

## A survey of the helconine species of the Australian Region (Hymenoptera, Braconidae: Helconinae)

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**Abstract** – Currently 39 helconine species (presented in a checklist), belonging to 15 genera and 3 tribes (Brulleiini, Diospilini and Helconini) are known in the Australian Region (Australia, New Guinea, New Zealand, Tasmania). One new genus (*Notodios*) and seven new species (*Diospilus as-simulatus*, *D. bogdus*, *D. crassus*, *D. rieki*, *D. tasmanicus*, *D. veptus* and *Notodios fuscus*) are described. Redescriptions are given for *Aspicolpus hudsoni* Turner, 1922, *Aspigonus antipodum* (Turner, 1922) comb. n. and *Diospilus ruficeps* Szépligeti, 1905. Keys to the helconine genera and to the *Diospilus* species of the Australian Region are given. The name *Diospilus curtulus* Papp, 2012 that incorrectly appeared above the description as '*Diospilus curtus* sp. n.' is rectified. New faunistic data and taxonomic features are presented for the Neotropical *Diospilus fulvus* Papp, 1995; the species is new to Honduras. With 182 figures.

**Key words** – Australia, Brulleiini, description, Diospilini, Helconini, identification keys, New Guinea, New Zealand, redescription, Tasmania, type depository

### INTRODUCTION

The first Australian helconine species, *Helcon* (now *Austrohelcon*) *indultor* Erichson, 1841 was described from Tasmania. Up to 2012 a total of 32 Helconinae species were registered in the Australian Region belonging to the three tribes: Brulleiini (2 species in one genus), Diospilini (16 species in seven genera) and Helconini (14 species in six genera) (see also the chapter “Checklist of Helconinae in the Australian Region”).

In the present paper six new *Diospilus* Haliday, 1833 species and one new genus, *Notodios* sp. n. with its type species are described. Redescriptions are given to three species: *Aspicolpus hudsoni* Turner, 1922, *Aspigonus antipodum* (Turner, 1922), and *Diospilus ruficeps* Szépligeti, 1905. The redescriptions are based on the type specimens.

Currently, the total number of the Helconinae species is 39 (belonging to 15 genera) in the Australian Region (Australia, New Guinea, New Zealand, Tasmania).

The following abbreviations are applied in the keys, descriptions and red-descriptions:

Acronyms of depositories: ANIC = Australian National Insect Collection, Canberra, HNHM = Magyar Természettudományi Múzeum, Budapest (Hungarian Natural History Museum), BMNH = Natural History Museum, London.

Eyes: OOL = shortest distance between hind ocellus and compound eye, POL = shortest distance between hind two ocelli.

Alar vein abbreviations are after VAN ACHTERBERG (1979: 248–249 and 1993: 5). Forewing veins: *cu-a* = nervulus, *r* = first section of the radial vein, *r-m* = second transverse cubital vein, *CU1b* = apical end of subdiscal vein, *1-CU1* and *2-CU1* = first and second sections of the discoidal vein, *1-M* = basal vein, *1-RI* + *2-RI* = first and second sections of the metacarpal vein, *1A* + *2A* and *1-1A* = first and second sections of the submedian (or longitudinal anal) vein, *1-SR* = first section of the basal vein, *1-SR-M* = first section of the cubital vein, *2A* and *a* = first and second transverse anal vein (usually vestigial), *2-1A* = subdiscal (or second section of the submedian) vein, *2-SR* = first transverse cubital vein, *SR1* = third section of the radial vein, *3-SR* = second section of the radial vein. Hindwing veins: *cu-a* = nervellus, *M-CU* = medially vein, *1-1A* = first section of submediallan vein.

Surface sculpture terminology is used after EADY (1968) and HARRIS (1979). Structure terminology is used after GAULD & BOLTON (1988: 58–74).

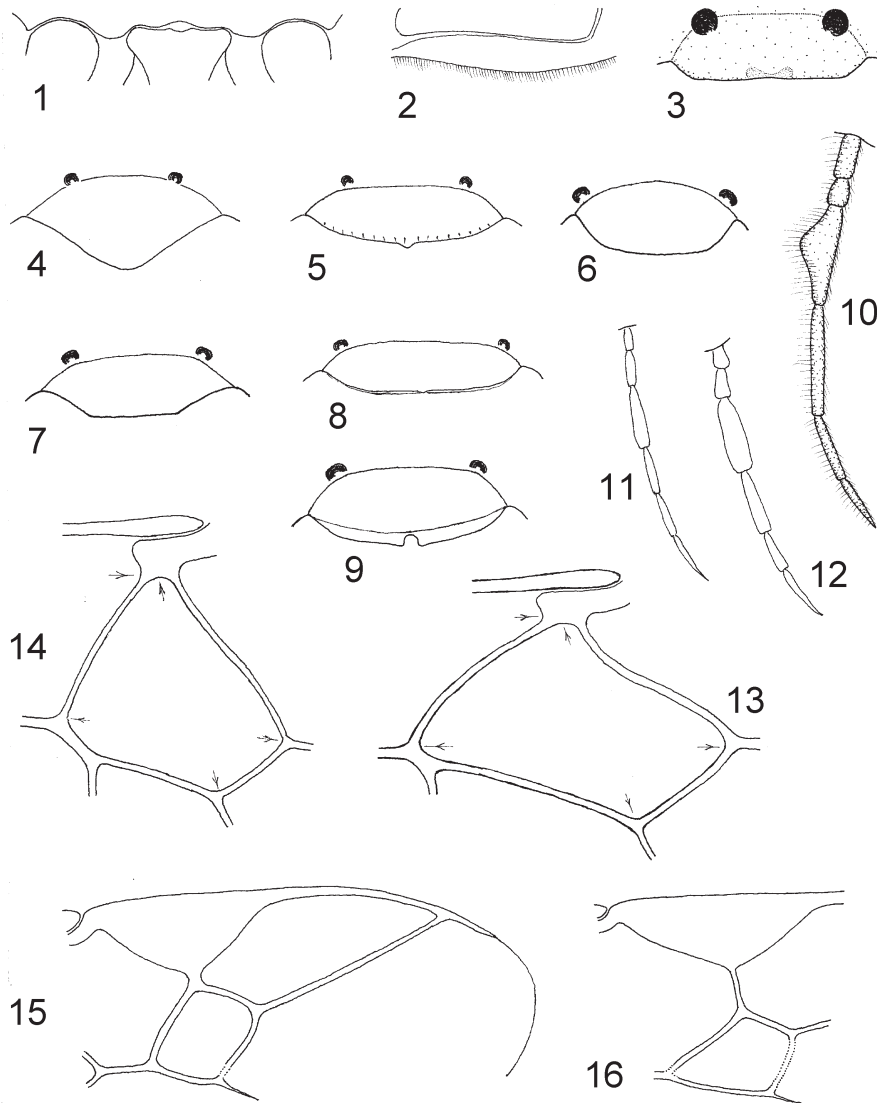
Other abbreviations: ACT = Australian Capital Territory, NSW = New South Wales.

#### KEY TO THE GENERA OF HELCONINAE IN THE AUSTRALIAN REGION (Australia, New Guinea, New Zealand, Tasmania)

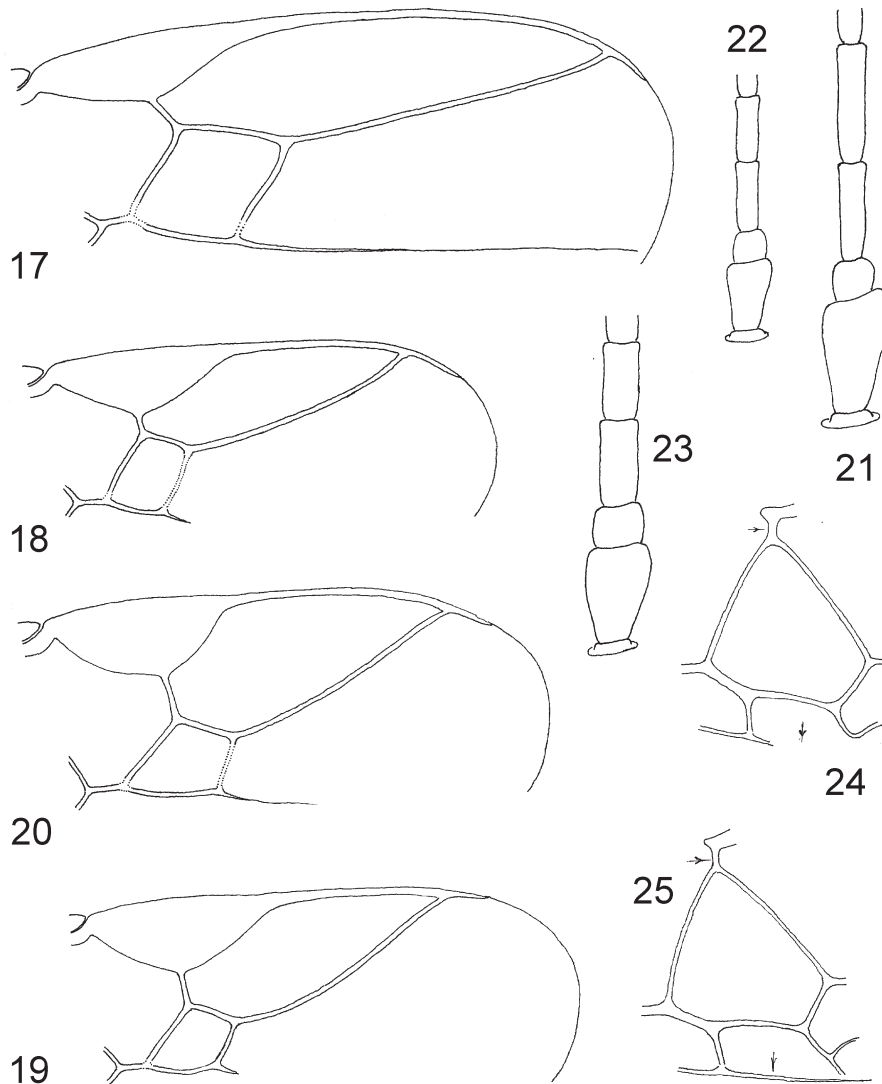
- 1 (24) Forewing: recurrent vein (*m-cu*) inserted into first submarginal cell; submedian vein with one (*2A*) or two (*2A*, *a*) transverse anal (usually vestigial) veins (Figs 29, 32, 34, 49, 131, 177). Ground colour of body brown to black with more or less light colour pattern.
- 2 (13) Metasoma and hind coxae articulated to propodeum on the same level (Fig. 1). Hindwing: transverse anal vein (*2A*) missing (Fig. 2). Body usually smaller: 2–5 mm long; metasoma not longer than mesosoma (minute deviations feasible) (tribe Diospilini Förster, 1862)
- 3 (4) Lower margin of clypeus medially tuberculiform or angularly produced (Fig. 4). Third segment of maxillary palp flattened as in Fig. 10. First discal cell sessile, i.e. *1-SR* missing. Male flagellum distally thickened. – One species in New Zealand ..... *Aspigonus* Wesmael, 1835\*
- 4 (3) Lower margin of clypeus truncate (Figs 6–7), medially with small tooth (Figs 5, 8) or semi-circularly excised medially (Fig. 9). Third segment of maxillary palp not flattened as in Fig. 11, or third segment somewhat swollen as in Fig. 12. Male flagellum not thickened.
- 5 (10) Forewing: *1-SR* missing, i.e. first discal cell sessile (Figs 13, 14, see horizontal arrow above), second submarginal cell rhomboid (Figs 15, 17) except *Taphaeus* with trapezoid cell (Fig. 16).

\* The genus *Schauinslandia* Ashmead, 1900 (known from Chatham Islands, New Zealand, by three species) is closest to *Aspigonus* Wesmael, 1835 – following MUSEBECK's taxonomic remark in WATANABE (1972: 14). However, both WATANABE (1972) and FISCHER (1979) refrained from presenting a distinction between the genera *Aspigonus* and *Schauinslandia*. ASHMEAD's (1900: 626–627) separation of his genus from *Aspicolpus* is doubtful, because *Aspicolpus* is assigned to the tribe Helconini and *Schauinslandia* to Diospilini. An unambiguous differentiation of *Schauinslandia* in the tribe Diospilini is needed, the genus in nature is unknown to me.

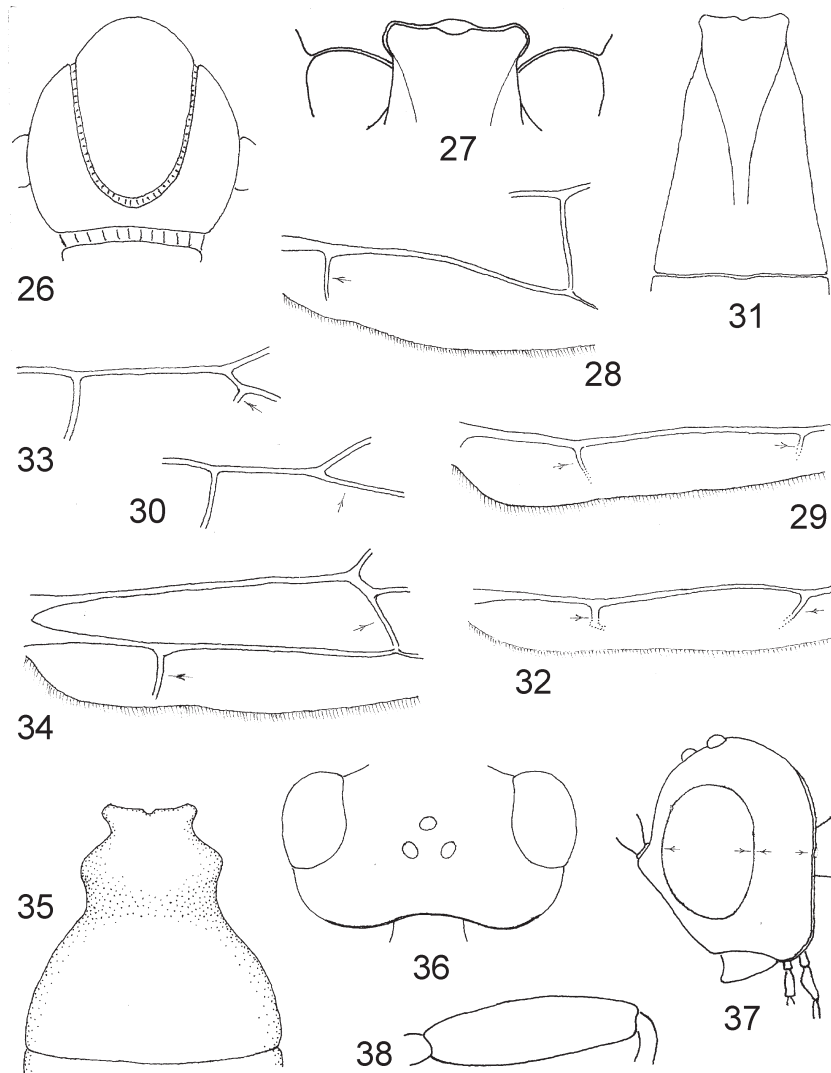
- 6 (7) Forewing: second submarginal cell trapezoid, i.e. narrowing anteriorly: 2-SR clearly longer than *r-m* and these two veins converging anteriorly (Fig. 16). Second tergite sharply delimited from laterotergite. – One species in Australia ..... *Taphaeus* Wesmael, 1835
- 7 (6) Forewing: second submarginal cell rhomboid, i.e. anteriorly not narrowing: 2-SR and *r-m* parallel or subparallel (Figs 15, 17, 18). Second tergite not sharply delimited from laterotergite.
- 8 (9) Second flagellomere somewhat, albeit distinctly, longer than first flagellomere (Fig. 21). Forewing: first discal cell (D1) wide, 1.5 times wider than high as in Fig. 13. Body large, 10 mm long. – One species in New Guinea ..... *Depelbus* Papp, 1993
- 9 (8) Second flagellomere shorter than (Fig. 23) or at most as long as (Fig. 22) first flagellomere. Forewing: first discal cell less wide, usually about as long as wide (minute deviations feasible) (Fig. 14). Body small, 2–5 mm long. – 15 species in Australia, New Zealand, Tasmania ..... *Diospilus* Haliday, 1833
- 10 (5) Forewing: 1-SR present (Figs 24, 25, see arrow above), second submarginal cell rhomboid (Figs 19, 20).
- 11 (12) Notaulix vestigial and smooth, first subdiscal cell posteriorly open: 2-1A fully missing (Fig. 24, see vertical arrow below). – One species in Australia ..... **Notodios** gen. n.
- 12 (11) Notaulix present: evenly sulciform deep and subcrenulated (Fig. 26). First subdiscal cell posteriorly closed: 2-1A present albeit distally with weakening sclerotization (Fig. 25, see vertical arrow below). – One species in Australia ..... *Topaldios* Papp, 1995
- 13 (2) Metasoma articulated to propodeum ± above articulation level of coxae to propodeum (Fig. 27). Hindwing: transverse anal vein (2A) present (Fig. 28, see arrow). Body usually large, (4–) 5–15 mm long, metasoma usually longer than mesosoma (tribe Helconini Förster, 1862).
- 14 (19) Forewing: submedian (or longitudinal anal) vein (1A+2A and 1-1A) with one transverse vein (2A) (Fig. 34, see lower arrow).
- 15 (16) Second tergite with strong medio-longitudinal carina. Propodeum and tergites 1–2 with dense greyish pubescence. – Two species in Australia and Tasmania ..... *Trichiobelcon* Turner, 1918
- 16 (15) Second tergite without strong carina. Propodeum and tergites 1–2 at most hairy.
- 17 (18) Frons deeply excavated. Forewing: *cu-a* distinctly postfurcal. – Five species in Australia ..  
..... *Austrohelcon* Turner, 1918
- 18 (17) Frons not excavated. Forewing: *cu-a* somewhat postfurcal (Fig. 34, see upper arrow) to interstitial. – Two species in New Zealand ..... *Aspicolpus* Wesmael, 1838
- 19 (14) Forewing: submedian (or longitudinal anal) vein (1A+2A and 1-1A) with two (rather vestigial) transverse anal veins (2A and *a*) (Figs 29, 32, see arrows).
- 20 (21) Median lobe of mesoscutum deeply depressed between pair of lateral lobes. Hind femur and tibia thick. – One species in Australia ..... *Parahelcon* Kokujev, 1901
- 21 (20) Median lobe of mesoscutum not depressed as usually.
- 22 (23) First tergite as long as broad or slightly longer than broad posteriorly, carination missing, more or less bulbously swollen on either side antero-dorsally (Figs 1a–b and 3f–g in QUICKE & HOLLOWAY 1991: 116, 118; Fig. 35). Hindwing: *m-cu* always present rather vestigial (Figs 3c and 3i in QUICKE & HOLLOWAY 1991: 116, 118; Fig. 33, see arrow). – Three species in Australia ..... *Calohelcon* Turner, 1918
- 23 (22) First tergite at least 1.3–1.5 times as long as broad posteriorly, anterior carination present, not bulbously swollen (Fig. 31). Hindwing: *cu-a* always missing (Fig. 30, see arrow). – One species in Australia ..... *Helcon* Nees, 1812
- 24 (1) Forewing: *m-cu* inserted into second submarginal cell (Fig. 180, see arrow), vein 1A + 2A and 1-1A with two distinct 2A and *a* (Fig. 181, see arrows). Hindwing: *cu-a* directed outwards and weakly S-shaped (Fig. 182, see arrow). Ground colour of body reddish yellow or brownish yellow to yellow (tribe Brulleiini van Achterberg, 1983). – Two species in New Guinea ..... *Brulleia* Szépligeti, 1904



