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Australian Thaumaleidae (Insecta: Diptera)

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ABSTRACT. For the first time Thaumaleidae from Australia are named and classified. They are placed in two genera, *Austrothaumalea* Tonnoir and *Niphta* n. gen. The following new species are described: *Austrothaumalea australis* n. sp., *A. barrydayi* n. sp., *A. capricornis* n. sp., *A. cervulus* n. sp., *A. commoni* n. sp., *A. denticulata* n. sp., *A. fusca* n. sp., *A. macalpinei* n. sp., *A. minnamurrae* n. sp., *A. similis* n. sp., *A. simplex* n. sp., *A. sinuosa* n. sp., *A. spinosa* n. sp., *A. tasmanica* n. sp., *A. tonnoiri* n. sp., *A. uptoni* n. sp., *A. victoriae* n. sp., *A. zentae* n. sp., *Niphta bickeli* n. sp., *N. collessi* n. sp., *N. farecta* n. sp. A key is given to the males of all recognized Australian species and to the females so far as identifiable. New combinations are *Niphta halteris* (Edwards) and *Niphta nudipennis* (Edwards) from South America, both originally described under *Austrothaumalea*.

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The Thaumaleidae comprise a homogeneous family of small (wing length 1.5-7.5 mm) (Fig. 1) stoutly built flies with shiny yellow to black bodies. Their eyes are holoptic in both sexes, their antennae short and slender. The wings have a characteristic venation and tend to fold downwards across a transverse line of weakness near the apex of the subcosta. The adults are diurnal and usually frequent wet rocks or vegetation near streams in wet forest. The larvae are aquatic and amphipneustic. The family (about 100 described species) is possibly mainly holarctic in distribution with less than a dozen species having been described previously from the southern hemisphere.

Tonnoir (1927) was the first to record Thaumaleidae from Australasia. He described a new genus, *Austrothaumalea,* with two species, *A. neozealandica* Tonnoir and *A. appendiculata* Tonnoir, from New Zealand. Tonnoir (1927) also recorded *Austrothaumalea* from Australia (including Tasmania) and announced the description of eight species from this region. However, Tonnoir published no descriptions of Australian members of *Austrothaumalea.* Referring to Tonnoir (1927) several authors (e.g. Edwards, 1929, 1930; Stuckenberg, 1960, 1961; Stone, 1966; Colless & McAlpine, 1970; Arnaud, 1977; McLellan, 1983) mentioned the existence of undescribed species of *Austrothaumalea* in Australia. Of these, only Colless & McAlpine (1970) were more specific. They regarded the Australian species of Thaumaleidae as belonging to *Austrothaumalea* with one exception which appeared to be a member of the South African genus *Afrothaumalea* Stuckenberg.

Materials and Methods

For this paper I have studied all Australian Thaumaleidae made available from the Australian National Insect Collection (ANIC) in Canberra (which also holds Tonnoir's unpublished notes and collection), from the Australian Museum (AM) in Sydney, from the Museum of Victoria (MV) in Melbourne, and my own material (GT). This enabled me to present descriptions of 21 species. Whereas 18 belong to *Austrothaumalea,* 3 represent a new genus, perhaps close to but different from *Afrothaumalea.* The available larvae agree morphologically with the description which McLellan (1983) gave for *A. neozealandica* but cannot be specifically identified. From comparing the area covered

by collecting and the area presumably suitable for Thaumaleidae in Australia, more species and considerable extensions of the known distributions must be expected.

Illustrations of wings and descriptions of colouration are given from dry specimens. The descriptions and illustrations of the genitalia are based on material cleared in KOH. The wings of all species are more or less hyaline. The colour given in the descriptions is, therefore, that of the infuscation of the membrane and of the venation which is less transparent. The terminal segment of the male is mostly slightly paler than the rest of the abdomen. The aedeagus of *Austrothaumalea* is a very delicate and complex structure; my illustrations and descriptions only cover the more strongly sclerotized portions of the aedeagus as detectable from ventral view without distorting the remainder of the genitalia. The sexes have been associated with each other by various ways of exclusion (geographic, venational, size, colour). The terminology used follows Colless & McAlpine (1970) for the wing venation, and McLellan (1983) for the genitalia (see Figs 13–15, 109–111).

The abbreviations of institutions housing material examined have been given above. Other than these and standard abbreviations the following abbreviations have been used:

c.u.	collector(s) unknown
nr	near
same loc.	same locality.

Key to Genera and Species of Australian Thaumaleidae

1. No ridge in front of wing base (Fig. 35); transverse section of R_2 closer to the end of R_{1+2} than to the origin of R_{2+3}; R_{4+5} arched posteriorly (e.g. Fig. 36). ..... *Austrothaumalea* ... 2

——Prominent ridge in front of wing base (Fig. 103); transverse section of R_2 markedly closer to origin of R_{2+3} than to end of R_{1+2}; R_{4+5} arched anteriorly (e.g. Fig. 97). ..... *Niphta* ... 31

2. R_{4+5} with macrotrichia. ..... *A. tasmanica*

——R_{4+5} without macrotrichia. 3

3. R_3 very slightly sinuous, appendix of CuA + 1A very substantial (e.g. Fig. 17); thorax very dark (blackish). 4

——Combination of wing and colour features otherwise. 6

4. Dististyles simply bent (Fig. 37); Tasmanian species. ..... *A. fusca*

——Dististyles 2-branched (e.g. Fig. 18); mainland species. 5

5. Outer branch of dististyles substantial, more than half as long as inner branch (Fig. 20); known from Blue Mountains and coast near Sydney. ..... *A. cervulus*

——Outer branch of dististyles minute, less than ¼ length of inner branch (Fig. 85); known from Clyde Mountain only. ..... *A. uptoni*

6. CuA + 1A straight or almost so (Fig. 45). ..... *A. minnamurrae*

——CuA + 1A distinctly bent anteriorly, with or without appendix at bend (e.g. Fig. 50). 7

7. Western Australian species (Figs 2–6). ..... *A. australis*

——Eastern Australian species. 8

8. Male. 9

——Female. 20

9. Tergite 9 with lateral process on each side (e.g. Fig. 13). 10

——Tergite 9 without lateral process (e.g. Fig. 8). 14

10. Dististyles curved evenly throughout (e.g. Fig. 68). 11

——Dististyles bowed strongly at about midlength, basal and apical third almost straight (e.g. Fig. 31). 13

11. Median lobe of tergite 9 (portion between lateral processes) longer than wide, lateral processes opposing each other below median lobe (Fig. 68). ..... *A. spinosa*

——Median lobe of tergite 9 much wider than long, lateral processes not opposing each other (e.g. Fig. 13). 12

12. Lateral processes of tergite 9 long and horn-like (Fig. 13). ..... *A. capricornis*

——Lateral processes of tergite 9 short and subtriangular (Fig. 87). ..... *A. victoriae*

13. Lateral processes of tergite 9 long and horn-like (Fig. 51). ..... *A. similis*

——Lateral processes of tergite 9 short and subtriangular (Fig. 31). ..... *A. denticulata*

14. Dististyles bent strongly at about ⅔ length, basal and apical portion almost straight (Fig. 39). ..... *A. macalpinei*

——Dististyles curved evenly throughout (e.g. Fig. 56). 15

15. Dististyles tapering evenly throughout (e.g. Fig. 56). 16

——Dististyles almost parallel-sided for about basal ⅔ of length, thence tapering irregularly (e.g. Fig. 23). 19

16. Parameres forming a trifid structure (e.g. Fig. 56). ..... *A. simplex*

——Parameres forming a simple slender cone of variable shape. 17

17. Tergite 9 very short, with posterior margin widely and evenly rounded; parameres not longer than aedeagus (in ventral aspect) (Fig. 8). ..... *A. barrydayi*

——Tergite 9 of variable but moderate length, with posterior margin not widely and evenly rounded; parameres markedly longer than aedeagus (in ventral aspect) (e.g. Fig. 62). 18

18. Posterior margin of tergite 9 with narrow U-shaped median excision (Figs 62, 64). ..... *A. sinuosa*

——Posterior margin of tergite 9 without narrow U-shaped median excision (Fig. 93). ..... *A. zentae*

19. Parameres more than twice as long as aedeagus (in ventral aspect) (Fig. 78). ..... *A. tonnoiri*

——Parameres only slightly longer than aedeagus (in ventral aspect) (Fig. 23). ..... *A. commoni*

20. Posterior portion of sternite 8 appearing in ventral aspect at least as long as half its width (e.g. Fig. 34). 21

——Posterior portion of sternite 8 appearing in ventral aspect not longer than half its width (e.g. Fig. 29). 25

21. Posterior portion of sternite 8 appearing in ventral aspect considerably wider at base than at level of median notch (e.g. Fig. 34). 22

——Posterior portion of sternite 8 appearing in ventral aspect not much wider at base than at level of median notch (e.g. Fig. 16). 24

22. Sternite 8 with distinct mediobasal protrusion (e.g. Figs 33, 34). 23

——Sternite 8 without distinct mediobasal protrusion (Figs 53, 54). ..... *A. similis*

23. Protrusion of sternite 8 substantial and widely rounded (Figs 33, 34). ..... *A. denticulata*

——Protrusion of sternite 8 a small and narrow cone (Figs 70, 71). ..... *A. spinosa*

24. Median notch of sternite 8 shallower than half length of posterior portion of sternite (Fig. 16). ..... *A. capricornis*

——Median notch of sternite 8 deeper than half length of posterior portion of sternite (Fig. 91). ..... *A. victoriae*

25. Sternite 7 very short, W-shaped from ventral aspect, a cone-shaped lateral sclerite each side (Fig. 29). ..... *A. commoni*

——Sternite 7 not very short or W-shaped from ventral aspect, no cone-shaped lateral sclerite (e.g. Fig. 60). 26

26. Lobes of sternite 8 very wide, short and evenly rounded and separated by very shallow notch (Fig. 81). ..... *A. tonnoiri*

——Lobes of sternite 8 not very wide, short and evenly rounded, notch between them not very shallow (e.g. Fig. 11). 27

27. Sternite 8 with distinct mediobasal protrusion (e.g. Figs 10, 11). 28

——Sternite 8 only slightly arched mediobasally (e.g. Figs 59, 60). 29

28. Sternite 8 with sharp nose-like mediobasal protrusion (Figs 43, 44). ..... *A. macalpinei*

——Sternite 8 with rounded mediobasal protrusion (Figs 10, 11). ..... *A. barrydayi*

29. Tergite 9 not longer than tergite 7 (Figs 59, 60). ..... *A. simplex*

——Tergite 9 longer than tergite 7 (e.g. Fig. 66). 30

30. Posterior portion of sternite 8 about as long as basal portion, median notch V-shaped (Fig. 66). ..... *A. sinuosa*

——Posterior portion of sternite 8 much shorter than basal portion, median notch U-shaped (Fig. 96). ..... *A. zentae*

31. Male. 32

——Female (not known for *N. collessi).* 34

32. Basistyles with substantial spine-like process (Figs 109, 110). ..... *N. farecta*

——Basistyles without spine-like process (e.g. Figs 99, 100). 33

33. Tergite 9 posteromedially excised (Fig. 98). ..... *N. bickeli*

——Tergite 9 posteromedially not excised (Fig. 104). ..... *N. collessi*

34. Sternite 8 with median notch as deep as length of sternite in midline (Fig. 102). ..... *N. bickeli*

——Sternite 8 with median notch not as deep as length of sternite in midline (Fig. 112). ..... *N. farecta*

Genus *Austrothaumalea* Tonnoir

Austrothaumalea Tonnoir, 1927: 109. Type species *Austrothaumalea neozealandica* Tonnoir.

