H. Colless, 1662; 1♀, Black Mtn [35°17'S, 149°13'E], Jan. 1988, MI, 1663 (ANIC). **New South Wales:** 4♂, same as type 1316–8, 1320; 1♂, 1♀, same except in cop. 1313–4 (UQIC); 1♀, Allowrie, Killara [33°53'S, 151°13'E], K63879, 10.i.1934, 250 (AM); 1♂, Angle Bend [35°35'S 149°06'E], 8.i.1938, Mackerras, 169; 1♂, Armidale [30°31'S, 151°40'E], C.F. Deuquet, 139; 1♀, 17 mls [29 km] SSW of Bohena, Pilliga Scrub [30°41'00"S 149°30'00"E], 5.iv.1951, Key & Chinnick, 140 (ANIC); 1♂, 2♀, Caldwell [35°38'S, 144°30'E], 18.ii.1953, V. Robb, 561 563–4 (MV); 1♂, 1♀, 46 km N of Coonabarabran, 30°52'S, 149°25'E, 13.ii.1992, GD, 1465, 14168 (GDCB); 1♀, Dangar's Falls, Armidale [30°41'S, 151°43'E], UNE Coll. donated 1983, 19.xii.1969, C.W. Frazier, 1631 (ANIC); 1♂, Dharug National Park, Great Northern Rd, N of Sydney [33°20'S, 151°05'E], 25.i.1986, G.R. Brown, 274 (ASCT); 2♀, Eulah Creek, Ningadoo, 30°20'S50°05'E, 18.i.1994, DY, 369, 424 (UQIC); 4♀, Fowlers Gap Tank, on mud and *Eucalyptus* leaf litter at water edge in sun, 3–4 pm, 30°08'07"S, 141°39'49"E, 14.i.1999, CL, NP, PB, 1291–2, 1294, 1300 (UQIC); 1♀, same except 1296 (BPBM); 1♀, same except 1303 (DJGC); 1♀, 21 mls [34 km] ENE of Kenebri, Pilliga Scrub [30°41'S 149°30'E], 7.iv.1951, Key & Chinnick, 141; 1♂, Kosciusko [36°27'S, 148°14'E], F.H. Taylor, 1578 (ANIC); 1♀, Mt Kaputar Natl Park, Bullawa Creek, 30°14'S, 150°06'E, 16–19.i.1994, MI, DY, 362; 1♂, MyallaTank Bore near Broken Hill, on mud at water edge in sun, 2pm, 31°50'28"S, 141°57'20"E, 15.i.1999, CL, NP, PB, 1239 (UQIC); 2♂, 1♀, Pilliga Scrub, SW Narrabri [30°30'S, 149°30'E], 18.xi.1965, Norris & Havenstein, 1579, 1014–5 (ANIC); 1♂, 1♀, Sturt Natl Pk, Fromes Ck near Binerah Well, at *Eucalyptus* flowers, 29°06'40"S, 141°38'18"E, 10.i.1999, CL, NP, PB, 1256–7 (UQIC); 3♂, Toronto [33°01'S, 151°36'E], 1530–1, 1533; 2♂, 1♀, Toronto, Filwer, 143–5 (ANIC); 4♂, 1♀, Warrumbungles Natl Park, Brownes Creek, 31°17'S, 148°58'E, 13–15.i.1994, MI, DY, 360–1, 381–2, 384; 1♀, same except Buckley's Creek, 31°16'S, 149°01'E, 12–15.i.1994, 378 (UQIC); 1♀, same except Buckley's Creek, 1.7 km N Camp Blackman [31°16'S, 149°01'E], on drying creek bed at 1st road crossing, 480 m, *Eucalyptus* woodlands, 29.xii.1992, MI, 753; 1♀, same except 30.xii.1992, 749; 2♀, 1♂, same except 31.xii.1992, 755–7; 1♂, 1♀, same except Buckley's Creek, 1.7 km N Camp Blackman [31°16'S, 149°01'E], across

road south of 1st creek crossing, open area, 480 m, *Eucalyptus* woodlands, 1.i.1993, 762, 758; 1 ♀, same except Woolshed, Wambelong Creek [31°16'S, 148°48'E], across stoney portion of Wambelong Creek, not much water flow, 420 m, 30.xii.1992, MI, 761 (INHS); 1 ♀, same except Split Rock summit, 31°17'08"S, 148°59'00"E, 18.i.1999, JAS 1252 (UQIC); 1 ♂, Weddin Mountains Natl Park [33°55'S, 147°59'E], 13.i.1994, MI, DY, 417 (UQIC); 1 ♀, Wheogo near Dunedoo [32°01'S, 149°24'E], K60044, 23.xii.1928, A. Musgrave, 252; 1 ♂, same except 25.xii.1928, A. Musgrave, W.H.G. Gaden, 253 (AM); 1 ♂, Yass [34°51'S, 148°55'E], Jan. 1940, K. English, 1128 (MM); 1 ♀, 556 (MV). **Northern Territory:** 1 ♀, 27 km NW Alice Springs, 23°27'S, 133°50'E, 8.xi.1979, T. Weir, 1541; 1 ♀, Ellery Gorge, 85 km W Alice Springs, 23°46'S, 133°04'E, 5.xi.1979, T. Weir, 1583 (ANIC); 1 ♂, Palm Valley, Thryptomene Gully [24°04'S, 132°45'E], 1–31.x.1994, D. Matthews, 680 (NTM). **Queensland:** 1 ♂, Amiens State Forest [28°35'S, 151°48'E], 22.xi.1980, GD, MS, 368 (UQIC); 1 ♂, same except 4.ii.1984, GAD, 1497; 1 ♀, 6 km S of Banana, 24°31'S, 150°08'E, 4.iii.1991, GD, 14150 (GDCB); 1 ♂, Bauhinia Downs [24°34'S, 149°17'E], 23.x.1985, P.W. Walker, 366; 1 ♂, Brisbane [27°28'S, 153°01'E], 1.vi.1925, 399 (UQIC); 1 ♀, same except 27.x.1914, H. Hacker, 314 (QM); 1 ♂, Brisbane, Mount Coot-tha, 27°29'S, 152°57'E, 1.xi.1997, CL, 720; 2 ♂, same except 21.xii.1997, 724, 727; 1 ♂, same except 20.i.1998, 970; 1 ♂, same except 18.x.1998, 1509 (UQIC); 1 ♂, same except Hilltopping, 170m, 7.xii.1997, JAS, 731; 1 ♂, plateau near Bundeena, at *Eucalyptus* flowers, 3–5pm, 27°21'41"S, 142°28'36"E, 200m, 7.i.1999, CL, DY, NP, PB, 1289 (UQIC); 1 ♂, 1 ♀, Cannington [21°54'S, 140°55'E], in cop., 53–53/4, 30.xii.1952, R.P. McMillan, 462 (WAM); 1 ♂, Capricorn Coast National Park, Rosslyn Head Sect., hill between Statue Bay & Kemp Beach, 23°09'58"S, 150°47'05"E, summit, 31.xii.1997, CL, 916; 1 ♀, Carnarvon National Park; Mt Moffatt Sect., 25°03'15"S, 147°53'12"E, open *Eucalyptus* grassland, 27.xi.1997, JS, CL, S.Evans, 868; 1 ♂, same except Mt Moffatt, 25°03'35"S, 148°02'38"E, summit, 2.xii.1997, 875 (UQIC); 1 ♀, Fletcher [28°46'S, 151°51'E], Jan. 1967, E. Sutton, 1575 (ANIC); 1 ♀, 65 km E of Hughenden [20°51'S, 144°50'E], 4.ii.1981, M.S. and B.J. Moulds, 257 (AM); 1 ♂, Koolongoo Ck near Orientos, at *Eucalyptus*, 27°58'23"S, 141°33'33"E, 5.i.1999, CL, DY, NP, PB, 1400 (UQIC); 1 ♂, Kroombit Tops (Northern Escarp.) 45 km SSW Calliope [24°22'S, 151°01'E], Open forest, 9–19.xii.1983, G. Monteith, G. Thompson, 303 (QM); 1 ♀, Lake Moondarra, Mt Isa [20°44'S, 139°29'E], 20.iii.1973, E.M. Exley, 397; 1 ♂, Mt Marlay, near Stanthorpe [28°40'S, 151°56'E], 30.xi.1981, GD, MS, 388 (UQIC); 1 ♂, same except 4.ii.1984, GAD, 14223 (GDCB); 1 ♂, same except 3.xii.1987, DY, 426; 1 ♀, same except 16.i.1988, 418; 1 ♂, same except 28°39'27"S, 151°57'03"E, 3.i.2000, JAS, M. Mathieson, 1771; 2 ♂, 1 ♀, Munkah Ck, near Karmona, on sand beneath flowering *Eucalyptus*, 27°21'56"S, 141°51'25"E, 6.i.1999, CL, DY, NP, PB, 1388–90 (UQIC); 3 ♂, stony bluff near Nappa Merrie, hilltopping, 27°46'42"S, 141°22'24"E, 110 m, 5.i.1999, CL, DY, NP, PB, 1391–3; 2 ♀, 20 km S Noccundra, under *Eucalyptus*, 27°56'51"S, 142°32'13"E, 3.i.1999, CL, DY, NP, PB, 1421, 1424 (UQIC); 1 ♂, Pozieres, Donnelly's Castle, 28°32'S, 151°53'E, 9.i.1991, 14167 (GDCB); 1 ♂, Stanthorpe [28°40'S, 151°56'E], 10.xii.1926, 1654 (QDPI); 1 ♀, same except 27.i.1930, 387 (UQIC); 1 ♂, same except 14.i.1930, W.B. Barnard, 47142, 964 (WADA); 1 ♂, 6 km N of Taroom, 25°36'S, 149°46'E, 31.xii.1990, GAD, 1440; 1 ♀, same except 14.i.1991, 14160 (GDCB); 2 ♀, Townsville [19°16'S, 146°49'E], 613, 615 (SAM); 1 ♂, same except G.F. Hill, 442 (WARI); 1 ♀, Westwood [23°37'S, 150°09'E], 20.xi.1927, A.P. Dodd, 1658 (QDPI); 1 ♂, Yeppoon [23°08'S, 150°44'E], 21.xii.1964, I.F.B. Common, 134 (ANIC); 1 ♀, S. Queensland 72, 1908, Dr T Bancroft, 1160 (BMNH). **South Australia:** 2 ♂, 1 ♀ Bassendean [31°54'S, 115°57'E], 6, 13–14 Swan

Coll. Lot 13–68, Waite Institute, SA, on tea tree blossom, Dec. 1947, D.C. Swan, 1637–9 (ANIC); 1 ♀, Ernabella [26°17'S, 132°08'E], 10.xi.1954, Elliott, 585 (MV). **Victoria:** 1 ♀, 4 mls 6 km N of Pyramid Hill [36°03'S, 142°07'E], 3.ii.1956, I.F.B. Common, 154 (ANIC). **Western Australia:** 1 ♂, Applecross [32°01'S, 115°50'S], 97/549, 18.xii.1963, M.D. Riley, 454 (WAM); 2 ♂, 1 ♀, Beverley [32°07'S, 116°56'E], 624, 633–4 (SAM); 1 ♂, Bull Creek [35°14'S, 138°45'E], 47130, 21.i.1964, P. Lawrence, 699 (WADA); 1 ♂, Bunbury [33°20'S, 115°38'E], L.J. Newman, 1545 (ANIC); 1 ♀, Claremont [31°59'S, 115°47'E], 47150, Feb., L.J. Newman, 831 (WADA); 1 ♂, Cottesloe [31°57'S, 115°51'E], 40, 1936, 461 (WAM); 1 ♂, same except 7.xii.1953, A. Lee, 159; 1 ♂, Crawley [31°57'S, 115°51'E], 15.i.1934, K.R. Norris, 168; 1 ♂, same except 1.ii.1934, 155; 1 ♂, same except 8.ii.1936, M.E. Solomon, 33; 1 ♂, Crossing Pool, Millstream [21°35'S, 117°06'E], 23.x.1970, D.H. Colless, 1604 (ANIC); 1 ♀, Cunderdin, 31°39'S, 117°14'E, 55, 1923, 451; 1 ♂, Dedari [30°57'S, 121°09'E], 54–830, A. Douglas, 471 (WAM); 1 ♀, Drummond Cove, 7 ml N Geraldton [28°40'S, 114°36'E], 47135, 9.iv.1974, N. McFarland, 870 (WADA); 1 ♂, 19km N of Hyden, The Humps, 32°19'S, 118°57'E, 11.i.1986, GAD, 14204; 1 ♂, 31 km NE of Hyden, King Rocks, 32°19'S, 119°10'E, 11.i.1986, GAD, 1500 (GDCB); 1 ♂, HW, 15.xi.1977, N.McF., 92354, 1675 (WADA); 1 ♂, Kings Park [31°58'S, 115°50'E], 36–1975, Feb., 1645 (WAM); 1 ♀, Merredin, 31°28'S, 118°17'E, 12.i.1986, GAD, 14207 (GDCB); 1 ♂, 1 km NE Millstream HS, 21°35'S, 117°04'E, 4.iv.1971, E.F. Riek, 1605 (ANIC); 1 ♂, Mount Ragged, 33°27'S, 123°29'E, 427, 97/557, 18–19.i.1982, B. Hanich, T.F. Houston, 509 (WAM); 1 ♂, Mt Yokine [31°53'S, 115°52'E], 6.i.1957, I.M. [Mackerras], 572; 1 ♂, same except 27.i.1958, 567 (MV); 1 ♂, Perth [31°57'S, 115°51'E], 17.xi.1933, Fuller, 158 (ANIC); 1 ♂, same except BM1936–28, 26–28.i.1936, R.E. Turner, 1166 (BMNH); 1 ♀, 7 ml. [12 km] S of Port Headland [Hedland] [20°18'S, 118°35'E], on *Acacia* sp., 22.ii.1973, E.M. Exley, 394 (UQIC); 1 ♀, Quairading [32°01'S, 117°24'E], 32–2790, 474 (WAM); 1 ♂, Swan R. [31°45'S, 116°04'E], 47146, 829 (WADA); 1 ♂, same except December, 156 (ANIC); 1 ♂, same except 47136 594; 1 ♀, same except, 47129, 593; 1 ♀, Swan River, L.J.Newman, 47141, 592; 2 ♀, same except Feb., 47154 47159, 596–7 (WADA); 1 ♀, same except Mar., 31.424, 480 (WAM); 1 ♂, same except Dec., 47131 595 (WADA); 1 ♂, same except December, L.J.N., 157 (ANIC); 1 ♂, Tallering Station [28°23'S, 115°51'E], 97/582, 27.xii.1975, R.P. McMillan, 483 (WAM); 2 ♀, Thompson Lake Res. [32°09'S, 115°50'E], 47138, 2.ii.1969, F. O'Donnell, 589 960 (WADA); 1 ♂, W. Midland [31°52'S, 116°01'E], 35–424, A. Douglas, 470 (WAM); 1 ♀, W. Aust., Newman, 6 (ANIC). **State Unknown:** 4 ♂, 1 ♀, 622, 628, 635, 616–7 (SAM); 1 ♂, 1651; 1 ♂, 10.xii.1964, 1659 (QDPI).

***Balaana bicuspis* Lambkin & Yeates**

Holotype. ♀, Elsey Creek, 10 ml. [16 km] E of Mataranka on Roper Bar Rd [15°17'S, 132°56'E], 22.iii.1972, A. Allwood & N.W. Forrester, 672 (NTM I1170) (NTM).

Paratypes. Northern Territory: 1 ♂, 1 ♀, Elsey Creek, 10 ml. [16 km] E of Mataranka on Roper Bar Rd [15°17'S, 132°56'E], 22.iii.1972, A. Allwood & N.W. Forrester, 675 (NTM I1169), 673 (NTM I1168) (NTM); Western Australia: 1 ♀, Wyndham [15°28'S, 128°06'E], 3.iv.1978, R. Easton, 97/556, 507 (WAM).

Other material examined. **Northern Territory:** 1 ♀, Brock's Creek [13°28'S, 131°25'E], 16.iii.1933, F. Don, 180 (ANIC). **Queensland:** 1 ♀, Qld, Lake Moondarra, Mt Isa [20°44'S, 139°29'E], 20.iii.1973, E.M. Exley, 367 (UQIC). **Western Australia:** 1 ♀, Broome [17°58'S, 122°14'E], 23.iii.1978, R.

Easton, 97/555, 506 (WAM); 1 ♀, Port Headland [20°18'S, 118°35'E], Sweeping *Acacia*, 18.ii.1973, E.M. Exley, 393 (UQIC); 1 ♀, Wyndham [15°28'S, 128°06'E], 47165, L.J. Newman, 962 (WADA).

Balaana centrosa Lambkin & Yeates

Holotype. ♂, 'King Rocks, 31 km NE of Hyden, WA, 32°19'S, 119°10'E, 11 Jan 1986, G. and A. Daniels' 14300 (AM).

Paratypes. Western Australia: 1 ♂, same as holotype 1501; 1 ♂, Newmanns Rocks, 50 km W of Balladonia Motel, 32°06'S 123°10'E, 18.i.1986, GAD, 1505; 1 ♂, same except 31.xii.1986, 14304 (GDCB).

Other material examined. **Northern Territory**: 1 ♀, 70 km N Alice Springs, 23°07'S 133°52'E, on *Goodenia heterochila*, Museum of Victoria 1994/1995 Horn Centenary Invertebrate Survey, 5.iii.1995, K. Walker, 524 (MV). **South Australia**: 2 ♀, 79 km NNW Renmark, Calpernum Station, Bookmark Biosphere Reserve, Invertebrate Study, 33°31'S, 140°24'E, Casuarina woodland, Malaise trap, 12.xii.1995–25.i.1996, K.R. Bullen, 1000 1003 (ANIC). **Victoria**: 1 ♂, Amy Johnson Highway, Big Desert [35°45'S, 141°10'E], 26.i.1990, F. Douglas, 695 (VAIC); 1 ♂, Gippsland [38°00'S, 147°30'E], 538 (MV); 1 ♂, 9 mls [14 km] S of Rainbow [35°54'S 142°00'E], 4.ii.1956, I.F.B. Common, 153 (ANIC). **Western Australia**: 1 ♀, Inglewood, Swan River [27°43'S, 118°44'E], 47158, Mar., B.A. O'Connor, 600 (WADA); 1 ♂, Moorine Rock [31°18'S, 119°07'E], 97/583, 17.i.1978, R.P. McMillan, 457 (WAM); 1 ♂, Newmanns Rocks, 50 km W of Balladonia Motel, 32°06'S 123°10'E, 18.i.1986, GAD, 14301; 1 ♂, same except 31.xii.1986, 14217 (GDCB).

Balaana gigantea Lambkin & Yeates

Holotype. 1 ♂, 'Isla Gorge Nat. Park Qld, 25°11'S 149°58'E, 30 Dec. 1990, G. and A. Daniels 1444 (QM).

Paratypes. Queensland: 1 ♂, 1 ♀, 6 km N Taroom, 25°36'S 149°46'E, 14.i.1991, GAD 1446 14155; 1 ♀, Mt Scoria, 6 km S of Thangool, 24°32'S 150°36'E, 1.i.1991, GAD 14153 (GDCB).

Other material examined. **New South Wales**: 1 ♀, Barellan [34°17'S, 146°34'E], Dr E.C. Chisholm, 244 (AM); 1 ♀, Cobar [31°30'S, 145°50'E], Feb. 1921, 5 (ANIC); 1 ♀, Tenterfield [29°03'S, 152°01'E], Dec. 1942, R. Pullen, 1129 (MM); 1 ♀, 4 mls [6 km] W of Wellington [32°33'S, 148°57'E], 15.i.1961, M.J.D. White, 123 (ANIC). **Queensland**: 1 ♀, Ban Ban Range, near Biggenden [25°38'S, 151°57'E], 5.ii.1975, H. Frauca, 1668; 1 ♂, Bluff Range, 25°36'S, 152°03'E, 5.i.1971, H. Frauca, 1666; 1 ♀, same except 7–10.i.1972, 1665 (ANIC); 1 ♀, Braeside Ra. 25 km S of Warwick, 28°23'S 151°54'E, 13.ii.1993, GAD 14156 (GDCB); 2 ♂, 1 ♀, Carnarvon Range [25°15'S, 148°24'E], 20.xii.1938, N. Geary, 239–41 (AM); 1 ♀, Clive Creek, Marlborough Dist [22°49'S, 149°20'E], 29.xi.1979, T.H. Cribb, 327 (UQIC); 1 ♂, Coast Range, 11 km SE Boompa [22°54'S, 150°38'E], 4.xii.1980, H. Frauca, 1671 (ANIC); 1 ♂, Condamine [25°56'S, 150°08'E], 16.i.1939, N. Geary, 242 (AM); 1 ♂, Degilgo River, Biggenden [25°30'S, 152°02'E], 6–8.xii.1971, H. Frauca, 1669; 1 ♀, Eidsvold [25°22'S, 151°07'E], 122; 1 ♀, same Jan. 1923, 138; 1 ♀, same, Dec. 1972, Mackerras 1670 (ANIC); 1 ♂, Fletcher [28°46'S, 151°51'E], 10.xi.1951, E. Sutton, BM1973–346, 1145 (BMNH); 1 ♂, 1 ♀, Gogango [23°40'S, 150°02'E], Feb. 1929, F. Roberts, 1650, 1649 (QDPI); 2 ♀, Harlaxton [27°32'S, 151°57'E], 26.i.1916, I.A. Beck, 328–9; 1 ♀, Kroombit Tops, 45 km SSW Calliope [24°22'S, 151°01'E], 3.ii.1984, DY, 326 (UQIC); 1 ♀, Mahogany Forest, Mt Moffatt Natl. Pk, 24°56'S, 148°04'E, 1200 m, 25.ii.1996, C.J.

Burwell, S. Evans, 299 (QM); 1 ♂, Mt Walsh National Park, Bluff Range [25°37'S, 152°03'E], 1000 m, 28.i.1976, H. Frauca, 1016 (ANIC); 1 ♀, same except Mt Walsh summit, 25°34'24"S, 152°03'05"E, 2.xii.1998, CL, D. White, DY, S. Evans, C. Burwell, 1226 (UQIC); 1 ♀, Passchendaele [28°33'S, 151°51'E], 14.xii.1969, C.F. Ashby, 1664 (ANIC); 1 ♂, Stanthorpe [28°40'S, 151°56'E], 10.xii.1926, 1655 (QDPI); 1 ♀, 12 km SE Stanthorpe [28°40'S, 151°56'E], Malaise trap, 16.ii-3.iv.1991, G. Sarnes, 300 (QM); 1 ♀, Westwood [23°37'S, 150°09'E], 5.xii.1923, AB[urns], 546 (MV); 1 ♀, K14207, 243 (AM). **Victoria:** 2 ♂, Hattah-Kulkyne Natl Pk area, near Lenbrook Plain, 34°49'06"S, 142°22'36"E, 16.i.1999, JAS 1243, 1244 (UQIC). **Western Australia:** 1 ♂, Bulong [30°45'S, 121°48'E], 97/554, 22.i.1968, L.E. Kock, A.M. Douglas, 504 (WAM); 1 ♂, Cue [27°26'S, 117°53'E], H.W. Brown, 661 (SAM); 1 ♂, Dedari, 40 miles W of Coolgardie [30°57'S, 121°09'E], BM1936-28, 11-21.i.1936, R.E. Turner, 1146 (BMNH); 1 ♂, Dedari 23-25.i.1962, A. M. Douglas, L.N. McKenna, 97/551, 508; 1 ♀, 15 km N of Eyre Homestead, 32°15'S, 126°18'E, 566, 97/558, 28.i.-4.iii.1984, T.F. Houston, 505 (WAM); 1 ♀, 7 ml E of Lake Cronin [32°24'S, 119°44'E], 47193, 16.ii.1974, K.T. Richards, 713; 1 ♀, 35 ml [60 km] E of Lake King [33°05'S, 119°41'E], 47188, 18.iii.1970, K.T. Richards, 712 (WADA); 1 ♀, Mt Jackson [30°15'S, 119°16'E], 16.ii.1939, A. Douglas, 126 (ANIC). **State Unknown:** 1 ♀, 127 (ANIC).