**Figs 1–16.** *Diospilus sulphureus* Papp, 2012: 1 = lower posterior part of propodeum and pair of coxae (basal part) + anterior base of first tergite, 2 = right hindwing: first section of vein 1–1A. – Clypeus in frontal view: 3 = *Aspigonus antipodum* (Turner, 1922), 4 = *Aspigonus diversicornis* Wesmael, 1835, 5 = *Depelbus biroi* (Szépligeti, 1902), 6 = *Diospilus berbus* Papp, 2012, 7 = *D. rubroater* Papp, 2012, 8 = *D. sulphureus* Papp, 2012, 9 = *D. tenuitus* Papp, 2012. – Maxillary palp: 10 = *Aspigonus antipodum* (Turner, 1922), 11 = *Diospilus veptus* sp. n., 12 = *D. sulphurator* Papp, 2012. – First submarginal cell of forewing: 13 = *Depelbus biroi* (Szépligeti, 1902), 14 = *Diospilus sulphureus* Papp, 2012. – *Diospilus rubroater* Papp, 2012: 15 = distal part of right forewing. – *Taphaeus robiginosus* Papp, 2003: 16 = right forewing: pterostigma and second submarginal cell



Figs 17–25. Distal part of right forewing: 17 = *Depelbus biroi* (Szépligeti, 1902) (female holotype), 18 = *Diopilus rieki* sp. n. (female holotype), 19 = *Notodios fuscus* gen. et sp. n. (male holotype), 20 = *Topaldios primus* Papp, 2012 (female holotype). – Antennomeres 1–4: 21 = *Depelbus biroi* (Szépligeti, 1902) (female holotype), 22 = *Diopilus rieki* sp. n. (female holotype), 23 = *D. sulphureus* Papp, 2012 (female holotype). – First discal and first subdiscal cells of right forewing: 24 = *Notodios fuscus* gen. et sp. n. (male holotype); 25 = *Topaldios primus* Papp, 2012 (female holotype)



**Figs 26–38.** *Topaldios primus* Papp, 2012 (female holotype): 26 = mesoscutum with notaulix and prescutellar furrow. – *Helcon claviventis* Wesmael, 1835 (female): 27 = lower-posterior part of propodeum and pair of coxae (basal part) + anterior base of first tergite, 28 = right hindwing:  $1+1A$  with  $2A$ , 29 = right forewing:  $1A+2A$  and  $1-1A$  with  $2A$  and  $a$ , 30 = right hindwing:  $M+CU$  and  $1M$  without  $m-cu$  (see arrow), 31 = first tergite. – *Calohelcon roddi* Quicke et Holloway, 1991: 32 = right forewing:  $1A+2A$  and  $1-1A$  with  $2A$  and  $a$  (see arrows), 33 = right hindwing:  $M+CU$  and  $1M$  with vestigial  $m-cu$  (see arrow). – *Aspicolpus hudsoni* Turner, 1922 (male holotype): 34 = right forewing:  $M+CU / 1A+2A$  and  $1 + 1A$  with  $cu-a$  (see upper arrow) and  $2A$  (see lower arrow). – *Calohelcon obscuripennis* Turner 1918: 35 = first tergite. – *Aspigonus antipodum* (Turner, 1922) (female holotype): 36 = head in dorsal view, 37 = head in lateral view, 38 = hind femur

## DESCRIPTIONS AND REDESCRIPTIONS

*Aspicolpus hudsoni* Turner, 1922  
(Figs 34, 39–46)

*Aspicolpus hudsoni* TURNER, 1922: 279 male, type locality: “Kinloch, Lake Wakatipu, New Zealand” (in description), male holotype (“Type”) in BMNH (3.c.888); examined. – SHENEFELT 1970: 188 (literature up to 1928); GOURLAY 1928: 369.

*Material examined* – Male holotype: “New Zealand, Otago, Kinloch, Lake Wakatipu”, January 1921, leg. G. V. Hudson.

*Redescription of the male holotype* – Body 10 mm long. Antennae deficient: right antenna with 34 and left antenna with 33 antennomeres (according to the original description antenna 11 mm long and with 46 antennomeres). First flagellomere 3.75 times as long as broad, further flagellomeres gradually shortening and attenuating so that 34th or 33rd flagellomere twice as long as broad. – Head in dorsal view less transverse (Fig. 39), 1.7 times as broad as long, eye slightly protruding and as long as temple, temple weakly rounded, head between eyes somewhat broader than between temples, occiput not excavated and margined. Ocelli middle-sized, elliptic, OOL 2.1 times as long as POL. Eye in lateral view 1.6 times as high as wide and as wide as temple (Fig. 40, see arrows). Clypeus 2.3 times as wide as high, its lower margin medially weakly pointed (Fig. 41). Maxillary palp about as long as height of head and with six segments, third segment flattened and three sided (Fig. 40, see arrow below); labial palp with four segments. Head punctured, interspaces more or less greater than punctures (Fig. 40), vertex and occiput with rather disperse hairpunctuation, shiny.

Mesosoma in lateral view 1.7 times as long as high. Notaulix evenly deep and subcrenulated. Pronotum subrugulose-punctured; mesoscutum, scutellum and mesopleuron with similar punctation to that of head. Propodeum rugose, anteriorly with a smooth area divided by a medio-longitudinal rugose line, posterolateral pair of areolae smooth and impressed. – Hind coxa swollen (compared to coxae 1–2) and punctured; hind femur 4.8 times as long as broad medially (Fig. 42). Hind basitarsus as long as tarsomeres 2–4 combined. Hind claw weakly downcurved, its basal lobe moderately distinct as in Fig. 43.

Forewing almost as long as body (9 mm long). Pterostigma (Fig. 44) 3.6 times as long as wide, issuing *r* clearly distally from its middle, *r* somewhat shorter than width of pterostigma, second submarginal cell rhomboid, 2–SR 1.3 times as long as 3–SR, 3–SR 0.8 times shorter than *r*–*m*, SRI straight, 3.6 times as long as 3–SR and approaching tip of wing; *cu*–*a* postfurcal (Fig. 34, see upper arrow); 1A + 2A and 1–1A with one fairly distinct 2A (Fig. 34, see lower arrow). – Hindwing: sub-basal cell wide, *cu*–*a* long and straight (Fig. 45).

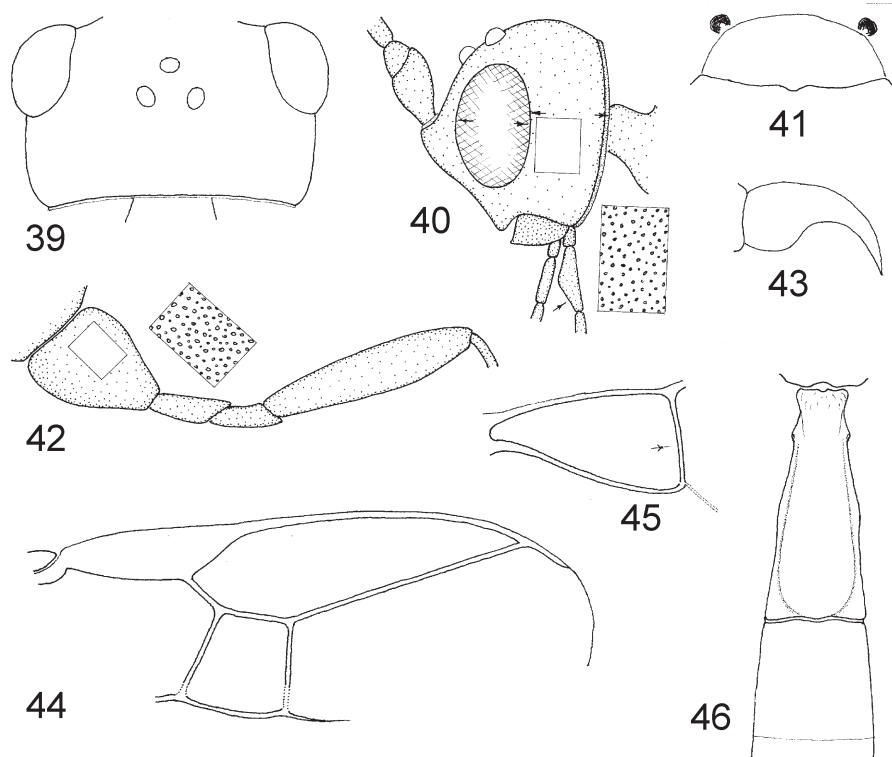
Metasoma slightly longer than head + mesosoma combined and articulated just above upper level of hind coxal cavity (tribe feature of Helconini). First tergite (Fig. 46) 2.2 times as long as broad behind, pair of spiracles somewhat protruding basally, tergite evenly broadening posteriorly. Second tergite as long medially as broad behind; every tergite polished.

Body black. Scape and pedicel black with dark rusty suffusion, flagellum black. Palpi blackish brown. Tegula ferrugineous. Legs yellowish testaceous, hind coxa black and only dorsally testaceous, hind tibia apically blackish, fifth tarsomeres dark brown. Wings hyaline, pterostigma dark brown, veins brown.

Female and host unknown.

*Distribution* – New Zealand.

*Taxonomic position* – *Aspicolpus hudsoni* differs from all other *Aspicolpus* species by its less transverse head and polished tergites. See also key-couplets of the helconine genera 17 (18) – 18 (17).



Figs 39–46. *Aspicolpus hudsoni* Turner, 1922 (male holotype): 39 = head in dorsal view, 40 = head in lateral view, 41 = clypeus, 42 = hind coxa, trochanters and femur with indication of punctation of coxa, 43 = claw, 44 = distal part of right forewing, 45 = right hindwing: subbasal cell with *M* + *CU*, *cu-a* (see arrow) and *1-1A*, 46 = tergites 1–2



*Taxonomic remark* – GOURLAY (1928: 369) described a form (assigned by him as subspecies) from New Zealand under the name *A. hudsoni castanea* on the basis of “a number of specimens”. It differs from the nominate form because its body is chestnut-brown, while the nominate form is black.

*Aspigoon antipodum* (Turner, 1922), comb. n.  
(Figs 3, 10, 36–38, 47–52)

*Diospilus antipodum* TURNER, 1922: 280, female and male, type locality: “Wiltons Bush” (in description), Wellington, New Zealand, female holotype (“Type”) in BMNH (3.c.684), examined (male paratype not seen). – SHENEFELT 1970: 209 (literature up to 1922, unnecessary lectotype designation).

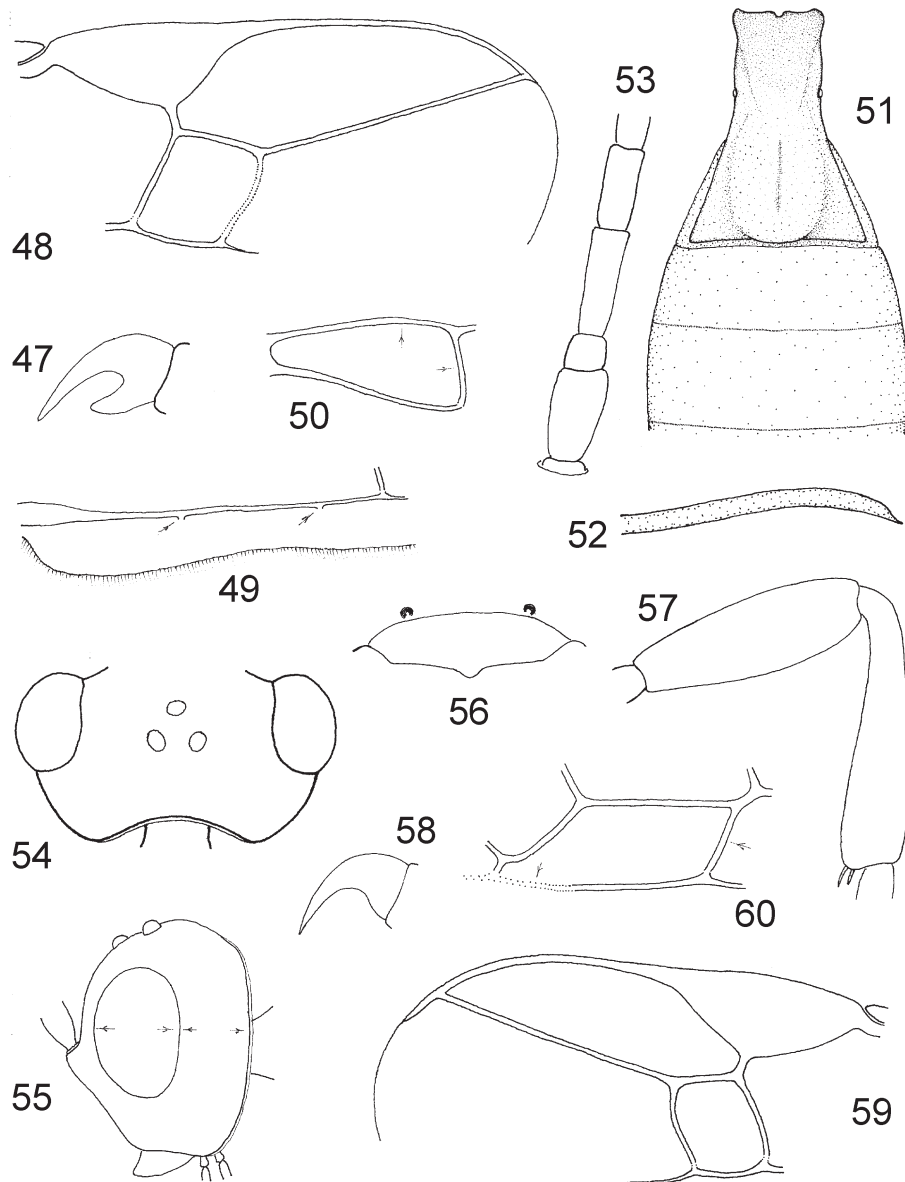
*Material examined* – Female holotype: New Zealand, Wellington, November 1921, leg. G. V. Hudson.