Redescription. Mesothorax without any sign of antealar ridges. Abdomen with tergites 1–9, sternites 1–7 and ventral bridge of tergite 9 (=sternite 9) well developed in male; sternite 8 absent. Tergites and sternites 1–9 developed in female. Head, thorax, legs and abdomen covered with bristles of variable size; largest bristles along eye margin, in front of and between wing bases, on scutellum and on all abdominal sclerites.

Wing: broad with tip broadly rounded; macrotrichia present generally on C, wing margin and R_{1+2}, exceptionally in addition on R_{4+5}, never on membrane; C weakened and flexed (slightly concave) at about level of crossvein m-cu. Sc short and weak, running very close and parallel to R for a short distance and flexed perpendicularly into it slightly proximally to crossvein m-cu; humeral crossvein slightly distal to level of proximal side of basal cells; both Sc and humeral crossvein sometimes very faint or obsolete; R_{1+2} ending well beyond middle of wing, strongly flexed into first basal cell and seemingly dividing it in two; this cell not, however, divided by the vein itself, but by a slightly sclerotized area adjacent to it, which apparently functions as a hinge when wing is bent. R_3 usually more or less sinuous, more rarely just arched posteriorly; the

transverse R_2 generally markedly closer to the end of R_{1+2} than to the origin of R_{2+3}; R_{4+5} and M_{1+2} very slightly arched posteriorly; M_{3+4} more or less sinuous, its base much shorter than crossvein m-cu; CuA + 1A generally angulated and bent or distinctly bowed anteriorly somewhat distal to crossvein m-cu, rarely almost straight; frequently a short appendix (incomplete base of 1A) directed posteroproximally at this bend.

Male genitalia: tergite 9 moderately wide and of very variable length, with well developed ventral bridge (= sternite 9); basistyles of variable length and shape, attached by membrane to ventral bridge of tergite 9; parameres fused medially to form a slender, straight, arched or sinuous structure with simple, bifid or trifid apex; aedeagus generally well developed and of very variable shape.

Female genitalia: sternite 7 variable, but rarely strongly modified; sternite 8 highly modified, bilobed; sternite 9 strongly modified, heavily sclerotized but generally largely covered by lobes of sternite 8; tergite 9 of variable length, posterolateral corner never produced.

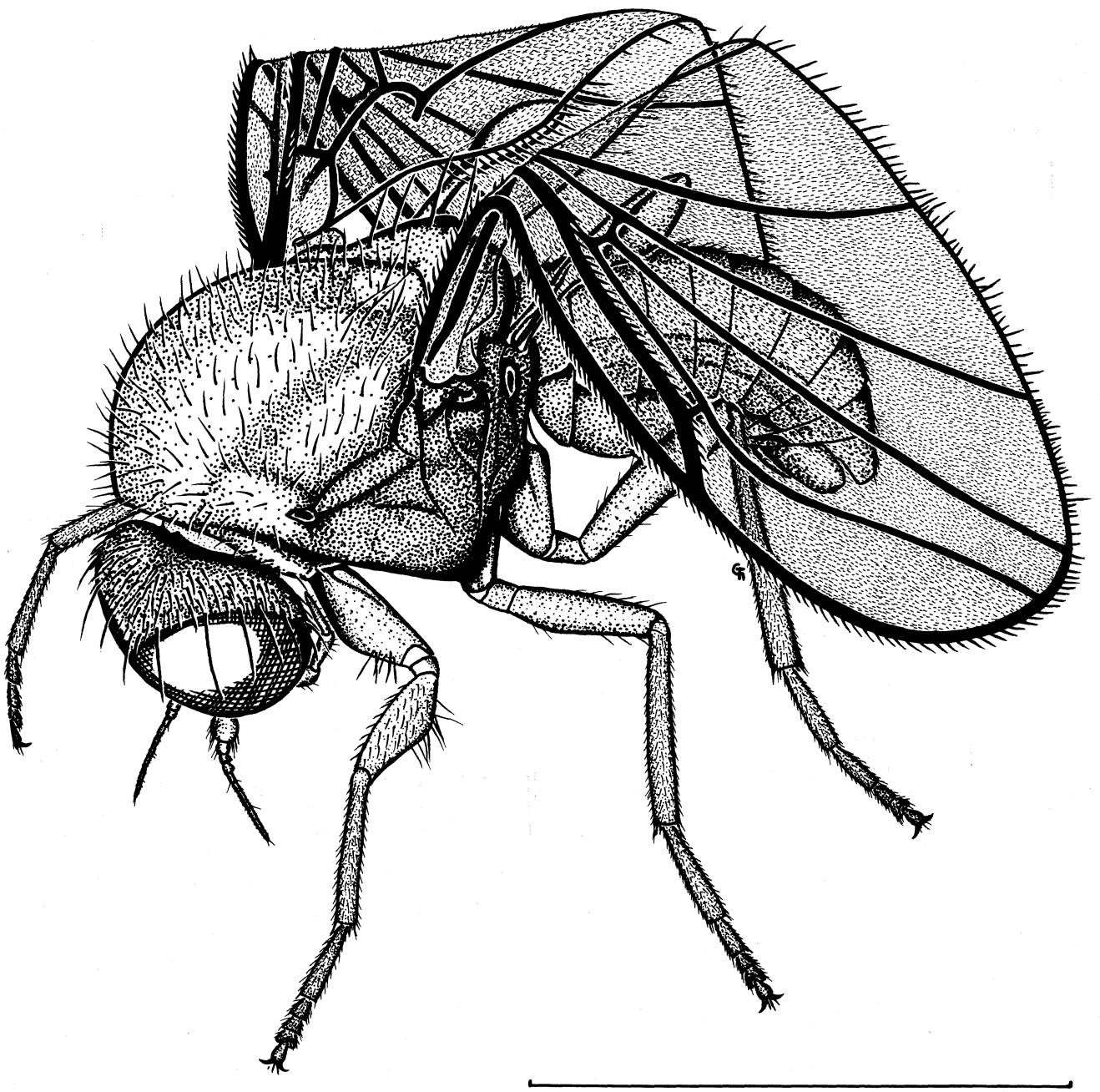


Fig. 1. *Austrothaumalea cervulus,* male, wings characteristically folded, drooping over the sides of the body. Scale = 1.0 mm.

Austrothaumalea australis n. sp.

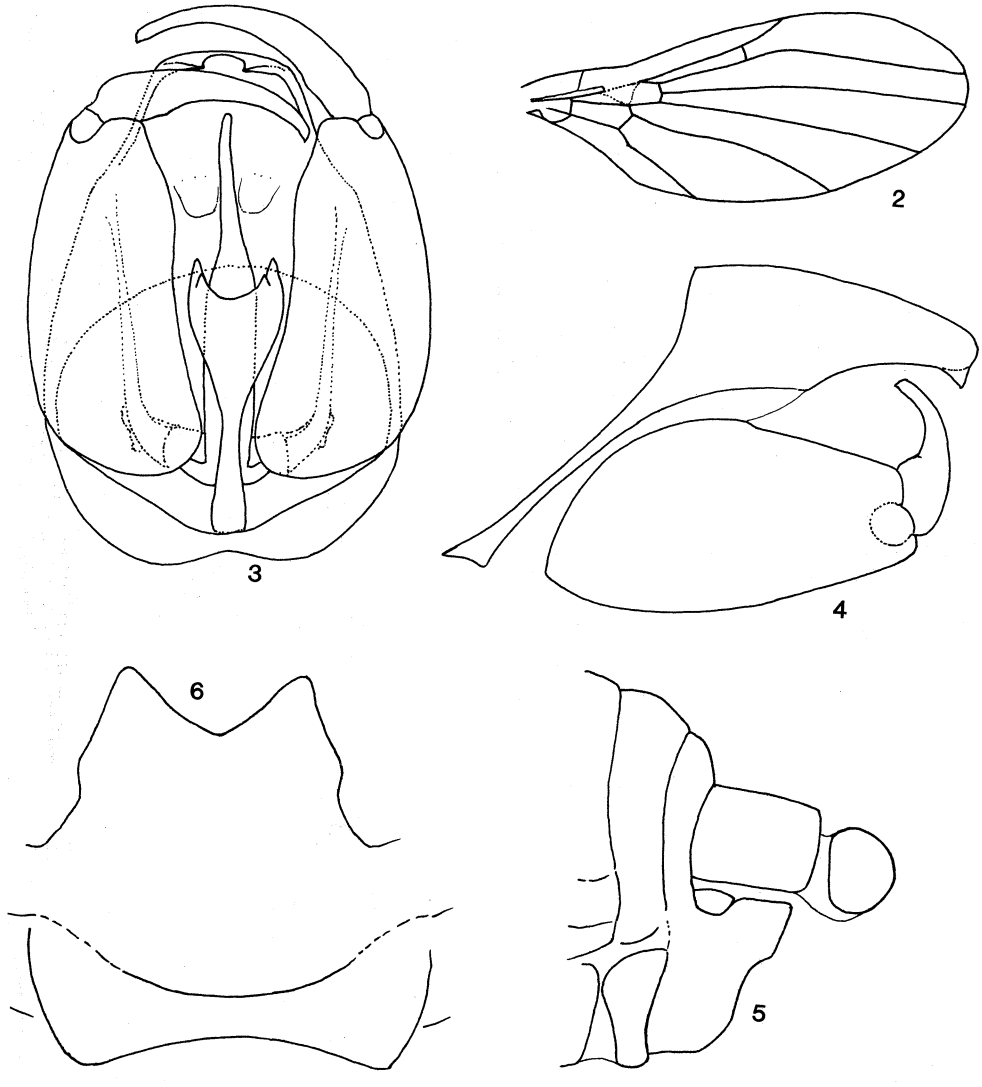
Figs 2–6

Material examined. HOLOTYPE ♂: Western Australia, 4.8 km north-east of Pimelia, nr Pemberton, 5 Oct 1970, D.H. Colless (ANIC). PARATYPES: Western Australia, all collected by D.H. Colless (ANIC): 4 ♂, 3 ♀, same data as holotype; 3 ♂, 2 ♀, Channybearup, nr Pemberton, 5 Oct 1970; 2 ♂, 1 ♀, Mount Chudalup, south of Northcliffe, 6 Oct 1970; 2 ♂, 3.2 km west of Karridale, 3 Oct 1970; 1 ♀, Nornalup, 9 Oct 1970; 1 ♀, Pemberton, 6 Oct 1970; 1 ♂, 1 ♀, 11.3 km north-east of Pemberton, 5 Oct 1970; 1 ♂, 2 ♀, Porongurup National Park, 11 Oct 1970; 1 ♂, 2 ♀, 9.7 km north of Walpole, 7 Oct 1970.