Balaana kingcascadensis Lambkin & Yeates

Holotype. ♂, '15.38 S 125.15 E, CALM Site 28/3 4km W of King Cascade, W.A. 12-16 June 1988, T.A. Weir, open forest' 51 (ANIC).

Paratypes. Western Australia: 1 ♂, 3 ♀, King Cascade, Prince Regent River [15°38'S, 125°15'E], 28.vii.1990, DY, 374 371 373 375 (UQIC).

Other material examined. **Northern Territory:** 1 ♀, 5 km NNW of Cahills Crossing (East Alligator River), 12°23'S, 132°57'E, 28.v.1973, T. Weir & N. Forrester, 678 (NTM); 1 ♀, Koongarra, 15 km E Mt Cahill [12°52'S, 132°51'E], 6-9.iii.1973, D.H. Colless, 1573; 1 ♀, 9 km NE of Mudginberri Homestead [12°31'S, 132°54'E], on scarp, 10.vi.1973, D.H. Colless, 1012 (ANIC). **Western Australia:** 1 ♀, King Cascade, Prince Regent River [15°38'S, 125°15'E], 28.vii.1990, DY 377 (UQIC).

Balaana obliquebifasciata (Macquart) 1850

Holotype. ♂, 'Exoprosopa obliquebifasciata ♀ Macq. n. sp.' / 'vxiii Doinum numiat. D. Su' 'TASMANIA ex. Bigot Coll. B.M. 1960-539'/'HOLOTYPE *Exoprosopa obliquefasciata* Macquart det. J.E. Chainey 1984' 1307 (BMNH).

Kapua adalaidica (Macquart) 1855

Holotype. 1 ♂, 'S. AUSTRALIA Adelaide ex Bigot Coll. BM 1960-539' / '-xoprosopa -alaidica ♂. Macq.' / 'E. adalidea ♂. Macq. Adalaid.'/'Holotype *Exoprosopa adalaidica* Macquart det. J.E. Chainey, 1984' 1137 (BMNH).

Other material examined. **Australian Capital Territory:** 1 ♀, Canberra [35°17'S, 149°13'E], 4.i.1948, SP 18 (ANIC). **New South Wales:** 1 ♀, 8 km S of Mendooran, 31°50'S, 149°06'E, 28.i.1987, GAD 1490 (GDCB); 1 ♂, Mt Boppy near Cobar, hilltopping, 10am, 31°32'32"S, 146°16'51"E, 16.i.1999, CL NP PB 1228 (UQIC); 1 ♂, Mt Boppy nr Cobar [31°32'S, 146°17'E], 25.xi.1949, SP 208 (ANIC). **Northern Territory:** 1 ♀, Avon Downs [20°02'S, 137°39'E],

10.iv.1976, D.H. Colless, 1542 (ANIC); 1 ♀, Mooroonga Island, 11°57'S, 135°04'E, 7.vi.1996, G.R. Brown, 676 (NTM); 1 ♀, 10 mls [16 km] W of Mt Riddoch H.S. [23°05'S, 134°38'E], 2.x.1955, L. J. Chinnick, 115 (ANIC). **Queensland:** 1 ♂, Ballon State Forest, Turkey Mountain, 26°20'49"S, 150°52'08"E, summit, 6.i.1998, CL 967; 1 ♂, same except summit of ridge 690m E Turkey Mountain, 26°20'33"S, 150°52'31"E, 969; 2 ♀, Carnarvon National Park; Mt Moffatt Sect., 25°08'22"S, 147°50'37"E, 660 m, amsl, 21.xi.1995, MI S.D. Gaimari, 981 986; 1 ♂, same except base of The Chimneys, 25°06'08"S, 147°52'01"E, 680 m, 21.xi.1995, DY 404; 1 ♂, same except 25°06'01"S, 147°52'01"E, 28.xi.1997, JS CL S.Evans, 852; 1 ♀, same except on *Leptospermum* flowers, 1.xii.1997, 866; 1 ♀, same except summit of The Chimney's, 25°06'01"S, 147°52'01"E, 867; 5 ♀, same except western branch of Maranoa River, 25°08'22"S, 147°50'37"E, 660 m, Malaise trap, 16–26.xi.1995, MI S.D. Gaimari, 339 341 344–5 403; 1 ♂, same except Mt Moffat, 25°03'35"S, 148°02'38"E, base, 2.xii.1997, JS CL S.Evans, 878; 2 ♂, same except summit of Mt Moffat, 25°04'S, 148°03'E, 1097 m, 25.xi.1995, DY C.J. Burwell, 336–7; 4 ♂, same except 25°03'35"S, 148°02'38"E, 27.xi.1997, JS CL S.Evans, 842–4 846; 8 ♂, same except 29.xi.1997, 709 833 855–9 861; 1 ♂, same except 2.xii.1997, JS CL, 873; 1 ♂, same except Mt Moffatt Rd, 25°03'52"S, 148°01'00"E, dry creek, Malaise trap, 26.xi.1997, JS CL S.Evans, 839; 1 ♀, same except 3 km SE Ranger Station, 25°04'39"S, 148°00'30"E, 740 m, 20.xi.1995, DY 347; 1 ♂, same except Rangers Station, 25°01'19"S, 147°57'16"E, 740 m, 16–18.xi.1995, 715; 1 ♀, same except base of The Tombs, 25°05'19"S, 147°53'00"E, 28.xi.1997, JS CL S.Evans, 851; 1 ♂, same except summit of The Tombs, 850; 1 ♂, same except ridge 500m NE The Tombs, 25°04'53"S, 147°52'10"E, summit, 26.xi.1997, 836; 1 ♂, same except 25°03'15"S, 147°53'12"E, open *Eucalyptus* grassland, Malaise trap, 2–3.xii.1997, JS CL S.Evans, 879 (UQIC); 1 ♀, Doomadgee Mission [17°40'S, 138°45'E], 9.vii.1963, P. Aitken, N.B. Tindale, 618 (SAM); 1 ♂, sandstone ridge behind Fairlight H.S., 15°45'S, 144°02'E, 05.v.1989, GAD 14309; 1 ♂, sandstone ridge 26 km W of Fairview, 15°35'S, 144°04'E, 22.iv.1989, GAD 14310; 2 ♀, 3 km SW of Fox Ck x-ing Wolverton, 13°11'S, 142°56'E, 13.iv.1989, GAD 1506 14305 (GDCB); 1 ♀, Hayman Is. [20°03'S, 148°53'E], 22.x.1950, R. Dobson, 128 (ANIC); 1 ♀, Kennedy River, 26 km W of Fairview, 15°35'S, 144°04'E, 20.iv.1989, GAD 14307; 1 ♂, Split Rock, 14 km S of Laura, 15°37'S, 144°30'E, 13.v.1989, GAD 14311; 1 ♀, 13 km W of Musgrave, 14°48'S, 143°23'E, 16.iv.1989, GAD 14306 (GDCB); 1 ♀, Rockhampton [23°22'S, 150°30'E], 1133 (MM); 1 ♀, 6 km N of Taroom, 25°36'S, 149°46'E, 200 m, 26.xi.1992, GD 14162 (GDCB); 1 ♂, Townsville [19°16'S, 146°49'E], 7.i.1954, Miesters, 586 (MV). **South Australia:** 1 ♂, Black Hill near Montacute, Adelaide [34°54'S, 138°44'E], H.F. Lower coll. Waite Instit., 31.i.1949, H.F.L., 1569 (ANIC); 1 ♀, Gawler Ranges, Kolay Dam, Paney Station, 32°33'S, 136°36'E, D 15, Malaise trap, 7–11.xii.1989, J. Forrest, 444 (WARI); 1 ♂, farm, Mt Pleasant [34°47'S, 139°02'E], Jan. 1974, E. Kobelt, 623 (SAM); 2 ♀, 1 ♂, 79 km NNW Renmark, Calpernum Station, Bookmark Biosphere Reserve, Invertebrate Study, 33°31'S, 140°24'E, Casuarina woodland, Malaise trap, 12.xii.1995–25.i.1996, K.R. Bullen, 1002 1004–5 (ANIC); 1 ♀, Scorpion Springs CP, vicinity of Nanam's Well [35°30'S, 140°55'E], 14.xii.1983, Museum Party, 601; 1 ♂, Victory Well, Everard Park Station [27°03'S, 132°31'E], Malaise trap, 7.xi.1970, G.F. Gross, 602; 1 ♀, between Wartaru and 90km W [27°03'S, 129°53'E], Vehicle net, 22.x.1998, GVD Pitjantjatjara Lands, 1789 (SAM). **Western Australia:** 1 ♀, Attadale [32°02'S, 115°48'E], 97/575, 15.xii.1975, M. Powell, 477 (WAM); 1 ♂, Bassendean [31°54'S, 115°57'E], on tea tree blossom, Dec. 1947, D.C. Swan, 15, Swan Coll. Lot 13–68, Waite Institute, SA, 1636; 1 ♀, 5 km SW Beagle Bay Mission [16°59'S, 122°40'E],

23.iv.1977, D.H. Colless, 1627; 1 ♀, 186 km ESE Broome, 18°53'S, 123°43'E, 10.viii.1976, I.F.B. Common, 1543 (ANIC); 1 ♀, Bullsbrook, 2 m. N Pierce [31°40'S, 116°01'E], BM1966–325, 13.i.1966, O.W. Richards, 1167 (BMNH); 1 ♀, Bunbury [33°20'S, 115°38'E], 21.i.1956, Snell, 582; 1 ♀, same except 13.i.1957, 581 (MV); 1 ♂, 89 km W Calgoorlie, Great Eastern Hwy [30°45'S, 120°32'E], 19.xii.1999, CL K. Evans, PB K. Bell, 1722 (UQIC); 1 ♀, Capel [33°33'S, 115°33'E], 2.i.1941, P.N.F., 47186, 871 (WADA); 1 ♀, same except 7.i.1957, A.S[nell], 584 (MV); 1 ♀, 1 ♂, Dedari, 40 miles W of Coolgardie [30°57'S, 12°09'E], BM1936–28, 11–21.i.1936, R.E. Turner, 1149–50 (BMNH); 1 ♀, 10.5 km NE of Eurardy HS, 27°29'24"S, 114°44'25"E, on flowers of *Dicrasyllis fulva* (Dicrasyllidaceae), 26583, 24.xi.1998, T.F. Houston 993–1, 1773; 2 ♀, 60 km S Norseman [32°44'S, 121°46'E], ABFH, 97/571–2, swept from mallee, 2.i.1977, A.M. and M.J. Douglas, 456 459; 1 ♀, 110 km WSW of Point Malcolm, 33°48'S, 123°46'E, 426, 97/565, 15–18.i.1982, B. Hanich, T.F. Houston, 455 (WAM); 1 ♀, Martin's Well, West Kimberley [16°34'S, 122°51'E], 27.iv.1977, D.H. Colless, 1626 (ANIC); 1 ♂, summit Mt Warambool, Mt Magnet, 28°01'55"S, 117°49'23"E, 14.xii.1999, CL K. Evans, PB JS K. Bell, 1743 (UQIC); 1 ♂, Mt Yokine [31°53'S, 115°52'E], 6.i.1957, I.M., 575; 1 ♀, same except 26.i.1957, 578 (MV); 1 ♀, Pearce [31°40'S, 116°01'E], 54–163, A. Douglas, 453 (WAM); 1 ♂, 2 ♀, Perth [31°57'S, 115°51'E], 33 Swan Coll. Lot 13–68, Waite Institute, SA, 1632–3 1635 (ANIC); 1 ♀, Cypress Rd, Pinjar, 31°35'S, 115°48'E, at flowers among *Banksia* scrub, 60 m, 26.i.1981, M.J. Smart, 1110 (MSC); 1 ♀, Pinjarra [32°38'S, 115°52'E], on tea tree blossom, 28 Swan Coll., Dec. 1934, D.C.S., 1640 (ANIC).

Kapua corusca Lambkin & Yeates

Holotype. ♂, 'Mt Boppy, nr Cobar. N.S.W. 25.XI.1949. S.J. Paramonov leg.' [31°32'S, 146°17'E] 216 (ANIC).

Paratypes. **New South Wales:** 6 ♂, 3 ♀, same as type 201 203–7 209 214–5 (ANIC); 5 ♂, same as type except hilltopping, 10am, 31°32'32"S, 146°16'51"E, 16.i.1999, CL NP PB 1231–3 1235–6 (UQIC); 1 ♂, same as type except 1238 (BMNH).

Other material examined. **New South Wales:** 3 ♂, same as type 212–3 218 (ANIC); 3 ♂, same as type except hilltopping, 10am, 31°32'32"S, 146°16'51"E, 16.i.1999, CL NP PB 1229–30 1237 (UQIC); 1 ♂, same except 1234 (BPBM); 1 ♂, 1 ♀, 37 km NW Condobolin, Cobar, hilltopping, 10am [33°04'S, 147°09'E], 27.xii.1976, Z. Liepa, 1511–2 (ANIC); 2 ♀, Goonoo State Forest, 31°54'S, 148°57'E, Malaise, 12–14.i.1994, MI DY 395–6 (UQIC); 1 ♀, Wilcannia-Mt Boppy [31°34'S, 143°22'E], 24.xi.1949, SP 201 (ANIC). **Northern Territory:** 1 ♀, Arnhem Land, Gunbiyarrmi [11°15'S, 132°34'E], 30–31.viii.1993, Brown & Webber, 683 (NTM); 2 ♂, 2 ♀, Baroalba Creek Gorge, 19 km NE Mt Cahill [12°48'S, 132°49'E], 14.vi.1973, D.H. Colless, 1614–7; 1 ♀, Bowerbird Waterhole, Upper Magela Creek [13°37'S, 132°08'E], 25.viii.1978, D.H. Colless, 1546; 1 ♀, 5 km NNW of Cahills Crossing, East Alligator River [12°23'S, 132°57'E], 9.vi.1973, D.H. Colless, 1606 (ANIC); 1 ♂, Cooper Creek, 15 km SW of Nimbuwah Rock, 12°20'S, 133°19'E, 28.v.1973, T. Weir & N. Forrester, 682 (NTM); 2 ♀, Cooper Creek, 19 km SE Borradaile [12°20'S, 133°19'E], 6.vi.1973, D.H. Colless, 1547 1620; 1 ♂, Koongarra, 15 km E Mt Cahill [12°52'S, 132°51'E], 23.v.1973, M.S. Upton, R.S. McInnes, 1618; 1 ♂, Narbarlek Dam, 15 km SW Nimbuwah Rock [12°18'S, 133°19'E], 2.vi.1973, M.S. Upton, R.S. McInnes, 1619 (ANIC); 1 ♀, Port Essington [11°16'S, 132°09'E], 1142 (HOPE). **Queensland:** 5 ♂, Barakula State Forest #302, summit Round Mtn, 26°22'13"S, 150°58'09"E, 8.i.2000, JAS M.

Mathieson, 1764–6 1768–9 (UQIC); 1 ♀, Carnarvon Range [25°15'S, 148°24'E], 2.i.1939, N. Geary, 247; 1 ♀, same except 20.xii.1938, 246 (AM); 2 ♀, Carnarvon National Park; Mt Moffatt Sect., 25°08'22"S, 147°50'37"E, 660 m, amsl, 21.xi.1995, MI S.D. Gaimari, 983–4 (UQIC); 1 ♂, 1 ♀, same except The Chimneys, 25°06'S, 147°52'E, 21.xi.1995, C.J. Burwell 301–2 (QM); 1 ♀, same except base of The Chimneys, 25°06'08"S, 147°52'01"E, 680 m, DY 716; 1 ♀, same except Malaise trap, 21–23.xi.1995, MI S.D. Gaimari 405; 3 ♀, 1 ♂, same except 25°06'01"S, 147°52'01"E, 1.xii.1997, JS CL S.Evans, 854 863–5; 1 ♀, same except Marlong Creek, near Lots Wife, 24°58'08"S, 147°57'13"E, 760 m, amsl, 25–26.xi.1995, MI, Gaimari, 988; 3 ♀, same except western branch of Maranoa River, 25°08'22"S, 147°50'37"E, 660 m, Malaise trap, 16–26.xi.1995, MI S.D. Gaimari, 338 340 355 (UQIC); 1 ♀, same except 19.xi.1995, 743 (INHS); 1 ♂, Mt Moffatt Natl Park, Mt Moffatt summit, 15.xii.1987, DY 351 (UQIC); 1 ♂, same except 25°04'S, 148°03'E, 1097 m, 23.xi.1995, C.J. Burwell, 305; 1 ♂, same except 25.xi.1995, 308 (QM); 1 ♂, same except 25°03'35"S, 148°02'38"E, 27.xi.1997, JS CL S.Evans, 840; 1 ♂, same except 2.xii.1997, JS CL, 877 (UQIC); 1 ♂, same except Mt Rugged summit, 24°54'S, 148°00'E, 1130 m, 24.xi.1995, C.J. Burwell, 307 (QM); 1 ♀, same except 3 km SE Ranger Station, 25°04'39"S, 148°00'30"E, 740 m, Malaise trap, 18–26.xi.1995, MI S.D. Gaimari, 346; 3 ♂, same except summit of The Tombs, 25°05'19"S, 147°53'00"E, 28.xi.1997, JS CL S.Evans, 847–9 (UQIC); 1 ♂, Cunnamulla [28°04'S, 145°41'E], Nov.1941, N. Geary, 266 (AM); 1 ♂, Isla Gorge, lookout, 25°12'S, 149°58'E, 240 m, 19.xii.1997, C.J. Burwell, 1026 (QM); 1 ♀, Leyburn [28°01'S, 151°35'E], 10.i.1964, A. Macqueen, 398 (UQIC); 1 ♀, 6 km N of Taroom, 25°36'S, 149°46'E, 13.i.1991, GAD 14161 (GDCB); 1 ♀, Townsville [19°16'S, 146°49'E], 284, 1904, 1174 (BMNH).

Victoria: 1 ♀, Fernshaw [37°36'S, 145°38'E], 552 (MV). **Western Australia:** 2 ♀, 60 50, 1176–7 (BMNH); 2 ♀, 19 km S of Badgingarra, 30°33'S, 115°27'E, from sandy road verge adjacent *Banksia* woodland, 97/576, 26.xi.1988, A. Baynes, L. J. Charlton, 468–9 (WAM); 1 ♀, 22 mi. [32 km] ESE Kalbarri [27°42'S, 114°12'E], 19.xi.1971, N. McFarland, 1577; 1 ♂, Crossing Pool, Millstream [21°35'S, 117°06'E], 23.x.1970, D.H. Colless, 1603 (ANIC); 2 ♀, Darlington [31°57'S, 115°51'E], 48–521, A. Douglas, 478 1642 (WAM); 1 ♂, Drummond Cove [28°40'S, 114°36'E], Ex L.T. in rain, 47198, 6.viii.1974, N. McFarland, 719 (WADA); 1 ♂, same except dune near Geraldton, 25°39'59"S, 114°36'45"E, 11.xii.1999, CL K. Evans, PB JS K. Bell, 1715 (UQIC); 1 ♀, Fremantle [32°03'S, 115°45'E], 879, Dr Legge, 1144 (HOPE); 1 ♂, Gnangara [31°48'S, 115°52'E], Dec., O'Connor, 47160, 957 (WADA); 3 ♂, hilltop, Little Lagoon near Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, CL K. Evans, PB JS K. Bell, 1697 1701 1703; 1 ♀, Kalumburu Mission [14°18'S, 126°38'E], 4–6.iv.1989, DY 352; 2 ♀, Melaleuca Park, Yongka Picnic Area, 31°40'36"S, 115°54'07"E, *Banksia* heath, 19.xii.1999, JAS 1751–2; 1 ♀, same except 29.xii.1999, JAS 1762 (UQIC); 3 ♂, Westonia [31°18'S, 118°42'E], 12.x.1962, G.F.H. Jenkins, 47163 47183 47187, 514–6 (WADA); 1 ♂, 42 km NE Wubin, 29°49'S, 116°57'E, 26.xi.1981, J.C. Cardale, 1502 (ANIC); 1 ♀, Yule River at Highway 1 [21°21'S, 118°26'E], pools of water in a sandy riverbottom, 23.ix.1983, E.I. Schlinger, MI 742 (INHS).

Kapua irwini Lambkin & Yeates

Holotype. 1 ♂, 'AUSTRALIA: QLD: Carnarvon National Park, Mt Moffatt Sect. Mt Moffatt summit, 25°03'35"S, 148°02'38"E, 2.xii.1997, J. Skevington, C. Lambkin' 872 (QM).

Paratypes. Queensland: 1 ♂, same as type except 27.xi.1997, JS CL S.Evans, 841 (UQIC); 1 ♂, same except 29.xi.1997, 1022; 1 ♂, same except 25°04'S, 148°03'E, 1097 m, 23.xi.1995, C.J. Burwell, 306

(QM); 1 ♀, Carnarvon National Park; Mt Moffatt Sect., 25°08'22"S, 147°50'37"E, 660 m, amsl, 21.xi.1995, MI S.D. Gaimari, 982; 1 ♀, same except 25°03'15"S, 147°53'12"E, open *Eucalyptus* grassland, Malaise trap, 2–3.xii.1997, JS CL S.Evans, 883; 1 ♀, same except base of The Chimneys, 25°06'08"S, 147°52'01"E, 740m, Malaise, 21.xi.1995, DY 348; 1 ♂, same except 680 m, Malaise, 21–23.xi.1995, MI S.D. Gaimari, 379; 1 ♀, same except 25°06'01"S, 147°52'01"E, 28.xi.1997, JS CL S.Evans, 853; 2 ♀, same except western branch of Maranoa River, 25°08'22"S, 147°50'37"E, 660 m, Malaise trap, 16–26.xi.1995, MI S.D. Gaimari, 342–3; 1 ♂, same except ridge 500m NE The Tombs, 25°04'53"S, 147°52'10"E, summit, 26.xi.1997, JS CL S.Evans, 837 (UQIC).