*Redescription of the female holotype* – Body 4.8 mm long. Antenna somewhat shorter than body (7:8) and with 30 (not 29) antennomeres. First flagellomere three times as long as broad, further flagellomeres gradually shortening and attenuating so that penultimate flagellomere subcubic, i.e. slightly longer than broad (7:6). – Head in dorsal view transverse (Fig. 36), 1.9 times as broad as long, eye clearly one-third longer than temple, temple strongly rounded, occiput weakly excavated. Ocelli small and round, OOL twice as long as POL. Eye in lateral view 1.4 times as high as wide and 1.5 times wider than temple (or temple 0.6 times as wide as eye), temple beyond eye evenly wide (Fig. 37, see arrows). Clypeus 3.2 times as wide as high, its lower margin truncate, medially with a pair of small tubercle, pair of tentorial pits deep (Fig. 3). Maxillary palp two-thirds as long as height of head, its third segment flattened three-sided as in Fig. 10. Head polished; face hairpunctate, interspaces more or less greater than punctures.

Mesosoma in lateral view twice as long as high. Notaulix evenly deep and finely crenulated. – Hind femur 3.3 times as long as broad medially (Fig. 38); hind tibia one-fifth longer than hind tarsus, hind basitarsus a bit longer than tarsomeres 2–4 combined. Hind claw with pointed basal lobe (Fig. 47).

Forewing almost as long as body. Pterostigma (Fig. 48) 2.2 times as long as wide and issuing *r* distally from its middle, *r* short, 2–*SR* 1.3 times as long as 3–*SR*, 3–*SR* slightly shorter than width of pterostigma (17:18), *SRI* straight, reaching tip of wing and 3.5 times as long as 3–*SR*; *r-m* faintly S-like. Vein *1A+2A* and *1-1A* with two vestigial transverse veins (*2A* and *a*; Fig. 49, see arrows). – Hindwing: *M-CU* clearly not straight, i.e. its distal third bent (Fig. 50, see vertical arrow); *cu-a* straight (Fig. 50, see horizontal arrow).

Metasoma somewhat shorter than mesosoma. First tergite (Fig. 51) 1.3 times as long as broad behind and twice broader posteriorly than anteriorly, broaden-



**Figs 47–60.** *Aspigonus antipodum* (Turner, 1922) (female holotype): 47 = claw, 48 = distal part of right forewing, 49 = right forewing:  $1A+2A$  and  $1+1A$  with transverse  $2A$  and  $a$  (see arrows), 50 = right hindwing: subbasal cell with  $M+CU$  (see vertical arrow) and  $cu-a$  (see horizontal arrow), 51 = tergites 1–3, 52 = end of ovipositor. – *Diospilus assimulatus* sp. n. (female holotype): 53 = antennomeres 1–4, 54 = head in dorsal view, 55 = head in lateral view, 56 = clypeus, 57 = hind femur + tibia, 58 = claw, 59 = distal part of left forewing, 60 = left hindwing: subbasal cell with  $cu-a$  (see horizontal arrow) and  $2+1A$  (see vertical arrow)

ing on its posterior half, pair of spiracles before middle of tergite, scutum with a medio-longitudinal shallow sulcus, otherwise smooth and shiny. Second tergite three times and third tergite 2.5 times as broad behind as long medially, third tergite 1.2 times as long as second tergite. Tergites beyond first tergite polished. Ovipositor sheath long, as long as hind tibia + tarsus combined. Ovipositor distally downcurved (Fig. 52).

Colour of the body as in the original description.

Female and host unknown.

*Distribution* – New Zealand.

*Taxonomic position* – *Aspigonus antipodum* is closest to *Diospilus ruficeps* Szépligeti considering their long first tergite (at least somewhat longer than broad behind), however, they are distinguished by the following features:

- 1 (2) Third segment of maxillary palp flattened (Fig. 10), clypeus medially tuberculiform (Fig. 3). Pterostigma issuing *r* distally from its middle, *SRI* reaching tip of wing (Fig. 48). Propodeum rugose without areolation. Hindwing: *cu-a* straight, i.e. not incurved (Fig. 50, see arrow). First tergite 1.3 times as long as broad behind (Fig. 51). Mesoscutum punctate, interspaces about as great as punctures. Body black, pronotum + prosternum reddish yellow. Female: 4.8 mm. – New Zealand ..... *Aspigonus antipodum* (Turner, 1922)
- 2 (1) Third segment of maxillary palp not flattened (Fig. 126), clypeus faintly bidentate (Fig. 133, see pair of arrows). Pterostigma issuing *r* from its middle, *SRI* approaching tip of wing (Fig. 130). Propodeum rugo-rugulose, areola basalis less distinct (Fig. 127). Hindwing: *cu-a* incurved (Fig. 132, see arrow). First tergite 1.3 times as long as broad behind (Fig. 135). Mesoscutum smooth with disperse and very fine punctures. Body black, head rusty (female) or reddish yellow (male). Male: 2.9 mm. – Australia: NSW ..... *Diospilus ruficeps* Szépligeti, 1905

*Remark* – In the cumulative key to the helconine genera *Aspigonus* Wesmael runs to the key-couplets 3 (4) – 4 (3).

### ***Diospilus assimulatus* sp. n.**

(Figs 53–63)

*Material examined* – Female holotype: Australia, NSW, Kangaroo Valley, 22 March 1961, leg. E. F. Riek. – Holotype is in fairly good condition: (1) glued on card point by its right mesopleuron, (2) right hindwing missing, right forewing highly damaged: longitudinally torn, (3) right fore leg (except tibia + tarsus) less visible owing to the mounting, (4) segments 4–5 of maxillary palp missing. Holotype is deposited in ANIC.

*Etymology* – The species name “*assimulatus*” indicates that the new species is similar to a few species with light corporal colour and length.

*Description of the female holotype* – Body 3.5 mm long. Antenna as long as body and with 31 antennomeres. First flagellomere 1.3 times as long as second flagellomere and 2.8 times as long as broad apically (Fig. 53), further flagellomeres

shortening so that flagellomeres 18–30 cubic. – Head in dorsal view transverse (Fig. 54), twice as broad as long, eye somewhat protruding and 1.4 times as long as temple, temple receded. OOL nearly three times as long as POL, ocelli middle-sized. Eye in lateral view almost 1.5 times as high as wide and almost 1.2 times as wide as temple, temple evenly wide beyond eye (Fig. 55, see arrows). Clypeus 2.5 times as broad as high, its lower margin pointed medially (Fig. 56). Head polished.

Mesosoma in lateral view 1.4 times as long as high, sculptured. Notaulix evenly deep, narrow, subcrenulated. Precoxal suture crenulated. Pronotum rugulose. Axille and propodeum rugose, mesoscutum and scutellum punctate, interspaces polished (*cf.* Fig. 80). – Hind femur thick, 2.9 times as long as broad medially, hind tibia also thick: distally as broad as middle femur (Fig. 57). Claw curved as in Fig. 58.

Forewing slightly shorter than body (3.3 mm long). Pterostigma (Fig. 59) 2.3 times as long as wide, issuing *r* from its middle; second submarginal cell: 2–*SR* 1.4 times as long as 3–*SR*, *r–m* just shorter than 2–*SR* (17:18), 2–*SR* faintly curved, *r–m* weakly S-shaped and 3–*SR* straight; *SRI* straight and approaching tip of wing. First subdiscal cell: 2–*CU1* six times as long as 1–*CU1*, *cu–a* straight (Fig. 60, see horizontal arrow), 2–*IA* distally with weakening sclerosity though cell closed posteriorly (Fig. 60, see vertical arrow). – Hindwing: *cu–a* S-shaped (Fig. 61, see arrow).

First tergite (Fig. 62) as long as broad behind, clearly broadening posteriorly, pair of basal keels very short, pair of spiracles before middle of tergite, scutum rather longitudinally striate. Tergites 2–3 fused (borderline between them hardly visible), second tergite a bit longer than third tergite and two tergites slightly shorter than first tergite. Tergites beyond first tergite polished. Ovipositor sheath long, somewhat shorter than body. Posterior end of ovipositor dorsally with a notch (Fig. 63).

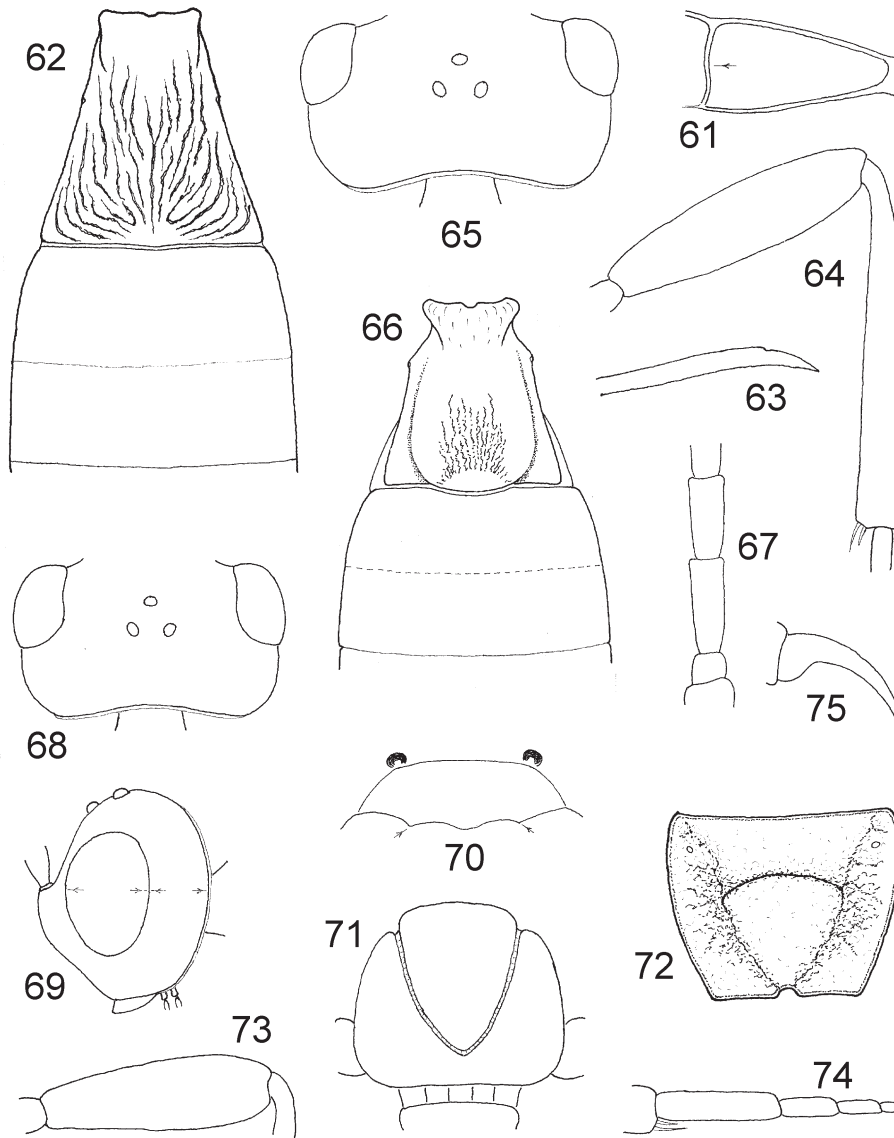
Scape testaceous, pedicel testaceous with brownish suffusion, flagellum black. Testaceous: head, pronotum, tegula, tergites 1–2 and legs; black: mesosoma and metasoma beyond second tergite. Wings hyaline, pterostigma brown, veins yellow, light brown to brown.

Male and host unknown.

*Distribution* – Australia: NSW.

*Taxonomic position* – The new species, *Diospilus assimulatus*, is close to *D. rubroater* Papp (see PAPP 2012: 318) considering their corporal structure, posteriorly broadening first tergite and with much light colour of body; the two species are separated by the features as follows:

- 1 (2) Hind tibia thin, distally less broad than middle femur (6:7, Fig. 64). Eye in dorsal view slightly shorter than temple (18:19), temple rounded (Fig. 65). Hind femur 3.7 times as long as broad medially (Fig. 64). Scutum of first tergite medially longitudinally sub-



**Figs 61–75.** *Diospilus assimulatus* sp. n. (female holotype): 61 = left hindwing: subbasal cell with *cu-a* (see arrow), 62 = tergites 1–3, 63 = posterior end of ovipositor. – *Diospilus rubroater* Papp, 2012 (female holotype): 64 = hind femur and tibia, 65 = head in dorsal view, 66 = tergites 1–3. – *Diospilus bogdus* sp. n. (female holotype): 67 = antennomeres 2–4, 68 = head in dorsal view, 69 = head in lateral view, 70 = clypeus, 71 = mesoscutum with notaulix and prescutellar furrow, 72 = propodeum, 73 = hind femur, 74 = hind tarsomeres 1–3 in lateral view, 75 = claw

- striolate, tergites 2–3 equal in length (Fig. 66). Metasoma entirely reddish yellow. Female: 4 mm. – Australia: NSW ..... *D. rubroater* Papp, 2012
- 2 (1) Hind tibia thick, distally as broad as middle femur (Fig. 57). Eye in dorsal view 1.4 times as long as temple, temple receded (Fig. 54). Hind femur thick, 2.9 times as long as broad medially (Fig. 57). Scutum of first tergite longitudinally striate, second tergite a bit longer than third tergite (Fig. 62). Metasoma black, tergites 1–2 testaceous. Female: 3.5 mm. – Australia: NSW ..... ***D. assimulatus*** sp. n.

*Remark* – In the key to the *Diospilus* species *D. assimulatus* runs to *D. crassus* sp. n., see key-couplets 9 (8) – 12 (11).