Description. Colouration: head dark brownish grey; thorax dull brownish yellow to dark ochreous; coxae, trochanters and femora pale to dull yellow, remaining leg segments brown; wing and haltere greyish yellow; abdomen pale greyish to blackish brown.

Wing: R_3 very slightly sinuous; CuA + 1A distinctly bent, with or without very slight indication of an appendix.

Male genitalia: tergite 9 long, narrow, trapezoid, with posterior margin slightly convex, with one apical, ventrally directed triangular tooth on each side; basistyles not reaching posterior margin of tergite 9; dististyles not long, slightly and evenly curved and



Figs 2–6. *Austrothaumalea australis* n. sp. **2–4,** male: **2,** wing; **3,4,** genitalia: 3, ventral; 4, lateral. **5,6,** female: **5,** genitalia, lateral; **6,** sternites 7 and 8.

tapering throughout length, with blunt tips; parameres forming a wide-based but otherwise moderately long, narrow and slightly dorsally curved cone; aedeagus appearing tulip-shaped from ventral aspect.

Female genitalia: tergite 9 much longer than either tergite 7 or 8; sternite 7 very short in midline; sternite 8 sinuous from lateral aspect, with very wide V-shaped notch between substantial subtriangular lobes.

Dimensions: wing length, ♂ 2.0–2.2 mm, ♀ 2.2–2.7 mm.

Distribution. South-western Australia.

Etymology. The specific name is the Latin adjective *australis* (= southern), referring to the distribution of this species.

Austrothaumalea barrydayi n. sp.

Figs 7–11

Material examined. HOLOTYPE ♂: New South Wales, Mooney Mooney Creek, nr Gosford, 12 Dec 1978, D.K. McAlpine & B.J. Day (AM). PARATYPES: New South Wales: 2 ♀, Macquarie Falls, 1 & 14 Nov 1960, D.H. Colless (ANIC); 2 ♀, Mooney Mooney Creek, nr Gosford, 23 Nov 1956 & 9 Nov 1957, D.K. McAlpine (AM); 1 ♀, Mount Kembla, 12 Feb 1932, A. Tonnoir (ANIC); 2 ♀, Royal National Park, 3 & 23 Nov 1956, D.K. McAlpine (AM).

Description. Colouration: head dark brownish grey; thorax pale brownish yellow, pleura largely somewhat darker than the rest; legs yellowish brown to dark greyish brown; wing and haltere yellowish to pale greyish brown; abdomen greyish brown.

Wings: R_3 very strongly sinuous; CuA + 1A distinctly bent, with indication of an appendix.

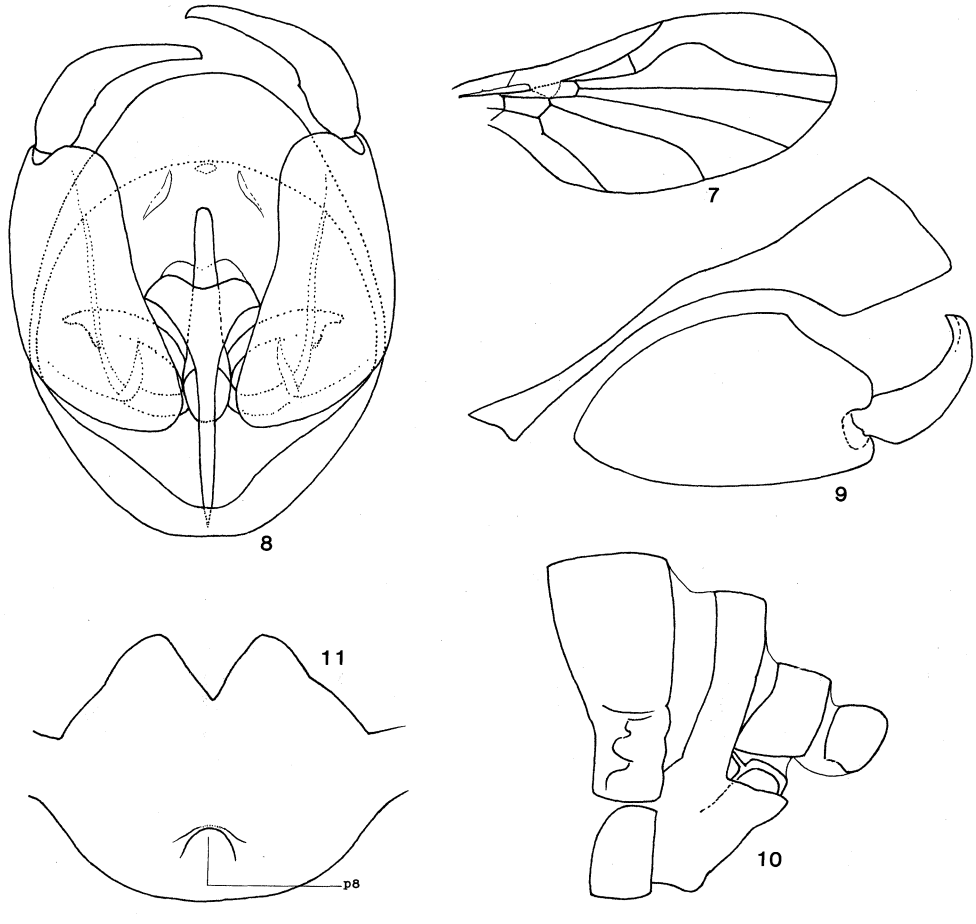
Male genitalia: tergite 9 short, almost semicircular from dorsal aspect; basistyles not reaching posterior margin of tergite 9; dististyles slender, curving and tapering evenly from a moderately wide base into a weakly hooked apex; parameres forming a slender short cone which appears cut off apically; aedeagus with base long and narrow, and apex wide and wing-like.

Female genitalia: tergite 9 longer than tergite 8 but shorter than tergite 7; sternite 8 with mediobasal rounded swelling, notch V-shaped, lobes wide, subtriangular.

Dimensions: wing length, ♂ 1.9–2.0, ♀ 2.2–2.4 mm.

Distribution. New South Wales.

Etymology. This species is dedicated to Mr Barry Day, one of its collectors.



Figs 7–11. *Austrothaumalea barrydayi* n. sp. **7–9,** male: **7,** wing; **8,9,** genitalia: 8, ventral; 9, lateral. **10, 11,** female: **10,** genitalia, lateral; **11,** sternite 8. p8, protrusion of sternite 8.

Austrothaumalea capricornis n. sp.

Figs 12–16

Material examined. HOLOTYPE ♂: New South Wales, Blue Mountains, Mount Wilson, 3 May 1958, D.K. McAlpine (AM). PARATYPES: New South Wales: 1 ♀, same data as holotype (AM); 1 ♂, Point Lookout nr Ebor, 1524 m, 21 Mar 1960, D.K. McAlpine (AM); 1 ♂, Point Lookout, New England National Park, 30°29′S, 152°25′E, 12–22 Feb 1984, I.D. Naumann (ANIC); 2 ♀, Toms Cabin, New England National Park, 30°30′S, 152°24′E, 12–22 Feb 1984, I.D. Naumann (ANIC).

Description. Colouration: head dark grey; thorax dark brownish yellow; legs dull yellowish to greyish brown; wing and haltere pale yellowish to greyish brown; abdomen greyish brown.

Wing: R_3 sinuous; CuA+1A distinctly bent and with clear indication of an appendix.

Male genitalia: tergite 9 wide, trapezoid, with ventrolateral posteriorly directed, straight or slightly undulate horn-like process each side; basistyles reaching almost posterior margin of tergite 9; dististyles slim, curving and tapering evenly throughout, with blunt apex; parameres forming a very long narrow pointed cone; aedeagus Y-shaped, with stem long, branches short and bearing several teeth of different length apically.

Female genitalia: tergite 9 markedly longer than tergite 8; sternite 8 strongly bent dorsally near base as seen from lateral aspect; a V-shaped notch between subtriangular lobes.

Dimensions: wing length, ♂ 2.0–2.2 mm, ♀ 2.1–2.3 mm.

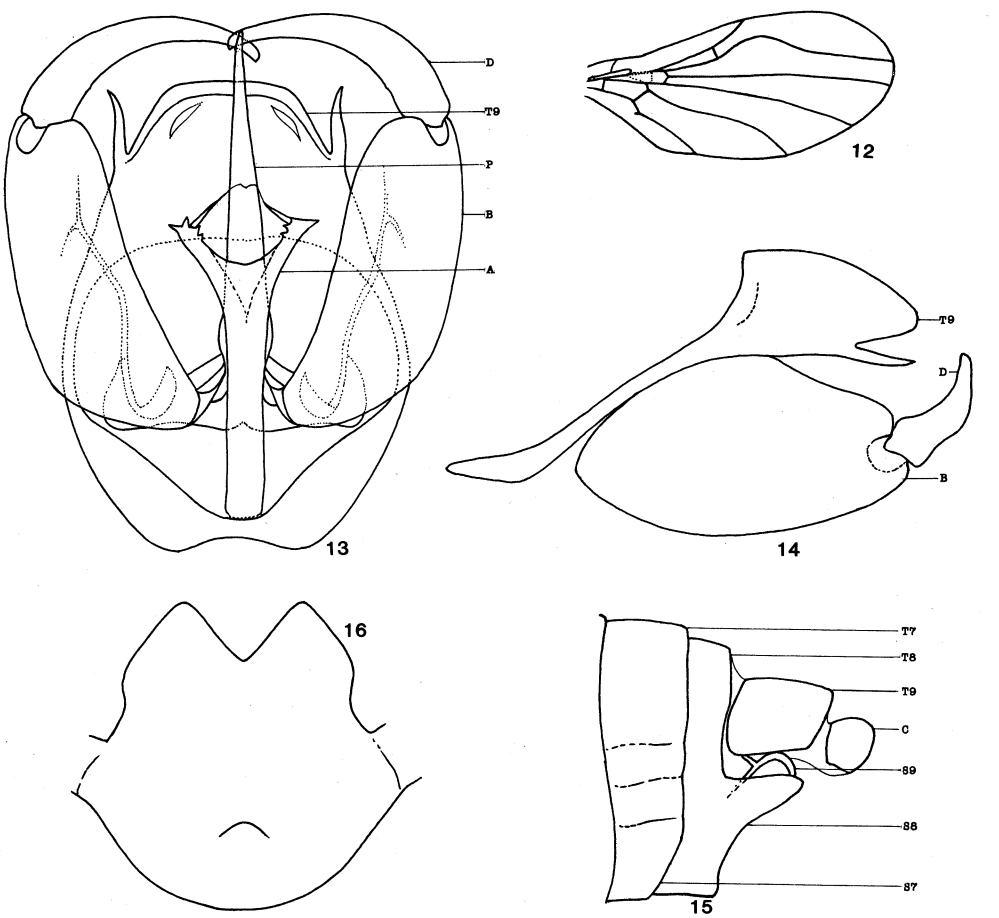
Distribution. New South Wales.