Other material examined. **New South Wales:** 1 ♂, 46 km N of Coonabarabran, 30°52'S, 149°25'E, 13.ii.1992, GD 1466 (GDCB); 1 ♀, Goonoo State Forest, 31°54'S, 148°57'E, Malaise, 12–14.i.1994, MI DY 400 (UQIC); 3 ♀, 1 ♂, 8 km S of Mendooran, 31°50'S, 149°06'E, 28.i.1987, GAD 1489 1491–2 14216; 1 ♂, same except 29.i.1987, 1488 (GDCB); 1 ♂, Mt Boppy nr Cobar [31°32'S, 146°17'E], 25.xi.1949, SP 217; 1 ♂, Pilliga Scrub, SW Narrabri [30°30'S, 149°30'E], 18.xi.1965, Norris & Havenstein, 1013 (ANIC). **Queensland:** 1 ♂, same as type, 876 (UQIC); 1 ♂, 40 mls [64 km] W Ayr [19°35'S, 146°27'E], 7.x.1950, E.F. Riek, 221 (ANIC); 2 ♂, Barakula State Forest #302, summit Round Mtn, 26°22'13"S, 150°58'09"E, 8.i.2000, JAS M. Mathieson, 1763 1767; 2 ♀, Brisbane Forest Park, 27°25'11"S, 152°50'51"E, sclerophyll Eucalypt forest, 4.xi.1995, MI, Gaimari, 989–90; 2 ♀, Carnarvon National Park; Mt Moffatt Sect., 25°08'22"S, 147°50'37"E, 660 m, amsl, 21.xi.1995, MI S.D. Gaimari, 985 987 (UQIC); 1 ♂, base of The Chimneys, 25°06'08"S, 147°52'01"E, 1.xii.1997, JS CL S.Evans, 862 (BMNH); 2 ♂, same except Mt Moffatt summit, 15.xii.1987, DY 349–50 (UQIC); 1 ♂, same except 25°04'S, 148°03'E, 1097 m, 23.xi.1995, C.J. Burwell, 1023 (QM); 1 ♂, same except 25°03'35"S, 148°02'38"E, 27.xi.1997, JS CL S.Evans, 845 (DJGC); 1 ♂, same except 29.xi.1997, 834 (BPBM); 1 ♂, same except 860; 2 ♂, same except ridge 500m NE The Tombs, 25°04'53"S, 147°52'10"E, summit, 26.xi.1997, JS CL S.Evans, 706 838; 1 ♂, Goodna [Brisbane] [27°28'S, 153°01'E], 20.xi.1925, 413 (UQIC); 1 ♂, same except 3.i.1927, F. Roberts, 1652 (QDPI); 1 ♂, 5 km N of Leyburn, 27°58'S, 151°38'E, 25.xii.1987, GAD 14220 (GDCB); 1 ♂, Mt Cook Natl Pk, 15°30'S, 145°16'E, 11.x.1980, D.H. Colless, 1552; 1 ♂, 2 ♀, same except 12.x.1980, 1551 1556–7; 1 ♂, 2 ♀, same except at light, 11.x.1980, 1553–4; 2 ♂, same except Malaise trap, 12.x.1980, 1549–50; 1 ♀, Rannes [24°06'S, 150°07'E], 7.x.1947, K.R. Norris, 8; 2 ♀, Rockhampton [23°22'S, 150°32'E], 13.i.1949, I.F.B. Common, 9 222 (ANIC); 1 ♀, Tannum Sands [23°57'S, 151°22'E], 26.i.1964, R.A. McLachlan, 409 (UQIC). **South Australia:** 1 ♂, 79 km NNW Renmark, Calpernum Station, Bookmark Biosphere Reserve, Invertebrate Study, 33°31'S, 140°24'E, Casuarina woodland, Malaise trap, 12.xii.1995–25.i.1996, K.R. Bullen, 1006 (ANIC).

Kapua westralica Lambkin & Yeates

Holotype. 1 ♂, 'Moir's Rock 42 km NNW Salmon Gums WA, 32°39'S 121°25'E, 2 Jan 1987, G. and A. Daniels' 1493 (AM).

Paratypes. Western Australia: 1 ♂, same as type 14218; 1 ♂, same as type except 3.i.1987, 1494 (GDCB); 1 ♂, 1 ml. [2 km] W of Boorabbin [31°12'S, 120°17'E], 45937, 6.xii.1953, J.H. Calaby, 224 (ANIC); 2 ♂, Bayswater [31°55'S, 115°55'E], 31.x.1969, P.J. Lawrence, 47168, 47184, 277 279 (WADA); 1 ♂, 33.7 km NE Geraldton, 19.i.1973, N. McFarland, 1521 (ANIC); 1 ♀, Pinjarra [32°38'S, 115°52'E], D 15, Dec. 1934, 443 (WARI); 1 ♂, 20 km N Widgiemooltha [31°30'S, 121°35'E],

10.xi.1977, D.H. Colless, 1517 (ANIC); 1 ♀, Yanchep [31°33'S, 115°41'E], 5.i.1968, Neboiss, 583 (MV).

Other material examined. **Western Australia:** 1 ♂, Bunbury [33°20'S, 115°38'E], 3.i.1957, A. Snell, 262 (AM); 1 ♂, same except 13.i.1957, 580 (MV); 1 ♂, Capel Dist., 18 mls [29 km] S of Bunbury [33°31'S, 115°51'E], 7.i.1957, A. Snell, 261 (AM); 1 ♂, Geraldton [28°46'S, 114°37'E], 20.xii.1914, Clark, 223 (ANIC); 1 ♂, Kings Park [31°58'S, 115°50'E], 36–1975, Feb., 1645 (WAM); 1 ♀, Perth [31°57'S, 115°51'E], 25, Swan Coll. Lot 13–68, Waite Institute, SA, 1634; 1 ♂, Pinjarra [32°38'S, 115°52'E], on tea tree blossom, 32, Swan Coll. Lot 13–68, Waite Institute, SA, Dec. 1934, D.C.S., 1641 (ANIC); 1 ♂, Swan R. [31°45'S, 116°04'E], Dec., 47144, 739; 1 ♂, same except L.J. Newman, 47156, (WADA); 2 ♂, 20 km N Widgiemooltha [31°30'S, 121°35'E], 10.xi.1977, D.H. Colless, 1515–6 (ANIC). **State Unknown:** 1 ♂, K36814, K.G.Q, 268 (AM).

Larrpana dimidiatipennis (Bowden) 1971

Holotype. 1 ♂ 'Groote Eylandt, N. Territory, H.E. Warren' [13°49'S 136°38'E] 13/136 1197 (SAM).

Other material examined. **Northern Territory:** 1 ♀, Bukalara Plateau, 46 km SSW of Borroloola [16°23'S 136°13'E], 23.iv.1976, D.H. Colless 220 (ANIC); 1 ♂, Cooper Creek, 15 km SW of Nimbuwah Rock, 12°20'S 133°19'E, 2.vi.1973, T. Weir and N. Forrester 978 (NTM).

Larrpana collessi Lambkin & Yeates

Holotype. ♂, '9km. N by E of Mudginbarry H.S. (on scarp.). N.T., 10 June 1973, D.H. Colless' [12°31'S, 132°54'E] 1525 (ANIC).

Paratypes Northern Territory: 2 ♂, 2 ♀, same as type 1529 1522–4 (ANIC). Queensland: 1 ♀, 30 km W of Fairview, Cape York Peninsular [15°33'S, 144°02'E], 10–11.vii.1982, GD MS, 416 (UQIC).

Other material examined. **Northern Territory:** 3 ♂, same as type 1526–8 (ANIC); 3 ♂, 3 ♀, same as type except T. Weir & A. Allwood, 687–9; 1 ♂, Cooper Creek, 15 km SW of Nimbuwah Rock, 12°20'S, 133°19'E, 28.v.1973, T. Weir & N. Forrester, 685 (NTM); 3 ♂, Kakadu Natl Pk, Mirray Lookout, 12°51'49"S, 132°42'35"E, 1.vii.2000, PB K. Evans, K. Bell, C. Baker, 1786–8 (UQIC). **Queensland:** 1 ♂, 1 ♀, 40 mls [64 km] SW Ayr [20°00'S, 146°58'E], 7.x.1950, E.F. Riek, 196–7 (ANIC); 1 ♂, Black Mt, 6.7 km W Croyden, hilltopping, 18°09'S, 142°12'E, 195 m, dry, open savanna, 12.vi.1997, JAS, 1673 (UQIC); 1 ♀, 26 km W of Fairview, 15°35'S, 144°04'E, 23.iv.1989, GAD, 14308 (GDCB); 1 ♀, 30 km W of Fairview, Cape York Peninsular [15°33'S, 144°02'E], 10–11.vii.1982, GD, MS, 415 (UQIC); 3 ♂, Mt White Coen [13°57'S, 153°12'E], 5.xi.1979, M.S.&B.J. Moulds, 1498–9 14225 (GDCB); 1 ♂, same except 7.x.1989, L. Ring, 14224 (GDCB); 1 ♀, Proserpine [20°24'S, 148°35'E], 9.viii.1964, J. Chiu Chong, 414 (UQIC).

Larrpana zwicki sp. nov

Holotype. ♂ 'AUSTRALIA: QLD: 1km West Windorah, On ground beneath flowering *Eucalyptus*, 31.viii.1997, A. Zwick C. Lambkin' [25°25'S, 142°39'E], 763 (QM).

Paratype. Queensland: 1 ♂, 3 km West Windorah [25°25'S, 142°38'E], 5.ix.1997, CL, JAS A. Zwick, SW, Malaise, 914 (UQIC).

Munjua erugata sp. nov;

Holotype. ♂, '57 km S of Norseman, 32°38'S 121°32'E, 31 Dec1985, G.and A. Daniels' 1475 (AM).

Paratypes. Western Australia: 1 ♂, Moirs Rock 42 km NNW of Salmon Gums, 32°39'S, 121°25'E, 1.i.1986, GAD 1473; 1 ♀, same except 2.i.1986, 1470; 2 ♀, same except 2.i.1987, 1504, 14303; 1 ♀, Newmanns Rocks, 50 km W of Balladonia Motel, 32°06'S, 123°10'E, 19.i.1986, GAD 14205; 1 ♂, same except 31.xii.1986, 1781 (GDCB).

Other material examined. **New South Wales:** 1 ♂, 8mls NE of Braidwood [35°37'S, 149°48'E], 13.xii.1944, K.H.L. Key, 14 (ANIC); 1 ♀, Mt Hope [32°51'S, 145°53'E], E.H. Zeck Collection 1963, 26.ii.1993, R. Forsythe, 273 (ASCT); 1 ♂, 3 ♀, Round Hill Nature Res. [31°12'S, 150°01'E], 27.xii.1976, GD 14199, 1445, 1464, 1468; 1 ♀, same as except 29.xii.1976, GD 1469 (GDCB); 1 ♀, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL NP PB RMD, 1338 (UQIC); 1 ♂, Wilcannia-Mt Boppy [31°32'S, 146°17'E], 24.xi.1949, SP 13 (ANIC). **Northern Territory:** 1 ♀, Kelly Creek, S of Tennant Creek, 19°59'S, 134°14'E, 4.iv.1981, M. Malipatil, J. Hawkins, 684 (NTM). **South Australia:** 1 ♂, 18 km NE Mannum [34°55'S, 139°18'E], 7.ii.1990, J.T. Jennings, 429 (JJCA); **Victoria:** 1 ♂, Hattah Lake Nat. Pk [34°45'S, 142°16'E], 07.xii.1978, GD 14201 (GDCB); 1 ♀, 79 km NNW Renmark, Calpernum Station, Bookmark Biosphere Reserve, Invertebrate Study, 33°31'S, 140°24'E, *Casuarina* woodland, Malaise trap, 12.xii.1995–25.i.1996, K.R. Bullen, 1001 (ANIC); 1 ♀, Corny Point [34°54'S, 137°00'E], 636 (SAM). **Western Australia:** 1 ♂, same as type 14203 (GDCB); 1 ♀, 12 km ENE of Comet Vale Siding 29°57'S 121°07'E, at edge of water in dam, 256–9, 97/561, 7–15.iii.1979, T.F. Houston, *et al.*, 463; 1 ♀, Cunderdin, 31°39'S, 117°14'E], 4–457, 452; 1 ♀, Darlington, Perth [31°57'S, 115°51'E], in pool, 97/581, 20.iii.1977, G.H. Love, 464 (WAM); 1 ♂, 1 ♀, Dedari [30°57'S, 121°09'E], 48–452, 53–4 (ANIC); 1 ♀, same except 97/548, 23–25.i.1962, A.M. Douglas, L.N. McKenna, 472 (WAM); 1 ♂, same except 47132, 28.i.1971, K.T. Richards, 590 (WADA); 1 ♂, Dedari, 40 miles W of Coolgardie [30°57'S, 121°09'E], BM1936–28, 11–21.i.1936, R.E. Turner, 1148 (BMNH); 1 ♀, East Victoria Park, 31°58'S, 115°53'E Feb. 1984, P. Hutchinson, 1796 (UQIC); 1 ♀, Jandakot [32°07'S, 115°50'E], 97/574, 30.x.1975, M. Powell, 475; 1 ♂, Kalbarri [27°42'S, 114°12'E], 97/569, 10–17xii.1976, L.E. Kock, 476 (WAM); 1 ♂, 1 ♀, 89 km W Kalgoorlie, Great Eastern Hwy [30°45'S, 120°32'E], 19.xii.1999, CL K. Evans, PB K. Bell, 1724–5 (UQIC); 1 ♂, same except 1723 (DJGC); 1 ♂, King Rocks 31 km NE of Hyden, 32°19'S, 119°10'E, 11.i.1986, GAD 14206; 1 ♂, 1 ♀, Moirs Rock 42 km NNW of Salmon Gums, 32°39'S, 121°25'E, 1.i.1986, GAD 1471–2; 1 ♀, same except 2.i.1986, 14202 (GDCB); 1 ♂, Newman Rock turnoff Eyre Hwy, 32°06'58"S, 123°09'49"E, 5.xii.1999, CL K. Bell, PB K. Evans, 1676 (BMNH); 1 ♀, Newmanns Rocks, 50 km W of Balladonia Motel, 32°06' S, 123°10'E, 1.i.1987, GAD 1503; 1 ♂, 14 km W Paynes Find, 29°15'S, 117°41'E, on flowers of *Eucalyptus*, 435–1, 97/566, 12.iii.1982, T.F. Houston, B. Hanich, 460 (WAM); 1 ♀, 24 mls [39 km] E of Pingrup [33°32'S, 118°56'E], 13235, 5.ii.1953, McIntosh and Calaby, 22 (ANIC); 1 ♂, Scadden, 33°27'S, 121°44'E, on flowering mallee, ABFP, 97/573, 26.i.1977, A.M.&M.J. Douglas, 481 (WAM); 1 ♀, Southern Cross [31°14'S, 119°19'E], BM1936–28, 10–22.i.1936, R.E. Turner, 1164 (BMNH); 1 ♂, same except 47166, 26.i.1971, K.T. Richards, 591 (WADA); 1 ♂, 50 ml. [80 km] S of Southern Cross [31°13'S, 120°10'E], on *Eucalyptus leptopoda*, 28.i.1973, E.M. Exley, 410 (UQIC); 1 ♂, Swan River [31°45'S, 116°04'E], L.J.Newman, 1661 (QDPI); 1 ♀, 7.5 km E of Yuinmery Homestead, 28°34'S 119°01'E, 310, Western Australian Museum, Dept. of Biological Survey Site YY Camp, 97/5462, 11–19.ii.1980, T.F. Houston *et al.*, 473 (WAM).

Munjua lepidokingi Lambkin & Yeates

Holotype. ♂, '15.38 S 125.15 E, CALM Site 28/3 4km W of King Cascade, W.A. 12–16 June 1988, T.A. Weir, open forest' 52 (ANIC).

Paratypes. Western Australia: 1 ♀, same as holotype, 50 (ANIC); 1 ♂, 2 ♀, King Cascade, Prince Regent River [15°38'S, 125°15'E], 28.vii.1990, DY, 372, 370, 376 (UQIC).

Munjua paralutea Lambkin & Paramonov

Holotype. 1 ♂, 'AUSTRALIA: NSW: Sturt NP: Fromes Ck nr Binerah Well, at *Eucalyptus* flowers, 29°06'40"S 141°38'18"E, 10.i.1999, C. Lambkin, N. Power, P. Bouchard' 1255 (AM).

Paratypes. New South Wales: 1 ♀, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, at *Eucalyptus* flowers, 12.i.1999, CL NP PB RMD 1333; 1 ♀, same except 10 am, under flowering *Eucalyptus*, 13.i.1999, CL NP PB 1332; 2 ♂, Fowlers Gap Tank, on mud and *Eucalyptus* leaf litter at water edge in sun, 3–4 pm, 30°08'07"S, 141°39'49"E, 14.i.1999, CL NP PB 1310, 1311. Queensland: 2 ♂, Rotten Swamp near Tickalara, at *Eucalyptus* flowers, 28°38'03"S, 141°57'01"E, 4.i.1999, CL DY NP PB 1401–2 (UQIC); 1 ♂, same except 1403 (BMNH).

Other material examined. **New South Wales:** 1 ♂, Broken Hill [31°58'S, 141°27'E], *Eremophila* flowers, Oct. 1940, R.H.F., 655 (SAM); 1 ♂, 60 km S Cobar [31°30'S, 145°50'E], 16.iii.1985, K.C. Khoo, 258 (AM); 1 ♂, headless, Fowlers Gap Tank, on mud and *Eucalyptus* leaf litter at water edge in sun, 3–4 pm, 30°08'07"S, 141°39'49"E, 14.i.1999, CL NP PB 1312; 1 ♂, Gairdners Tank near Broken Hill, on flowering Compositae, 11am, 31°33'30"S, 141°39'12"E, 15.i.1999, CL NP PB 1240 (DJGC).

Northern Territory: 1 ♂, 27 km N by W of Alice Springs, 23°27'S, 133°50'E, 8.ix.1979, I.D. Naumann, 1188; 1 ♀, 56 km SE of Alice Springs [23°42'S, 133°52'E], 4.x.1978, D.H. Colless, 1187 (ANIC); 1 ♂, 2 ♀, 70 km N Alice Springs, 23°07'S, 133°52'E, on *Goodenia heterochila*, Museum of Victoria 1994/1995 Horn Centenary Invertebrate Survey, 5.iii.1995, K. Walker 519–21; 1 ♀, same except River Red Gum Site, Ormiston Gorge, 23°39'39"S, 132°43'26"E, ex Malaise trap, Oct 1994 522; 1 ♂, same except Wattle Tree Site, Ormiston, 23°40'53"S, 13°42'52"E, 518 (MV); 1 ♂, Palm Valley [24°04'S, 132°45'E], 1–31.x.1994, D. Matthews, 670 (NTM); 1 ♂, 29 km ESE of Uluru, 25°20'50"S, 131°21'50"E, direct search in Mulga ULURU-KATA TJUTA., A.N.C.A. Survey Site 8 (ULURU NO. 1), Museum of Victoria 1994/1995 Horn Centenary Invertebrate Survey, 14.iii.1995, J. Wainer 523; 1 ♂, Uluru [25°21'S, 131°01'E], Mar. 1995, J.W.I. 536 (MV). **Queensland:** 1 ♂, headless, Grey Ra.-Tiokalara [27°52'S, 143°09'E], 15.xi.1949, SP 192; 1 ♂, Nappa Merrie [27°36'S, 141°06'E], 7.xi.1949, SP 194; 1 ♂, Naryilco - Bransby [28°14'S, 142°04'E], 8.xi.1949, SP 193; 6 ♂, Nokundra-Grey Ra. [27°49'S, 142°35'E], 14.xi.1949, SP 186–91 (ANIC). **South Australia:** 1 ♀, Dalhousie Spring [26°21'S, 135°28'E], 14.ii.1911, G.T.Hill, 535 (MV); 3 ♀, 10 km NW Eru Junction, Great Victoria Desert [27°52'S, 130°22'E], 5–8.x.1976, G.F. Gross, J.A. Herridge, 650–2; 1 ♀, Middleback Homestead, Field Centre, 32°57'S, 137°24'E, *Scaevola* flowers, 22.xi.1983, J. Woodell, 654; 1 ♀, New Kalamurina Station, Warburton [27°54'S, 137°59'E], 10.iii.1972, E. Matthews, 653 (SAM). **Western Australia:** 1 ♀, 12.5 km SSE Banjiwarn Homestead, 27°42'S, 121°37'E, on flowers of *Scaevola* affin. *spinescens*, 316–6, 97/542, 22–28.ii.1980, T.F. Houston *et al.*, 493 (WAM); 1 ♂, 1 ♀, 8 km N Cue [27°26'S, 117°53'E], 9.iv.1971, E.F. Riek, 1186 1185 (ANIC); 1 ♀, Dedari [30°57'S, 121°09'E], A. Douglas, 486; 1 ♂, same except 48–211, 489; 2 ♀, same except 48–208, 48–210, 484, 488 (WAM); 2 ♀, Dedari, 40

miles W of Coolgardie [30°57'S, 121°09'E], BM1936–28, 11–21.i.1936, R.E. Turner, 1179–80 (BMNH); 1 ♂, Irrunytju Rockhole, Hinckley Range, 26°07'S, 128°58'E, 759, 97/547, 19–21.i.1990, T.F. Houston, M.S. Harvey, 496 (WAM); 1 ♀, Moirs Rock 42 km NNW of Salmon Gums, 32°39'S, 121°25'E, 1.i.1987, GAD, 14196 (GDCB); 1 ♂, Mt. Jackson [30°15'S, 119°16'E], A. Douglas, 485 (WAM); 2 ♀, Newmanns Rocks, 50 km W of Balladonia Motel, 32°06'S, 123°10'E, 1.i.1987, GAD, 14193, 14302; 2 ♀, same except 18.i.1986, 31.xii.1986, 14192, 14194 (GDCB); 2 ♂, 14 Km W Paynes Find, 29°15'S, 117°41'E, on flowers of *Eucalyptus*, 435–1, 97/543, 12.iii.1982, T.F. Houston, B. Hanich, 491–2; 1 ♂, 37 Km SW Youanmi, 28°45'S, 118°31'E, 437, 97/545, 13–14.iii.1982, T.F. Houston, B. Hanich, 495; 1 ♂, same except on flowers of *Acacia aneura*, 437–1, 97/546, 494; 1 ♂, 7.5 km E of Yuinmery Homestead, 28°34'S, 119°01'E, 310–1, Western Australian Museum, Dept. of Biological Survey Site YY Camp, 97/541, 11–19.ii.1980, T.F. Houston, *et al.*, 490; 1 ♂, Wave Rock nr Hyden, 32°27'S, 118°53'E, 10.i.1986, GAD, 14195 (GDCB); 1?, Wubin [30°06'S, 116°38'E], A. Douglas, 487 (WAM). **State Unknown:** 1 ♂, 195 (ANIC).

Munjua trigona Lambkin & Yeates

(Figs 22, 29, 49D, 53, 54B, 56F)

Holotype. 1 ♂, 'Wyperfield Nat Park, Vic. 8 Dec 1978, G. Daniels' 1462 (MV).

Paratypes. Victoria: 3 ♂, same as holotype [35°35'S, 142°00'E] 1460–1, 14164; 1 ♂, same as holotype except 7.xii.1978, 1463 (GDCB). New South Wales: 2 ♀, Round Hill Nature Res. [31°12'S, 150°01'E], 27.xii.1976, GD, 1458 14163 (GDCB).

Other material examined. **New South Wales:** 2 ♂, 6 mls [10 km] E Rankin's Springs [33°51'S, 146°16'E], 15.xii.1950, K.R. Norris, 226, 227 (ANIC). **South Australia:** 2 ♀, Lowan Station, 4 mls [6 km] S of Sherlock [35°19'S, 139°48'E], 27.xi.1954, L.J. Chinnick, 228, 230; 1 ♂, same except 5.xii.1954, 229 (ANIC); 1 ♂, Mt Hall, Eyre Peninsular [33°04'S, 134°29'E], 6.xii.1968, N. McFarland, 660 (SAM); 2 ♂, 3 ♀, 1?, 1122–7 (MM). **Victoria:** 1 ♂, 1 ♀, Inglewood [36°35'S, 143°52'E], 26.xi.1950, F.E. Wilson, 541, 539; 1 ♂, 1 ♀, same except 24–25.xi.1953, 540, 542 (MV). **Western Australia:** 1 ♀, 1 ml. [2 km] W of Boorabbin [31°12'S, 120°17'E], 45937, 6.xii.1953, J.H. Calaby 45937, 231 (ANIC); 1 ♂, Fraser Ra. [32°04'S, 122°48'E], 8.xi.1977, A. Atkins, 14165 (GDCB); 1 ♂, 22 km S Higginsville [31°45'S, 121°43'E], 10.xi.1977, D.H. Colless, 1019 (ANIC).

Muwarna stellifera (Walker) 1849

Syntypes ♀ 'N. Holland/ 44 4/ one of Walkers series so named EAW/ Syntype *Anthrax stellifer* Walker det. J.E. Chainey 1988' 1035 (BMNH).