### ***Diospilus bogdus*** sp. n.

(Figs 67–78)

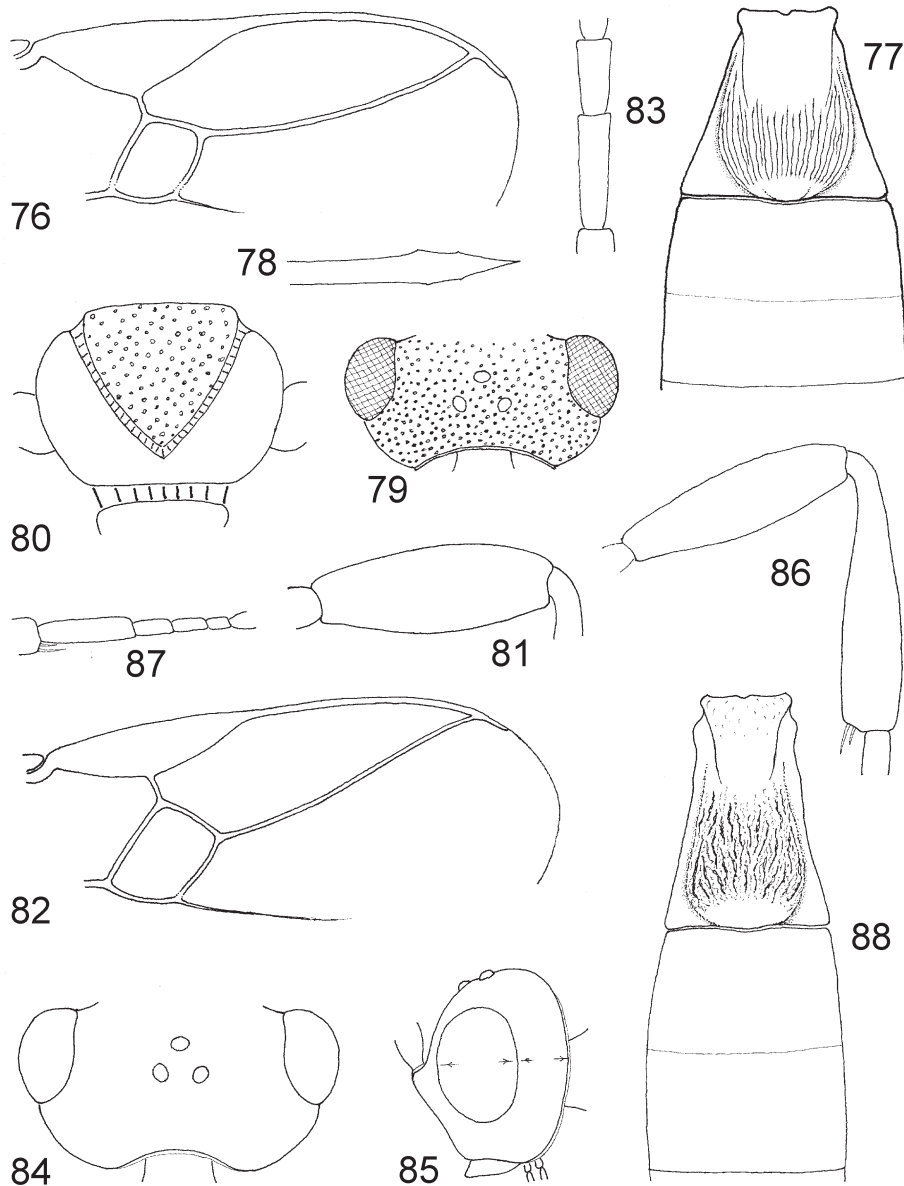
*Material examined* – Female holotype: Australia, NSW, Kangaroo Valley, 22 March 1961, leg. E. F. Riek. – Holotype is in fairly good condition: (1) glued on a card point by pro- and mesosternum, (2) right flagellum apically deficient, (3) left fore leg glued separately (its tarsomeres 4–5 missing), (4) missing: left middle and hind legs (except coxae and first trochanters), (5) palpi hardly visible owing to the mounting. Holotype is deposited in ANIC.

*Etymology* – The species name “bogdus” is a made-up or phantasy name with Latin tone.

*Description of the female holotype* – Body 2.9 mm long. Antenna one-sixth shorter than body and with 26 antennomeres. Scape belly, first flagellomere 2.5 times as long as broad apically and somewhat (20:18) longer than second flagellomere (Fig. 67), further flagellomeres gradually shortening so that 13–25 flagellomeres cubic. – Head in dorsal view less transverse (Fig. 68), 1.75 times as broad as long, eye somewhat (18:16) longer than temple, temple rounded. OOL three times longer than POL. Eye in lateral view 1.5 times as high as wide and 1.3 times as wide as temple, temple beyond eye evenly wide (Fig. 69, see arrows). Clypeus 3.3 times as wide as high, its lower margin bipointed, medially rounded (Fig. 70, see arrows). Head polished.

Mesosoma in lateral view 1.4 times as long as high, polished. Notaulix evenly deep, narrow, subcrenulated (Fig. 71). Precoxal suture crenulated. Propodeum rugulose, anteriorly smooth and shiny, areola basalis vestigial and also smooth and shiny (Fig. 72). – Hind femur 3.1 times as long as broad distally (Fig. 73). Hind basitarsus somewhat longer than tarsomeres 2–3 combined (Fig. 74). Claw weakly curved as in Fig. 75.

Forewing as long as body. Pterostigma (Fig. 76) 2.6 times as long as wide and issuing *r* from its middle, *1-R1* one-fifth longer than length of pterostigma. Second submarginal cell: *2-SR* 1.6 times as long as *3-SR*, *r-m* slightly (14:11) longer than *3-SR*, *SR1* faintly bent, five times as long as *3-SR* and almost reach-



Figs 76–88. *Diospilus bogdus* sp. n. (female holotype): 76 = distal part of right forewing. 77 = tergites 1–3, 78 = posterior end of ovipositor. – *Diospilus contractus* Papp, 1993 (female holotype): 79 = head in dorsal view, 80 = mesoscutum with notaulix and prescutellar furrow, 81 = hind femur, 82 = distal part of right forewing. – *Diospilus crassus* sp. n. (male holotype): 83 = flagellomeres 1–2, 84 = head in dorsal view, 85 = head in lateral view, 86 = hind femur and tibia, 87 = hind tarsomeres 1–4 in lateral view, 88 = tergites 1–3

ing tip of wing. First subdiscal cell: as in *cf.* Fig. 60, 2-1A somewhat more sclerotized distally.

First tergite (Fig. 77) somewhat (45:40) broader behind than long, clearly broadening posteriorly, pair of basal keels reaching middle of tergite, pair of spiracles before middle of tergite, scutum posteriorly with longitudinal striation. Tergites 2-3 fused, borderline between them almost indistinct, second tergite a bit shorter than first tergite, together with further tergites polished. Ovipositor sheath long, as long as head and mesosoma combined, ovipositor distally as in Fig. 78.

Scape and pedicel testaceous, flagellum brownish black. Body black. Face brown, clypeus light brown, palpi brownish yellow. Prosoma and mesopleuron ventrally rusty brown. Tegula and legs yellow. Hind tibia distally and tarsus blackish fumous. First tergite with weak dark brown tint. Wings hyaline, pterostigma brown, veins yellowish to light brown.

Male and host unknown.

*Distribution* – Australia: NSW.

*Taxonomic position* – The new species, *Diospilus bogdus*, standing close to *D. tasmanicus* sp. n., for their distinction see in the cumulative key to the *Diospilus* species in couplets 25 (24) – 27 (26). The new species is also close to *D. contractus* Papp (see PAPP 1993: 177), separated by the following features:

- |       |   |
|-------|---|
| 1 (2) | Temple in dorsal view receded (Fig. 79). Head and middle lobe of mesoscutum punctate, interspaces polished, notaulix relatively wide (Figs 79-80). Hind femur thick, 2.6 times as long as broad medially (Fig. 81). Pterostigma narrower, 3.6 times as long as wide, <i>SRI</i> approaching tip of wing (Fig. 82). Flagellomeres 10-21 longer than broad. Face black, metasoma beyond first tergite dark brown. Female: 2.7 mm. – Australia: Queensland ..... |
|       | ..... <i>D. contractus</i> Papp, 1993   |
| 2 (1) | Temple in dorsal view rounded (Fig. 68). Head and mesoscutum polished, notaulix relatively narrow (Figs 68, 71). Hind femur less thick, 3.1 times as long as broad distally (Fig. 73). Pterostigma wide, 2.8 times as long as wide, <i>SRI</i> almost reaching tip of wing (Fig. 76). Flagellomeres 13-25 cubic. Face brown, metasoma black. Female: 2.9 mm. – Australia: NSW .....   |
|       | ..... <b><i>D. bogdus</i></b> sp. n.  |

### ***Diospilus crassus* sp. n.**

(Figs 83-92)

*Material examined* – Male holotype: Australia, Queensland, Long Eacham National Park, December 1974, leg. I. R. Beck. – Holotype is in good condition: (1) micropinned by mesosoma, (2) head torsioned left. Holotype is deposited in ANIC.

*Etymology* – The new species received the name “crassus” referring to its thick hind tibia (Fig. 86).

*Description of the male holotype* – Body 2.9 mm long. Antenna about one-sixth shorter than body and with 26 antennomeres. Scape in lateral view nearly par-



allel-sided, first flagellomere 3.1 times as long as broad apically and 1.5 times longer than second flagellomere (Fig. 83), further flagellomere gradually shortening and faintly attenuating so that penultimate flagellomere 1.6 times as long as broad. – Head in dorsal view transverse (Fig. 84), 1.9 times as broad as long, eye one-third (or 1.4 times) longer than temple, temple receded. OOL nearly four times as long as POL. Eye in lateral view almost 1.4 times as high as wide and one-third wider than temple, temple beyond eye evenly wide (Fig. 85, see arrow). Clypeus three times as broad as high, its lower margin pointed medially (*cf.* Fig. 56). Head polished.

Mesosoma in lateral view 1.6 times as long as high, polished. Notaulix evenly deep, narrow, subcrenulated. Middle lobe of mesoscutum punctate (*cf.* Fig. 80). Precoxal suture finely crenulated. Propodeum rugo-rugulose, areola basalis vestigial, carination indistinct (Fig. 89). Hind femur less thick, 3.3 times as long as broad medially, hind tibia thick, almost as broad as femur (Fig. 86). Hind basitarsus as long as tarsomeres 2–4 (Fig. 87). Claw less strongly downcurved as in Fig. 90 (*cf.* Fig. 109).

Forewing slightly shorter than body. Pterostigma (Fig. 91) 3.3 times as long as wide, issuing *r* from its middle, *1-R1* 1.25 times as long as pterostigma. Second submarginal cell: *2-SR* 1.2 times as long as *3-SR*, *r-m* just shorter (15:17) than *2-SR*, *2-SR* faintly bent, *3-SR* straight, *r-m* faintly S-shaped; *SR1* almost straight, 3.9 times as long as *3-SR* and approaching tip of wing. First subdiscal cell: closed distally, i.e. *2-LA* feebly albeit distinctly sclerotized as in Fig. 92 (see arrow).

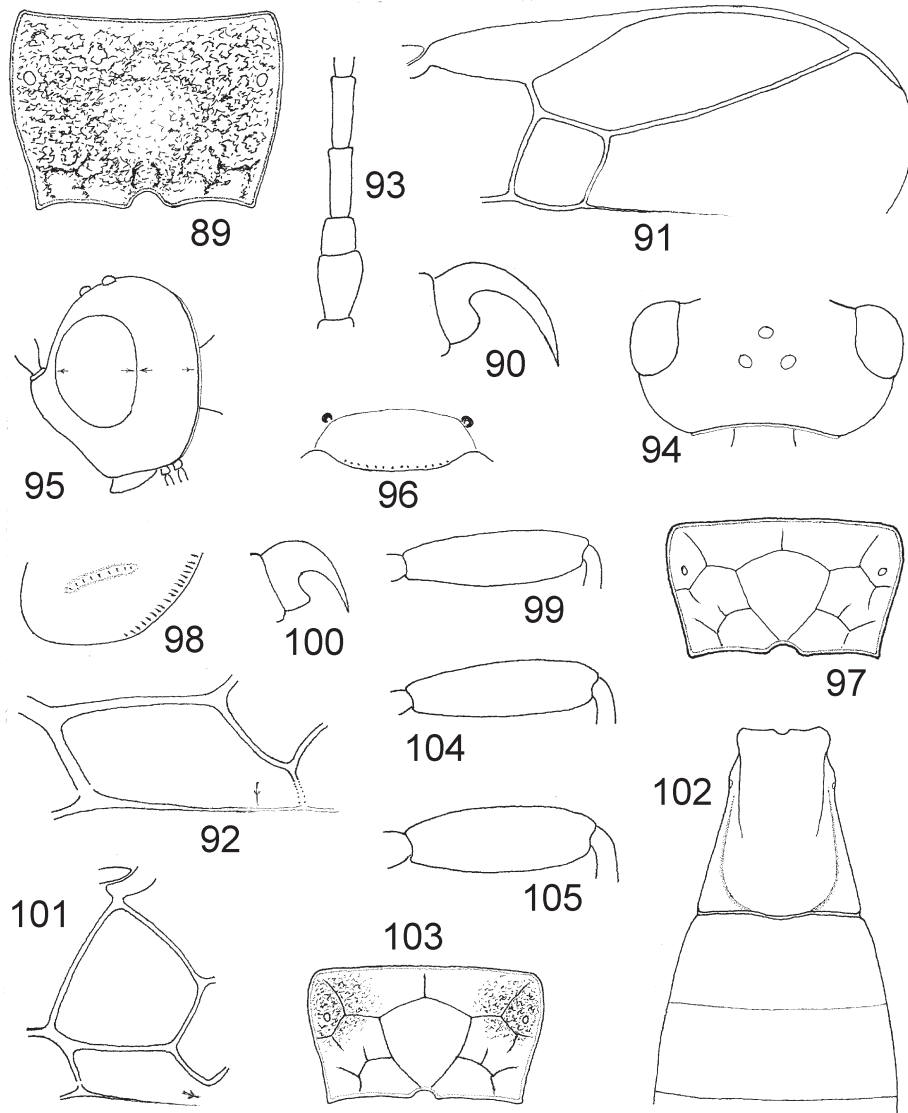
First tergite (Fig. 88) less broadening posteriorly, 1.4 times as long as broad behind, pair of basal keels distinct and short, pair of spiracles before middle of tergite, scutum with longitudinal striate elements. Tergites 2–3 equal in length, fused and somewhat longer than first tergite, borderline between them feebly distinct, together with further tergites polished.

A species with light coloured body. Scape and pedicel reddish yellow with darkening pattern, flagellum dark brownish black. Head and mesosoma testaceous, face and prosoma yellow, metanotum and propodeum with blackish pattern. Metasoma black, first tergite laterally rusty. Legs yellow, hind tibia and tarsus with brownish to dark brownish suffusion. Wings hyaline, pterostigma brown, veins light brown.

Female and host unknown.

*Distribution* – Australia: Queensland.

*Taxonomic position* – The new species, *Diospilus crassus*, standing alone with its elongate corporal form among the known Australian *Diospilus* species. In the key to the *Diospilus* species it runs to *D. assimulatus* sp. n., see couplets 9(8)–12(11).



**Figs 89–105.** *Diopsilus crassus* sp. n. (male holotype): 89 = propodeum, 90 = claw, 91 = distal part of right forewing, 92 = right forewing: first subdiscal cell with 2-1A (see arrow). – *Diopsilus rieki* sp. n. (female holotype: 93–102, female paratype: 103–105): 93 = antennomeres 1–4, 94 = head in dorsal view, 95 = head in lateral view, 96 = clypeus, 97 = propodeum, 98 = mesopleuron with precoxal suture, 99 = hind femur, 100 = claw, 101 = right forewing: first discal and subdiscal cells with 2-1A (see arrow), 102 = tergites 1–3, 103 = propodeum, 104–105 = hind femur

**Diospilus rieki** sp. n.  
(Figs 18, 93–106)

*Material examined* (10 females and 16 males) – Female holotype and one female paratype: Australia, ACT, Canberra, 21 April 1961, leg. E. F. Riek. – Six female and 15 male paratypes: Australia, ACT, Canberra, 27 March 1961 – 16 May 1963 (one male (in HNHM): 27 March 1961, one female (in ANIC): 4 April 1961, one female + one male (in ANIC): 5 April 1961, one female (in HNHM) + one male (in ANIC): 10 April 1961, two males (one male in ANIC, one male in HNHM): 11 April 1961, one female + two males (in ANIC): 18 April 1961, one male (in HNHM): 19 April 1961, one male (in ANIC): 21 April 1961, two females (one each female in ANIC and HNHM) + two males (in ANIC): 23 April 1961, four males (three males in ANIC, one male in HNHM): 16 May 1963, leg. E. F. Riek. – One female and one male paratypes (in ANIC) + one female paratype (in HNHM): Australia, ACT, Black Mts, 27 April 1961, leg. D. H. Coless.

*Type depositories* – Female holotype and six female + twelve male paratypes are deposited in ANIC, three female + four male paratypes are in HNHM, Hym. Typ. Nos 12103–12109.

*Types condition* – Female holotype is in good condition: (1) glued on a card point by its left side of meso- and metasoma, (2) left hind femur less visible owing to the mounting, (3) left ovipositor sheath damaged (its two-thirds part missing). Majority of the paratypes are in good condition: (1) glued on a card points by left side of mesosoma and metasoma (eight females + twelve males), left side of metasoma (one female + three males), on mesosternum (one female) and on ventral side (one male); (2) head glued separately (one female), flagellum deficient (one female + one male), left middle leg glued separately (one female).

*Etymology* – The new species is dedicated to its collector, Dr E. F. Riek, senior entomologist and resolute explorer of the insect fauna of Australia.