Etymology. The specific name is a Latin adjective referring to the processes on tergite 9 of the male of this species, which resemble the horns of a goat.

Austrothaumalea cervulus n. sp.

Figs 17–22

Material examined. HOLOTYPE ♂: New South Wales, Fitzroy Falls, 3 Oct 1938, A.L. Tonnoir (ANIC). PARATYPES: New South Wales: 1 ♀, Belmore Falls, 23 Jan 1963, D.H. Colless (ANIC); 1 ♀, Waterfall, Royal National Park, 29 Dec 1961, D.H. Colless (ANIC); 2 ♂, 1 ♀, Waterfall, National Falls, 2 Oct 1985, G. Theischinger & A. Neboiss (GT).



Figs 12–16. *Austrothaumalea capricornis* n. sp. **12–14,** male: **12,** wing; **13,14,** genitalia: 13, ventral; 14, lateral. **15,16,** female: **15,** genitalia, lateral; **16,** sternite 8. A, aedeagus; B, basistyle; C, cercus; D, dististyle; S, sternite; T, tergite.

Additional material. 1 specimen (abdomen missing), New South Wales, Audley, Royal National Park, 14 Nov 1960, D.H. Colless (ANIC).

Description. Colouration: head and thorax blackish brown; coxae, trochanters and femora brownish yellow, remaining leg segments yellowish to blackish brown; wing and haltere greyish brown; abdomen greyish brown.

Wing: R_3 very slightly sinuous; CuA + 1A distinctly bent and with substantial appendix.

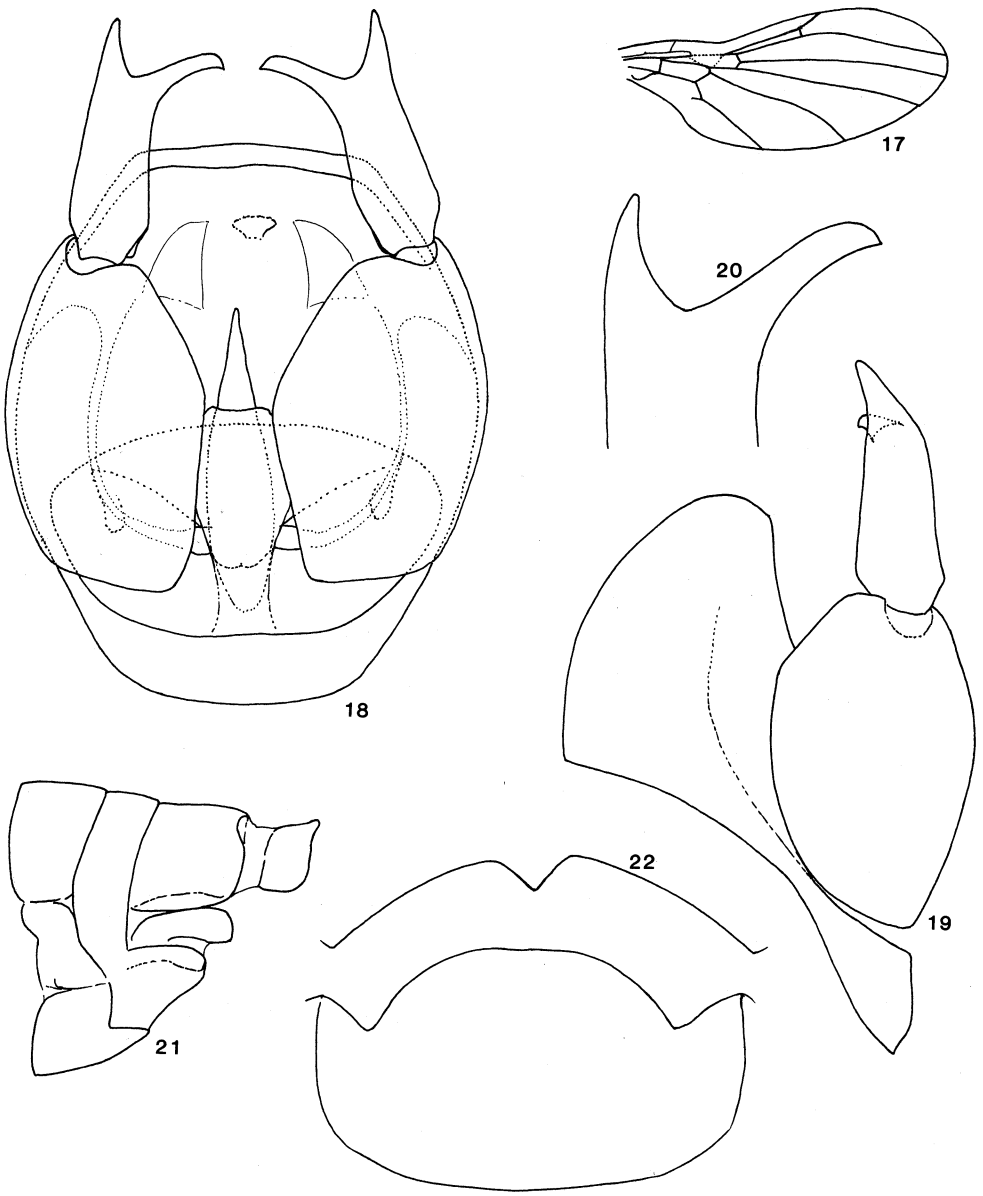
Male genitalia: tergite 9 wide, trapezoid with posterior corners slightly rounded; basistyles reaching far short of posterior margin of tergite 9; dististyles forked, with wide cylindrical base, wider straight conical outer branch and narrower cylindrical, apically weakly hooked, inner branch; parameres forming a short narrow cone; aedeagus appearing broadly spoon-shaped from ventral aspect.

Female genitalia: tergite 9 longer than either tergite 7 or 8; sternite 7 produced medially into a wide lobe; sternite 8 with shallow V-shaped notch between very short and wide lobes; cerci with posterodorsal corner produced.

Dimensions: wing length, ♂ 1.8–1.9 mm, ♀ 2.1–2.2 mm.

Distribution. New South Wales.

Etymology. The specific name *cervulus* (Latin: small deer) refers to the antler-like dististyles of this species.



Figs 17–22. *Austrothaumalea cervulus* n. sp. **17–20,** male: **17,** wing; **18,19,** genitalia: 18, ventral; 19, lateral; **20,** apical portion of dististyle. **21,22** female: **21,** genitalia, lateral; **22,** sternites 7 and 8.

Austrothaumalea commoni n. sp.
Figs 23–29

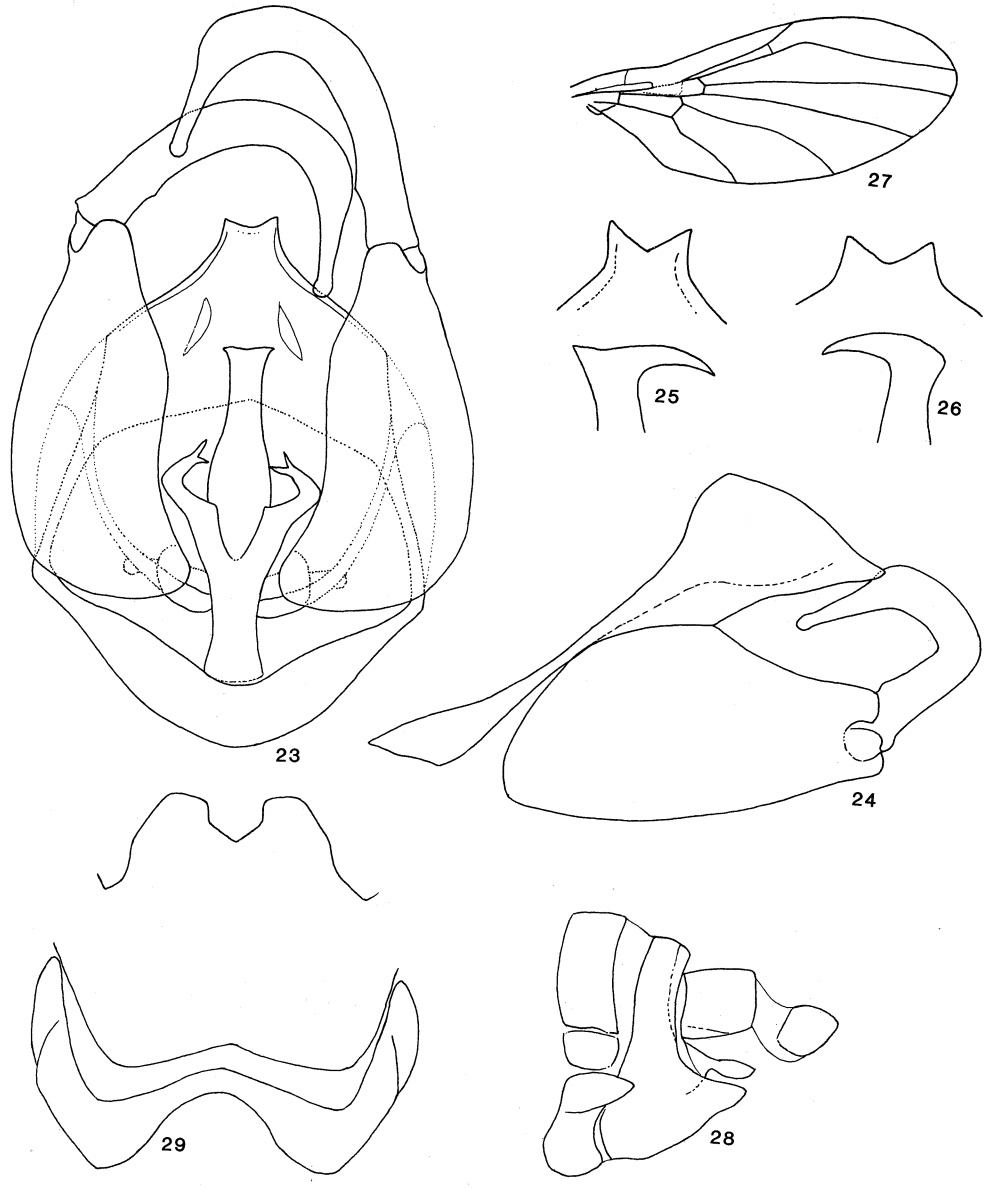
Material examined. HOLOTYPE ♂: New South Wales, Clyde Mountain, 732 m, 21 Mar 1961, I.F.B. Common & M.S. Upton (ANIC). PARATYPES: New South Wales: 1 ♀, Fitzroy Falls, 3 Oct 1938, A.L. Tonnoir (ANIC); 1 ♀, Kangaroo Valley, 23 Mar 1961, D.H. Colless (ANIC); 1 ♀, Brown Mt., 25 Feb 1929, A.L. Tonnoir (ANIC).