♀ 'New Holland/ 47 leg./ one of Walkers series so named EAW/ Syntype *Anthrax stellifer* Walker det. J.E. Chainey 1988' 1036 (BMNH).

Other material examined. **South Australia:** 1 ♂, 1 ♀, 1121, 1120 (MM); 1 ♀, 45 km E of Kimba [33°09'S, 136°26'E], 1.xi.1989, A. Sundholm, J. Bugeja, 256 (AM); 1 ♀, Arno Bay, on flowering shrubs on coastal dunes [33°56'S, 136°35'S], 7.x.1953, H.F.L., 1195 (ANIC). **Victoria:** 1 ♀, Meridian Rd. S Benetook [34°23'S, 142°00'E], 28.xii.1950, J. Plant, 537 (MV). **Western Australia:** 1 ♀, K14209, 255 (AM); 1 ♂, Capel [33°33'S, 115°33'E], 47194, 2.i.1941, P.N.F. 694; 1 ♂, same except, 47196, Nov. 1942, 693 (WADA); 1 ♂, Cundardin [31°39'S, 117°14'E], 8.i.1924, G.H. Hardy, 315 (QM); 1 ♂, near Emu Rock, 53 km E of Hyden, 32°27'S, 119°25'E, on low heath plants, 282–3, 97/539,

8–10.xi.1979, T.F. Houston, 498 (WAM); 1 ♀, 13 km S of Grass Patch, 33°21'S, 121°43'E, 30.xii.1985, GAD, 14169 (GDCB); 1 ♀, ca. 7 km NW of Hamersley Inlet, 33°57'S, 119°54'E, 292, 97/540, 26.xi.1979, T.F. Houston, A. Chapman 499; 1 ♀, Kundip [33°41'S, 120°11'E], 52–374, 497 (WAM); 1 ♀, Lake Violet, 6 mi. S of Wiluna [26°39'S 120°16'E], Biol Note A-4 23–27.ix.1969, H.E. Evans 1514 (ANIC); 1 ♂, 1 ♀, Neerabup Lake Natl Park 31°38'25"S 115°43'18"E, 7.xii.1999, PB, JS 1716 1720 (WAM); 1 ♂, 1 ♀, same except 1718–9 (BPBM); 1 ♂, 1 ♀, same except 1717 1721 (DJGC); 1?, Waroona [32°51'S, 115°55'E], 29.xi.1909, G.F. Berthoud, 219 (ANIC).

Muwarna vitreilinearis Lambkin & Yeates

Holotype. 1 ♂, 'AUSTRALIA: VICTORIA: Hattah-Kulkyne National Park, 300 m, Up Nowing Track, On Low Hill In Mallee With *Triodia* Understory; 34°41'049" S, 142°16'26" E; 15.i.1999; J.&A. Skevington' 1249 (MV).

Paratypes. Victoria: 3 ♂, 2 ♀, same as holotype 1245–8 1251 (UQIC); 1 ♂, same except 1250 (BMNH); 2 ♀, same except near Lenbrook Plain, 34°49'06"S 142°22'36"E, 16.i.1999 1241–2 (UQIC).

Other material examined. **Victoria:** 1 ♂, Lake Hattah [34°45'S, 142°16'E], G.W.A. 1537 (ANIC); **Western Australia:** 1 ♂, Moirs Rock 42 km NNW of Salmon Gums, 32°39'S, 121°25'E, 3.i.1986, GAD, 1495 (GDCB).

Palirika decora Lambkin & Yeates

Holotype. ♂, 'AUSTRALIA: QLD: Carnarvon National Park: Mt Moffatt Sect., Mt Moffitt summit: 25°03'35"S 148°02'38"E: 2.xii.1997, J. Skevington, C. Lambkin S.Evans' 880 (QM).

Paratypes. Australian Capital Territory: 2 ♂, Mt Ainslie [35°16'S, 149°10'E], 1.i.1994, DY 324–5 (UQIC); 3 ♂, Tuggeranong Hill, Conder, 35°27'S, 149°06'E, on hilltop, 855m, 4.ii.1997, M.G. Jefferies 430–2; 1 ♂, Wanniasa Hills, near Farrer, 35°23'S, 149°07'E, 19.i.1997, M.G. Jefferies 434; 1 ♂, same except 31.i.1997 433 (MJC). Queensland: 2 ♂, same as type except 881–2; 2 ♂, same except 25°04'S 148°03'E, 1097 m, 23.xi.1995, DY C.J. Burwell 319–20; 1 ♀, Carlisle Island [20°47'S, 149°17'E], 10–20.xii.1986, S.R. Monteith 322 (UQIC); 1 ♀, Hayman Is. [20°03'S, 148°53'E], 17.x.1950, R. Dobson 56; 1 ♀, same except 24.x.1950, 58 (ANIC).

Other material examined. **Queensland:** 1 ♂, same as type except 27.xi.1997, 707; 1 ♂, Ballon State Forest, Turkey Mountain, 26°20'49"S, 150°52'08"E, summit, 6.i.1998, CL 966; 1 ♀, Carlisle Island [20°47'S, 149°17'E], 9–17.xii.1986, S.R. Monteith, 323 (UQIC); 1 ♀, Hayman Is. [20°03'S, 148°53'E], 18.x.1950, R. Dobson 57 (ANIC); 1 ♂, Mackay [21°09'S, 149°1'E], 94–61., G. Turner, 1033 (BMNH); 1 ♂, Westwood [23°37'S, 150°09'E], 11.xi.1923, A.N. Burns, 543 (MV). **State Unknown:** 1 ♀, 'N. Holl' 1138 (HOPE).

Palirika anxios Lambkin & Yeates

Holotype. ♂, Queensland: 'Westwood, 30–11–27' 1657 [23°37'S, 150°09'E] (QM).

Paratype. Queensland: 1 ♂, Port Denison [20°03'S, 148°15'E] 59 (ANIC).

Other material examined. **Queensland:** 1 ♂, Westwood [23°37'S, 150°09'E], 2.ii.1924, A. Burns 174 (ANIC).

Palirika basilikos Lambkin & Yeates

Holotype. 1♂, 'King Rocks, 31 km NE of Hyden, WA, 32°19'S 119°10'E, 11 Jan 1986, G. and A. Daniels' 14143 (AM).

Paratypes. Western Australia: 1♀, Dedari [30°57'S, 121°09'E], 97/552, 23–25.i.1962, A.M. Douglas, L.N. McKenna, 502 (WAM); 1♂, Lake Douglas 12 km SW of Kalgoorlie [30°45'S 121°28'E], 8.i.1986, A.J. Graham 14142 (GDCB); 1♂, 100 km SE of Southern Cross [31°46'S 118°34'S], 31.i.1993, T. Lundstrom 26582, 1772 (WAM).

Other material examined. **Western Australia:** 1♀, 1 km W Boorabbin Rock, 31°12'S 120°17'E, on flowers of *Eucalyptus leptopoda*, 11:00 hrs–11:45 hrs, 9.i.1985, T.F. Houston, 609–1 97/559, 503 (WAM); 1♂, Dedari [30°57'S 121°09'E], H.W. Brown 47199, 696 (WADA); 1♀, same except Jan. 1948, AD. 544 (MV); 1♀, 23 km W Marvel Lock cross-roads [31°28'S, 119°29'E], 47190, 23.i.1975, L.M. O'Halloran 697 (WADA); 1♂, Mullewa [28°32'S, 115°30'E], W.D. Dodd, 649 (SAM); 3♂, Mt Jackson [30°15'S 119°16'E], A. Douglas 182–4 (ANIC); 1♀, Yellowdine [31°18'S, 119°39'E], 97/551, 21.i.1962, A.M. Douglas, L.N. McKenna 501 (WAM). **State Unknown:** 545 (MV).

Palirika blackdownensis Lambkin & Yeates

Holotype. ♂, 'Blackdown Tableland, Expedition Range, CQld. 8 Jan 1976, G. Daniels' 1437 (AM).

Paratypes. Queensland: 1♂, same as holotype 1436; 1♂, same except 7.i.1976 14141 (GDCB).

Palirika bouchardi Lambkin & Yeates

Holotype. ♂, 'AUSTRALIA: QLD: 77 km S Noccundra, Wompi Ck, 28°14'20"S 142°05'45"E, at *Eucalyptus* flowers, 3.i.1999: C. Lambkin D. Yeates, N. Power P. Bouchard' 1409 (QM).

Paratypes. Queensland: 7♂, same as type 1410–16; 1♂, same as type except 20 km S Noccundra, 27°56'51"S, 142°32'13"E, 1422; 3♂, plateau near Bundeena, at *Eucalyptus* flowers, 3–5pm, 27°21'41"S, 142°28'36"E, 200m, 7.i.1999, CL DY NP PB 1266 1271 1278 (UQIC); 2♂, same except 1274 1277 (BMNH); 1♂, same except 1280 (DJGC); 1♀, Grey Range near Tickalara, hilltopping, 28°39'04"S, 142°09'10"E, 4.i.1999, CL DY NP PB 1408; 1♂, 1♀, Rotten Swamp near Tickalara, at *Eucalyptus* flowers, 28°38'03"S, 141°57'01"E, 4.i.1999, CL DY NP PB 1404–5 (UQIC).

Other material examined. **New South Wales:** 1♂, Fowler's Gap Reserve Station, 31°05'S, 141°42'E, 29.xi.-2.xii.1981, I.D. Naumann, 1021 (ANIC); 1♀, Fowlers Gap Tank, on mud and *Eucalyptus* leaf litter at water edge in sun, 3–4 pm, 30°08'07"S, 141°39'49"E, 14.i.1999, CL NP PB 1304; 1♀, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL NP PB RMD 1337 (UQIC). **Northern Territory:** 1♂ Tennant Creek [19°33'S, 134°14'E], 1967, B.S. Trueman, 647 (SAM). **Queensland:** 9♂, 1♀, plateau near Bundeena, at *Eucalyptus* flowers, 3–5pm, 27°21'41"S, 142°28'36"E, 200m, 7.i.1999, CL DY NP PB 1268 1272–3 1275–6 1281–5 (UQIC); 2♂, same except 1270 1279 (BPBM); 1♀, McPherson Ra. [27°05'S, 141°54'E], 12.xi.1949, SP 170 (ANIC); 1♂, 73 km E Quilpie, at *Eucalyptus* flowers, 2–3 pm, 26°37'48"S, 145°00'04"E, 29.xii.1998, CL NP PB 1428; 1♂, Rotten Swamp near Tickalara, at *Eucalyptus* flowers, 28°38'03"S, 141°57'01"E, 4.i.1999, CL DY NP PB 1407; 1♂, Woorbil Ck near Quilpie, at *Eucalyptus*, 26°37'24"S, 144°14'27"E, 8.i.1999, CL NP PB 1260 (UQIC). **Western Australia:** 1♀, Carnarvon [24°53'S, 113°40'E], 173 (ANIC); 6♂, hill, 66 km S Mt Magnet, Great Northern Hwy, 28°37'35"S, 117°46'48"E, 14.xii.1999, CL K. Evans, PB JS K. Bell 1726–30 1736 (UQIC); 4♂, same except 1731–33 1793 (WAM); 2♂, same except 1734–35 (BMNH); 2♂, same except

1737–38 (DJGC); 1 ♀, Slate Springs, 160 mi.[250] km NE of Meekatharra [24°58'S, 120°17'E], 97/553, 9.xii.1964, B.H. Atkins 500 (WAM); 1 ♀, 80 km W Roy Hill [22°36'S, 119°57'E], 8.iv.1971, E.F. Riek 1020 (ANIC); 1 ♀, Nicol Bay Dist. [20°39'S, 116°52'E], 98–168, Clement, 1034 (BMNH).

Palirika cyanea Lambkin & Yeates

Holotype. ♂, 'AUSTRALIA: QLD: plateau near Bundeena: 200m, at *Eucalyptus* flowers: 3–5pm, 27°21'41"S 142°28'36"E, 7.i.1999: C. Lambkin D. Yeates N. Power P. Bouchard' 1288 (QM).

Paratypes. Queensland: 3 ♂, same as holotype 1269 1286–7; 1 ♂, 1 ♀, 20 km S Noccundra, at *Eucalyptus*, 27°56'51"S, 142°32'13"E, 3.i.1999, CL DY NP PB 1423 1418; 1 ♀, Ridgepole Waterhole, 24 km ESE of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°40'15"S, 138°22'15"E, 180 m, 23.iv.1995, GD MS 321 (UQIC).

Other material examined. **Northern Territory**: 1 ♀, Carpentaria Highway, 45 km E 'Hi-Way Inn' (Stuart Highway), 11.i.1998, A. Zwick, 1199 (UQIC). **Western Australia**: 1 ♀, Quandong, 30 km N of Broome [17°58'S, 122°14'E], 29.iii.1986, D.G. Knowles, 14144 (GDCB); 1 ♀, Cape Range [21°58'S, 114°02'E], 47189, Apr. 1970, P.N. Forte, 698 (WADA).

Palirika danielsi Lambkin & Yeates

Holotype. ♂, 'sandstone hilltop, 32 km S Theodore, Qld, 25°10'S 150°00'E, 15 Jan 1991, G. and A. Daniels' 14146 (AM).

Paratypes. Queensland: 2 ♂, same as holotype except 31.xii.1990, 14145 14154 (GDCB).

Other material examined. **Queensland**: 1 ♂, Isla Gorge Natl Pk, 25°11'S, 149°58'E, 30.xii.1990, GAD 14147 (GDCB).

Palirika marginicollis (Gray) 1832

Lectotype here designated. ♀, (No label data, see comments) 1140 (HOPE).

Snytype. 1 ♀, 1139 (HOPE).

Other material examined. **New South Wales**: 1 ♀, Evelyn Ck, Milparinka, on sand beneath flowering *Eucalyptus*, 29°44'02"S, 141°53'02"E, 11.i.1999, CL NP PB 1253; 1 ♂, Sturt Natl Pk, Fromes Ck near Binerah Well, at *Eucalyptus* flowers, 29°06'40"S 141°38'18"E, 10.i.1999, CL NP PB 1254; 1 ♂, 2 ♀, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, at *Eucalyptus* flowers, 1–4 pm, 29°22'33"S, 142°02'11"E, 12.i.1999, CL NP PB 1334–6 (UQIC). **Northern Territory**: 1 ♀, Melville Island, Taracumbi Falls, 11°36'S, 130°43'E, 5.x.1996, Brown & Dally, 671 (NTM); 1 ♂, Mt Burrell, Daly River Road, 153°30'E, 150°03'E, 08.ix.1992, C. Meyer 8425 (GDCB). **Queensland**: 1 ♂, 73 km E Quilpie, at *Eucalyptus* flowers, 2–3 pm, 26°37'48"S, 145°00'04"E, 29.xii.1998, CL NP PB 1429 (UQIC); 1 ♂, Homestead, Townsville [19°16'S, 146°49'E], Mrs. Black 1660 (QDPI); 1 ♂, 1 ♀, Port Denison [20°03'S, 148°15'E] 171–2 (ANIC); 1 ♂, Rotten Swamp near Tickalara, at *Eucalyptus* flowers, 28°38'03"S, 141°57'01"E, 4.i.1999, CL DY NP PB 1406 (UQIC). **Western Australia**: 1 ♂, 1 ♀, Pinjarra [32°38'S, 115°52'E], E. Goerling 176–7 (ANIC). **State Unknown**: 1 ♀, New Holland, 59–57 Vigors Coll 1032; 1 ♀, New Holland, 14/ 488 a 1031 (BMNH); 3 ♀, 1117–9 (MM).

Palirika viridula Lambkin & Yeates

Holotype. ♂, 'QLD: Baldy Top near Quilpie: hilltopping, 26°38'27"S 144°13'31"E, 8.i.1999: C.

Lambkin D. Yeates N. Power P. Bouchard' 1262 (QM).

Paratypes. New South Wales: 5 ♀, Fowlers Gap Tank, on mud and *Eucalyptus* leaf litter at water edge in sun, 3–4 pm, 30°08'07"S, 141°39'49"E, 14.i.1999, CL NP PB 1305–9; 1 ♂, Peak Hill near Milparinka, hilltopping, 11 am, 29°47'26"S, 141°55'55"E, 13.i.1999, CL NP PB 105 m 1323 (UQIC). Queensland: 1 ♂, plateau near Bundeena, at *Eucalyptus* flowers, 3–5pm, 27°21'41"S, 142°28'36"E, 7.i.1999, CL DY NP PB 200m 1267; 1 ♂, stony bluff near Nappa Merrie, hill topping, 27°46'42"S 141°22'24"E, 5.i.1999, 110 m, CL DY NP PB 1398; 1 ♂, Koolongoo Ck near Orientos, at *Eucalyptus*, 27°58'23"S, 141°33'33"E, 5.i.1999, CL DY NP PB 1399 (UQIC).

Other material examined

New South Wales: 1 ♀, Broken Hill [31°58'S, 141°27'E], 10.i.1983, D. Blore 275 (ASCT).

Palirika whyalla Lambkin & Yeates

Holotype. South Australia: ♂, 'Whyalla, 7–2-1952, Hans Mincham' [33°02'S, 137°35'E] 640 (SAM).

Paratypes. South Australia: 1 ♀, same as type except 646; 1 ♂, same except 31.i.1954, H.M. 645 (SAM); 1 ♀, Whyalla [33°02'S, 137°35'E], 10.ii.1951 238 (AM); 1 ♂, same 644 (SAM).

Other material examined. **South Australia:** 1 ♀, Port Augusta [32°30'S, 137°46'E], Feb.1984, Bates 641; 1 ♀, Whyalla [33°02'S, 137°35'E] 1952, H.M. 642 (SAM). **Western Australia:** 1 ♀, Kuri Bay, 200 km N Derby [15°29'S, 124°31'E], 44779, 2.xii.1988, DY 1674 (WADA); 1 ♂, Mt Jackson [30°15'S, 119°16'E], A. Douglas, 175 (ANIC).

Wurda emu Lambkin & Paramonov

Holotype. 1 ♂, 'Wilcannia - Mt Boppy, N.S.W. 24.XI.1949, S.J.K. Paramonov' [31°32'S, 146°17'E] 91 (ANIC).

Paratypes. New South Wales: 2 ♂, 1 ♀, Fowler's Gap [31°05'S, 141°44'E], 19.xi.1949, SP 82–4; 1 ♀, Fowler's Gap Reserve Station, 31°05'S, 141°42'E, 29.xi.-2.xii.1981, Malaise trap, I.D. Naumann, J.C. Cardale, 1518 (ANIC); 1 ♂, Round Hill Fauna Res. [31°12'S, 150°01'E], 23.x.1977, GD 1482 (GDCB); 1 ♀, Sturt Natl Pk, Fromes Ck near Binerah Well, at *Eucalyptus* flowers, 29°06'40"S, 141°38'18"E, 10.i.1999, CL NP PB 1258; 1 ♂, same except stony bluff near Mt King Tank, hilltopping, 29°09'35"S, 141°45'31"E, 10.i.1999, CL NP PB 1261 (UQIC); 1 ♀, Wilcannia [31°34'S, 143°22'E], 23.xi.1949, SP 74; 1 ♂, 1 ♀, 40 mls [64 km] E Wilcannia [31°34'S, 142°42'E], 22.xi.1949, SP 94 97 (ANIC). South Australia: 1 ♀, Gammon Ranges Natl Pk, Lake Frome Rd, 15km E Balcanoona HS [30°24'S, 140°01'E], 13.x.1997, CL JS SW 809; 1 ♀, same except south end Weetootla Gorge, 30°29'S, 139°15'E, dry creek bed, 11.x.1997, CL JS SW 791 (UQIC).

Other material examined. **New South Wales:** 1 ♀, nr Bourke [30°05'S, 145°56'E], 25.x.1949, SP 69; 2 ♂, 1 ♀, Bogan River [33°00'S, 148°02'E], 1558–60 (ANIC); 1 ♀, Canowindra [33°34'S, 148°40'E], 9.i.1955, F.E. Wilson, 550 (MV); 2 ♀, 3 ♂, Clifton Downs - Mt Wood [29°37'S, 142°34'E], 1.xi.1949, SP 77–81; 2 ♀, 3 ♂, Cobham Lake [30°09'S, 142°05'E], 18.xi.1949, SP 99–103; 1 ♂, 3 ♀, 1?, Fowler's Gap [31°05'S, 141°44'E], 19.xi.1949, SP 85–9; 1 ♀, Fowler's Gap Reserve Station, 31°05'S, 141°42'E, 29.xi.-2.xii.1981, J.C. Cardale, 1519; 1 ♂, Mt Boppy nr Cobar [31°32'S, 146°17'E], 25.xi.1949, SP 210; 2 ♀, Mt Wood - Tibooburra [29°20'S, 142°10'E], 2.xi.1949, SP 70–1 (ANIC); 2 ♂, Peak Hill near Milparinka, hilltopping, 11 am, 29°47'26"S, 141°55'55"E, 105 m, 13.i.1999, CL NP PB 1324 13262 (UQIC); 2 ♂, Salisbury Downs - Clifton Downs [29°56'S, 142°43'E], 31.x.1949, SP 75–6 (ANIC); 1 ♀,

Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL NP PB RMD 1340 (UQIC); 2 ♀, 2 ♂, Wanaaring [29°42'S, 152°52'E], 29.x.1949, SP 105–7 1601; 1 ♀, Warrego R. - Wanaaring [29°42'S, 152°52'E], 28.xi.1949, SP 72; 1 ♀, Wilcannia [31°34'S, 143°22'E], 23.xi.1949, SP 73; 4 ♂, 2 ♀, 40 mls [64 km] E Wilcannia [31°34'S, 142°42'E], 22.xi.1949, SP 92–3 95–6 98 200; 1 ♀, Wilcannia - Mt Boppy [31°32'S, 146°17'E], 24.xi.1949, SP 90 (ANIC). **Northern Territory:** 1 ♂, 1 ♀, Frewena [19°26'S, 135°24'E], 17.iii.1954, K.G. Brown, 25–6 (ANIC). **Queensland:** 1 ♀, nr Birdsville Racetrack [25°54'S, 139°21'E], 1.ix.1997, CL JAS A. Zwick, SW 913; 1 ♂, Camoweal [20°03'S, 137°01'E], sweeping, 18.viii.1974, J. Howard, 1507 (UQIC); 3 ♀, Durham Downs - Nokandra [27°05'S, 141°54'E], 13.xi.1949, SP 66–8 (ANIC); 1 ♂, 1 ♀, Dynevor Lake, 88 km W of Eulo, 28°05'S, 144°12'E, 27.ix.1991, GD 1451–2; 1 ♀, same except 28.ix.1991, GD 1455 (GDCB); 1 ♂, Grey Range, Tiokalara [27°52'S, 143°09'E], 15.xi.1949, SP 63; 3 ♂, 1 ♀, McPherson Ra. [Durham Downs] [27°05'S, 141°54'E], 12.xi.1949, SP 7 60–2; 1 ♂, 1 ♀, new Naryilco - Orientos [28°04'S, 141°32'E], 4.xi.1949, SP 65 11(ANIC); 1 ♂, 20 km S Noccundra, under *Eucalyptus*, 27°56'51"S, 142°32'13"E, 3.i.1999, CL DY NP PB 1425 (UQIC); 1 ♂, Orientos - Nappa Merrie [28°04'S, 141°32'E], 5.xi.1949, SP 64 (ANIC); 3 ♂, Paroo Riv. Eulo, 28°09'S, 145°02'E, on *Pluchea baccharoides*, 150 m, 23.ix.1991, GD 1447–8 14157 (GDCB); 1 ♂, 3 km W Windorah [25°25'S, 142°38'E], 5.ix.1997, CL JAS A. Zwick, SW 772; 1 ♂, 91.2 km W Windorah, 27°21'45"S, 141°46'38"E, 31.viii.1997, CL JAS A. Zwick, SW, 909 (UQIC); 1 ♂, same except 908 (BMNH); 1 ♂, same except 912 (DJGC). **South Australia:** 1 ♀, 4.5 km NE Cheesman Peak, sand dune PIL0501, 12°51'49"S, 132°42'35"E, Malaise trap, 22–25.x.1996, Pitjantjatjara Lands Survey, 1790 (SAM); 5 ♂, Arno Bay [33°55'S, 136°34'E], on flowering shrubs on coastal dunes, H.F. Lower coll. Waite Instit., 7.x.1953, H.F.L., 1564–8 (ANIC); 1 ♂, Balcanoona-Frome Downs Rd, 17.3 Km S Balcanoona HS, 30°40'07"S, 139°19'58"E, hilltop, 14.x.1997, CL JS SW 818; 1 ♀, Gammon Ranges Natl Pk, 30°28'S, 139°13'E, Malaise trap, 12.x.1997, CL JS SW 821; 2 ♂, 6 ♀, same except Lake Frome Rd, 15km E Balcanoona HS [30°24'S, 140°01'E], 13.x.1997, CL JS SW 800 803–4 806–7 810 813–4; 1 ♀, same except north end Weetootla Gorge, 30°28'36"S, 139°13'13"E, dry creek bed, Malaise trap, 12.x.1997, CL JS SW 781; 1 ♀, same except south end Weetootla Gorge, 30°29'S, 139°15'E, dry creek bed, 11.x.1997, CL JS SW 787; 1 ♂, 3 ♀, same except 13.x.1997, CL JS SW 782–4 788 (UQIC); 1 ♀, Lake Eyre, N Campbell's Causeway, Sulphur Peninsular, Madigan Gulf [28°50'S, 137°32'E], 29.x.1966, G.F. Gross, 637; 1 ♀, Middleback Homestead, home dam, 32°57'S, 137°24'E, *Eremophila* flowers, 23.xi.1983, J. Woodell, 609 (SAM); 2 ♂, 3 ♀, nr Red Well, Lake Torrens, 31°27'57"S, 138°18'30"E, dry creek bed, 10.x.1997, CL JAS SW 794 796–8 1007 1009 (UQIC); 1 ♀, same except 823 (BPBM); 1 ♂, Womba Ck, Brachina-Hawker Rd, 31°28'S, 138°25'E, dry creek bed, 10.x.1997, CL JAS SW 822 (UQIC). **Western Australia:** 1 ♀, Millstream [21°35'S, 117°04'E], 11.iv.1971, D.H. Colless, 1592; 2 ♀, same except 12.iv.1971, 1588 1591; 2 ♀, same except 26.x.1970, D.H. Colless, 1586–7 (ANIC); 2 ♀, Minilya [23°51'S, 113°58'E], 53–1250 53–1251, 446–7 (WAM); 1 ♀, 10 W Mullewa [28°32'S, 115°30'E], 2.xi.1958, E.F. Riek, 20; 1 ♂, 1 ♀, 10 mls [16 km] W of Whim Ck [20°50'S, 117°50'E], 20.iv.1963, L. J. Chinnick, 109–10; 1 ♀, same except 26 mls [42 km] NW of Wittenoom [27°22'S, 116°17'E], at light, 112 (ANIC); 2 ♀, Woodstock Station Homestead, 21°37'00"S, 119°01'24"E, flying amongst field of flowers, 97/567, 23.ix.1988, B.P. Hanich, 449 467 (WAM). **State Unknown:** 1 ♀, canteen room, 17.xii.1927, 24 (ANIC).

Wurda impatientis Lambkin & Yeates

Holotype. 1♂, 'AUSTRALIA: WA: Melaleuca Park, Yongka Picnic Area, *Banksia* Heath: 19.xii.1999, 31°40'36"S, 115°54'07"E, J. & A. Skevington', 1748 (WAM).

Paratypes. Western Australia: 1♂, same as type 1749; 4♂, same as type except 29.xii.1999, 1753 1757–8 1761 (WAM); 1♂, Gnangara [31°48'S, 115°52'E], Feb., Perry, 47197, 511 (WADA); 1♂, Lake Bindiar, 31°28'S, 115°45'E, 60 m, at flowers among *Banksia* scrub, 7.ii.1981, M.J. Smart, 1114; 1♂, Cypress Rd, Pinjar, 31°35'S, 115°48'E, 60 m, at flowers among *Banksia* scrub, 26.i.1981, M.J. Smart, 1116; 1♀, same except Perry Rd, 31°35'S, 115°49'E, 31.i.1981, 1105 (ANIC).

Other material examined. **South Australia:** 1♂, 1♀, 31 km NW Renmark, Calpernum Station, Bookmark Biosphere Reserve, Invertebrate Study, 33°59'S, 140°30'E, mallee, Malaise trap, 7.xi.-13.xii.1995, K.R. Bullen, 703–4 (ANIC); 1♂, Orroroo [32°44'S, 138°37'E], Gray 607 (SAM). **Western Australia:** 1♂, same as type 1750; 5♂, same as type except 29.xii.1999, 1754–1756 1759–60 (UQIC); 1♂, Applecross [32°01', 115°50'], 21.i.1940, K.R. Norris, 185 (ANIC); 1♀, Military Rd, near Barragon Lake, 31°22'S, 115°42'E, at flowers among *Banksia* scrub, 40 m, 7.ii.1982, M.J. Smart, 1101 (MSC); 1♀, Beverley [32°07'S, 116°56'E], 1539; 1♀, 16 km SSE Carnarvon [24°53'S, 113°40'E], 16.x.1970, D.H. Colless, 1548; 2♀, Fremantle [32°03'S, 115°44'E], 3.ii.1935, K.R. Norris, 164–5; 1♂, Gnangara [31°48'S, 115°52'E], Feb. 1930, Perry, 47180 512; 1♂, same except Dec., O'Connor 47148, 513 (WADA); 2♀, Cypress Rd, Pinjar, 31°35'S, 115°48'E, at flowers among *Banksia* scrub, 60 m, 3.ii.1982, M.J. Smart, 1103–4; 2♂, 3♀, Lake Bindiar, 31°28'S, 115°45'E, 60 m, at flowers among *Banksia* scrub, 7.ii.1981, M.J. Smart, 1102 1107–8 1112–3; 1♂, near Lake Gnangara, 31°48'S, 115°52'E, 20.ii.1982, M.J. Smart, 1115 (MSC); 1♂, Moirs Rock 42 km NNW of Salmon Gums, 32°39'S, 121°25'E, 3.i.1986, GAD, 1496 (GDCB); 1♀, S. Perth [31°57'S, 115°51'E], C.J. Wainwright Collection, BM1948–488, Grant Watson per Janson, 1175 (BMNH); 1♂, Welshpool [32°00'S, 115°55'E], Jan., D. Susan, 47185 517 (WADA); 1♀, 70 mls [113 km] E of Wiluna [26°36'S, 121°21'E], 6362, 10.x.1960, Chinnick, McCabe, Corby, 167 (ANIC).

Wurda montebelloensis Lambkin & Yeates

Holotype. ♀, 'HERMITE ID., Monte Bello Islands, 12. November, 1953. T.G. Campbell' [20°28'S, 115°31'E] 44 (ANIC). C

Paratypes. Western Australia: 1♂, 1♀, same as type 42–3; 1♀, Kununurra & vic. [15°47'S, 128°44'E], Biol Notes A-259, A-443, 14–16.ix.1972, Evans, Matthews, 1576; 1♂, 12 mls NNW of Norseman [32°12'S, 121°47'E], 7.xii.1953, J.H. Calaby, 120 (ANIC). Queensland: 1♀, Murrays Spring, 7 km W of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°35'15"S, 138°04'28"E, 200 m, 21.iv.1995, GD MS, 354 (UQIC).

Other material examined. **Northern Territory:** 1♂, 2 km N of Katherine, 14°26'S, 132°25'E, 29.xii.1992, GAD 8423 (GDCB); 1♂, Mooroolga Island, 11°57'S, 135°04'E, 7.vi.1996, G.R. Brown, 681 (NTM); 2♂, 2♀, West Island, Edward Pellow Group [15°36'S, 136°33'E], 20.iv.1976, D.H. Colless, 1607 1609 1611 1613 (ANIC); 1♂, Woodah Isle [13°26'S, 136°09'E], N.B. Tindale, 606 (SAM). **Queensland:** 1♀, Carnarvon Natl Park, Mt Moffatt Section, Western Branch of Maranoa River, 25°08'22"S, 147°50'37"E, 660 m, Malaise trap, 16–26.xi.1995, MI S.D. Gaimari, 333; 1♂, Mica Creek, 8 ml. [13 km] S of Mt Isa [20°44'S, 139°29'E], on *Tristania grandiflora*, 20.iii.1973, E.M. Exley, 358 (UQIC); 1♂, Orientos-Nappamerrie [28°04'S, 141°32'E], 5.xi.1949, SP 38 (ANIC); 1♀, Ridgepole

Waterhole, 24 km ESE of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°40'15"S, 138°22'15"E, 180 m, 8.iv.1995, GD MS 353 (UQIC). **South Australia:** 1 ♂, 1134 (MM); 1 ♀, Blanche Town [34°21'S, 139°37'E], 26.xii.1966, Z. Liepa, 1629 (ANIC); 1 ♀, Scorpion Springs CP, along eastern boundary fence [35°30'S, 140°55'E], 17.xii.1983, Museum Party, 603 (SAM). **Victoria:** 2 ♀, Fernshaw [37°36'S, 145°38'E], 547–8 (MV). **Western Australia:** 1 ♂, Broad Arrow [30°27'S, 121°20'E], on *Schinus molle*, 2.ii.1973, E.M. Exley, 356 (UQIC); 1 ♀, Burrup Peninsular, 20°37'S, 116°47'E, at flowers, 7.xi.1982, M.J. Smart, 1111 (MSC); 1 ♂, Cossack [20°41'S, 117°11'E], 1384, BM 91–82, 1172 (BMNH); 3 ♂, hilltop, Little Lagoon near Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, CL K. Evans, PB JS K. Bell, 1688–9 1693; 1 ♂, hill, 66 km S Mt Magnet, Great Northern Hwy, 28°37'35"S, 117°46'48"E, 14.xii.1999, CL K. Evans, PB JS K. Bell, 1740 (UQIC); 1 ♀, Kununurra & vic. [15°47'S, 128°44'E], Biol Notes A-259, A-443, 14–16.ix.1972, Evans, Matthews, 1540 (ANIC); 1 ♂, Mt Yokine [31°53'S, 115°52'E], 6.i.1957, I.M., 569 (MV); 1 ♀, 6 km N Winning HS, 23°06'S, 114°33'E, 30.iii.1971, E.F. Riek, 1572 (ANIC). **State Unknown:** 1 ♀, K36814, K.G.Q., 263; 1 ♂, K36814, 267 (AM); 1 ♂, 1135 (MM).

Wurda norrisi Lambkin & Yeates

Holotype. 1 ♂, 'DRUMMOND COVE, W. AUST, 19.xi.1973, N. MCFARLAND' 47161 283 (WADA).

Paratypes. Western Australia: 3 ♀, same as type except 16.xi.1973, 47173 47176 47178, 280 284–5; 1 ♀, Drummond Cove, same except 18.xi.1973, 47171 286; 1 ♀, same except 7 ml N Geraldton, upon landing wings are fluttered many times, 25.xi.1974, 47175, 869 (WADA); 1 ♂, Fremantle [32°03'S, 115°44'E], 1.i.1935, K.R. Norris, 160; 1 ♂, Lesmurdie [31°57'S, 115°51'E], 24.xii.1934, K.R. Norris, 166 (ANIC).

Other material examined. **Victoria:** 1 ♀, 20 km N of Hattah [34°46'S, 142°16'E], 6.xii.1978, GD 14212 (GDCB). **South Australia:** 1 ♂, Kimba [33°08'S, 136°25'E], 29.xi.1958, I.F.B. Common, 1 (ANIC). **Western Australia:** 3 ♂, same as type except 16.xi.1973, 47170 47174 47177, 276 281–2 (WADA); 1 ♀, Applecross [32°01'S, 115°50'E], 29.i.1940, K.R. Norris, 237 (ANIC); 1 ♂, Ax[ford], 27°56'05"S, 122°54'41"E, D205, 47162, 15.xi.1972, N. McF., 961; 1 ♀, Bayswater [31°55'S, 115°55'E], 47145, 15.i.1969, P. Lawrence, 735; 1 ♂, Bayswater [31°55'S, 115°55'E], 47169, 31.x.1969, P.J. Lawrence, 278 (WADA); 1 ♀, Bullsbrook, 2 m. N Pierce [31°40'S, 116°01'E], BM1966–325, 13.i.1966, O.W. Richards, 1168 (BMNH); 1 ♂, Drummond Cove dune near Geraldton, 25°39'59"S, 114°36'45"E, 11.xii.1999, CL K. Evans, PB JS K. Bell, 1714 (UQIC); 1 ♀, Exmouth, 8 km S lighthouse, 22°01'S, 114°07'E, 11.ix.1979, L.P. Kelsey, 1785 (WAM); 1 ♀, Fremantle [32°03'S, 115°44'E], 26.i.1934, K.R. Norris, 232; 2 ♂, 4 ♀, same except 28.i.1935, K.R. Norris, 161–3 233–5; 1 ♀, same except 9.ii.1935, 236 (ANIC); 3 ♂, 1 ♀, 5–6 mi. NNE of Geraldton, Glenfield Dist., Beatie Rd. [28°46'S, 114°37'E], 9.xi.1973, N. McFarland, 1190–3 (BPBM); 3 ♂, 2 ♀, Gnangara [31°48'S, 115°52'E], Dec., O'Connor, 47143 47151 47153 47179 47191, 318 445 956 958–9; 6 ♀, same except Feb. 1930, Perry, 47134 47157 47164 47167 47172 47195, 287–90 316–7; 2 ♀, Inglewood, Swan R. [27°43'S, 118°44'E], Feb., B.A. O'Connor, 47155 47181, 599 738 (WADA); 1 ♀, Kalbarri [27°42'S, 114°12'E], 97/570, 10–17xii.1976, L.E. Kock, 458 (WAM); 1 ♀, Meekatharra - Billiluna Pool [19°51'S, 127°29'E], Apr.1930-Aug.1931, Canning Stock Route Expedition, 657 (SAM); 1 ♂, Mt Yokine [31°53'S, 115°52'E], 26.xii.1956, I.M., 579 (MV); 1 ♀, 70–75 km ENE of Norseman [31°58'S, 122°27'E], 220, 97/560, 10–16.xi.1978, T.F.

Houston *et al.*, 479 (WAM); 3♂, hill, North West Coastal Hwy, 106 km N Northampton, 27°27'19"S, 114°41'28"E, 13.xii.1999, CL K. Evans, PB JS K. Bell, 1710–1 1797; 1♀, same except S Northampton, 29°32'23"S, 115°12'24"E, 11.xii.1999, CL K. Evans, PB JS K. Bell, 1713 (UQIC); 1♀, Pearce [31°40'S, 116°01'E], 54–167, A. Douglas, 510 (WAM); 1♀, Swan River [31°45'S, 116°04'E], L.J.Newman, 47152, 598 (WADA); 1♂, same except Mar., L.J. Newman, 47182, 736 (WADA); 2♂, Yanchep, 32 miles N of Perth [31°33'S, 115°41'E], BM1936–28, 9–23.i.1936, R.E. Turner, 1162 1165 (BMNH). **State unknown:** 1♀, 658 (SAM); 1♂, 659 (SAM).

Wurda patrellia Lambkin & Yeates

Holotype. 1♂, 'AUSTRALIA: NSW: Sturt NP, Wittabrinna Ck nr Tibooburra, under flowering *Eucalyptus*, 29°22'33"S, 142°02'11"E 1–4 pm, 12.i.1999: C.Lambkin N.Power P.Bouchard R.Montague-Drake' 1357 (AM);

Paratype. New South Wales: 1♂, same as holotype 1358 (UQIC).

Wurda skevingtoni Lambkin & Yeates

Holotype. 1♂, 'AUSTRALIA: WA: 3 km N Of Denham: 12.xii.1999, 25°54'33"S, 113°31'54"E, J. Skevington' 1746 (WAM).

Paratype. Western Australia: 1♂, same as type 1747; 6♂, hilltop, Little Lagoon near Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, CL, K. Evans, PB, JS, K. Bell, 1678–81 1683–4 (WAM).

Other material examined. **Western Australia:** 2♂, hilltop, Little Lagoon near Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, CL, K. Evans, PB, JS, K. Bell, 1682 1685 (UQIC); 1♂, Beverley [32°07'S, 116°56'E], 632 (SAM).

Wurda windorah Lambkin & Yeates

Holotype. 1♂, 'AUSTRALIA: QLD: 3 km West Windorah, 27°25'S, 152°50'E, 5.ix.1997, C.Lambkin, S.Winterton, J.&A.Skevington, A.Zwick' [25°25'S, 142°38'E] 885 (QM).

Paratypes. Queensland: 6♂, 2♀, same as type 764 767 887–8 890 903–5 (UQIC); 1♂, same 894 (BPBM); 1♂, same 778 (DJGC); 1♂, same 770 (BMNH); 1♂, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL NP PB RMD 1365 (UQIC); 1♂, 1♀, same 1341 1361 (BPBM); 1♀, same 1375 (DJGC); 1♂, 1♀, same 1372 1367 (BMNH); 1♂, stony bluff near Nappa Merrie, hilltopping, 27°46'42"S, 141°22'24"E, 110 m, 5.i.1999, CL DY NP PB 1397 (DJGC).

Other material examined. **New South Wales:** 1♀, 2mls E of Box Ridge, Warrumbungles, 31°24'S, 149°28'E, 4.iv.1951, Key and Chinnick, 17; 1♀, Cobham Lake [30°09'S, 142°05'E], 18.x.1949, SP 16; 1♂, Mt Boppy nr Cobar [31°32'S, 146°17'E], 25.xi.1949, SP 211; 1♂, Mt. Wood - Tibooburra [29°20'S, 142°10'E], 2.xi.1949, SP 12 (ANIC); 6♂, Peak Hill near Milparinka, hilltopping, 11 am, 29°47'26"S, 141°55'55"E, 105 m, 13.i.1999, CL NP PB 1325 1327–31 (UQIC); 1♀, Round Hill Fauna Res. [31°12'S, 150°01'E], 28.xii.1976, 1476; 1♂, same except 29.xii.1976, GD 14213; 8♂, same except 23.x.1977, GD 1477–81 1483–4 14214 (GDCB); 1♂, Sturt Natl Pk, Fromes Ck near Binerah Well, at *Eucalyptus* flowers, 29°06'40"S, 141°38'18"E, 10.i.1999, CL NP PB 1259; 20♂, 10♀, same except Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL NP PB RMD 1339 1342–56 1363–4 1366 1368–70 1373–4 1376–80 1382; 1♂, 1♀,

same except in cop., 12.i.1999, CL NP PB RMD 1359–60 (UQIC); 2 ♀, Wanaaring [29°42'S, 152°52'E], 29.x.1949, SP 15 104 (ANIC); 1 ♀, Weinteriga Bore [32°06'S, 142°55'E], 10.iv.1979, B.J. Loudon, 270 (ASCT); 1 ♂, Wilcannia-Mt Boppy [31°34'S, 143°22'E], 24.xi.1949, SP 202 (ANIC). **Northern Territory:** 2 ♂, 3 ♀, 70 km N Alice Springs, 23°07'S, 133°52'E, on *Goodenia heterochila*, Museum of Victoria 1994/1995 Horn Centenary Invertebrate Survey, 5.iii.1995, K. Walker, 525–9 (MV); 1 ♀, 32 km WNW Alice Springs [23°42'S, 133°52'E], 9.x.1978, D.H. Colless, 1621; 1 ♀, 4mls W of Alice Springs [23°42'S, 133°52'E], 21.vi.1955, L.J. Chinnick, 23; 1 ♂, 1 ♀, Barry Caves [23°03'S, 136°40'E], 10.xi.1976, D.H. Colless, 1534–5; 1 ♀, Bing Bong HS 49 km NE Borrooloola [15°37'S, 136°21'E], 20.iv.1976, D.H. Colless, 1597 (ANIC); 1 ♀, mouth Blyth River, 12°05'S, 134°35'E, at light, 10.vi.1996, G.R. Brown, 677 (NTM); 1 ♂, 6 mls [10 km] W of Bond Springs H.S., N of Alice Springs [23°332'S, 133°55'E], 3.x.1955, L. J. Chinnick, 114 (ANIC); 1 ♀, Border Waterhole, 15 km W of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°36'44"S, 137°59'30"E, 200 m, 2.v.1995, GD MS 332 (UQIC); 2 ♀, Bukalara Plateau, 46 km SSW of Borrooloola [16°23'S, 136°13'E], 23.iv.1976, D.H. Colless, 1622–3 (ANIC); 1 ♀, NW Crocodile Island, 11°41'S, 135°08'E, 12.vi.1996, G.R. Brown, 679 (NTM); 1 ♂, Darwin [12°27'S, 130°50'E], N.W., 608 (SAM); 1 ♂, Ellery Creek, Gorge Natl Park, 82 km W Alice Springs [23°47'S, 133°04'E], creek with pools, 1.x.1983, E.I. Schlinger, MI 741 (INHS); 1 ♀, 33 km S of Elliott, 17°49'S, 133°40'S 28.xii.1992, GAD, 8424 (GDCB); 1 ♂, Ewaninga, 31 km ESE of Alice Springs, 29°59'S, 133°56'E, 1.xi.1974, T. Weir & T. Angeles, 686 (NTM); 1 ♀, 47 km WSW Finke [12°14'S, 132°07'E], 1.x.1972, Z. Liepa, 1574; 1 ♂, Illungnarra Waterhole, 90 km SSW Urandangie (Qld) [22°18'S, 137°52'E], 16.xi.1978, D.H. Colless, 1582 (ANIC); 1 ♀, Kathleen Creek (Range Base Site 1), Watarrka, 24°20'38"S, 131°40'54"E (Watarrka No.296), Malaise trap, 19.x.1994, K. Walker, 531; 1 ♂, Z Lagoon 60, Litchfield, Daly R. [13°29'S, 130°42'E], 6.iv.1929, T.G. Campbell, 551 (MV); 1 ♀, Tablelands turnoff, Barkly Hwy [17°16'S, 126°51'E], 2.v.1997, J. & W. Howard, 298; 1 ♀, 60 km N Soudan Station, Camoweal-Barkly Hwy [19°31'S, 137°01'E], 2.v.1997, J. & W. Howard, 297 (UQIC); 1 ♀, 11km N of Valley of the Winds car park, Kata Tjuta, 25°11'00"S, 130°43'20"E, Uluru-Kata Tjuta., A.N.C.A., Survey Site 6 direct search in *Trioda/Casuarina* (Uluru No. 16), 11.iv.1995, J. Wainer, 530; 1 ♀, Watarrka [24°20'S, 131°40'E], No:429, Mar. 1995, 559 (MV); 1 ♂, 2 ♀, West Island, Edward Pellow Group [15°36'S, 136°33'E], 20.iv.1976, D.H. Colless, 1608 1610 1612 (ANIC); 1 ♀, Wildman River Station, near Darwin [12°38'S, 131°42'E], on flowers of *Anacardium occidentale*, Voucher specimen, T.A. Heard *et al.* Aust. J. Agric. Res. 41(6) 1990, 27.vi.-12.vii.1988, T.A. Heard, 402 (UQIC). **Queensland:** 20 ♂, 7 ♀, 1 ♀, same as type 765–6 768–9 771 773–7 779–80 884 886 889 891–3 895–902 906–7; 4 ♂, 1 ♀, same except Malaise trap, 31.vii-5.ix.1997, CL SW JAS 991–5 (UQIC); 1 ♀, Carnarvon Natl Park, Mt Moffatt Section, Western Branch of Maranoa River, 25°08'22"S, 147°50'37"E, 660 m, Malaise trap, 16–26.xi.1995, MI S.D. Gaimari, 744 (INHS); 1 ♂, same except ridge 500m NE The Tombs, 25°04'53"S, 147°52'10"E, summit, 26.xi.1997, JS CL S.Evans, 835; 5 ♂, Clive Conrick Saddle, near Nappa Merrie, hilltopping, 11 am, 27°25'33"S, 141°16'58"E, 224 m, 6.i.1999, CL DY NP PB 1383–7 (UQIC); 1 ♀, Cunnamulla [28°04'S, 145°41'E], Hangay Collection, Oct.1944, N. Geary, 259 (AM); 1 ♀, 30 mls [48 km] S Cunnamulla [28°30'S, 145°41'E], 24.x.1957, E.F. Riek, 10 (ANIC); 1 ♂, 1 ♀, Dynevor Lake, 88 km W of Eulo, 28°05'S, 144°12'E, 27.ix.1991, GD 1453 14158; 1 ♂, 2 ♀, same except 28.ix.1991, 1454 1456–7; 2 ♂, Eulo, 28°09'S, 145°02'E, 150 m, 22.ix.1991, GD 1459 14159 (GDCB); 2 ♀, Holts Creek, 8 km NE of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°32'32"S, 138°11'05"E, 150 m, 10.v.1995, GD MS 335 717 (UQIC); 1 ♂, Isla Gorge, lookout,