*Description of the female holotype* – Body 1.9 mm long. Antenna as long as three-fourths of body and with 19 antennomeres. Flagellomeres 1–2 equal in length (Fig. 93), penultimate flagellomere long: 1.7 times as long as broad. – Head in dorsal view transverse (Fig. 94), twice as broad as long, eye 1.2 times as long as temple, temple receded. OOL twice as long as POL. Occiput weakly excavated. Eye in lateral view 1.4 times as high as wide and somewhat (18:15) wider than temple, temple evenly wide beyond eye (Fig. 95, see arrows). Clypeus three times as wide as high, its lower margin truncate, along margin finely subcrenulate (Fig. 96). Head polished.

Mesosoma in lateral view 1.4 times as long as high, polished. Lower margin of pronotum crenulated. Notaulix deep, narrow, finely crenulated. Propodeum polished, areola basalis wide, propodeum laterally carinated (Fig. 97). Precoxal

suture short, finely crenulated (Fig. 98). – Hind femur 3.5 times as long as medially (Fig. 99). Claw downcurved, its basal lobe fairly large (Fig. 100).

Forewing one-sixth longer than body. Pterostigma (Fig. 18) less wide, 2.8 times as long as wide, *r* issuing from its middle. Second submarginal cell: 2-SR twice as long as 3-SR, *r-m* less sclerotized and slightly shorter (14:16) than 2-SR. SR1 bent and ending clearly before tip of wing. 1-RI somewhat shorter than pterostigma, 2-RI approaching tip of wing. First discal cell: 1-M somewhat longer than 1-SR-M, 2-CU1 five times as long as 1-CU1, *cu-a* twice as long as 1-CU1 (Fig. 101). First subdiscal cell distally open, i.e. 2-1A with gradually weakening sclerotization (Fig. 101, see arrow). – Hindwing: *cu-a* weakly incurved (Fig. 119, see arrow).

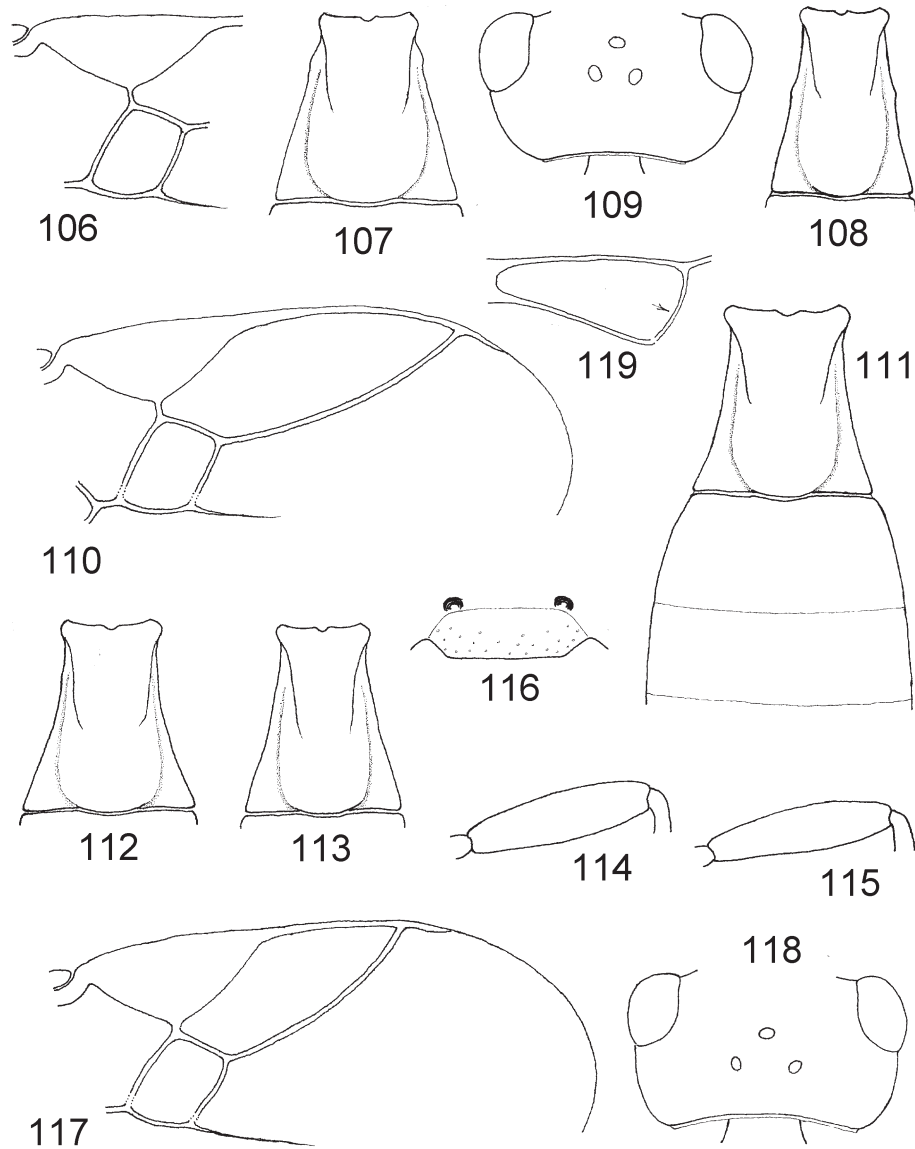
First tergite (Fig. 102) slightly longer than broad behind, evenly and less broadening posteriorly, pair of basal keels reaching middle of tergite, otherwise together with further tergites polished. Tergites 2–3 fused, equal in length and as long as first tergite (Fig. 102). Ovipositor sheath long, just shorter than hind tibia + tarsus combined.

Antenna and body black, mesosoma faintly brownish. Palpi pale, scape and pedicel brownish. Legs 1–2 yellow, leg 3 (tibia + tarsus) weakly brownish yellow. Tegula brown. Wings hyaline, pterostigma light brown, veins pale yellow.

*Description of the nine female paratypes* – Similar to the female holotype. Body 1.8–2.2 mm long (1.8: one female, 1.9: one female, 2.0: three females, 2.1: two females, 2.2: one female). Antenna with 19–22 antennomeres (19: one female, 20: four females, 21: one female, 22: two females; two females with deficient antenna). Head in dorsal view 1.85–2 times as broad as long (1.85: two females, 1.9: two females, 2.0: five females). Propodeum upper-laterally rugulose-uneven to almost smooth (three females: Fig. 103). Hind femur 2.8–3.5 times as long as broad either medially or somewhat distally (2.8: one female, 2.9: one female, 3.1: five females, 3.3: one female, 3.5: one female; Figs 99, 104, 105). Pterostigma 2.5–2.8 times as long as wide and issuing *r* either medially or slightly proximally from its middle, 2-SR 1.8–2 times as long as 3-SR (Fig. 106). First tergite usually somewhat longer than broad to, exceptionally, as long as broad behind (Fig. 107). Tegula brown to brownish. Hind femur yellow (seven females), or faintly brownish yellow (two females).

*Description of the sixteen male paratypes* – Similar to the female types. Body 2–2.2 mm long (2.0: 11 males, 2.1: four males, 2.2: one male). Antenna with 18–22 antennomeres (18: one male, 19: one male, 20: seven males, 21: five males, 22: one male). Head in dorsal view 1.8–1.9 times as broad as long. First tergite 1.1–1.3 times as long as broad behind (1.1: one male, 1.2: two males, 1.3: thirteen males (Fig. 108).

Host unknown.



**Figs 106–119.** *Diospilus rieki* sp. n. (female paratype: 106–107, male paratype: 108–109): 106 = right forewing: pterostigma and second submarginal cell, 107–108 = first tergite, 109 = head in dorsal view. – *Diospilus capito* (Nees, 1834): 110 = distal part of right forewing, 111 = tergites 1–3 (female), 112 (female) – 113 (male) = first tergite, 114 (female) – 115 (male): hind femur, 116 = clypeus. – *Diospilus morosus* Reinhard, 1862 (female / male): 117 = distal part of right forewing, 118 = head in dorsal view. – *Diospilus rieki* sp. n. (female holotype): 119 = right hindwing: subbasal cell with *cu-a* (see arrow)

*Distribution* – Australia: ACT.

*Taxonomic position* – The new species, *Diospilus rieki*, is closest to the Palearctic species *D. capito* Nees considering their transverse head in dorsal view, pterostigma and *1-R1* equal in length (minute deviations feasible) or *1-R1* shortened, form of first tergite and black corporal colour. The two species are separated by the following features:

- 1 (2) Forewing: pterostigma wide, 2.1–2.3(–2.5) times as long as wide, *r* issuing from its middle, second submarginal cell less narrow, *2-SR* 1.5 times as long as *3-SR* (Fig. 110). First tergite anteriorly less, posteriorly more broadening, tergites 2–3 slightly longer than first tergite (Figs 111–113). Hind femur 3.6–4 times as long as broad distally (Figs 114–115). Lower margin of clypeus truncate, clypeus itself hairpointed, polished (Fig. 116). Tegula yellowish to light brown. Female and male: 2.2–3.2 mm. – Palearctic Region ..... *D. capito* (Nees, 1834)
- 2 (1) Forewing: pterostigma less wide, 2.5–2.8 times as long as wide, *r* issuing somewhat proximally from its middle, exceptionally just, from its middle; second submarginal cell narrow, *2-SR* 1.8–2 as long as *3-SR* (Figs 18, 106). First tergite evenly broadening posteriorly, tergites 2–3 as long as first tergite (Figs 102, 107, 108). Hind femur 2.8–3.5 times as long as broad medially (Figs 99, 104, 105). Lower margin of clypeus just convex and finely crenulate, otherwise polished (Fig. 96). Tegula brown. Female and male: 1.8–2.2 mm. – Australia: ACT ..... *D. rieki* sp. n.

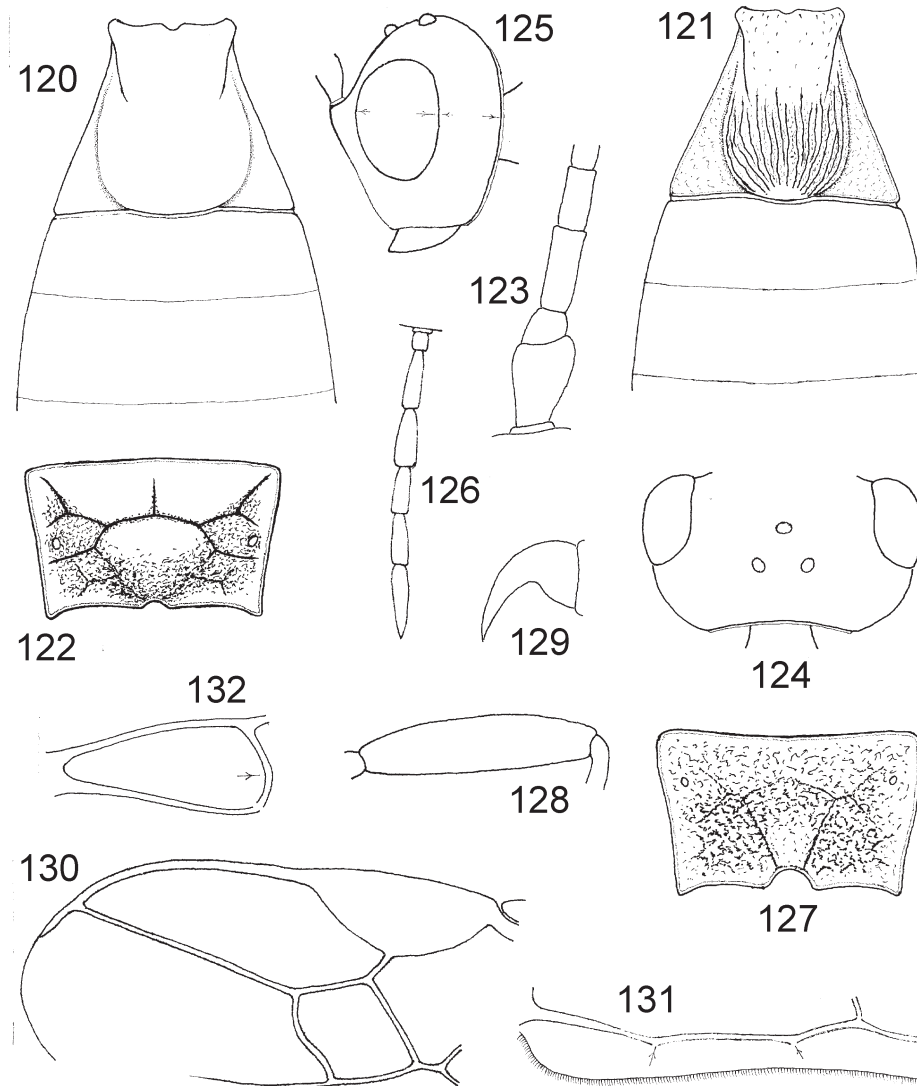
The new species is also close to *D. morosus* Reinhard viewing their relatively short marginal cell, narrow second submarginal cell, broadening first tergite and black corporal colour. The two species are distinguished by the following features:

- 1 (2) Forewing: marginal cell short, pterostigma 1.3 times as long as *1-R1*, second submarginal cell less narrow: *2-SR* 1.7–1.9 times as long as *3-SR* (Fig. 117). First tergite strongly broadening posteriorly, third tergite slightly longer than second tergite, tergites 2–3 fused and as long as first tergite (Fig. 120). Temple in dorsal view rounded (Fig. 118). Palpi brown. Female and male: 1.8–2.5 mm. – Europe ..... *D. morosus* Reinhard, 1862
- 2 (1) Forewing: marginal cell less short, *1-R1* as long as or slightly shorter than pterostigma (42–45: 40), second submarginal cell narrow: *2-SR* 2.2–2.5 times as long as *3-SR* (Figs 18, 106). First tergite less broadening posteriorly, somewhat longer (1.1–1.2 times) than broad behind (Figs 102, 107, 108). Temple in dorsal view receded (Fig. 94). Palpi yellowish. Female and male: 1.8–2.2 mm. – Australia: ACT ..... *D. rieki* sp. n.

*Diospilus ruficeps* Szépligeti, 1905  
(Figs 123–135)

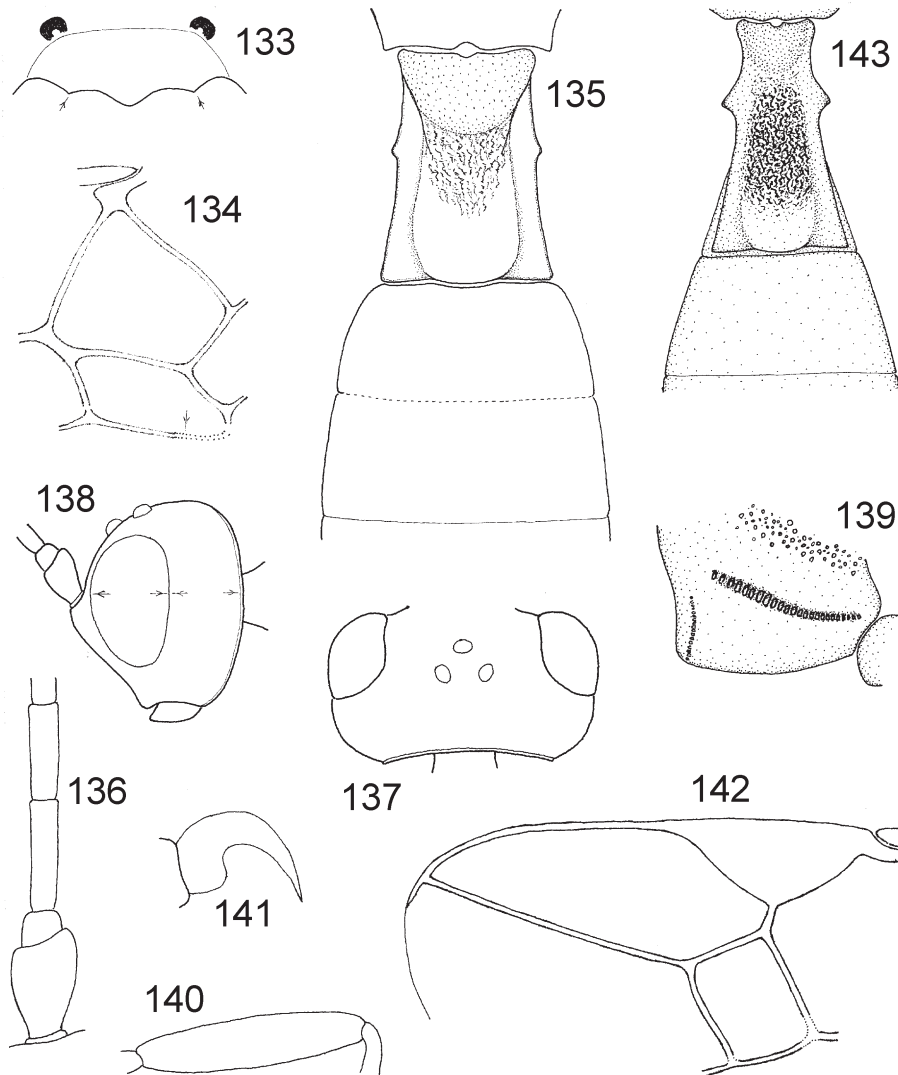
*Diospilus ruficeps* SZÉPLIGETI, 1905: 54, male, type locality: “N. S. Wales, Parramatta” (Australia), male lectotype (designated by PAPP 2004: 201) in HNHM, Hym. Typ. No. 654. – SHENEFELT 1970: 213 (literature up to 1953); PAPP 1993: 178 (in key).