Additional material. New South Wales: 1 ♂, Lee's Spring, ACT, 13 Nov 1938, A.L. Tonnoir (ANIC); 1 ♂, Pretty Point Creek, Mt Kosciusko, 1670 m, 10 Dec 1931, A.L. Tonnoir (ANIC).

Description. Colouration: head dark grey; thorax yellowish brown; coxae, trochanters and femora pale yellow, remaining leg segments yellow to yellowish brown; wing and haltere largely greyish yellow, a conspicuous but not sharply defined dark grey patch from about level of fork of R_{1+2} and R_3 to slightly beyond ending of R_{1+2}, and from C to M_{1+2}; abdomen greyish brown.

Wings: R_3 slightly sinuous; CuA + 1A slightly bent, without any indication of an appendix.

Male genitalia: tergite 9 strongly and narrowly produced medially to end in 2 short subtriangular processes; basistyles reaching about as far as apical processes of tergite 9; dististyles long, slender, strongly but evenly curved, of about the same thickness from base to ⅘ length, thence strongly tapering into a narrow, apically somewhat globular tip; parameres forming a



Figs 23–29. *Austrothaumalea commoni* n. sp. **23–26,** male: **23,24,** genitalia of holotype: 23, ventral; 24, lateral; **25,26,** tip of tergite 9 and of parameres, ventral: 25, specimen from Lee's Spring, ACT; 26, specimen from Pretty Point Creek, Mt Kosciusko, NSW. **27–29,** female: **27,** wing; **28,** genitalia, lateral; **29,** sternites 7 and 8.

slender symmetrical vase-like structure in the holotype, an asymmetrical hook in the other specimens (see below); aedeagus appearing as a wide Y with the arms bent slightly outwards at first then strongly medially, each with 2 finger-like apical processes.

Female genitalia: tergite 9 about as long as tergites 7 and 8 together; sternite 7 very short along midline, W-shaped from ventral aspect, with conical lateral process; sternite 8 with U-shaped notch between narrow, somewhat inwardly directed lobes.

Dimensions: wing length, ♂ unknown (wings of holotype largely destroyed), ♀ 2.2–2.3 mm.

Distribution. New South Wales.

Remarks. The wings of the holotype ♂ are largely destroyed. On the basis of the pattern of the remaining fractions of the male wings, two females from the same general area have been associated with the male. The description of the wing above is given from those females. Two males from different localities deviate from the holotype by asymmetry of the parameres and by the lack of a particular wing pattern, but share the venational wing details with the supposed females. Those males are only provisionally included in *A. commoni* and listed, therefore, separated from the types. The female from Brown Mountain has unpatterned wings.

Etymology. The species is dedicated to Dr I.F.B. Common, one of its collectors.

Austrothaumalea denticulata n. sp.

Figs 30–34

Material examined. HOLOTYPE ♂: Tasmania, Hobart, 29 Oct 1933, A. Tonnoir (ANIC). PARATYPES: Queensland: 1 ♂, Ayr, 30 Sept 1960, R. Hughes (ANIC); 1 ♂, 1 ♀, Queen Mary Falls National Park, 3 Mar 1962, J.B. & M.M. (ANIC). New South Wales: 1 ♀, Barrington, 1–5 Feb 1925, SU Zoo Exp. (ANIC); 1 ♂, 2 ♀, Mongarlowe River, Clyde Mountain, 5 May 1965, D.H. Colless (ANIC); 2 ♂, 2 ♀, Rutherford Creek, Brown Mountain, 9 Aug 1962, Z.R. Liepa (ANIC); 2 ♂, Waterfall, National Falls, 2 Oct 1985, G. Theischinger & A. Neboiss (GT); 1 ♂, Mt Wilson, Blue Mountains, 12 Aug 1963, D.K. McAlpine (AM). Australian Capital Territory: 4 ♂, Mount Majura, Canberra, 22 & 25 Aug 1960, 1 ♂, same loc., 13 Sep 1960, 3 ♂, same loc., 29 Sept 1960, 1 ♂, same loc., 10 Apr 1961, 5 ♂, 1 ♀, same loc., 2 Apr 1963, D.H. Colless (ANIC); 1 ♂, 1 ♀, Mount Tidbinbilla, 29 Oct 1939, A.L. Tonnoir (ANIC). Victoria: 1 ♂, Alexandra, 27 May 1953, A. Neboiss (MV); 1 ♂, Grampians, 18 Oct 1967, N. Dobrotworsky (ANIC). Tasmania: 2 ♂, 5 ♀, Eaglehawk Neck, 15 & 22 Nov 1922, A. Tonnoir (ANIC); 1 ♂, Hobart, 3 Jan 1923, A. Tonnoir (ANIC); 7 ♂, 4 ♀, same data as holotype (ANIC); 1 ♀, Launceston, 25 Oct 1922, 2 ♂, 1 ♀, same loc., 17 Nov 1923, A. Tonnoir (ANIC); 1 ♂, 2 ♀, National Park, 15 & 17 Dec. 1922, A. Tonnoir (ANIC).

Description. Colouration: head dark brownish grey; thorax yellowish to medium brown; legs dull yellow to yellowish brown; wing and haltere yellowish to greyish brown; abdomen dull yellowish to dark brownish grey.

Wing: R_3 slightly sinuous; CuA + 1A distinctly bent and with distinct but short appendix.

Male genitalia: tergite 9 with evenly rounded, often almost semicircular, terminal median lobe flanked by a short triangular tooth each side, this tooth not bent downwards; basistyles reaching almost as far as lateral teeth of tergite 9; dististyles long, bowed strongly just before half length, basal portion somewhat more strongly tapered than apical portion, tip blunt; parameres forming a long narrow structure which appears hastate from ventral aspect and slightly arched from lateral aspect; aedeagus with long narrow base and slightly bifurcate apex.

Female genitalia: tergite 9 longer than either tergite 7 or 8; sternite 8 with substantial, widely rounded mediobasal protrusion, lobes subtriangular, apically rounded, median notch somewhat variable, U-V-shaped.

Dimensions: wing length, ♂ 2.2–2.7 mm, ♀ 2.6–3.5 mm.

Distribution. Queensland, New South Wales, Victoria and Tasmania.

Etymology. The specific name is from the Latin adjective *denticulatus* (= with small teeth), referring to the shape of tergite 9 of the male.

Austrothaumalea fusca n. sp.

Figs 35–38

Material examined. HOLOTYPE ♂: Tasmania, King River, 4 Feb 1923, A. Tonnoir (ANIC). PARATYPE: 1 ♂, same data as holotype (ANIC).

Description (male). Colouration: head greyish brown; thorax dull greyish brown; coxae, trochanters and femora yellowish, remaining leg segments brownish yellow to dark brown; wing and haltere grey; abdomen greyish brown.

Wing: R_3 not sinuous; CuA + 1A distinctly bent and with well developed appendix.

Genitalia: tergite 9 trapezoid, with rounded corners and emarginate posterior margin, without lobes or teeth; basistyles short and wide, reaching far short of posterior margin of tergite 9; dististyles short, slightly bowed at about half length, basal half hardly tapering, apical half strongly tapering; parameres forming a basally wide, conical structure with narrow apex; aedeagus very weakly sclerotized and hardly discernible, wide basally, otherwise tulip-shaped from ventral aspect.

Dimensions: wing length 2.2–2.3 mm.

Distribution. Tasmania.

Etymology. The specific name is from the Latin adjective *fuscus* (= dark), referring to the dark wings of this species.

Austrothaumalea macalpinei n. sp.

Figs 39–44

Material examined. HOLOTYPE ♂: New South Wales, Otford, 7 Oct 1961, D.K. McAlpine (AM). PARATYPES: New

South Wales: 1 ♀, same data as holotype (AM); 1 ♂, Kangaroo Valley, 23 Mar 1961, D.H. Colless (ANIC); 1 ♀, Otford, Royal National Park, 31 Dec 1962, D.H. Colless (ANIC).

Description. Colouration: head dark yellowish to greyish brown; thorax dark yellowish brown; legs brownish yellow to greyish brown; wing and haltere rather dark greyish brown; abdomen greyish brown.

Wing: R_3 strongly sinuous; CuA + 1A distinctly bent and with small but distinct appendix.