25°12'S, 149°58'E, 240 m, 19.xii.1997, C.J. Burwell, 1025 (QM); 3 ♀, Lake Moondarra, Mt Isa [20°44'S, 139°29'E] 20.iii.1973, E.M. Exley, 406–8; 1 ♀, Murrays Spring, 7 km W of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°35'15"S, 138°04'28"E, 200 m, 21.iv.1995, GD MS 331; 1 ♂, stony bluff near Nappa Merrie, hilltopping, 27°46'42"S, 141°22'24"E, 110 m, 5.i.1999, CL DY NP PB 1396; 1 ♀, 77 km S Noccundra, Wompi Ck, on rocky ground, 28°14'20"S, 142°05'45"E, 3.i.1999, CL DY NP PB 1420 (UQIC); 1 ♂, 1 ♀, Paroo Riv. Eulo, 28°09'S, 145°02'E, on *Pluchea baccharoides*, 150 m, 23.ix.1991, GD 1449–50 (GDCB); 1 ♂, Port Denison [20°02'S, 148°15'E], 1136 (MM); 1 ♀, Ridgepole Waterhole, 24 km ESE of Musselbrook Resource Centre, Lawn Hill Natl Park, 18°40'15"S, 138°22'15"E, 180 m, 23.iv.1995, GD, MS 330 (UQIC); 1 ♂, Townsville [19°16'S, 146°49'E], 21.xi.1969, P. Ferrar, 1630 (ANIC); 1 ♂, 35 km SE Windorah, under flowering *Eucalyptus*, 11 am, 25°33'03"S, 142°56'39"E, 30.xii.1998, CL NP PB 1426; 1 ♂, 1 ♀, 91.2 km West Windorah, 27°21'45"S, 141°46'38"E, 31.viii.1997, CL JAS A. Zwick, SW 910–1 (UQIC). **South Australia:** 1 ♀, Ambrosia Out Station, Grid ref. 204 229. Tarcoola 1:250,000 sheet [35°17'S, 138°37'E], 17.xii.1983, Museum Party, 604 (SAM); 1 ♂, Arno Bay [33°55'S, 136°34'E], on flowering shrubs on coastal dunes, H.F. Lower coll. Waite Instit., 7.x.1953, H.F.L., 1563 (ANIC); 3 ♂, Balcanoona-Frome Downs Rd, 17.3km S Balcanoona HS, 30°40'07"S, 139°19'58"E, base of hill, 14.x.1997, CL JS SW 816–7 819; 1 ♀, Flinders Ranges, National Park, Heysen Hill, Brachina Gorge, 31°20'02"S, 138°33'10"E, base, 9.x.1997, CL JAS 828; 1 ♀, Gammon Ranges National Park, 30°28'S, 139°13'E, Malaise trap, 12.x.1997, CL JS SW 820; 4 ♂, 1 ♀, same except Lake Frome Rd, 15km E Balcanoona HS [30°24'S, 140°01'E], 13.x.1997, CL JS SW 801–2 805 808 811–2; 2 ♂, 4 ♀, same except south end Weetootla Gorge, 30°29'S, 139°15'E, dry creek bed, 11.x.1997, CL JS SW 786 789–90 792 799; 1 ♀, same except 13.x.1997, CL JS SW 785; 1 ♀, same except hill south end Weetootla Gorge, 30°29'S, 139°16'E, summit; 537 m, 11.x.1997, CL JS 815 (UQIC); 1 ♀, Lake Eyre, N of Madigan Gulf [28°50'S, 137°32'E], Found dead, 4.xi.1966, G.F. Gross, 629; 1 ♀, Marree to Orroroo [32°44'S, 138°37'E], 15.xi.1955, E.T. Giles, 639 (SAM); 5 ♂, 1 ♀, nr Red Well, Lake Torrens, 31°27'57"S, 138°18'30"E, dry creek bed, 10.x.1997, CL JAS SW 793 795 824 1008 1010–1 (UQIC); 1 ♂, 1 ♀, 79 km NNW Renmark, Calpernum Station, Bookmark Biosphere Reserve, Invertebrate Study, 33°31'S, 140°24'E, *Casuarina* woodland, Malaise trap, 8.xi.-12.xii.1995, K.R. Bullen, 700–1; 1 ♀, 4 mls [6 km] N of Sundown H.S. [26°14'S, 133°10'E], 8.x.1955, L.J. Chinnick, 108 (ANIC); 3 ♂, Womba Ck, Brachina-Hawker Rd, 31°28'S, 138°25'E, dry creek bed, 10.x.1997, CL JAS SW 825–7 (UQIC); 1 ♂, 1 ♀, 28 miles [km] S of Yunta, Nackara [32°48'S, 139°14'E], 27.x.1971, S.C. Pfeiffer, 630–1 (SAM). **Victoria:** 1 ♀, 549; 1 ♂, Lake Hattah [34°45'S, 142°16'E], J.E. Dixon, 587 (MV); 1 ♀, same except G.W.A., 1536 (ANIC); 1 ♂, 1 ♀, 30 km W Mildura [34°12'S, 142°09'E], in cop., 8.xi.1986, M.G. Jefferies, 435–6 (MJC); 3 ♂, Wyperfield Nat. Pk [35°35'S, 142°00'E], 8.xii.1978, GD 1485–6 14215 (GDCB). **Western Australia:** 1 ♀, Barrow Is. [20°46'S, 115°24'E], 2–16.iv.1982, C.N. Smithers, 260 (AM); 1 ♂, 12.5 km SSE Banjiwarn Homestead, 27°42'S, 121°37'E, on flowers of *Scaevola* affin. *spinescens*, 316–26, 97/563, 22–28.ii.1980, T.F. Houston *et al.*, 448 (WAM); 1 ♀, 5 km SW Beagle Bay Mission [16°59'S, 122°40'E], 23.iv.1977, D.H. Colless, 1628 (ANIC); 1 ♂, 3 ♀, Beverley [32°07'S, 116°56'E], 625–7 1792 (SAM); 1 ♀, same except 1538 (ANIC); 1 ♂, Billy Well Creek, 20 km NE of Mt Sandiman HS [20°24'S, 119°05'E], on flowers of *Trianthema turgidifolia*, 378–1, 97/564, 11–13.v.1981, B. Hanich, T.F. Houston, 482 (WAM); 2 ♀, Bullsbrook, 2 m. N Pierce [31°40'S, 116°01'E], BM1966–325, 13.i.1966, O.W. Richards, 1169–70 (BMNH); 1 ♀, Burrup Peninsular, 20°37'S, 116°47'E, at flowers, 7.xi.1982,

M.J. Smart, 1100 (MSC); 1 ♀, 8 km S Cape Bertholet [17°15'S, 122°11'E], 18.iv.1977, D.H. Colless, 1598 (ANIC); 1 ♀, Carlisle [31°59'S, 115°55'E], 45–871, 1643 (WAM); 1 ♂, Crossing Pool, Millstream [21°35'S, 117°06'E], 23.x.1970, D.H. Colless, 1596; 2 ♀, 2 mi. S Dampier [20°40'S, 116°43'E], 19.x.1970, D.H. Colless, 1561–2 (ANIC); 2 ♂, 3 km N of Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, JS 1744–5 (UQIC); 2 ♀, Drummond Cove 11 km N of Geraldton [28°40'S, 114°36'E], 19.xi.1978, M.S.& B.J. Moulds, 1474 14209 (GDCB); 1 ♀, same except 7 ml N Geraldton, 25.xi.1974, N. McFarland, 47192, 832 (WADA); 1 ♂, 1 ♀, Dumbleyung [33°19'S, 117°44'E], in cop., 97/579, 27.xi.1962, H. Udell, 465–6 (WAM); 2 ♀, Gascoyne River at Highway 95 [24°50'S, 115°53'E], river wash with white-barked *Eucalyptus*, 19.xi.1983, E.I. Schlinger, MI 745–6 (INHS); 1 ♂, Geraldton [28°46'S, 114°37'E], 1916, Clark, 35; 1 ♀, 33.7 km NE Geraldton [28°46'S, 114°37'E], 19.i.1973, N. McFarland, 1520; 1 ♀, 23 mls [37 km] WNW of Giles [29°31'S, 119°21'E], 5.x.1960, Chinnick, McCabe, Corby, 21 (ANIC); 1 ♀, Glenfield 8 km N of Geraldton [28°46'S, 114°37'E], 10.x.1978, M.S.& B.J. Moulds, 14210 (GDCB); 1 ♂, ca. 3 mls [5 km] S of Grants, nr Geraldton [28°46'S, 114°37'E], 28.x.1952, McIntosh and Calaby, 45; 1 ♂, 1 ml. [2 km] W of Hines Hill [31°32'S, 118°04'E], 5.xii. 1953, J.H. Calaby, 111 (ANIC); 1 ♂, Inglewood, Swan R. [27°43'S, 118°44'E], Mar., B.A. O'Connor, 47149, 737 (WADA); 1 ♂, 12km S of Kalumburu Mission, 12°45S, 126°38E, CALM Site 13/4, open forest, 7–11.vi.1988, T.A. Weir, 49 (ANIC); 13 ♂, hilltop, Little Lagoon near Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, CL K. Evans, PB JS K. Bell, 1687 1690 1692 1694 1696 1698–700 1704–8; 1 ♀, Kalumburu Mission [14°18'S, 126°38E], 4–6.iv.1989, DY 412 (UQIC); 1 ♂, Karratha [20°44'S, 116°42'E], 23.x.1978, M.S.& B.J. Moulds, 14211 (GDCB); 1 ♂, Kathleen Valley [27°24'S, 120°39'E], 97/578, 1963, T. Moriarty, 450 (WAM); 1 ♂, Kings Park [31°58'S, 115°50'E], 14.ii.1982, M.G. Jefferies, 437 (MJC); 1 ♀, Kununurra [15°47'S, 128°44'E], 2.vii.1971, J.C. LeSoef, 14208 (GDCB); 1 ♀, Lake Grace [33°06'S, 118°28'E] (headless), 26.ii.1974, K. and E. Barnaby, 254 (AM); 1 ♂, 1 ♀, near Lake Gnangara, 31°48'S, 115°52'E, 20.ii.1982, M.J. Smart, 1106 1109 (MSC) 1 ♂, 3 ♀, Lake Violet, 6 mi. S of Wiluna [26°39'S, 120°16'E], Biol Notes A-5, A-10, 23–27.ix.1969, H.E. Evans, 1196 1513 1600 1602; 2 ♂, 1 ♀, Millstream [21°35'S, 117°04'E], 11.iv.1971, D.H. Colless, 1593–5; 2 ♀, same except 12.iv.1971, D.H. Colless, 1589–90; 1 ♀, same except 22.x.1970, D.H. Colless, 1584; 1 ♀, same except 26.x.1970, D.H. Colless, 1585 (ANIC); 1 ♀, Monte Bello Islands, Hermite & Trimouille Is. [20°28'S, 115°31'E], HMS Compania Collection, BM 1953–11, Aug.-Oct.1952, T.G. Campbell, 1171 (BMNH); 1 ♂, hill, 66 km S Mt Magnet, Great Northern Hwy, 28°37'35"S, 117°46'48"E, 14.xii.1999, CL K. Evans, PB JS K. Bell, 1739 (UQIC); 4 ♂, 3 ♀, Mt Sandiman [24°26'S, 115°26'E], 14.viii.1934, Mackerras, 27–32 113 (ANIC); 2 ♂, summit Mt Warambool, Mt Magnet, 28°01'55"S, 117°49'23"E, 14.xii.1999, CL K. Evans, PB JS K. Bell, 1741–2 (UQIC); 2 ♂, 1 ♀, Mt Yokine [31°53'S, 115°52'E], 6.i.1957, I.M., 571 573–4; 3 ♂, 1 ♀, same except 26.i.1957, I.M., 562 568 570 576; 2 ♀, same except 27.i.1958, I.M., 566 577 (MV); 1 ♀, 10 W Mullewa [28°32'S, 115°30'E], 2.xi.1958, E.F. Riek, 19; 1 ♂, 7 mls [11 km] N of Munbinnia [28°16'S, 117°23'E], 46210, 21.x.1955, J.H. Calaby, 225 (ANIC); 1 ♂, Narrogin [31°56'S, 117°11'E], 31–425, Feb., L. Newman, 1644 (WAM); 1 ♂, 1 km N junction Highway 95 and Neds Creek Road [25°29'S, 119°39'E], *Ptilotus* in bloom, 19.xi.1983, E.I. Schlinger, MI 747 (INHS); 1 ♂, Neerabup, 12 km NW Wanneroo [31°38'25"S, 115°43'18"E], 13.ii.1993, DY 1791 (UQIC); 1 ♀, 16 km N Newman [23°22'S, 119°44'E], 8.iv.1971, E.F. Riek, 1599 (ANIC); 1 ♂, 1 ♀, Nicol Bay [20°39'S, 116°52'E], 98–168, Clement, 1161 1163 (BMNH); 1 ♀, 12 mi. N Norseman [32°12'S, 121°47'E], 31.x.1962, N. McFarland,

619 (SAM); 1 ♂, 5 mls [8 km] SE of Paddington [30°29'S, 121°20'E], 26.x.1954, J.H. Calaby 34 (ANIC); 1 ♀, South Headland [20°24'S, 118°36'E], on *Acacia* sp., 21.ii.1973, E.M. Exley, 411; 1 ♂, Sunday Island, King Sound [16°25'S, 123°11'E], on *Calytrix* blossom, 10.iv.1989, DY 334 (UQIC); 1 ♂, Surveyors Pool, 14°40'S, 125°44'E, 15.iv.1983, I.D. Naumann, J.C. Cardale, 1580 (ANIC); 1 ♀, Yule River at Highway 1 [21°21'S, 118°26'E], pools of water in a sandy riverbottom, 23.ix.1983, E.I. Schlinger, MI 740 (INHS). **State unknown:** 1 ♀, 1141 (HOPE); 1 ♂, Hermansberg, Central Australia, 311, 1911, H.J. Hillier, 1173 (BMNH); 1 ♀, Nov. 1938, Lynd, 605 (SAM); 1 ♂, 1143 (HOPE).

Wurda wyperfeldensis Lambkin & Yeates

Holotype. Victoria, 1 ♂, 'Wyperfield Nat Park Vic 8 Dec 1978 G. Daniels' [35°35'S, 142°00'E] 1487 (MV).

Paratypes. New South Wales: 1 ♂, Cobham Lake [30°09'S, 142°05'E], 18.xi.1949, SP 41; 1 ♂, Mt Boppy-Wilcannia [31°32'S, 146°17'E], 24.xi.1949, SP 39 (ANIC). South Australia: 1 ♀, nr Moomba gas field, 28°05'S, 140°13'E, 24.i.1976, 14198 (GDCB). Victoria: 2 ♂, same as type 1467 14197 (GDCB).

Other material examined.

New South Wales: 1 ♂, Cobham Lake [30°09'S, 142°05'E], 18.xi.1949, SP 40 (ANIC); 2 ♂, Sturt Natl Pk, Wittabrinna Ck, near Tibooburra, 1–4 pm, 29°22'33"S, 142°02'11"E, under flowering *Eucalyptus*, 12.i.1999, CL NP PB RMD, 1362 1371 (UQIC); 1 ♂, 4 mi. E Wilcannia [31°34'S, 143°22'E], Biol. Note A-57, 20.xi.1969, H.E. Evans, 1018 (ANIC). **Northern Territory:** 1 ♂, Ewaninga, 31 km ESE of Alice Springs, 29°59'S, 133°56'E, 1.xi.1974, T. Weir & T. Angeles, 674 (NTM); 1 ♀, 4 mls [6 km] WSW of Top Springs [16°32'S, 131°48'E], 7.iv.1958, L.J. and M.F. Chinnick & J. Walker, 37 (ANIC). **Queensland:** 1 ♂, Cunnamulla [28°04'S, 145°41'E], Nov.1941, N. Geary, 265; 1 ♀, same except Nov. 1943, 264 (AM); 1 ♀, 47 km ESE of Mt Isa, 20°48'S, 139°54'E, 30.xi.1991, C.J. Burwell, 14148 (GDCB); 1 ♀, Naryilco - Bransby [28°14'S, 142°04'E], 8.xi.1949, SP 199; 1 ♀, new Naryilco - Orientos [28°04'S, 141°32'E], 4.xi.1949, SP 198 (ANIC). **South Australia:** 1 ♀, Belcherowie Well, near Lake Torrens [31°29'S, 138°10'E], Jan. 1949, G.F. Gross, 638; 1 ♀, Cooper Crossing [28°24'S, 137°42'E], 11.xi.1955, E.T. Giles, 611; 1 ♀, Innaminka [27°44'S, 140°46'E], rain, 26.x.1969, G.F. Gross, 610 (SAM). **Western Australia:** 5 ♂, 1 ♀, hilltop, Little Lagoon near Denham, 25°54'33"S, 113°31'54"E, 12.xii.1999, CL K. Evans, PB JS K. Bell, 1677 1686 1691 1695 1702 1709; 1 ♀, South Headland [20°24'S, 118°36'E], on *Acacia* sp., 21.ii.1973, E.M. Exley, 357; 1 ♂, hill, 106 km N Northhampton, North West Coastal Hwy, 27°27'19"S, 114°41'28"E, 13.xii.1999, CL K. Evans, PB JS K. Bell, 1712 (UQIC); 1 ♀, 6 km N Winning Homestead, 23°06'E, 114°33'E, 30.iii.1971, E.F. Riek, 1624 (ANIC).

Atrichochira commoni Lambkin

Holotype. 1 ♂, 'AUSTRALIA: QLD: Capricorn Coast NP, Rosslyn Head Sect., 23°10'14"S 150°47'20"E, Kemp Beach, 30.xi.1998, C. Lambkin N. Power D. White' 1210 (QM).

Paratypes. Queensland: 3 ♂, same as holotype 1201 1207–8; 1 ♂, 2 ♀, same as holotype except 29.xi.1998, 1205 1211–2 (UQIC).

Other material examined. **Queensland:** 2 ♂, same except 1200 1202 (BMNH); 2 ♂, same except 1203–4 (BPBM); 1 ♂, 1 ♀, same except 1209 1206 (DJGC); 5 ♂, 1 ♀, same as holotype except 29.xi.1998,

1213–8; 1 ♀, same as holotype except 1.xii.1998, 1219 (UQIC); 1 ♀, Boyne Is. (Spit-1) [23°56'S, 151°20'E], 1774 (QM); 1 ♂, Capricorn Coast National Park, Lammermoor Beach S of Yeppoon, 23°09'26"S, 150°45'57"E, 31.xii.1997, CL, K. & J.S. Lambkin, 922; 1 ♂, Capricorn Coast National Park, Rosslyn Head Sect., hill between Statue Bay & Kemp Beach, 23°09'58"S, 150°47'05"E, 31.xii.1997, CL, 921; 11 ♂, 1 ♀, same except Kemp Beach, 23°10'14"S, 150°47'20"E, on second sand dune, 30.xii.1997, CL, K.J. & J.D. Lambkin, 944–55; 11 ♂, 4 ♀, same except 31.xii.1997, CL & K.J. Lambkin, 929–43; 6 ♂, 3 ♀, same except CL, 976–7, 923–8 (UQIC); 1 ♂, Carnarvon National Park; Lots Wife to Kookaburra Cave [25°03'S, 148°03'E], 19.xi.1995, C.J. Burwell, 1024 (QM); 1 ♂, Carnarvon National Park; Mt Moffatt Sect., 25°06'08"S, 147°52'01"E, 680 m, amsl, sclerophyll Eucalypt forest, 21.xi.1995, MI, Gaimari 980 (UQIC); 1 ♀, Yeppoon [23°08'S, 150°44'E], 19.i.1949, I.F.B. Common, 1181; 1 ♀, same except 20.xii.1961, 46; 1 ♀, same except 3.i.1962, 47; 1 ♀, same except 7.i.1962, 48 (ANIC).

Atrichochira paramonovi Lambkin & Yeates

Holotype. ♀, 'Cobham Lake., N.S.W. 18.XI.1949, S.J.K. Paramonov' 119 (ANIC).

Paratypes. New South Wales: 2 ♀, same as holotype [30°09'S, 142°05'E] 117, 118 (ANIC).

Queensland: 1 ♂, new Naryilco - Orientos [28°04'S, 141°32'E], 4.xi.1949, SP 116 (ANIC).

Pseudopenthes fenestrata Roberts 1928

Holotype. 1 ♀, '27/20/26, Brisbane, Queensland, F.H. Roberts' / 'D 3264' / 'F.H. Roberts,

Pseudopenthes fenestrata, HOLOTYPE' (QM).

Allotype. Queensland: 1 ♂, Goodna [27°28'S, 153°01'E], 20.xi.1925, J. Mann D 3264 (QM).

Paratypes. Queensland: 1 ♂, Brisbane [27°28'S, 153°01'E], J. Mann; 1 ♀, Goodna, 20.ii.1925 (UQIC).