*Redescription of the male lectotype* – Body 2.9 mm long. Scape in lateral view 1.7 times as long as broad apically, dorsally longer than ventrally, antenna (seen



**Figs 120–132.** *Diospilus morosus* Reinhard, 1862 (female): 120 = tergites 1–3. – *Diospilus contractus* Papp, 1993 (female holotype): 121 = tergites 1–3, 122 = propodeum. – *Diospilus ruficeps* Szépligeti, 1905 (male lectotype): 123 = antennomeres 1–4, 124 = head in dorsal view, 125 = head in lateral view, 126 = Maxillary palp, 127 = propodeum, 128 = hind femur, 129 = claw, 130 = distal part of left forewing, 131 = right forewing: 1A + 2A and 1–1A with 2A and a, 132 = right hindwing: subbasal cell with cu-a (see arrow)

in 1993, currently missing) with 26 antennomeres, first flagellomere three times as long as broad apically and 1.4 times as long as 2nd flagellomere (Fig. 123). – Head in dorsal view transverse (Fig. 124), 1.75 times as broad as long, eye 1.25



**Figs 133–143.** *Diospilus ruficeps* Szépligeti, 1905 (male lectotype): 133 = clypeus, 134 = right forewing: first discal and subdiscal cells with 2-1A (see arrow), 135 = tergite 1–3. – *Diospilus stramineipes* (Cameron, 1898) (male holotype): 136 = antennomeres 1–4, 137 = head in dorsal view, 138 = head in lateral view, 139 = mesopleuron with precoxal suture, 140 = hind femur, 141 = claw, 142 = distal part of left forewing, 143 = tergites 1–2



times as long as temple, temple rather receded. OOL twice as long as POL. Eye in lateral view 1.4 times as high as wide and almost 1.2 times wider than temple, temple beyond eye faintly narrowing ventrally (Fig. 125, see arrows). Clypeus 2.6 times as broad as high, its lower margin laterally faintly bidentate, medially produced (Fig. 133, see arrows). Maxillary palp: third segment flattened. Head polished, face dispersely hairpunctured.

Mesosoma in lateral view 1.6 times as long as high, polished. Pronotal dimple distinct. Notaulix evenly deep, finely crenulated, mesoscutum hairpunctured, hairy. Precoxal suture long, crenulated. Propodeum rugo-rugulose, areola basalis less distinct as in Fig. 127. Hind femur 4.2 times as long as broad medially (Fig. 128). Hind basitarsus almost as long as tarsomeres 2–4 combined. Claw less downcurved, its basal lobe less distinct as in Fig. 129.

Forewing as long as body. Pterostigma wide (Fig. 130), 2.3 times as long as wide, issuing *r* from its middle, *1-R1* one-fifth longer than pterostigma, *2-R1* reaching tip of wing. Second submarginal cell: *2-SR* 1.2 times as long as *3-SR*, *r-m* just shorter than *2-SR* (16:17); *2-SR* and *3-SR* straight, *r-m* S-shaped. First discal cell: *1-SR-M* slightly longer than *1-M*. First subdiscal cell: *2-CU1* six times as long as *1-CU1*, cell distally closed, i.e. *2-LA* distally with somewhat weakening sclerosity (Fig. 134, see arrow). Vein *1A + 2A* and *1-LA* with two vestigial *2a* and *a* (Fig. 131, see arrows). – Hindwing: *cu-a* incurved (Fig. 132, see arrow).

First tergite subparallel-sided (Fig. 135), i.e. weakly broadening posteriorly, 1.3 times as long as broad posteriorly, medially rather longitudinally rugulose, pair of basal keels short, pair of spiracles before middle of tergite. Tergites 2–3 fused, somewhat longer than first tergite (44:40), borderline between them faintly distinct, together with further tergites polished.

Scape yellowish, pedicel brownish, flagellum dark brownish. Head reddish yellow. Mesosoma black, prosoma with rusty tint. Tegula yellow. Tergite 1 black, apically rusty. Tergites 2–4 reddish, rest of tergites blackish to black. Legs reddish yellow, coxae 1–2 yellow, hind leg with brownish tint. Wings hyaline, pterostigma brown, veins light brown.

Female and host unknown.

*Distribution* – Australia: NSW.

*Taxonomic position* – *Diospilus ruficeps* Szépligeti is closest to *D. tasmanicus* sp. n., their distinction see at this species. In the key *D. ruficeps* runs to *D. stramineipes* (Cameron, 1898) comb. n., see couplets 1 (6) – 5 (4). *Aspigonus antipodum* is also close to *D. ruficeps*, the distinction between them is presented at the first species.

**Diospilus tasmanicus** sp. n.  
(144–153, 168)

*Material examined* – Female holotype: Tasmania, Helyer Gorge, 2 February 1967, leg E. F. Riek. – Holotype is in good condition: (1) glued on a pointed card by ventral side of mesosoma, (2) legs partly less visible owing to the mounting. Holotype is deposited in ANIC.

*Etymology* – The species name “tasmanicus” indicates its type locality in Tasmania.

*Description of the female holotype* – Body 2.8 mm long. Antenna about two-thirds as long as body and with 26 antennomeres. First flagellomere 2.5 times, second flagellomere 1.8 times as long as broad, first flagellomere one-fourth (20:15) longer than second flagellomere (Fig. 144), further flagellomeres gradually shortening so that flagellomeres 13–25 cubic. – Head in dorsal view transverse (Fig. 145), twice as broad as long, eye 1.3 times as long as temple, temple rounded. Eye in lateral view 1.5 times as high as wide and somewhat (17:15) wider than temple, temple beyond eye evenly broad (Fig. 146). Lower margin of clypeus faintly bipointed, medially rounded (Fig. 147, see arrows). Head polished.

Mesosoma in lateral view 1.3 times as long as high. Mesoscutum and scutellum polished, notaulix evenly deep, narrow, subcrenulated (*cf.* Fig. 71). Precoxal suture crenulated. Propodeum rugose (Fig. 168). Axille, pronotum and mesopleuron anteriorly rugulo-rugose. Hind femur 3.1 times as long as broad medially, nearly parallel-sided (Fig. 148). Claw downcurved as in Fig. 149.

Forewing about one-sixth shorter than body. Pterostigma wide (Fig. 150), 2.3 times as long as wide, issuing *r* just proximally from its middle and almost perpendicular to pterostigma. Second submarginal cell: 2–*SR* 1.5 times as long as 3–*SR*, *r*–*m* parallel with 2–*SR* and somewhat (15:13) longer than 3–*SR*, 3–*SR* straight. *SRI* five times as long as 3–*SR*, very weakly S-shaped and reaching tip of wing. *I*–*RI* one-fifth longer than pterostigma. First subdiscal cell: 2–*CUI* four times as long as *I*–*CUI*, *cu*–*a* faintly broken (Fig. 151, see left arrow). – Hindwing: *cu*–*a* incurved (Fig. 152, see arrow).

First tergite (Fig. 153) as long as broad behind, clearly broadening posteriorly, pair of basal keels short, pair of spiracles at middle of tergite, scutum rugo-rugulose. Further tergites polished. Second tergite longer than third tergite, borderline between them almost indistinct. Ovipositor sheath long, as long as hind tibia + basitarsus.

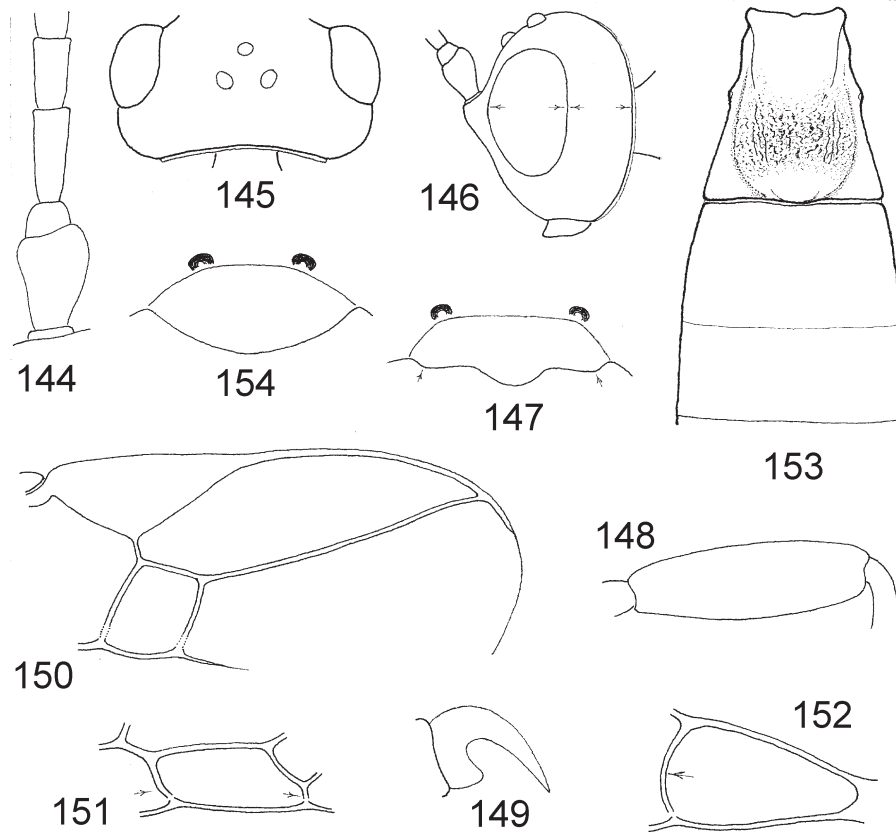
Scape rusty, apically darkening. Pedicel and flagellum brownish black. Head rusty, ocellar field black, gena with darkening suffusion. Palpi light brownish. Meso- and metasoma black. Tegula and fore leg pale yellow, middle and hind legs yellow. Hind tibia basally pale yellow, otherwise darkening, hind tarsus brownish. Wings subhyaline, pterostigma brown, veins brown to brownish and yellow.

Male and host unknown.

Distribution – Tasmania.

*Taxonomic position* – The new species, *Diospilus tasmanicus*, is closest to *D. contractus* Papp (see PAPP 1993: 177) considering their posteriorly clearly broadening first tergite and light coloured legs; the two species are distinct by the features keyed:

- 1 (2) Head in dorsal view 1.75 times as broad as long; head densely, middle lobe of mesoscutum less densely punctate (Figs 79, 80). Lower margin of clypeus deeply convex (Fig. 154). Temple in dorsal view receded (Fig. 79). Forewing: pterostigma less wide, 3.6 times as long as wide (Fig. 82). Head black, scape and pedicel brownish yellow. Female: 2.7 mm. – Australia: Queensland ..... *D. contractus* Papp, 1993



**Figs 144–154.** *Diospilus tasmanicus* sp. n. (female holotype): 144 = antennomeres 1–4, 145 = head in dorsal view, 146 = head in lateral view, 147 = clypeus, 148 = hind femur, 149 = claw, 150 = distal part of right forewing, 151 = right forewing: first subdiscal cell with *cu-a* (see left arrow) and *CU1b* (see right arrow), 152 = left hindwing: subbasal cell with *cu-a* (see arrow), 153 = tergites 1–3. – *Diospilus contractus* Papp, 1993 (female holotype): 154 = clypeus

- 2 (1) Head in dorsal view twice as broad as long (Fig. 145). Head and entire mesoscutum polished. Lower margin of clypeus medially convex, laterally faintly bipointed (Fig. 147, see arrows). Temple in dorsal view rounded (Fig. 145). Forewing: pterostigma wide, 2.3 times as long as wide (Fig. 150). Head rusty, scape rusty apically darkening, pedicel brownish black. Female: 2.8 mm. – Tasmania ..... **D. tasmanicus** sp. n.

The new species is also close to *D. ruficeps* Szépligeti (see SZÉPLIGETI 1905: 54) considering their common features: light coloured head and legs, quadrate second submarginal cell; the distinction of the two species is subsequently keyed:

- 1 (2) First tergite weakly broadening posteriorly, 1.4 times as long as broad behind; second tergite slightly shorter than third tergite (Fig. 135). Head in dorsal view less transverse, 1.75 times as broad as long, temple rather receded (Fig. 124). Lower margin of clypeus medially convex, laterally bipointed (Fig. 133, see arrows). Forewing: pterostigma 2.5 times as long as wide, issuing *r* from its middle, *r* oblique to pterostigma, 2-SR 1.2 times as long as 3-SR (Fig. 130). Hind femur 4.2 times as long as broad (Fig. 128). Head reddish yellow. Male: 2.8 mm. – Australia: NSW ..... *D. ruficeps* Szépligeti, 1905
- 2 (1) First tergite clearly broadening posteriorly, as long as broad behind; second tergite clearly longer than third tergite (Fig. 153). Head in dorsal view transverse, twice as broad as long, temple more rounded (Fig. 145). Lower margin of clypeus medially convex, laterally faintly bipointed (Fig. 147, see arrows). Forewing: pterostigma 2.2 times as long as wide, issuing *r* somewhat proximally from its middle, *r* almost perpendicular to pterostigma, 2-SR 1.4 times as long as 3-SR (Fig. 150). Hind femur 3.1 times as long as broad (Fig. 148). Head rusty. Female: 2.8 mm. – Tasmania ..... **D. tasmanicus** sp. n.

### ***Diospilus veptus* sp. n.**

(Figs 155–167)

*Material examined* – Female holotype: Tasmania, Mt Wellington, 12 February 1963, leg. D. H. Colless. One female paratype: Australia, Queensland, Mts Bunya, 26 March 1957, leg. E. F. Riek. – Holotype is in good condition: (1) glued on a card point by its left side, (2) left legs less visible owing to the mounting. Paratype is also in good condition: (1) glued on a card point by left meso- and metapleuron and left side of metasoma, (2) right antenna deficient, i.e. with 15 antennomeres.

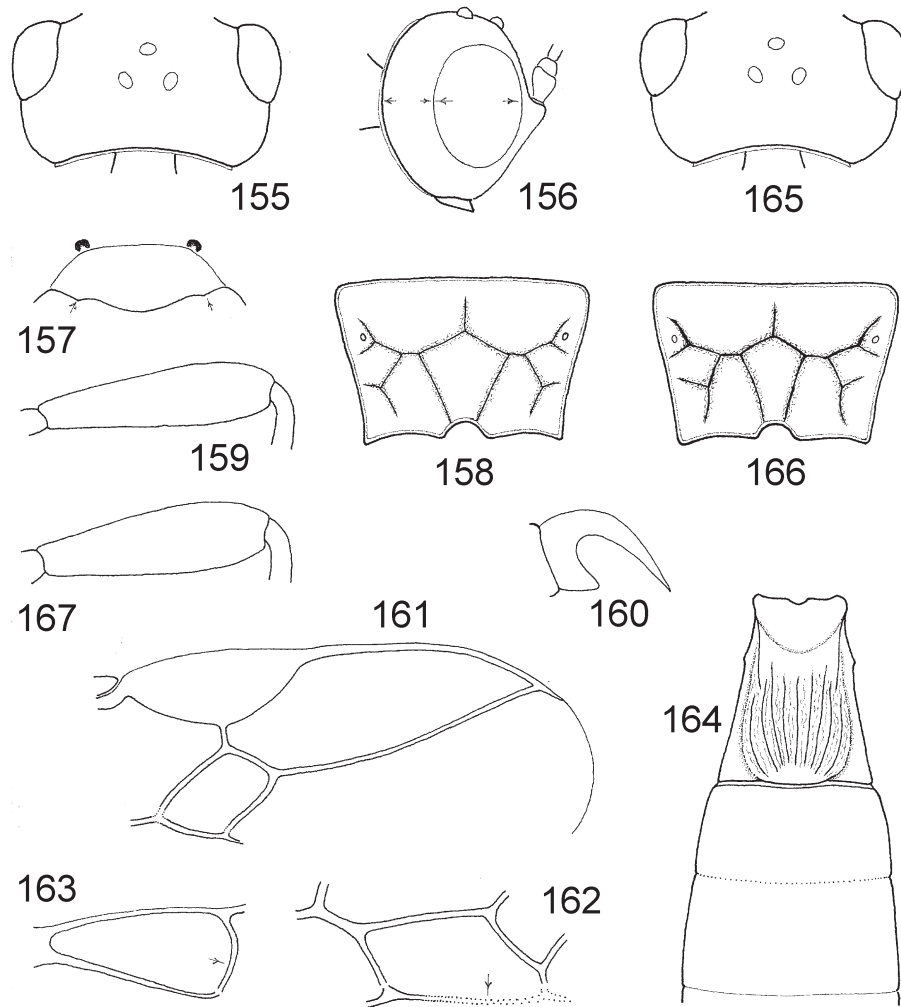
*Type depositories* – Holotype is housed in ANIC, paratype in HNHM, Hym. Typ. No. 12110.