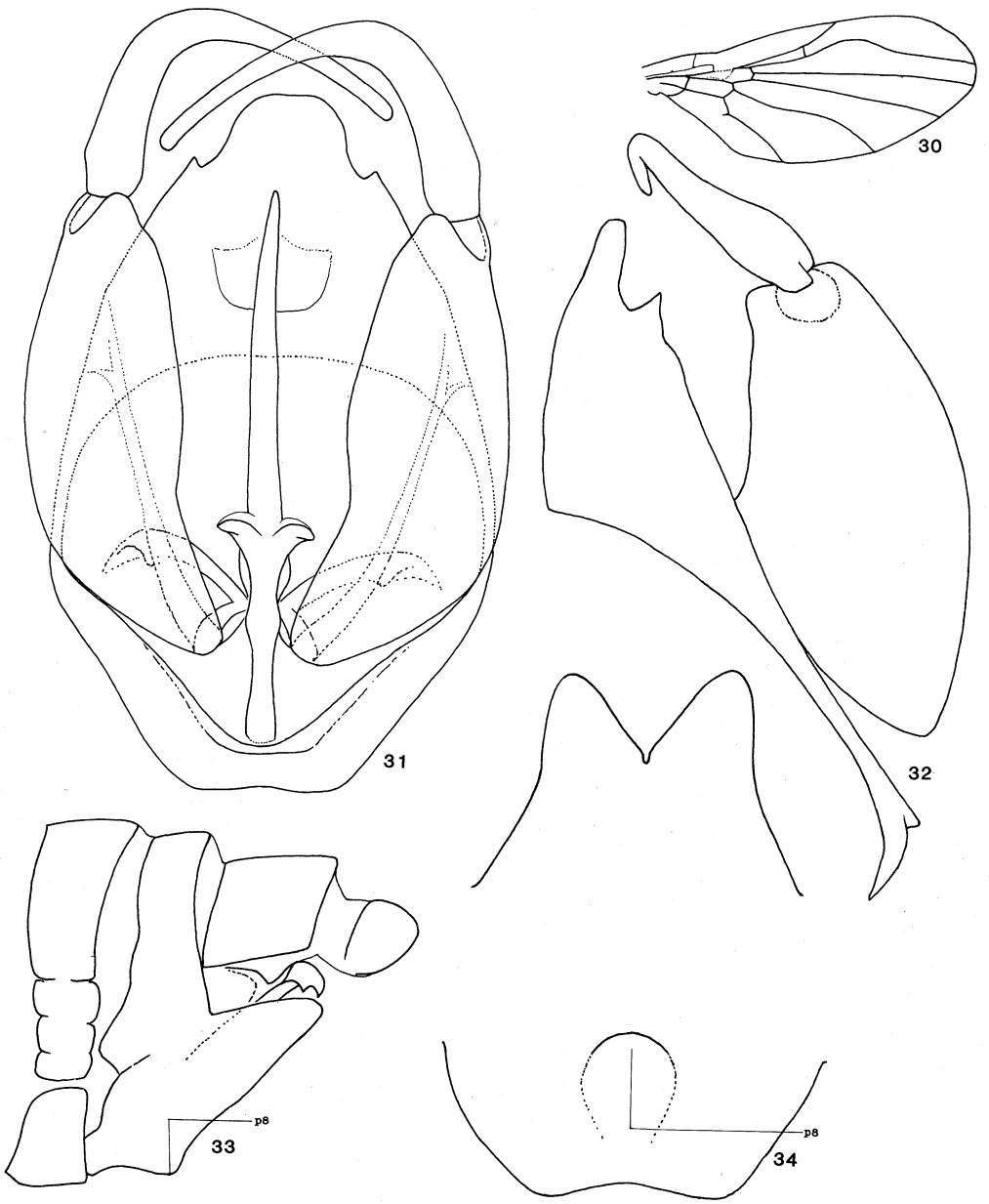
Male genitalia: tergite 9 narrow, long, trapezoid, posterior margin produced ventrally to form cap-like apex; basistyles reaching far short of posterior margin of tergite 9; dististyles almost spheroid in basal third, strongly bent at about two thirds length; parameres forming a long narrow slightly curved cone; aedeagus goblet-shaped in ventral aspect.

Female genitalia: tergite 9 slightly produced in midline, markedly longer than tergite 8; sternite 8 with narrow nose-like protrusion near base, a shallow notch between short and wide rounded lobes.

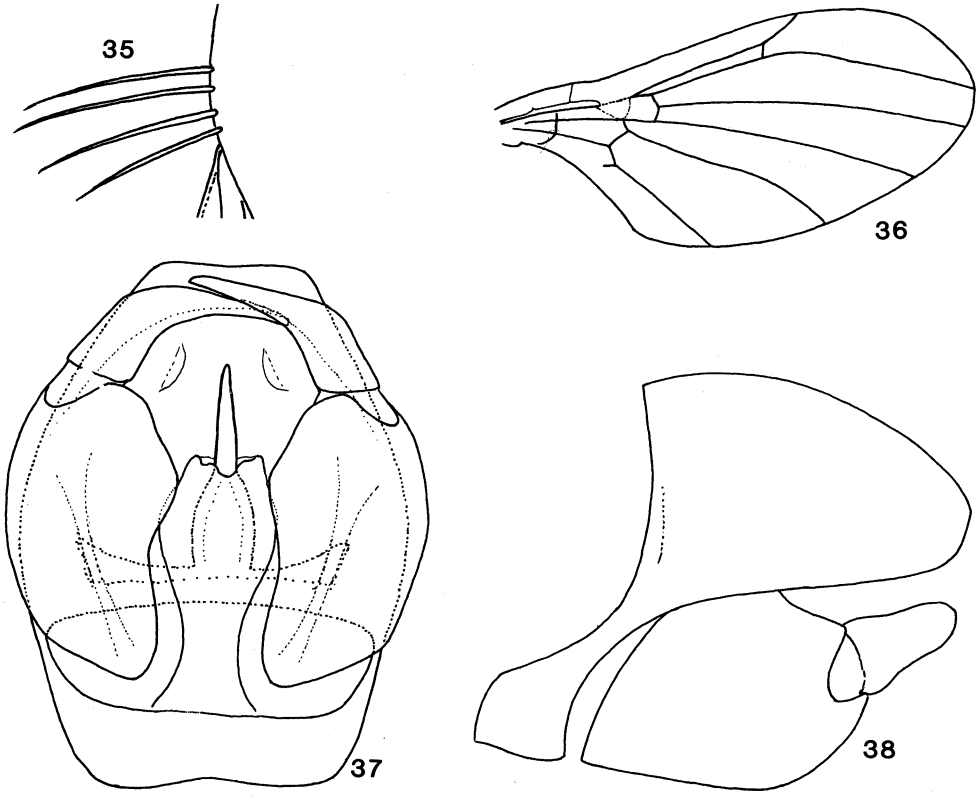
Dimensions: wing length, ♂ 1.9–2.0 mm, ♀ 2.3–2.5 mm.

Distribution. New South Wales.

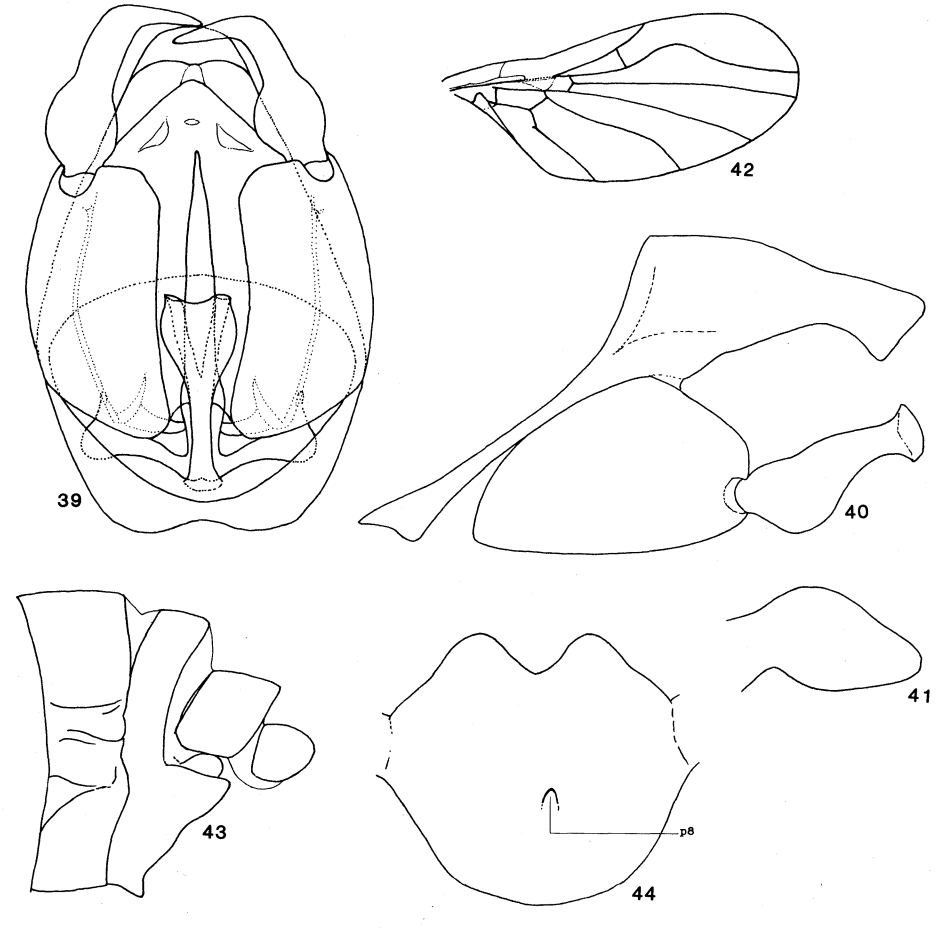
Etymology. This species is dedicated gratefully to Dr D.K. McAlpine, in recognition of the help he has given me.



Figs 30–34. *Austrothaumalea denticulata* n. sp. **30–32,** male: **30,** wing; **31,32,** genitalia: 31, ventral; 32, lateral. **33,34,** female: **33,** genitalia, lateral; **34,** sternite 8. p8, protrusion of sternite 8.



Figs 35–38. *Austrothaumalea fusca* n. sp., male. **35,** left side of thorax and wing base, dorsal; **36,** wing; **37,38,** genitalia: 37, ventral; 38, lateral.



Figs 39–44. *Austrothaumalea macalpinei* n. sp. **39–41,** male: **39,40,** genitalia: 39, ventral; 40, lateral; **41,** apical portion of dististyle, caudal. **42–44,** female: **42,** wing; **43,** genitalia, lateral; **44,** sternite 8. p8, protrusion of sternite 8.

Austrothaumalea minnamurrae n. sp.

Figs 45–49

Material examined. HOLOTYPE ♂: New South Wales, Minnamurra Falls, 16 Nov 1960, I.F.B. Common & M.S. Upton (ANIC). PARATYPES: New South Wales: 1 ♂, same data as holotype (ANIC); 4 ♂, Pretty Point Creek, Mt Kosciusko, 13 Dec 1931, A.L. Tonnoir (ANIC); 2 ♂, Waterfall, National Falls, 2 Oct 1985, G. Theischinger & A. Neboiss (GT).

Additional material. 1 ♂, Queensland, Woombye nr Nambour, 11–16 Oct 1965, D.H. Colless (ANIC).