Other material examined. New South Wales: 1 ♀, Bogan River [33°01'S, 148°02'E] (ANIC); 1 ♂, 'The Cubas' via Booligal [33°52'S, 144°53'E], 21.ii-1.iii.1965, A.W. Forbes (SAM); 1 ♀, Broadwater National Park, lookout, summit, 29°02'S 153°26'E, 18.xii.1997, CL; 1 ♂, Bundjalung National Park, near Evans Head, 29°02'S 153°26'E, 16.xii.1997, CL; 1 ♀, same except 18.xii.1997 (UQIC); 1 ♂, Como [34°00'S, 151°04'E], 28.iii.1918, G.E. Cole. (MV); 1 ♀, Cronulla [34°03'S, 151°09'E], 18.xii.1931, Gay; 1 ♂, 1 ♀, Deewhy [33°46'S, 151°18'E], ii.1928, M. Fuller; 1 ♂, 1 ♀, Durras [35°41'S, 150°18'E], 1.ii.1973, D.H. Colless, dunes behind beach (ANIC); 1 ♂, 24 km W Grafton, 1.xi.1985, C. Hagan and J. Graff; 1 ♂, 1 ♀, 1?, same except hilltop, 6.xi.1982, DY; 1 ♂, same except hilltop Gwyder Hwy, 29°37'S 152°44'E, 7.i.1997, CL & J.D. Lambkin (UQIC); 1 ♂, Jervis Bay [33°08'S, 150°43'E], C. of A., 26.xii.1984, K.R. Norris; 2 ♂, McMaster's Kincumber [33°28'S, 151°24'E], 12.i.1933, N.J.B. Plomley; 1 ♂, 1?, London Foundation, Kioloa [35°33'S, 150°22'E], 19.xii.1980, J. Conran 2628; 1 ♀, Kurnell [34°00'S, 151°13'E], 4.xii.1925, Mackerras; 2 ♂, Maclean [29°28'S, 153°12'E]; 1 ♀, Merimbula [36°54'S, 149°54'E], i.1973, K.R. Norris; 1 ♂, Moonbi Lookout, Moonbi [31°01'S, 151°04'E], 7.ii.1968, D.H. Colless; 1 ♂, 1 ♀, Moruya Heads [35°55'S, 150°10'E], 28.i.1957, Z. Liepa; 1 ♀, Mossman [16°28'S, 145°23'E], 29.ii.1924, Mackerras); 1 ♂, Myall Lakes [32°26'S, 152°24'E], 15.i.1932, Fuller; 8 ♂, 2 ♀, National Park, "Guadmain"[34°04'S, 151°05'E], 1.i.1926, Mackerras (ANIC); 2 ♂, 1 ♀, Nelson's Bay [32°44'S, 152°09'E], 11.x.1953, B. McMillan (UQIC); 1 ♀, Newcastle [32°56'S, 151°47'E], 4.iv.1946, A.B. (MV); 2 ♂, Sturt Natl Pk, stony bluff near Mt King Tank, hilltopping, 29°09'35"S 141°45'31"E, 10.i.1999, CL NP PB (UQIC); 2 ♂, Sydney [33°53'S, 151°13'E], 31.i.1924, Collaroy (ANIC); 2 ♂, Sydney, Lea (SAM); 2 ♀, Tregeagle [28°49'S, 153°16'E], 10 km SW

of Lismore, 30.xi.1979, DY (UQIC); 1 ♂, Warrumbungles Natl Pk, Buckley's Ck, 1.7 km N Camp Blackman, 480 m, 30.xii.1992, Malaise, MI (INHS); 2 ♂, same except Buckley's Ck, 31°16'S 149°01'E, 12–15.i.1994, Malaise, MI, DY; 1 ♂, 1 ♀, same except Brownes Ck, 31°17'S 148°58'E (UQIC); 1 ♂, same except Woolshed, Wambelong Ck, 6m gray Malaise trap, in vegetation old channel Wambelong Ck, no standing water, 27.xii.1992, MI (INHS); 8 ♂, 7 ♀, 1?, Woy Woy [33°29'S, 151°20'E], 8.iii.1924, Nicholson (ANIC); 1 ♀ (MV); 1 ♂ (HOPE). **Northern Territory:** 1 ♂, Berry Springs, 8 km ESE of Cape Crawford 16°40'S, 135°51'E, 26.x.1975, M.S. Upton; 1 ♀, 6 mls NE of Chilla Well [21°31'S, 130°59'E], 11.iv.1963, L.J. Chinnick; 1 ♂, Entire Ck, 155 km NE by E of Alice Springs [22°56'S, 135°10'E], 14.x.1978, D.H. Colless (ANIC). **Queensland:** 1 ♂, Angophora Ipswich [27°37'S, 152°47'E], 3.xii.1965, J.C. Cardale (UQIC); 1 ♀, 40 mls SW Ayr [19°53'S, 147°42'E], 7.x.1950, E.F. Riek (ANIC); 1 ♂, Ballon State Forest, Turkey Mountain, 26°20'49"S 150°52'08"E, summit, 6.i.1998, CL; 1 ♀, Bertie Ck (pump), 1 km SE Heathlands Homestead, Cape York Peninsula 11°45'S 142°34'E, 12.iii.1992, GD MS (UQIC); 1 ♂, Bin Bin Range [25°30'S, 151°30'E], via Didcot, W of Biggenden, 5.xii.1974, H. Frauca (ANIC); 1 ♂, 16 km N of Boonah [27°54'S, 152°41'E], 28.i.1988, C. Burwell (UQIC); 1 ♂, 35 mls NW Bowen [19°54'S, 147°45'E], 2.x.1950, E.F. Riek (ANIC); 1 ♀, Brisbane, H. Hacker (QM); 1 ♀, same except 24.iv.1912; 1 ♂, same except 17.iii.1913; 1 ♂, same except 3.ii.1914; 1 ♀, same except 30.ix.1915; 2 ♂, same except 6.iii.1916 (QM); 1 ♂, Brisbane, 7.v.1931; 1 ♂, same except 4.iv.1932; 1 ♂, same except 26.iii.1966, H. Ruscoe; 1 ♀, Brown Lake, North Stradbroke Is. 27°29'S 153°25'E, 15.iii.1986, DY; 1 ♂, same except 27.iii.1993, GD & C.J. Burwell, 60 m (UQIC); 1 ♂, N. Bundaberg [24°52'S, 152°21'E], 25.iv.1972, H. Frauca (ANIC); 1 ♂, Caboolture [27°05'S, 152°57'E], 4.ix.1965, L. Horan; 5 ♂, 1 ♀, Capricorn Coast National Park, Rosslyn Head Sect., Kemp Beach, 23°10'14"S 150°47'20"E, on sand 2nd dune, 30.xii.1997, CL, K.J.&J.D. Lambkin; 2 ♂, same except 31.xii.1997, CL & K.J. Lambkin; 1 ♂, same except 23°10'16"S 150°47'20"E, Kemp Beach, Malaise in shallow 2nd dune summit; 1 ♂, same except 23°09'58"S 150°47'05"E, hill between Statue Bay & Kemp Beach, summit, 31.xii.1997 CL; 2 ♂, 1 ♀, same except 29.xi.1998, CL, NP, D. White; 1 ♀, Carnarvon Nat. Pk [24°55'S, 148°05'E], 8–10.xii.1979, MS GD (UQIC); 1 ♂, 1 ♀, same except Mt Moffatt Nat. Pk, Marlong Arch area, 24°59'28"S 147°53'48"E 820 m, 19.xi.1995, C. Burwell; 1 ♀, same except The Chimneys 25°06'S 147°52'E 21.xi.1995, C.J. Burwell; 1 ♂, same except Mt Moffatt Section, Mt Moffatt summit, 1097 m, 25°04'S 148°03'E, 23.xi.1995, C.J. Burwell, DY; 1 ♂, 1 ♀, same except C.J. Burwell (QM); 4 ♂, 1 ♀, same except 25°03'35"S 148°02'38"E, 27.xi.1997, JS, CL, S. Evans; 1 ♀, same except Malaise; 3 ♂, 1 ♀, same except 29.xi.1997; 1 ♂, same except 2.xii.1997; 1 ♂, same except 20.i.1998, SW, JAS; 1 ♂, 1 ♀, same except Mt Moffatt Rd, sandy creek 25°04'01"S 148°00'50"E, Malaise, 29.xi.1997, JS, CL, S. Evans; 1 ♂, same except 3 km SE Ranger Station, 25°04'39"S 148°00'30"E, Malaise trap, 18–26.xi.1995, MI, S.D. Gaimari; 3 ♂, same except Mt Rugged summit, 1130 m, 24°54'S 148°00'E, 24.xi.1995, C.J. Burwell, DY; 4 ♂, same except Sugarloaf Mt summit, 24°53'55"S 147°56'43"E, 1.xii.1997, JS CL, S. Evans; 1 ♂, Clive Conrick Saddle, near Nappa Merrie, hill topping, 27°25'33"S 141°16'58"E, 6.i.1999, 224 m, CL DY NP PB (UQIC); 1 ♀, 22 mls ENE of Condamine [26°56'S, 150°08'E], 22.iii.1962, Chinnick and Corby (ANIC); 1 ♂, Camp Milo, Cooloola, *Banksia* dom. open forest, to light, 3–13.iii.1970, E. Dahms (QM); 1 ♂, Dulhunty Riv., 13 km SW of Heathlands Homestead 11°50'S 142°30E, 17.iii.1992, GD MS; 1 ♂, 6 km E of Dunwich, North Stradbroke Is. 27°30'S 153°27'E, 15.iii.1986, GD; 1 ♂, same except 15.iii.1986, MS; 1 ♀, same except 4.iv.1987; 2 ♂, same except 7 km E of Dunwich, 9.iii.1991; 2 ♂, same except 4.iv.1992, GD; 1 ♂, same

except 27.iii.1993, GD C.J. Burwell, 120m; 2♂, 10 km E of Dunwich, North Stradbroke Is. 26°55'S 153°09'E, 16.iii.1986, DY (UQIC); 1♂, 2♀, Eidsvold [25°22'S, 151°07'E], 20.iv.1924, Bancroft; 1♂, Electra State Forest [25°00'S, 152°10'E], 25 km S of Bundaberg, 1.xii.1976, H. Frauca; 1♀, same except 11.iv.1977 (ANIC); 1♀, Esk [27°14'S, 152°24'E], 10.iii.1973, M. Briele; 3♂, 1?, 30 km W of Fairview [15°30'S, 144°17'E], Cape York Peninsula, 10–11.vii.1982, MS GD (UQIC); 1♀, Flinders Peak via Peaks Crossing, 27°49'S 152°49'E, 13.xiii.1995, C.J. Burwell, DY (QM); 1♂, Fraser Island [25°22'S, 153°07'E], 16.ii.1945 (ANIC); 1♂, same except 22.iii.1987 (UQIC); 1♀, Goomburrum Shire [28°03'S, 152°07'E], 27.x.1973, H. Frauca (ANIC); 1♀, Gunshot Ck, 13 km NW Heathlands Homestead, 11°43'S 142°28'E, 20.iii.1992, GD MS (UQIC); 2♀, same except 21.iii.1992; 1♀, same except 23.iii.1992; 1♂, 1♀, 12 km E of Heathlands Homestead 11°45'S 142°41'E, 16.iii.1992, GD MS; 1♀, Indooroopilly [27°37'S, 152°54'E], 7.xi.1993, G. Henville; 1♂, 1♀, Lake Broadwater, 25 km SW of Dalby 27°21'S 151°06'E, 22.ii.1986, DY, site B (UQIC); 1♂, Leyburn [28°01'S, 151°35'E], 23.i.1986, DY (ANIC); 1♂, same except 2 km E Leyburn; 1♀, Massy Ck [13°56'S, 143°29'E], Silver Plains via Coen, 13.xii.1964, G. Monteith; 1♂, 2♀, Moreton Island, Mt Tempest, summit, 280 m, 27°09'S 153°32'E, 22.iii.1998, JAS (UQIC); 2♂, Mt Beerburrum, hilltopping, 26°56'S 152°56'E, 22.iv.1997, JS CL (UQIC); 3♀, Mt Cook Natl Pk, 15°30'S 145°16'E, 12.x.1980, D.H. Colless (ANIC); 1♂, Mt Coolum, 9.ii.1986, C. Hagan (UQIC); 1♂, Mt Coot-tha, Brisbane, 22.ii.1997, hilltopping, CL; 1♂, same except 27°29'S 152°57'E, 21.xii.1997; 1♂, same except 18.x.1998; 1♂, same except 7.xii.1997, 170 m, JAS (UQIC); 1♂, 1♀, Mt Greville, summit, 28°05'S 152°30'E, 4.xii.1996, CL & J.S. Lambkin, S. Evans, C. Burwell, SW; 4♂ same except hilltopping, 770 m, 6.iv.1997, JS; 1♂ same except JS DY, CL; 1♂, Mt Ngungun, Glasshouse Mts, 26°54'S 152°56'E, 10.x.1995, DY; 1♂, Mt Tibberowuccum, Glasshouse Mts, 65 km N Brisbane, 5.iii.1984, C.E. Hagan, 200 m; 3♂, same except summit, 4.iii.1986, DY (UQIC); 1♂, same except C.E. Hagan; 3♂, Mt Tinbeerwah near Cooroy, 26°24'S 152°58'E, 7.xi.1998, CL, JAS; 1♂, 1♀, same except in cop (UQIC); 1♂, 14 km ESE Mt Webb, 15°07'S 145°15'E, coastal dunes, 3.x.1980, D.H. Colless (ANIC); 1♀, North Stradbroke Is. [27°30'S, 153°27'E], 15.iii.1975, C. Howard; 1♂, same except 3.iii.1980, R. Piper; 6♂, 1♀, same except 15.iii.1986, DY; 1♂, 1♀, 2?, same except 4.iv.1987; 1?, same except 5.iv.1987 (UQIC); 1♂, Palm Is. [18°44'S, 146°35'E], Bancroft; 1♂, Pine Ck [25°00'S, 152°10'E], ca. 23 km S of Bundaberg, 22.x.1976, H. Frauca (ANIC); 1♂, 3.5 km WSW of Pt Lookout, North Stradbroke Is. 27°26'S 153°30'E, 16.ii.1991, GD (UQIC); 9♂, 5♀, Rannes [24°06'S, 150°07'E], central Queensland, 19.xi.1947, K.R. Norris; 3♀, Rockhampton [23°22'S, 150°32'E], 14.i.1949, I.F.B. Common (ANIC); 1♀, on Hway 1, 27 km N of Rockhampton [23°11'S, 150°28'E], 3.xi.1977, E.M. Exley and T. Low, on *Melaleuca* (UQIC); 1♂, Split Rock [15°34'S, 144°27'E], 14 km S of Laura, 23–26.vi.1975, S.R. Monteith (ANIC); 1♂, Stanthorpe [28°40'S, 151°56'E], 27.i.1927; 1♀, same except 8.ii.1930 (UQIC); 1♂, Soldiers Memorial, Stanthorpe, 21.i.1968, T.K. Guyomier; 2♂, 1♀, Stradbroke Is., 3.xii.1912, H.Hacker (QM); 1♂, 1♀, Toomulla Beach [19°05'S, 146°28'E], N of Townsville, beach sand and low shrubs, 6.x.1983, E.I. Schlinger, MI (INHS); 1♂, Tugun [28°09'S, 153°30'E], 6.ii.1948, K.R. Norris; 2♂, Yeppoon [23°08'S, 150°44'E], 19.i.1949, I.F.B. Common; 1♀, same except 20.xii.1961; 1♂, Yeppoon, 23.xii.1961 (ANIC). **South Australia:** 1♀, Brookfield Cons. Park, 34°22'S 139°29'E, 19–20.ii.1992, on *Melaleuca* flowers, J.C. Cardale (ANIC); 1♂, Seaford [35°11'S 138°29'E], 10.ii.1914, G.E. Cole (MV). **Victoria:** 1♀, Altona [37°52'S, 144°50'E], 21.i.1921, C.B. (MV); 1♂, 9 mls S of Rainbow, 4.ii.1956, I.F.B. Common (ANIC). **Western Australia:** 1♀, King Cascade, Prince Regent River

[15°38'S, 135°15'E] 28.vii.1990, DY; 3♂, Kellys Knob, Kununurra [15°46'S, 128°44'E], 7.v.1989, DY (UQIC); 1♂, Lennard River Xing, Gibb River Road, Kimberley, 17°23'S 124°44'E, in riverside thicket, 14–28.vii.1988, T.F. Houston, Malaise trap 693–16, 97/535; 2♂, Millstream [21°35'S, 117°04'E], 23.x.1970, D.H. Colless (ANIC); 1♀, Moola Bulla Stn [18°14'S, 127°40'E], Halls Creek, 8.viii.1994, R. Patterson 97/536; 1♀, same except 10.x.1994 97/537 (WAM). **State Unknown:** 1♂ (SAM).

Pseudopenthes hesperis Lambkin & Yeates

Holotype. ♂, 'W. Aust. Augusta, 22 Feb 1993, D.K. Yeates' [34°19'S, 115°10'E] (QM).

Paratypes. Western Australia: 3♂, 4♀, same as holotype (UQIC).

Other material. Western Australia: 1♀, Attadale [32°02'S 115°48'E] 16.iii.1975, M. Powell 97/534 (WAM); 1♀, Bunbury [33°20'S 115°38'E], March, L.J. Newman 31–426 (BMNH); 1♀, Bathurst Mt, Rottnest, 31–274 (BMNH); 1♀, Deep Dene, 10km NW Augusta, 20.ii.1993, DY; 1♀, Carnac Is., 30.iii.1935, K.R. Norris (UQIC); 1♂, Crawley, 13.ii.1935, K.R. Norris; 2♂, same except 16.ii.1935; 2♀, same except 26.ii.1935; 1♀, same except, 27.ii.1935; 1♂, same except, 13.ii.1936; 2♂, same except, 21.i.1937; 1♂, Deep Dene, Karridale, 22.ii.1963 (ANIC); 1♂, Denmark [34°58'S 117°21'E], 19.i.1964, R.P. McMillan 97/533; 1♀, Dragon Rocks Nature Res. 33 km N Newdegate [32°49'S 119°02'E], resting on ground in heath, 17–19.ii.1996, T.F. Houston and C.K. Boase, TFH 891–4, 97/538 (WAM); 1♀, Drummond Cove [28°40'S, 114°36'E], 4.ii.1974, N. McFarland 73219; 1♀, same except 7 mi. N Geraldton, 10.iii.1974, 73218 (WADA); 1♀, same except 11 km N Geraldton, 15.ii.1973; 1♂, same except 23.ii.1973, flying low over *Euphorbia terracina* at dusk (ANIC); 1♀, 21 km NE Geraldton, 29.xii.1972, N. McFarland (ANIC); 1♀, Gingin [31°21'S 115°25'E], L.J. Newman 73217 (WADA); 1♀, Hovea, 25.i.1934, K.R. Norris (ANIC); 1♀, Lake Cronin [32°24'S, 119°44'E], 2.iii.1970, K.T. Richards 73416 (WADA); 1♂, Neerabup Lake Natl Pk, 31°38'25"S 115°43'18"E, 18.xii.1999, CL K. Bell PB JS (UQIC); 1♂, near Parrot Ridge, 31°31'S 115°42'E, Jarrah/*Banksia* mixed woodland, 40 m, 14.iii.1982, M.J. Smart (MSC); 1♀, Rottnest [32°00'S 115°32'E], 34–646 (BMNH); 2♀, same except 23.ii.1936, K.R. Norris (ANIC); 2♂, same except March, D. Swan, 73216, 73220 (WADA); 1♂, 1♀, Perth [31°57'S, 115°51'E], BM1936–28, 25.ii.–12.iii.1936, R.E. Turner, 1779–80; 3♀, same except Yanchep, 32 miles N of Perth [31°33'S, 115°41'E], 9–23.i.1936, 1775–7; 1♀, same except 29.i.–8.ii.1936, 1778 (BMNH).

Exoprosopa sylvana (Fabricius) 1775

Lectotype here designated. '*Bibio sylvanus* Fabr. sp. Inf No 17/ Australie/ 463 47/ Type.' Banks Collection (BMNH).

Syntype. ♂ '*Bib. sylvanus* Fabr. p. 415 No 17' (HMUG).

NON-AUSTRALIAN MATERIAL EXAMINED FOR PHYLOGENETIC ANALYSIS OF THE EXOPROSOPINI.

♀ = female

♂ = male

Exoprosopa Macquart

Ex. aurivestrix (Francois), Kenya: 1 ♀, Kwale Forest [4°10'S, 39°27'E], 28.i.1965, DJG, 1092; 1 ♂, 1 ♀, Mida Creek, Watamu [3°23'S, 40°00'E], Dec. 1968-Jan. 1969, G.R. Cunningham van Someron, 10200-1; 1 ♂, Sokoke Forest [3°31'S, 39°49'E], 23.vii.1965, DJG, 1091 (DJGC).

Ex. batrachoides Bezzi, 1 ♀, S. Rhodesia [Zimbabwe], Tshitona Riv. [19°00'S, 29°00'E], 24.ix.1927, R.H.R. Stevenson, 10195; 2 ♂, Tanganyika [Tanzania], Kilosa [9°10'S, 35°00'E], 1922, C.F.M. Swynnerton, 10131-2 (BMNH).

Ex. busiris Jaenicke, Ethiopia: 1 ♀, Entoto Hills [9°06'N, 38°42'E], 17.x.1964, DJG, 10122; 1 ♂, Sidamo, Wondo [Wendo] [6°39'N, 38°21'E], 1.xi.1964, DJG, 10121 (DJGC); 1 ♂, S. Abyssinia [8°00'N, 38°00'E], 1.xi.1964, R.J. Stordy, 10120 (BMNH).

Ex. dux (Wiedemann), South Africa: 1 ♂, [Eastern] Cape Province, Grahamstown [33°18'S, 26°32'E], 12.iii.1959, C. Jacot-Guillarmoa, 10100; 1 ♀, same except 6.iii.1955, DJG, 10101 (DJGC); 1 ♂, Orange Free State, Ficksburg [28°52'S, 27°53'E], Feb.-Mar. 1932, J. Ogilvie, 10102 (BMNH).

Ex. efflatounbeyi Paramonov, Saudi Arabia: 1 ♂, Taif escarpment [21°15'N, 40°21'E], 30.ix.1983, A.R. Pittaway, 10135; 1 ♂, [Yemen], Lodar [Lawdar], Spac [13°53'N, 45°53'E], 15.v.1967, K.M. Guichard, 10136 (DJGC).

Ex. efflatouni Bezzi, 1 ♂, Arabia [Yemen], Lahij - Aden [13°01'N, 44°54'E], 11.v.1895, C.G. Nurse, 1090 (BMNH); 1 ♂ *Paratype*, Eritrea, Wakhiro [c. 15°45'N, 39°20'E], 11.ii.1958, DJG, 1088; 1 ♀, 19°07'E, 41°52'S, 25.xii.1971, 1089 (DJGC).

Ex. eritreae Greathead, Eritrea: *Paratypes*, 1 ♂, 1 ♀ Barentu District [15°08'N, 37°36'E], 18.ix.1960, DJG, 10204-5; 1 ♀, Dongolo Basso [3°15'N, 16°10'E], 15.xii.1955, DJG, 10127; 1 ♀, near Jebel, Gheddem [c. 15°30'N, 39°30'E], 2.iv.1958, DJG, 10126 (DJGC).

Ex. gentilis Bezzi, 1 ♀, E. Africa [Kenya], Nairobi, Zone H, H2S 3181 [1°17'S, 36°50'E], 24.xi.1963, L.C. Edwards, 10116 (BMNH); 2 ♂, Tanganyika [Tanzania], Great Ruana River, Mbuyuni [3°25'S, 37°56'E], 24.xi.1963, DJG, 10115, 10117; 1 ♀, Tanganyika [Tanzania], Tumba, Rukwa Dist. [8°00'S, 32°20'E], 13.xi.1953, R.F. Chapman, 10118 (DJGC).

Ex. grandis (Wiedemann), 1 ♂, Corsica [France], N.W. Pioggiola, 22, 28.vii.1963, D.H. & D.J. Hervey, 1063; 1 ♀, Graecia [Greece], Poros [37°31'N, 23°39'E], 1067; 1 ♂, Cyprus, Cape Eloca, Anti-Locust Res. Centre Reg. No. 453 [35°01'N, 33°10'E], 9.vii.1951, S.J. Curry, 1064; 1 ♀, Cyprus, Akrotiri Bay [34°35'N, 32°57'E], 28.vi.1934, G. Mavromoustakis, 1065 (BMNH).

Ex. heros (Wiedemann), South Africa: 1 ♂, Eastern Cape Prov. nr Fort Brown [33°08'S, 26°38'E], 4.xi.1992, D. & A. Greathead, 1099 (BMNH); 1 ♂, Natal, Umfolozi National Park, [28°30'S, 32°11'E], 29.xi.1992, D. & A. Greathead, 1097; 1 ♀, South Africa, TVL Province, Pretoria [25°45'S, 28°12'E], 15.xi.1959, DJG, 1098 (DJGC).