*Etymology* – The new species received the phantasy name “veptus”.

*Description of the female holotype* – Body 2.4 mm long. Antenna one-fifth shorter than body and with 24 antennomeres. First flagellum three times as long as broad apically and 1.2 times longer than second flagellomere, further flagellomeres gradually shortening so that 16–23 flagellomeres cubic. – Head in dorsal view transverse (Fig. 155), 1.85 times as broad as long, eye slightly longer (17:15) than temple, temple rounded. Ocelli middle sized, OOL twice as long as POL. Eye in lateral view 1.3 times as high as wide and 1.6 times wider than temple, temple beyond eye slightly narrowing ventrally (Fig. 156, see arrows). Clypeus

three times as broad as high, its lower margin medially weakly convex and laterally faintly bipointed as in Fig. 157 (see arrows). Head polished.

Mesosoma in lateral view 1.6 times as long as high, polished. Notaulix evenly deep, narrow, subcrenulated; mesoscutum hairy. Precoxal suture narrow, finely crenulated (*cf.* Fig. 98). Propodeum with areola basalis and carination, along carinae uneven-subrugulose, pair of spiracles anteriorly (Fig. 158). Hind femur 3.5



**Figs 155–167.** *Diospilus veptus* sp. n. (female holotype: 155–164, female paratype: 165–167): 155 = head in dorsal view, 156 = head in lateral view, 157 = clypeus, 158 = propodeum, 159 = hind femur, 160 = claw, 161 = distal part of right forewing, 162 = right forewing: first subdiscal cell with 2-1A (see arrow), 163 = right hindwing: subbasal cell with *cu-a* (see arrow), 164 = tergites 1–3, 165 = head in dorsal view, 166 = propodeum, 167 = hind femur

times as long as broad distally (Fig. 159). Hind basitarsus as long as tarsomeres 2–3 and half of tarsomere 4 combined. Claw moderately curved, its basal lobe pointed as in Fig. 160.

Forewing as long as body. Pterostigma (Fig. 161) 2.5 times as long as wide, issuing *r* from its middle, *1-R1* one-fifth longer than pterostigma. Second submarginal cell: *2-SR* 1.7 times as long as *3-SR*, *r-m* somewhat shorter than *2-SR* (16:20), *2-SR* faintly curved, *3-SR* straight, *r-m* S-shaped; *SR1* faintly bent, six times as long as *3-SR* and ending before tip of wing. First subdiscal cell: *2-CU1* four times as long as *1-CU1*, *2-1A* distally with weakening sclerotization albeit cell distally closed (Fig. 162, see arrow).

First tergite (Fig. 164) somewhat longer than broad behind, distinctly broadening posteriorly, basal pair of keels short, pair of spiracles before middle of tergite, scutum longitudinally striated. Tergites 2–3 fused, borderline between them hardly visible, third tergite slightly longer than second tergite, together with further tergites polished. Ovipositor sheath long, as long as hind tibia + tarsus combined.

Scape and pedicel brownish yellow, scape dorsally blackish. Head and mesosoma brown to dark brown with much blackish suffusion. Face and clypeus brownish yellow, palpi brownish. Pronotum and tegula brownish yellow. Metasoma black. Legs yellow, tarsi 1–2 darkening, hind tibia and tarsus blackish. Wings subhyaline, pterostigma and veins brownish.

*Description of the female paratype* – Similar to the female holotype. Body 2.3 mm long. Antenna with 24 antennomeres. Head in dorsal view slightly less transverse, 1.8 times as broad as long, eye and temple equal in length, temple a bit more rounded (Fig. 165). Propodeum: areola basalis somewhat less wide, carination somewhat stronger (Fig. 166). Hind femur 3.3 times as long as broad distally (Fig. 167). Tergites 1–3 brown to dark brown.

Male and host unknown.

*Distribution* – Australia: Queensland, Tasmania.

*Taxonomic position* – The new species, *Diospilus veptus*, is close to *D. tasmanicus* sp. n. and *D. bogdus* sp. n., for their distinction see in the cumulative key to the *Diospilus* species of Australian Region, couplets 23 (28) – 27 (26).

### Notodios gen. n.

(Figs 19, 173, 177, 179)

*Type species* – *Notodios fuscus* sp. n.

*Etymology* – The new generic name is composed of *Noto* (= south) and *dios* (= this suffix indicates that the new genus is a member of the tribe Diospilini).

*Description* – Body gracile. Antenna filiform. Occipital and hypostomal carina meeting ventrally (near base of mandible). Pronope present, deep (Fig. 173). Notaulix and precoxal suture missing. Epicnemial carinula present. Forewing: pterostigma wide, second submarginal cell rhomboid (Fig. 19); *2A* and *a* vestigial (Fig. 177, see arrows). Metasoma elongate, tergites 2–3 fused (Fig. 179).

*Taxonomic position* – The new genus, *Notodios*, belongs to the braconid subfamily Helconinae, tribe Diospilini, and closest to the genus *Topaldios* Papp (see PAPP 1995: 107), the distinction between the two genera is presented in the key to the Australian helconine genera, see key-couplets 10 (5) – 12 (11).

***Notodios fuscus* sp. n.**  
(Figs 19, 169–179)

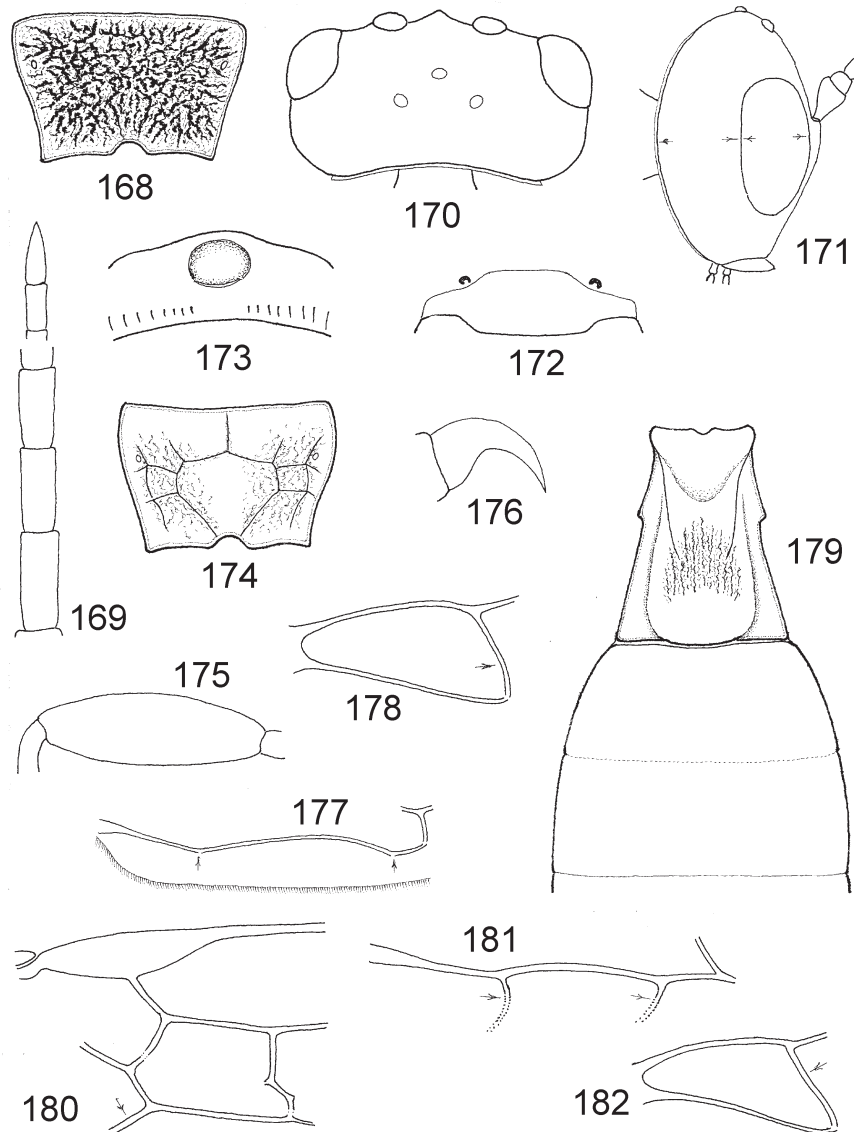
*Material examined* – Male holotype: Australia, ACT, Canberra, 10 April 1961, leg. E. F. Riek. Holotype is in good condition: glued on a card by left side of its meso- and metasoma. Holotype is deposited in ANIC.

*Etymology* – The species name “fuscus” refers to the brown ground colour of the body.

*Description of the male holotype* – Body 2.9 mm long. Antenna as long as body and with 26 (right antenna) and 27 (left antenna) antennomeres. First flagellomere 2.4 times as long as broad apically and somewhat longer than second flagellomere, second flagellomere 2.2 times as long as apically, further flagellomeres gradually shortening and weakly attenuating so that penultimate flagellomere 2.2 times as long as broad (Fig. 169). – Head in dorsal view transverse (Fig. 170), twice as broad as long, eye not protruding, somewhat shorter than temple (14:16), temple moderately rounded. Ocelli rather small, far from each other: POL as long as OOL (Fig. 170). Eye in lateral view twice as high as wide, temple one-fifth wider than eye and beyond eye ventrally narrowing (Fig. 171, see arrows). Clypeus 3.3 times as broad as high, its lower margin truncate (Fig. 172). Head polished.

Mesosoma in lateral view 1.4 times as broad as high, polished. Notaulix on declivous part of mesoscutum weakly distinct. Pronotal dimple deep, round (Fig. 173). Mesoscutum hairy. Precoxal suture distinct by a weak depression, smooth. Propodeum with a wide areola basalis, medially uneven, laterally rugulose, shiny to subshiny (Fig. 174). Hind femur thick, 2.9 times as long as broad medially (Fig. 175). Hind basitarsus as long as tarsomeres 2–3 combined. Claw downcurved, its basal lobe as in Fig. 176.

Forewing as long as body. Pterostigma (Fig. 19) wide, 2.35 times as long as wide and issuing *r* from its middle, *r* 0.6 times as long 3–*SR*, 1–*RI* slightly shorter than pterostigma (35:40), 2–*RI* short and ending before tip of wing. Second



**Figs 168–182.** *Diopsilus tasmanicus* sp. n. (female holotype): 168 = propodeum. – *Notodios fuscus* gen. et sp. n. (male holotype): 169 = flagellomeres 1–3 and penultimate flagellomere, 170 = head in dorsal view, 171 = head in lateral view, 172 = clypeus, 173 = pronotum with pronope, 174 = propodeum, 175 = hind femur, 176 = claw, 177 = right forewing:  $1A+2A$  and  $1-1A$  with transverse  $2A$  and  $a$ , 178 = right hindwing: subbasal cell with  $cu-a$  (see arrow), 179 = tergites 1–3. – *Brulleia melanocephala* Szépligeti, 1904 (female lectotype): 180 = right forewing: pterostigma and second submarginal cell, 181 = right forewing:  $1A+2A$  and  $1-1A$  with transverse  $2A$  and  $a$ , 182 = right hindwing: subbasal cell with  $cu-a$  (see arrow)



submarginal cell: rhomboid, 2-SR 1.5 times as long as 3-SR, *r-m* shorter than 3-SR (8:9); 2-SR and 3-SR straight, *r-m* slightly less sclerotized. First subdiscal cell: 2-CU1 twice as long as 1-CU1, 2-1A missing: cell posteriorly open (Fig. 24, see arrow). Veins 2A and *a* vestigial (Fig. 177, see arrows). – Hindwing: *cu-a* straight, long, directed outwards and bent (Fig. 178, see arrow).

First tergite (Fig. 179) less broadening posteriorly, 1.3 times as long as broad behind, pair of basal keels reaching hind half of tergite, pair of spiracles before middle of tergite, scutum with fine longitudinal striation, shiny. Further tergites polished. Tergites 2–3 fused, equal in length, borderline between them almost indistinct and slightly longer (44:40) than first tergite.

Antenna brownish black. Head blackish brown, meso-, metasoma and legs dark brown. Oral organs brownish yellow, tegula brown. Tibiae basally faintly yellowish. Wings subhyaline, pterostigma brown, veins yellowish to light brown.

Female and host unknown.

*Distribution* – Australia: ACT.

#### KEY TO THE SPECIES OF THE GENUS *DIOSPILUS* HALIDAY IN AUSTRALIA, TASMANIA AND NEW ZEALAND

- 1 (6) First tergite distinctly, i.e. 1.4–1.6 times, longer than broad behind, less broadening posteriorly (Figs 88, 135, 143).
- 2 (3) Hind femur and tibia thick, femur 3.3 times as long as broad, tibia distally almost as thick as femur (Fig. 86). Temple in dorsal view receded (Fig. 84). Pterostigma less wide, 3.3 times as long as wide (Fig. 91). Tergites 2–3 less wide, 1.5–1.6 times as broad behind as long medially (Fig. 88). Mesosoma testaceous, metanotum and propodeum with blackish pattern. Male: 2.9 mm. See also couplet 12 (11). – Australia: Queensland ..... **D. crassus** sp. n.
- 3 (2) Hind femur and tibia thin as usually, femur 4–4.5 times as long as broad, tibia distinctly less thick than femur (*cf.* Fig. 64). Temple in dorsal view strongly round (Fig. 124) to rounded (Fig. 137). Pterostigma wide, 2.2–2.3 times as long as wide (Figs 130, 142).
- 4 (5) First tergite broadening posteriorly, twice as broad behind as basally (Fig. 143). Flagellomeres long, first flagellomere four times as long as broad apically and slightly longer than second flagellomere (Fig. 136). Forewing: *r-m* almost straight (Fig. 142). Ocelli middle-sized, distance between fore and a hind ocelli equal to longest diameter of an ocellus (Fig. 137). Temple in dorsal view rounded (Fig. 137). Head black, legs straw yellow. Male: 4 mm. – New Zealand ..... *D. stramineipes* (Cameron, 1898) **comb. n.**
- 5 (4) First tergite subparallel-sided, i.e. weakly broadening posteriorly, one-fourth broader posteriorly than basally (Fig. 135). Flagellomeres less long, first flagellomere three times as long as broad apically and 1.4 times longer than second flagellomere (Fig. 123). Forewing: *r-m* clearly S-shaped (Fig. 130). Ocelli small, distance between fore and hind ocelli longer than greatest diameter of an ocellus (Fig. 124). Temple in dorsal view strongly rounded (Fig. 124). Head reddish yellow, legs 1–2 yellow, leg 3 light brownish. Male: 2.9 mm. – Australia: NSW ..... *D. ruficeps* Szépligeti, 1905
- 6 (1) First tergite at most somewhat, i.e. 1.2–1.3 times, and usually just longer than broad posteriorly (Figs 62, 66, 77, 102, 121, 153, 164).