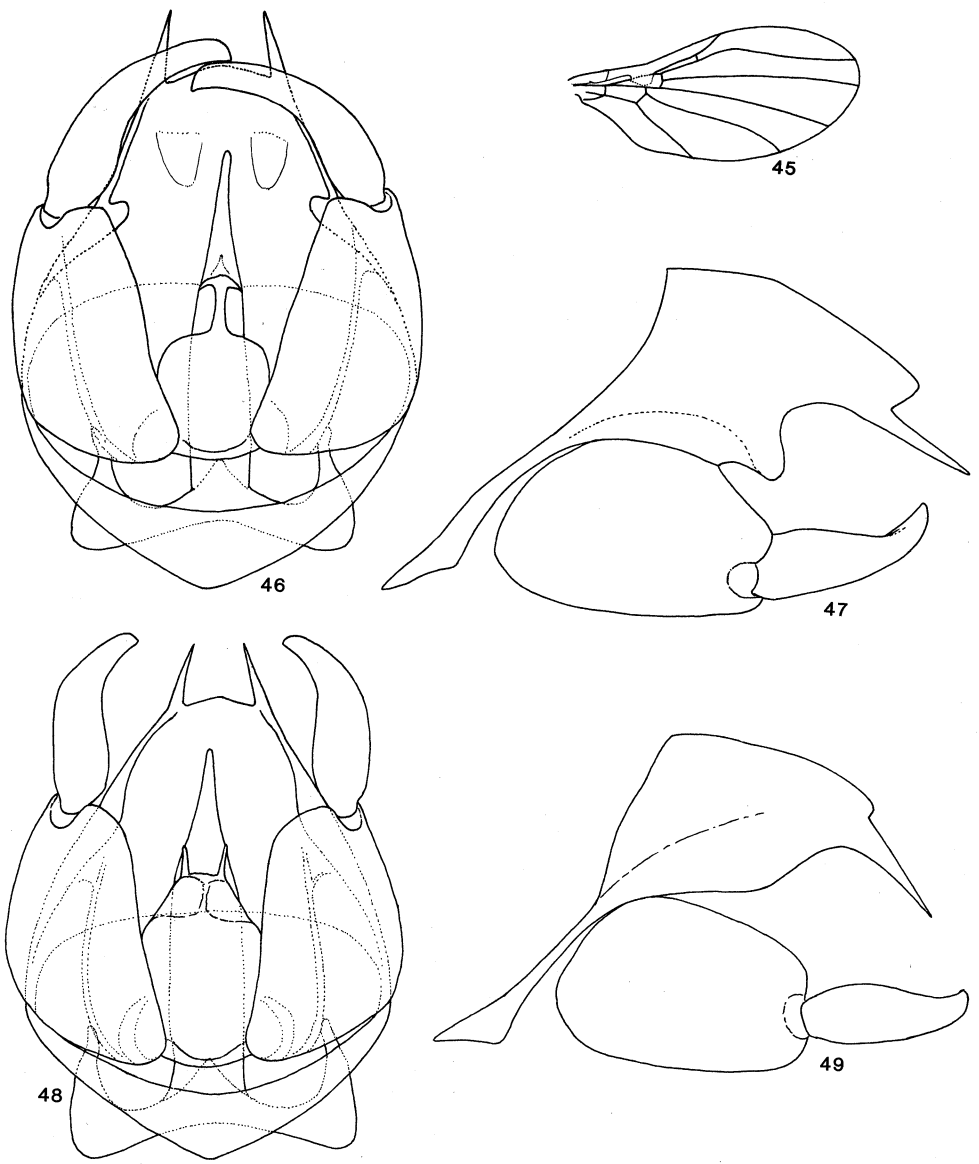
Description (male). Colouration: head dark brown to blackish brown; thorax greyish brown to blackish brown; coxae, trochanters and femora yellowish brown, remaining leg segments yellowish brown to greyish brown; wing and haltere greyish yellow to pale brownish grey; abdomen pale greyish brown.

Wing: R_3 very slightly sinuous; CuA + 1A almost straight and without any sign of an appendix.

Genitalia: tergite 9 trapezoid with posterior margin convex and posterior corners very strongly produced to form long thin processes, ventrolateral corner produced but rounded; basistyles reaching only as far as ventrolateral corners of tergite 9; dististyles evenly curved, tapering evenly from a moderately wide base to a rather blunt apex; parameres forming a long thin cone; aedeagus basally wide, bell-shaped, as seen from ventral aspect.

Dimensions: wing length 1.5–1.7 mm.

Distribution. ?Queensland and New South Wales.



Figs 45–49. *Austrothaumalea minnamurrae* n. sp., male. **45,** wing, specimen from Pretty Point Creek, Mt Kosciusko, NSW; **46,47,** genitalia, specimen from Minnamurra Falls, NSW: **46,** ventral; **47,** lateral; **48,49,** genitalia, specimen from Woombye, Qld: **48,** ventral; **49,** lateral.

Remarks. As can be seen from comparing Figs 46, 47 with 48, 49, the specimen from Queensland differs from the typical specimens by having less strongly produced ventrolateral corners of tergite 9, shorter dististyles and small processes on the aedeagus. It is, therefore, only provisionally included in *A. minnamurrae*.

Etymology. The specific name *minnamurrae* refers to the type locality (Minnamurra Falls) of this species.

Austrothaumalea similis n. sp.

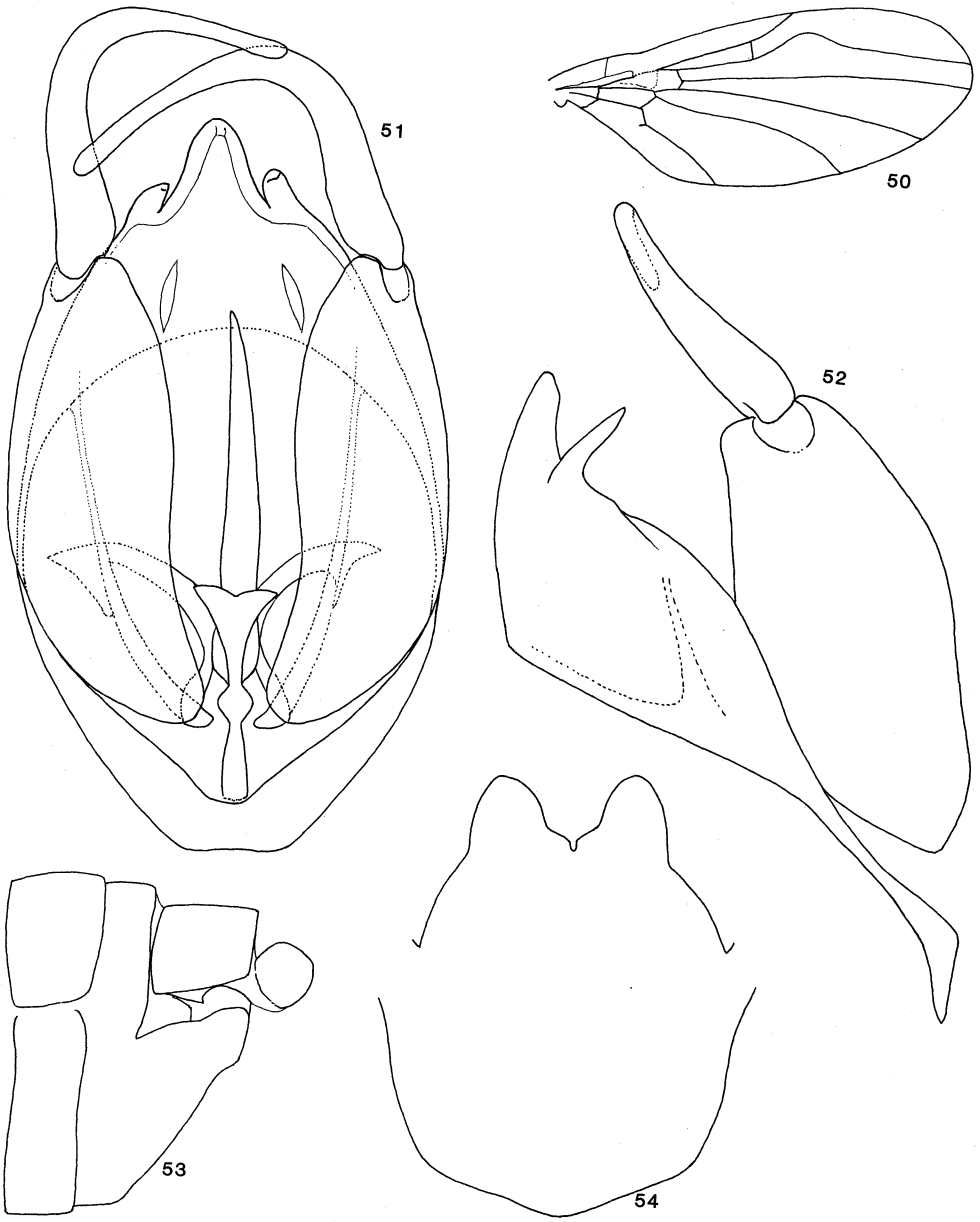
Figs 50–54

Material examined. HOLOTYPE ♂: Tasmania, Mount Hicks, 20 Oct 1933, A.L. Tonnoir (ANIC). PARATYPES: Tasmania: 2 ♂, 5 ♀, same data as holotype (ANIC); 4 ♂, Burnie, 27 Oct 1922, 2 ♂, same loc., 21 Oct 1933, A. Tonnoir (ANIC).

Description. Colouration: head dark greyish brown; thorax brownish yellow; legs pale to greyish yellow; wing and haltere yellowish to greyish brown; abdomen yellowish to dark greyish brown.

Wing: R_3 sinuous; CuA + 1A distinctly bent and with well developed appendix.

Male genitalia: tergite 9 produced medially into an elongate more or less rounded lobe flanked on each side by one sharp tooth, bent downwards at about a right angle; basistyles not reaching beyond level of lateral tooth of tergite 9; dististyles long, slender, strongly but evenly curved at about their middle, tapering nicely



Figs 50–54. *Austrothaumalea similis* n. sp. **50–52,** male: **50,** wing; **51,52,** genitalia: 51, ventral; 52, lateral. **53,54,** female: **53,** genitalia, lateral; **54,** sternite 8.

from a moderately wide base into a narrow blunt tip; parameres forming a single narrow, slightly dorsally curved stylet-shaped structure; aedeagus long and narrow, slightly thickened at about its middle, slightly swallow-tailed apically.

Female genitalia: tergite 9 longer than tergite 8; sternite 8 swollen mediobasally but without distinct protrusion, lobes apically rounded, median notch generally U-shaped.

Dimensions: wing length, ♂ 2.3–2.6 mm, ♀ 2.8–3.1 mm.

Distribution. Tasmania.