Ex. inequalipes Loew, 1 ♂, Tanganyika [Tanzania], Kilosa, Ilonga [9°10'S, 35°00'E], 25.iv.1967, DJG, 10113; 1 ♀, same except 11.iv.1967, I.A.D. Robertson, 10114 (DJGC); 1 ♀ [South Africa], Natal, Durban [29°53'S, 31°00'E], 6.xi.1900, GR, 10112 (BMNH).

Ex. luteicosta Bezzi, 1 ♂, East Africa [Tanzania], Dar-es-Salaam [6°51'S, 39°18'E], 20.xii.1918, A.W.J. Pomeroy, 1093 (BMNH); 1 ♀, Botswana, Bakgatla, Sebeto [22°00'S, 24°00'E], 10.xii.1968, W.R. Ingram, 1094; 1 ♀, Kenya Coast, W. of Tiwi [4°15'S, 39°34'E], 13.v.1963, DJG, 10207; 1 ♂, Kenya Coast, Magagoni [c. 3°35'S, 39°35'E], 14.v.1963, DJG, 10206 (DJGC).

Ex. punctulata Macquart, 1 ♀, Kenya, 40 mile S of Marsabit [2°20'N, 37°59'E], 16.ii.1964, DJG, 10124; 1 ♂, Urundi [Rwanda], Terr. de Muhinga, Collina Muramba (Busoni) [2°10'S, 29°15'E], 4.vi.1952, F.J.

Francois, 10123; 1 ♂, 1 ♀, Tanganyika [Tanzania], 50 - 70 mile N of Dodoma [6°10'S, 35°40'E], 20.iv.1967, DJG, 10210-1.

Ex. rubescens Bezzi, 1 ♀ *Syntype*, [Uganda], Oganeaux, Rumi River [2°00'N, 33°00'E], 12.xi.1912, Dr. J. Fraser, 1068 (BMNH); Kenya, 1 ♀, Kwale Forest [4°10'S, 39°27'E], 13.v.1963, DJG, 1075; 1 ♂, Tebere, C.P. [12°39'N, 4°48'W][South Africa, Cape Province], 19.x.1971, DJG, 10216; 1 ♀, near Kwale [4°10'S, 39°27'E], 16.viii.1974, DJG, 10217 (DJGC).

Ex. tamerlan Portschinski (syn *Ex.flavipennis* Brunetti), 1 ♀, Daluchistan [Afghanistan], Quetta [33°03'N, 66°09'E], Aug. 1902, C.L. Nurse, 10109; 1 ♂, Aug. 1902, 10110; 1 ♂ *Holotype* *Ex.flavipennis*, same 10111 (BMNH).

Ex. villaeformis Bezzi, 1 ♂, Tanganyika [Congo], Songia Dist. [6°22'S, 25°23'E], 12.xi.1932, R.F. Johnston, 10137 (BMNH); 1 ♀, S. Rhodesia [Zimbabwe], Que-Que [Kwekwe] [18°55'S, 29°49'E], 5.xii.1959, D. & A. Greathead, 10139 (DJGC); 1 ♂ [Zambia], NW. Rhodesia, Chilanga [15°39'S, 28°19'E], 24.xi.1913, P.v. Bruce Miller, 10138 (BMNH).

Subgenus *Argyrospila* Rondani

Type *Ex. jacchus* (Fabricius)

Ex. baccha Loew, 1 ♂, 1 ♀, Greece, Leboe Thermi atsa [37°47'N, 23°54'E], 18-28.vi.1995, D. & A. Greathead, 10202-3 (DJGC).

Ex. capucina (Fabricius), 1 ♀, Tuscany [Italy], Bagni di Lucca [44°01'N, 10°35'E], Aug. 1920, Querci, 1070; 1 ♂, N. Germany, Luneburg Heath, Schneverdingen [53°07'N, 9°48'E], 3.vii.1937, T.H. Roswell, B.J. Clifton, 1071 (BMNH).

Ex. cleomene Egger, Austria, 1 ♀, near Hollabrunn [48°34'N, 16°05'E], 15.vi.1975, DJG, 10198; 1 ♂, Steinfeld [52°35'N, 8°13'E], 13.vi.1975, DJG, 10199 (DJGC).

Ex. jacchus (Fabricius), 1 ♀, France, Aix-en-Provence [43°31'N, 5°27'E], 17.vi.1961, D.J. & R.H. Greathead, 1074; 1 ♂, France, Orange, Chateaufort [44°08'N, 4°48'E], 18.viii.1962, D. Shoder, 1072 (DJGC); 1 ♂, France, St. Martin-Vesubie, Alpes Maritimes [45°04'N, 7°15'E], 8.vii.1920, C.J. Wainwright, 1073; 1 ♂, Tuscany [Italy], Bagni di Lucca [44°01'N, 10°35'E], Aug. 1920, Querci, 1069; 1 ♀, Toscana Italia Centrale [Italy], Fiesole, Monte Fanna [43°48'N, 11°17'E], 12.vii.1918, Querci, 1079 (BMNH).

Subgenus *Defilippia* Lioy

Type *Ex. minos* (Meigen)

Ex. minos (Meigen), Turkey: 1 ♂, Antalya - Alanya [36°53'N, 30°42'E], 18-19.vii.1963, E. James, 10105; 1 ♂, Eskisehir - Kaymaz [39°46'N, 30°30'E], 27.vii.1962, Guichard & Harvey, 10104; 1 ♀, Icel [Mersin], Silifke - Adana [36°22'N, 33°57'E], Jul-63, E. James, 10103 (BMNH).

Ex. nigrifimbriata Hesse, 1 ♂, Eritrea, Salamona [c. 15°20'N, 39°10'E], 9-10.iv.1961, DJG, 1096; 1 ♀, same except 29.iv.1961, 1095; 1 ♂, 2 ♀, Yemen, near Hodeida [14°48'N, 42°56'E], 17.ix.1962, G. Popov, 10119, 10208-9 (DJGC).

Ex. onusta (Walker), 1 ♀, Cyprus, Episkopi [34°47'N, 32°31'E], 5.vii.1923, G.A. Mavromoustakis, 10175 (BMNH); 1 ♂, Greece, Leboe Thermi atsa [37°47'N, 23°54'E], 18-28.vi.1995, D. & A. Greathead, 10186 (DJGC); 1 ♂, Palestine [Israel], Galilee [HaGalil] [32°54'N, 35°20'E], 1924, O. Theodor, 10174 (BMNH).

Atrichochira Hesse

Type: *At. pediformis* (Bezzi).

At. inermis (Bezzi), 1 ♂ *Holotype*, Nyasaland [Malawi], N. Nyasa, Lake Nyasa, lake shore near deep Bay [Chilumba] [10°25'S, 34°18'E], 25.xii.1909, Dr. J.B. Davey, 10185 (BMNH); 2 ♀, Portuguese East Africa [Mozambique], Lorenzo Marques [Maputo], Incanine [25°58'S, 32°35'E], 12.xi.1907, F.D. McMillan, 10187–8 (BMNH).

At. pediformis (Bezzi), 1 ♀, Central Africa [Tanzania], L. Tanganyika, Lueba nr Baraka [4°09'S, 29°05'E], 4.iv.1927, R. Bois, 10182; 1 ♂, 1 ♀, *Syntypes*, Nyasaland [Tanzania], Marumba [11°19'S, 36°53'E], 17.xii.1910, Dr. Grsold, 10180–1; 1 ♂, [Burundi], Rumonge [3°58'S, 29°26'E], 8.xii.1949, 10183; 1 ♀, Urundi [Burundi], Terr de Bururi, c. liae, Rumonge (Lac Tanganyika) [3°58'S, 29°26'E], 24.v.1949, F.J. Francois, 10184 (BMNH); 1 ♂, Urundi, Terr de Usumbura (Lac) [Bujumbura] [03°22'S, 29°21'E], 19.iv.1953, F.J. Francois, 10230 (USNM).

Colossoptera Hull

Type: *Colossoptera latipennis* (Brunetti).

Colossoptera latipennis, India: 1 ♂, Assam, Khasi Hills [25°35'N, 91°38'E], 1056; 1 ♂, same except Jan. 1895, Native collector, 1057; 1 ♂ 1058; 1 ♀, Shillong [25°34'N, 91°53'E], Oct. 1916, 1080 (BMNH).

Diatropomma Bowden

Type: *Diatropomma carcassoni* Bowden.

Diatropomma: carcassoni, 2 ♂, 1 ♀ [Kenya], Stony Athi [1°36'S, 37°01'E], 10159–61 (BMNH).

Heteralonia Rondani

Subgenus *Acrodisca* Bezzi

Type *Het. (Acrodisca) angulata* (Loew)

Het. (Acrodisca) suffusa (Klug), 1 ♂, Asia Minor [Turkey], Ankara [39°55'N, 32°50'E], 10.vii.1931, B.P. Uvarov, 1052; 1 ♂, Palestine [Israel], Mount of Olives [Jerusalem] [31°47'N, 16.vi.1918, Major E.E. Austen, 1053 1 ♀, Palestine [Jordan], Amman E of Jordon [31°57'N, 35°56'E], 25.viii.1921, P.A. Buxton, 1054 (BMNH).

Het. (Acrodisca) umbrosa (Loew), 1 ♀, Angola, (A40) Tundavala, 8 - 10 mls NW Sa da Bandeira [Lubango] [14°55'S, 13°30'E], 27–29.iii.1972, Southern African Expedition, 1051; 1 ♂, South Africa, Pretoria, Transvaal [Gauteng prov.], [25°45'S, 28°12'E], 16.i.1917, 1050 (BMNH); Tanganyika [Tanzania], 1 ♀, Dodoma Dist, hills S of Meia Meia [5°50'S, 35°48'E], 15.v.1968, DJG, 1060; 1 ♂, Kilosa Ilonga [9°10'S, 35°00'E], 4.v.1966, DJG, 1059 (DJGC).

Subgenus *Heteralonia* Rondani

Type *Het. (Heteralonia) oculata* (Macquart)

Het. (Heteralonia) oculata (Macquart), 1 ♀, Eritrea, Barentu District, [15°08'N, 37°36'E], 18.ix.1958, DJG, 1041; 1 ♀, same except 19.ix.1958, 10219 (DJGC); 1 ♂ *Pleisioparatype*, [Ghana] Bawku [11°05'N, 00°11'W], 28.x.1953, 1040 (BMNH); 1 ♂, Karamaja, Kapedongoa Ridge, [12°24'N, 9°35'E], 11.x.1962, DJG, 1039; 1 ♂, Tanganyika [Tanzania], Lake Manyara National Park [3°36'S, 35°56'E], 1.v.1966, DJG, 10218 (DJGC).

Subgenus *Homolonia* Bowden

Type: *Het. megerlei* (Meigen).

Het. (Homolonia) megerlei (=Ex. compar Bezzi), 1 ♀, Cyprus, Nr Ktima [Paphos], [34°45'N, 32°25'E], 3.v-15.vi.1901, Miss D.M.A. Bates, 1061; 1 ♂, Jordan, Zerga R. Valley [32°20'N, 38°04'E], 8.v.1953, Trevor Trought, 1055; 1 ♂, Yugoslavia, Macedonia, Prepa Gaul Otesevo [40°59'N, 20°55'E], 9–21.vi.1955, R.L. Coe, 1077; 1 ♀ *Holotype Ex. (Defilippia) compar* Bezzi, N. Nigeria, Wushishi, Naduna River, [9°42'N, 6°00'E], 30.x.1909, Dr. A. Neale WAMS, 1078; 1 ♂, Syria [35°10'N, 38°34'E], 1087; 1 ♂, same except 30.x.1909, 10153 (BMNH).

Subgenus *Isotamia* Bezzi

Type *Het. (Isotamia) daveyi* (Bezzi)

Het. (Isotamia) daveyi (Bezzi) (=Ogilviella tridentata Paramonov), Belgian Congo [Zaire], 1 ♂ *Holotype Ogilviella tridentata* Paramonov, Elisabethville [Lubumbashi] [11°41'S, 27°29'E], 8–11.viii.1931, Mrs. L. Olgilvie, 1082; *Paratypes Ogilviella tridentata*, 1 ♀, same except 11–17.ix.1931, J. Olgilvie, 1081; 1 ♂, same except Katanga, Biane [00°N, 25°E], 8–11.viii.1931, 1076; 1 ♀, Tenke, Katanga [10°34'S, 26°12'E], 30.vii-9.viii.1931, Mrs. L. Olgilvie, 1083 (BMNH).

Het. (Isotamia) lepidogastra (Bezzi), 1 ♂, 1 ♀, Kenya, Masai [Keiyani], Bissel [1°01'S, 34°38'E], 27.iv.1967, DJG, 10212–3 (DJGC); 1 ♀, Nyasaland [Tanzania] [4°18'S, 34°40'E], R. Drummond, 1062 (BMNH).

Subgenus *Mesoclis* Bezzi

Type *Het. (Mesoclis) pygmalion* (Fabricius)

Het. (Mesoclis) pygmalion, 1 ♂, 1 ♀, Algeria, 1042–3; 1 ♂, Tripolitania [Libya], Lepti Magna [32°59'N, 14°15'E], 2.vi.1951, K.M. Guichard, 1044 (BMNH).

Subgenus *Metapenta* Bezzi

Type *Het. (Metapenta) pentala* (Macquart)

Het. (Metapenta) dubia (Ricardo), South Africa: 1 ♂, Pretoria, Transvaal [Gauteng prov.], WL District, [25°45'S, 28°12'E], 26.xii.1912, H.K. Munro, 1046; 1 ♂ *Syntype*, 1 ♀, same except 2.vi.1951, K.M. Guichard, 1045, 1047 (BMNH).

Subgenus *Zygodipla* Bezzi

Type: *Het. (Zygodipla) algira* (Fabricius)

Het. (Zygodipla) melanoptera (Wiedemann), Cyprus: 1 ♀, near Ktima [Paphos] [34°45'N, 32°25'E], 3.iv.-15.vi.1901, Miss D.M.A. Bates, 10177; 1 ♂, Kyrenia Pass [35°20'N, 33°20'E], 2.vi.1951, S.J. Curry, 10178; 1 ♂, Nicosia [35°09'N, 33°21'E], 29.ix.1941, H.M. Morris, 10179 (BMNH).

Het. (Zygodipla) mucorea (Klug), 1 ♂, Arabia, [Saudi Arabia], Bureida [Buraydah] [26°20'N, 43°59'E], 3.iv.1962, G. Popov, 10214; 1 ♀, Saudi Arabia, Badr [17°52'N, 43°43'E], 3.iii.1962, G. Popov, 10134; 1 ♀, Arabia [Saudi Arabia], Nefud [28°30'N, 41°00'E], 22.iii.1962, G. Popov, 10215; 1 ♂, Moqaq [Mawqaq] [27°25'S, 22°08'E], 20.iii.1962, 10133 (DJGC).

Het. (Zygodipla) singularis (Macquart), 1 ♀, Palestine [Israel], Jerusalem [31°47'N, 35°15'E], 19.iii.1922,

P.A. Buxton, 1066 (BMNH); 2♂, Saudi Arabia, Hail, Locust Research Station, Jeddah [27°31'N, 41°45'E], 19.v.1972, 1048–9 (DJGC).

Heteralonia unplaced

Het. rivularis (Meigen), 1♀, Anatolien [Turkey], Balikesir nahe Bezirci (zw Edincik u Bugdayli); 40°15'N, 27°47'E, 22.vii.1978, H. & U. Aspöck, H. & R. Rausch, P. Ressler, 10106; 1♂, Spain, near Madrid [40°25'N, 3°43'W], 19.vi.1961, D.J. & A.K. Greathead, 10107 (DJGC); 1♂, S. France, le Bequssset, Var [43°39'N, 7°12'E], 1899, 10108 (BMNH).

Hyperalonia Rondani

Type species *Hyperalonia erythrocephla* (Fabricius) (= *morio* ssp. *erythrocephla* (Fabricius))

Hyperalonia morio (Fabricius), 1♂, Argentina, S. d. Estero, 31 k SW Anatuya [28°26'S, 62°48'W], 22–25.xi.1979, C. & M. Vardy, 1085 (BMNH); 1♂, Brasilien, Nova Teutonia, 27°11'S, 52°23'E, 20.ii.1938, Fritz Plaumann, 1084 (BMNH); 1♀, Brazil, R.G.S. Pelotas [31°45'S, 52°20'W], 25.xi.1956, C.M. Biezanko, 1086 (BMNH).

Ligyra Newman

Ligyra enderleini (Paramonov), 1♀, Kenya, Magagoni [c. 3°35'S, 39°35'E], 18.vi.1962, DJG, 10167 (DJGC); 1♂, Tanganyika [Tanzania], Old Shinyanga [3°40'S, 33°25'E], 7.iv.1952, E. Burtt, 10168 (BMNH).

Ligyra mars (Bezzi), 1♂, 1♀, Nyasaland [Tanzania], Nalosa Pb, Mt Mlanjo [10°28'S, 25°16'E], 8.x.1913, S.A. Neave, 10171–2 (BMNH); 1♂, Zambia, Mcombo woodland, Mumbwa Dist. [15°00'S, 27°01'E], 16.viii.1980, J.N. Pollock, 10173 (BMNH).

Ligyra monacha (Klug), 1♂, W. Saudi Arabia, Jeddah [Jiddah] airport [21°30'N, 39°10'E], 1.x.1982, A.R. Pittaway, 10162 (BMNH); 1♀ [Sudan], Khartoum [15°33'N, 32°32'E], 26.viii.1927, H.W. Bedford, 10163 (BMNH); 1♂, 1♀, Arabia, near Lith [Al Lith] [20°10'N, 14°20'E], 15.iii.1969, G.B. Popov, 10220–1 (DJGC);

Ligyra paris (Bezzi), 1♀, Eritrea, Ailet [15°34'N, 39°10'E], 19.ii.1956, DJG, 10223 (DJGC); 1♀, Ethiopia, Lake Shala, 7°20'N, 39°01'E, 12.viii.1975, R. Baker, 10170 (BMNH); 1♂, Kenya, near Voi [3°23'S, 38°35'E], 21.ix.1967, DJG, 10222 (DJGC); 1♂, Tanganyika [Tanzania], Chimala [8°52'S, 34°02'E], 12.iv.1952, W. Peters, 10169 (BMNH).

Ligyra sisyphus (Fabricius), 1♀, Abyssinia [Ethiopia], [8°00'N, 38°00'E], Nov. 1911, R.J. Stordy, 10165 (BMNH); 1♂ [Kenya], Ukamba, Makueni [1°48'S, 37°37'E], May-47, van Someren, 10164 (BMNH).

Ligyra venus (Karsch), 1♀, Tanganyika [Tanzania], Lake Manyara National Park [3°36'S, 35°56'E], 1.v.1966, DJG, 10166, 10189–94 (DJGC).

***Litorhina* Bowden**

Lit. allothryis (Bezzi), 1 ♂, British South Africa [South Africa], Kabete [25°05'S, 2854'E], 5.vi.1916, W.J. Anderson, 10146; 1 ♀, Rhodesia [Zimbabwe], Bulawayo [20°10'S, 28°43'E], 1909, E.C. Chubb, 10147 (BMNH); 1 ♂, 1 ♀, Tanganyika [Tanzania], Juani Est. near Kilosa [9°10'S, 35°00'E], 19.v.1968, DJG, 10224–5 (DJGC).

Lit. dentifera (Bezzi), 1 ♂, Nyasaland [Malawi], Zomba [15°22'S, 35°22'E], 20.viii.1910, H.S. Stannus, 10151; 1 ♀, Zambesi [Mozambique], Caia [17°50'S, 35°21'E], 20.viii.1910, H. Swale, 10152 (BMNH);

Lit. erythraea (Bezzi), 1 ♂, Eritrea, Debaroa [15°06'N, 38°51'E], 4.xi.1958, DJG, 10145 (BMNH); 1 ♂, Ethiopia, Ch'erch'er Hills [12°33'N, 39°50'E], 4.xi.1964, DJG, 10143 (DJGC); 1 ♀, South Africa, Eastern Cape Prov. nr Fort Brown [33°08'S, 26°38'E], 21.xi.1992, D. & A. Greathead, 10144 (DJGC).

Lit. macroptera (Loew), 1 ♂, Ethiopia, T'is Isat Falls [11°32'N, 37°30'E], 27.x.1964, DJG, 10149 (DJGC); 1 ♀, South Africa, Cape Province, Norvalspont [30°38'S, 25°27'E], 9.xi.1966, DJG, 10148 (DJGC); 1 ♂, South Africa, Cape Province, Sea Point [Cape Town] [33°56'S, 18°28'E], 9 Nov. 1931-Jan. 1932, Mrs L. Ogilvie, 10150 (BMNH).

Lit. pseudocollaris (Bezzi), 1 ♀, Kenya, Mida Creek, Watamu [3°23'S, 40°00'E], Nov. 1968-Jan. 1969, G.R. Cunningham van Someren, 10140 (DJGC); 1 ♂, 10141 (DJGC); 1 ♀, Uganda, Karanoja (J-) [2°00'N, 33°00'E], Nov. 1968-Jan. 1969, van Someren, 10142 (BMNH).

***Micomitra* Bowden**

Type: *Micomitra parvicellula* (Bezzi).

Micomitra parvicellula, 1 ♂, [Zimbabwe], S. Rhodesia, Bulawayo [20°10'S, 28°43'E], 28.ix.1920, Mrs L. Ogilvie, 10197; 1 ♀, [Zaire], S. Rhodesia, Matapo Hills [14°34'S, 24°46'E], Apr. 1932, Mrs L. Ogilvie, 10196 (BMNH).

Micomitra stupida (Rossi), 1 ♂, Tuscany [Italy], Bagni di Lucca [44°01'N, 10°35'E], Aug. 1920, Querci, 10128 (BMNH); France: 1 ♀, Alixan, [44°58'N, 5°01'E], Aug. 1916, Drome, 10227 (BPBM); 1 ♀, Gironde [44°32'N, 1°32'E], 9.viii.1939, H. Oldroyd, 10129 (BMNH); 1 ♂, Taulignan [44°26'N, 4°58'E], 27.vii.1967, P. du Merle, 10226 (NLEC).

***Pterobates* Bezzi**

Type: *Pterobates apicalis* (Wiedemann)

Pterobates apicalis South Africa (Cape Province): 1 ♂, 1 ♀, Matjiesfontein, [33.14S, 20.35E], Brit. Mus. 1929–15, 1–18.vii.1928, R.E. Turner, 10130, 10154; 1 ♂, Mossel Bay [Mosselbaai], [14°12'S, 22°08'E], Brit. Mus. 1922–25, Dec. 1921, R.E. Turner, 10155 (BMNH).

Pterobates pennipes (Wiedemann), 1 ♂, S. China, Hong Kong [22°27'N, 114°06'], 6.i.1949, J.C. Bowring, 10156; 1 ♂ [Indonesia, Java], Malang [7°59'S, 112°45'E], July 1903, J.C. Bowring, 10157; 1 ♀, India, Assam, N. Khasi Hills [Meghalaya], lower ranges [25°35'N, 91°38'E], 1878, A.C. Lennell, 10158 (BMNH); 1 ♂, P.I. [Philippines], Palawan, 1.6 km S of Tarumpitao Pt [10°00'N, 118°45'E], 28.v.1958, R.E. Milliron, 10228; 1 ♀, P.I. [Philippines], Palawan, 1.6 km S of Tarumpitao Pt [10°00'N, 118°45'E], 23.v.1958, R.E. Milliron, 10229 (BPBM).