- 7 (20) Temple in dorsal view receded, eye distinctly, i.e. about one-fourth to one-third, longer than temple (Figs 54, 79, 84, 94, 109) except one species: *D. berbus* (Fig. 1 in Papp 2012: 313).
- 8 (9) Eye in dorsal view as long as temple (Fig. 1 in PAPP 2012: 313). Marginal cell of forewing short, along *l-r1* 0.75 times as long as length of pterostigma (Fig. 7 in PAPP 2012: 313). Hind femur 3.1 times as long as broad medially (Fig. 5 in PAPP 2012: 313). Propodeum rugo-rugulose, antero-medially with a weak carina (Fig. 4 in PAPP 2012: 313). Pterostigma three times as long as wide, second submarginal cell high: *3-SR* one-fourth (0.75 times) shorter than *r-m* (Fig. 7 in PAPP 2012: 313). Black, legs yellow. Female: 2.5 mm. – Australia: NSW, Victoria ..... *D. berbus* Papp, 2012
- 9 (8) Eye in dorsal view one-fourth to one-third as long as temple (Figs 54, 79, 84, 94, 109). Marginal cell of forewing long, along *l-r1* at least as long as length of pterostigma (Figs 18, 59, 82, 91).
- 10(13) Hind tibia thickened, distally as thick as middle femur (Figs 57, 86).
- 11(12) Hind femur relatively more thick, 2.9 times as long as broad medially (Fig. 57). First tergite as long as broad posteriorly (Fig. 62). Pterostigma wide, 2.5 times as long as wide (Fig. 59). Temple in dorsal view slightly less receded (Fig. 54). Antenna with 31 antennomeres. Mesosoma black with dark brown pattern. Female: 3.7 mm. – Australia: NSW ..... ***D. assimulatus*** sp. n.
- 12(11) Hind femur relatively less thick, 3.3 times as long as broad medially (Fig. 86). First tergite 1.4 times as long as broad posteriorly (Fig. 88). Pterostigma less wide, 3.3 times as long as wide (Fig. 91). Temple in dorsal view slightly more receded (Fig. 84). Antenna with 26 antennomeres. Mesosoma testaceous, metanotum and propodeum with blackish pattern. Male: 2.9 mm. See also couplet 2(3). – Australia: Queensland ..... ***D. crassus*** sp. n.
- 13(10) Hind tibia thin as usually, distally less thick than middle femur (Fig. 64).
- 14(17) Forewing: second submarginal cell rhomboid, i.e. *2-SR* at least slightly longer than *3-SR* (Figs 29 in PAPP 2012: 317 and Fig. 51 in PAPP 2012: 322). Hindwing: *cu-a* more incurved (Fig. 31 in PAPP 2012: 317).
- 15(16) Forewing: pterostigma issuing *r* distally from its middle, *r-m* faintly sinuate (Fig. 51 in PAPP 2012: 322). Propodeum areolate-foveolate (Fig. 48 in PAPP 2012: 322). Temple in dorsal view more receded, eye 1.6 times longer than temple (Fig. 44 in PAPP 2012: 322). Basal lobe of claw less pointed, claw itself slightly more downcurved (Fig. 50 in PAPP 2012: 322). Entire body yellow. Female: 3.7–4.5 mm. – Australia: Northern Territory, Western Australia ..... *D. sulphureus* Papp, 2012
- 16(15) Forewing: pterostigma issuing *r* from its middle, *r-m* clearly sinuate (Fig. 29 in PAPP 2012: 317). Propodeum areolate-carinate, areola basalis wide, uneven to smooth, (Fig. 26 in PAPP 2012: 317). Temple in dorsal view less receded, eye slightly, 1.1 times, longer than temple (Fig. 21 in PAPP 2012: 317). Basal lobe of claw more pointed, claw itself slightly less downcurved (Fig. 28 in PAPP 2012: 317). Head black, meso- and metasoma testaceous. Female: 3.7 mm. – Australia: NSW ..... *D. hanrozpod* Papp, 2012
- 17(14) Forewing: second submarginal cell rectangular, i.e. *2-SR* about one-third longer than *3-SR* (Figs 18, 82). Hindwing: *cu-a* less incurved (Fig. 119, see arrow).
- 18(19) Head distinctly punctate, interspaces more or less longer than punctures (Fig. 79). Pterostigma less wide, 3.3 times as long as wide (Fig. 82). First tergite strongly broadening posteriorly, 1.25 times as broad behind as long, scutum striated (Fig. 121). Hind femur thick, 2.8 times as long as broad (*cf.* Fig. 105). Propodeum posteriorly rugo-rugulose, areola basalis less distinct (Fig. 122). Scape, pedicel and tegula yellowish. Female: 2.7 mm. – Australia: Queensland ..... *D. contractus* Papp, 1993

- 19(18) Head polished, at most face with disperse hairpunctures. Pterostigma wide, 2.6–2.8 times as long as wide (Figs 18, 106). First tergite less broadening posteriorly, slightly, 1.1–1.2 times, longer than (Figs 102, 108) to as long as broad behind (Fig. 107), polished. Hind femur less thick, (3.1–)3.3–3.8 times as long as broad (Figs 99, 104, 105). Propodeum smooth to polished, carinated and areola basalis distinct (Fig. 97). Scape, pedicel and tegula (light) brown. Female and male: (2–)2.1–2.2 mm. – Australia: ACT ..... **D. rieki** sp. n.
- 20 (7) Temple in dorsal view rounded, eye about as long as temple (Figs 68, 145, 155).
- 21(22) Forewing: marginal cell short, along *I–RI* shorter than length of pterostigma, pterostigma wide, 2.5 times as long as wide and issuing *r* distally from its middle (Fig. 17 in PAPP 2012: 315). Head in dorsal view transverse (Fig. 11 in PAPP 2012: 315), 1.9 times as broad as long, eye as long as temple. Propodeum smooth to rugulose with longitudinal and transverse carinae (Fig. 14 in PAPP 2012: 315). First tergite as long as broad behind, longitudinally rugo-rugulose (Fig. 20 in PAPP 2012: 315). Legs and tegula light brown to brown. Female: 2.3 mm. – Australia: ACT ..... *D. curtulus* Papp, 2012
- 22(21) Forewing: marginal cell long, along *I–RI* at least as long as, usually somewhat longer than pterostigma (Figs 76, 150, 161).
- 23(28) Lower margin of clypeus rounded and laterally weakly bipointed (Figs 70, 147, 157, see arrows). Flagellomeres cubic. Antenna with less than 30 antennomeres.
- 24(25) Propodeum with distinct areola basalis and carination (Figs 158, 166). Antenna with 24 antennomeres. First flagellomere slightly longer than broad and less broadening posteriorly (Fig. 164). Hind femur 3.8 to 3.3 times as long as broad medially (Figs 159, 167). Body dark brown (paratype) to dark brown with blackish pattern (holotype). Face brownish yellow. Female: 2.3–2.4 mm. – Australia: Queensland, Tasmania ..... **D. veptus** sp. n.
- 25(24) Propodeum rugose-rugulose, areola basalis less distinct (Fig. 72). Antenna with 26 antennomeres. Hind femur 3.1 times as long as broad (Figs 73, 148).
- 26(27) First tergite less broadening posteriorly, scutum rugo-rugulose; second tergite clearly longer than third tergite (Fig. 153). Forewing: pterostigma issuing *r* proximally from its middle, 2.3 times as long as wide, 2–*SR* 1.5 times as long as 3–*SR*, *SRI* faintly S-like (Fig. 150). Claw downcurved (Fig. 149). Hind femur nearly parallel-sided (Fig. 148). Ovipositor sheath about as long as hind tibia. Foreleg straw yellow, middle and hind legs yellow, hind tibia distally fumous, hind tarsus brownish. Female: 3 mm. – Tasmania ..... **D. tasmanicus** sp. n.
- 27(26) First tergite more broadening and posteriorly somewhat broader than long, scutum striated; second tergite slightly longer than third tergite (Fig. 77). Forewing: pterostigma issuing *r* from its middle, 2.5 times as long as wide, 2–*SR* 1.6 times as long as 3–*SR*, *SRI* faintly bent (Fig. 76). Claw weakly downcurved (Fig. 75). Hind femur less parallel-sided (Fig. 73). Ovipositor sheath about twice as long as hind tibia. Legs straw yellow, hind tibia + tarsus blackish fumous. Female: 2.9 mm. – Australia: NSW ..... **D. bogdus** sp. n.
- 28(23) Lower margin of clypeus truncate (Figs 35 and 61 in PAPP 2012: 319, labrum of *D. tenuitus* excised as in Fig. 61 in PAPP 2012: 325). Flagellomeres distinctly, 1.5–1.6 times, longer than broad. Antenna with more than 30 antennomeres.
- 29(30) Eye in dorsal view protruding, i.e. head between eyes clearly broader than between temples (Fig. 59 in PAPP 2012: 325). Pterostigma less wide, 2.8 times as long as wide (Fig. 66 in PAPP 2012: 325). Antenna with 36–39 antennomeres. Notaulix less widening (Fig. 63 in PAPP 2012: 325). First discal cell: *I–SR–M* somewhat shorter than *I–M* (Fig. 67 in PAPP 2012: 325). Ovipositor sheath short, only slightly longer than hind tibia. Head and mesosoma yellow, mesopleuron, metapleuron, propodeum and metasoma brownish to brown. Female and male: 4–4.5 mm. – Australia: NSW ..... *D. tenuitus* Papp, 2012

- 30(29) Eye in dorsal view not protruding as usually, head between eyes at most minutely broader than between temples (Fig. 33 in PAPP 2012: 319). Pterostigma wide, 2.3–2.4 times as long as wide (Fig. 39 in PAPP 2012: 319). Antenna with 33–36 antennomeres. Ovipositor sheath long, twice as long as hind tibia. Head and metasoma reddish yellow, mesosoma black. Female and male: 4–4.2 mm. – Australia: NSW ..... *D. rubroater* Papp, 2012

CHECKLIST OF HELCONINAE IN THE AUSTRALIAN REGION  
(Australia, New Guinea, New Zealand, Tasmania)

The first catalogue of the Australian Braconidae was compiled by PARROTT (1953), who recorded 224 species of which the subfamily Helconinae comprised 14 species belonging to seven genera. In recent times (1) the helconine genus *Trachypetus* Guérin, 1838 was transferred to the new subfamily Trachypetinae and (2) the diospiline *Diospilus ruficeps* (Brullé, 1846), proved to be an ichneumonid (Scolobatinae) species. Consequently, the true number of the helconine species is 12. Currently the Helconinae species occurring in the Australian Region counts 39; the species are assigned to the following three tribes: Brulleiini (2 species), Diospilini (23 species) and Helconini (14 species).

In the Indo-Australian Region the helconine species of Taiwan were reviewed by CHOU & HSU (1998). Here the number of the Helconinae species is 16 in three tribes: Brulleiini (2 species), Diospilini (8 species) and Helconini (6 species).

*BRULLEIINI* van Achterberg, 1983

*Brulleia* Szépligeti, 1904

*latiannulata* (Cameron, 1911) (*Cenocoelius*) – New Guinea

*melanocephala* Szépligeti, 1904 – New Guinea

= *annulicornis* (Cameron, 1911) (*Cenocoelius*)

*DIOSPILINI* Förster, 1862

*Aspigonus* Wesmael, 1835

*antipodum* (Turner, 1922) (*Diospilus*) comb. n. – New Zealand

*Depelbus* Papp, 1993

*biroi* (Szépligeti, 1902) (*Diospilus*) – New Guinea

*Diospilus* Haliday, 1833

*assimulatus* sp. n. – Australia (NSW)

*berbus* Papp, 2012 – Australia (NSW, Victoria)

*bogdus* sp. n. – Australia (NSW)

*contractus* Papp, 1993 – Australia (Queensland)

*crassus* sp. n. – Australia (Queensland)

*curtulus* sp. n. – Australia (ACT)

*hanrozpod* Papp, 2012 – Australia (NSW)

- rieki* sp. n. – Australia (ACT)  
*rubroater* Papp, 2012 – Australia (NSW)  
*ruficeps* Szépligeti, 1905 – Australia (NSW)  
*stramineipes* (Cameron, 1898) (*Alysia*) – New Zealand  
*sulphureus* Papp, 2012 – Australia (Northern Territory, Western Australia)  
*tasmanicus* sp. n. – Australia (Tasmania)  
*tenuitus* Papp, 2012 – Australia (NSW)  
*veptus* sp. n. – Australia (Queensland, Tasmania)
- Notodios* gen. n.  
*fuscus* sp. n. – Australia (ACT)
- Schauinslandia* Ashmead, 1900  
*alfkeni* Ashmead, 1900 – New Zealand (Chatham Islands)  
*femorata* Ashmead, 1900 – New Zealand (Chatham Islands)  
*pallidipes* Ashmead, 1900 – New Zealand (Chatham Islands)
- Taphaeus* Wesmael, 1835  
*robiginosus* Papp, 2003 – Australia (NSW)
- Topaldios* Papp, 1995  
*primus* Papp, 2012 – Australia (Queensland)
- HELCONINI* Förster, 1862  
*Aspicolpus* Wesmael, 1838  
*hudsoni* Turner, 1922 – New Zealand  
*penetrator* (Smith, 1878) (*Rhogas*) – New Zealand
- Austrohelcon* Turner, 1918  
*australianus* (Kokoujev, 1901) (*Helcon*) – Australia (NSW, Tasmania)  
*erythrocephalus* Turner, 1918 – Australia (Victoria)  
*indultator* (Erichson, 1841) (*Helcon*) – Australia (Tasmania)  
*inornatus* (Kokoujev, 1901) (*Helcon*) – Australia (NSW)  
*meridionalis* Turner, 1918 – Australia (Victoria)
- Calohelcon* Turner, 1918  
*dangerfieldi* Austin et Quicke, 1992 – Australia (Northern Territory, South Australia)  
*obscuripennis* Turner, 1918 – Australia (NSW, Victoria)  
*roddi* Quicke et Holloway, 1992 – Australia (NSW)
- Helcon* Nees, 1812  
*rufithorax* (Turner, 1918) (*Gymnoscelus*) – Australia (Victoria)
- Parahelcon* Kokoujev, 1901

*konowi* Kokoujev, 1901 – Australia (NSW)  
= *euthyrini* (Cameron, 1912)

*Trichiohelcon* Turner, 1918

*phoracanthae* (Froggatt, 1916) (*Iphiaulax*) – Australia (NSW, Queensland)  
*rufoniger* (Turner, 1918) (*Gymnoscelus*) – Australia (ACT, Tasmania)

## APPENDIX

### Rectification

In the article of PAPP (2012) the new species name “*Diospilus curtulus* sp. n.” accidentally remained in the form of “*Diospilus curtus*” on page 314 above the description. Except for the heading of the description, the name appeared in the correct spelling everywhere else. The spelling “*curtus*” is a homonym, preoccupied by *Diospilus curtus* Chou et Hsu, 1998, senior homonym (see CHOU & HSU 1998: 291). The intended binomen “*Diospilus curtulus* sp. n.” appears on page 311 (in the Abstract), page 314 (above “*Diospilus curtus* sp. n.” in the chapter “Taxonomic position of *Diospilus berbuis* sp. n.”, first and 14th lines) and page 315 (caption of Figs 11–20). The author considers this a lapsus and the name *Diospilus curtulus* sp. n. available with the publication year 2012 in the paper mentioned before.

### On the Neotropical *Diospilus fulvus* Papp, 1995

*New faunistic data* – The species was described from Costa Rica (PAPP 1995) on the basis of the female holotype and one male paratype. New faunistic data are as follows: (a) 3 females + 7 males (2 females + 6 males in Zoologisk Museum, Lund and one female + one male in HNHM): Honduras, Cortés, Parque Nacional Cusuco, 5 km N from Buenos Aires, 15°29'N / 88°13'W, 30 June–30 October 1995, collected using Malaise trap set up in an oak/pine cloud forest, leg. R. Cave; (b) one male (in Zoological Museum, Logan): Costa Rica, Ala., 20 km South Upala, 1–10 September 1991, leg. F. D. Parker. – New to the fauna of Honduras.

*Additional features* – Antenna of females with 33–35 and that of males with 34–36 antennomeres, ultimate 8–10 flagellomeres of females whitish, flagellum of males fully black. In the original description (PAPP 1995: 104) the number of the antennomeres, “26”, is a misprint, the correct number is 36. Male specimens with more or less brown(ish) to blackish suffusion on their vertex and mesoscutum, tergites almost fully dark brown to black.

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