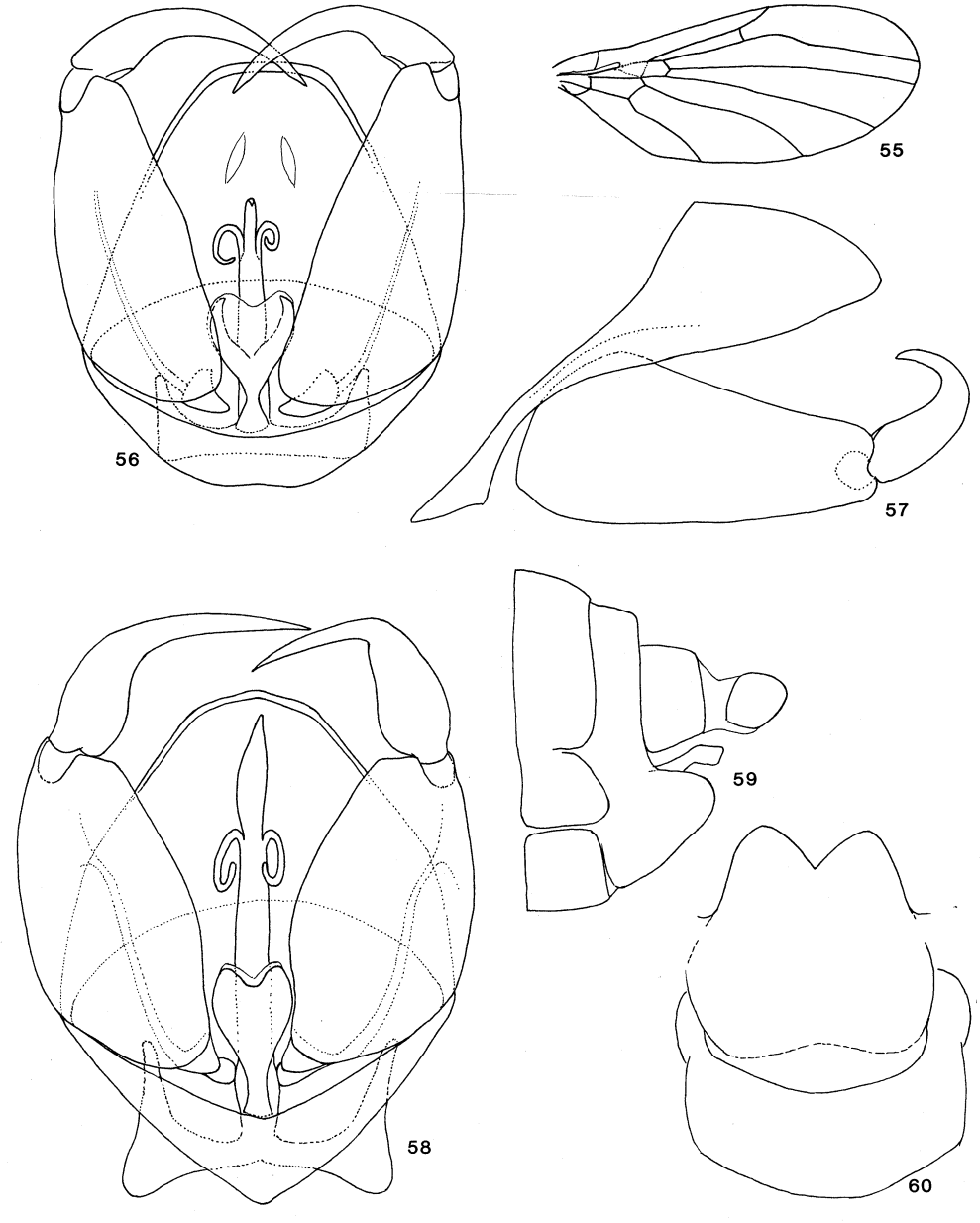
Etymology. The specific name is the Latin adjective *similis* (= similar), referring to the similarity of this species to others, particularly *A. denticulata.*

Austrothaumalea simplex n. sp.

Figs 55–60

Material examined. HOLOTYPE ♂: Tasmania, Eaglehawk Neck, 18 Nov 1922, A. Tonnoir (ANIC). PARATYPES: Tasmania: 1 ♂, same data as holotype (ANIC); 1 ♀, Eaglehawk Neck, 22 Nov 1922, A. Tonnoir (ANIC); 1 ♂, Maria Island, 6 Nov 1933, A. Tonnoir (ANIC); 1 ♂, Weldboro Pass, 25 Oct 1933, A.L. Tonnoir (ANIC).

Additional material. 1 ♂, Tasmania, Mt Barrow, 945 m, 25 Jan 1960, D.K. McAlpine (AM).



Figs 55–60. *Austrothaumalea simplex* n. sp. **55–58,** male: **55–57,** specimen from Eaglehawk Neck, Tas.: **55,** wing; **56,57,** genitalia: 56, ventral; 57, lateral; **58,** specimen from Mt Barrow, Tas., genitalia, ventral. **59,60,** female: **59,** genitalia, lateral; **60,** sternites 7 and 8.

Description. Colouration: head dark grey; thorax yellowish to medium brown; legs yellowish to greyish brown; wing and haltere yellowish to brownish grey; abdomen pale to dark brownish grey.

Wing: R_3 slightly sinuous; CuA + 1A distinctly bent but without any indication of an appendix.

Male genitalia: tergite 9 almost trapezoid with rounded corners, posterior margin almost straight, no distinct lateral corner and no teeth; basistyles reaching as far as posterior margin of tergite 9; dististyles slightly and evenly curved, gradually tapering from a moderately wide base into a rather narrow apex; parameres forming a structure with narrow stalk-like base and trifurcate apex, the lateral prongs bent anteroventrally; aedeagus Y-shaped, with short base.

Female genitalia: tergite 9 not longer than tergite 8; sternite 8 appearing almost straight from lateral aspect, a wide V-shaped notch between short subtriangular, apically rounded lobes.

Dimensions: wing length, ♂ 2.3–2.6 mm, ♀ 2.6 mm.

Distribution. Tasmania.

Remarks. As comparison between Figs 56 and 58 shows, the specimen from Mt Barrow has thicker basistyles, stronger bent dististyles and a thicker median branch of the parameres than typical males. It is, therefore, only provisionally included in *A. simplex.*

Etymology. The specific name is the Latin adjective *simplex* (= simple), referring to the shape of tergite 9 of the male and the female genitalia in this species.

Austrothaumalea sinuosa n. sp.

Figs 61–66

Material examined. HOLOTYPE ♂: New South Wales, Pretty Point Creek, Mt Kosciusko, 13 Dec 1931, A.L. Tonnoir (ANIC). PARATYPES: 4 ♂, 1 ♀, same data as holotype (ANIC).

Description. Colouration: head dark greyish brown; thorax dark yellowish to medium brown; legs dark yellowish to greyish brown; wing and haltere yellowish to greyish brown; abdomen greyish brown.

Wing: R_3 slightly sinuous; CuA + 1A distinctly bent, with or without very slight indication of an appendix.

Male genitalia: tergite 9 trapezoid with posterior corners widely rounded from dorsal aspect; posterior margin strongly produced ventrally, with a U-shaped median excision; basistyles reaching posterior margin of tergite 9; dististyles evenly curving and tapering from a wide base to a narrow apex as seen from dorsal or ventral aspect, strongly curved ventrally from caudal aspect; parameres forming a long slender cone; aedeagus Y-shaped, the arms slightly modified apically.

Female genitalia: tergite 9 markedly longer than either tergite 7 or 8; sternite 8 slightly sinuous from lateral aspect, a deep V-shaped notch between subtriangular, apically rounded lobes.

Dimensions: wing length, ♂ 2.3–2.6 mm, ♀ 2.6 mm.

Distribution. New South Wales.

Etymology. The specific name is from the Latin adjective *sinuosus* (= sinuous), refering to details of tergite 9 in the male of this species.

Austrothaumalea spinosa n. sp.

Figs 67–71

Material examined. HOLOTYPE ♂: New South Wales, Pretty Point Creek, Mt Kosciusko, 13 Dec 1931, A.L. Tonnoir (ANIC). PARATYPES: New South Wales: 10 ♂, 2 ♀, same data as holotype (ANIC); 1 ♀, Brown Mountain, 25 Feb 1939, A.L. Tonnoir (ANIC); 1 ♂, 1 ♀, below Govetts Leap, Blue Mountains, 7 Dec 1956, D.K. McAlpine (AM); 6 ♂, Mt Kosciusko, 14 Feb 1934, 1 ♂, 1 ♀, same loc., 17 Feb 1938, A.L. Tonnoir (ANIC); 2 ♂, 2 ♀, Pretty Point Creek, 1615 m, Mt Kosciusko, 10 Dec 1931, c.u. (probably Tonnoir) (ANIC); 1 ♂, Sawpit Creek, Mt Kosciusko, 10 Nov 1960, E.F. Riek (ANIC). Tasmania: 1 ♂, Adventurers Bay, 30 Dec 1922, A. Tonnoir (ANIC); 2 ♂, 4 ♀, Burnie, 27 Oct 1922, 1 ♂, 1 ♀, same loc., 31 Jan 1923, 3 ♂, 1 ♀, same loc., 21 Oct 1933, A. Tonnoir (ANIC); 1 ♂, Fern Tree, 12 Nov 1922, A. Tonnoir (ANIC); 2 ♀, Weldboro Pass, 25 Oct 1933, A.L. Tonnoir (ANIC).

Description. Colouration: head dark brownish grey; thorax dark yellowish to medium brown; coxae, trochanters and femora yellowish brown, remaining leg segments medium brown to greyish black; wing and haltere yellowish to brownish grey; abdomen medium to dark greyish brown.

Wing: R_3 distinctly sinuous; CuA + 1A slightly bent but with substantial appendix.

Male genitalia: tergite 9 with narrow median lobe flanked by one tooth on each side, these teeth elongate and pointed, and pointing towards each other below median lobe; basistyles reaching about level of lateral teeth of tergite 9; dististyles evenly curved and tapering from a moderately thick base into a narrow apical portion; parameres forming a single almost straight narrow stylet-shaped structure; aedeagus with narrow base and somewhat widened apical portion which is slightly notched posteromedially and covered with minute spines posterolaterally.

Female genitalia: tergite 9 longer than either tergite 7 or 8; sternite 8 with small subconical mediobasal protrusion, lobes evenly rounded, median notch generally U-shaped.

Dimensions: wing length, ♂ 2.4–3.0, ♀ 3.2–3.5 mm.

Distribution. New South Wales and Tasmania.

Etymology. The specific name is from the Latin adjective *spinosus* (= thorny), referring to the spiny aedeagus of the male.

Austrothaumalea tasmanica n. sp.

Figs 72–76

Material examined. HOLOTYPE ♂: Tasmania, Hobart, 29 Oct 1933, A. Tonnoir (ANIC). PARATYPES: Tasmania: 2 ♂, 3 ♀, same data as holotype (ANIC); 2 ♂, Fern Tree, 10 Nov 1922, A. Tonnoir (ANIC); 1 ♂, Hobart, 3 Jan 1923, A.

Tonnoir (ANIC); 2 ♂, 1 ♀, Mount Wellington, 25–27 Nov 1922, A. Tonnoir (ANIC).

Description. Colouration: head dark brownish grey; thorax medium brown; coxae, trochanters and femora dull yellow, remaining leg segments yellowish to greyish brown; wing and haltere faint greyish brown; abdomen dark greyish brown.

Wing: R_3 sinuous; R_{4+5} with macrotrichia; CuA + 1A distinctly bent but without any sign of an appendix.

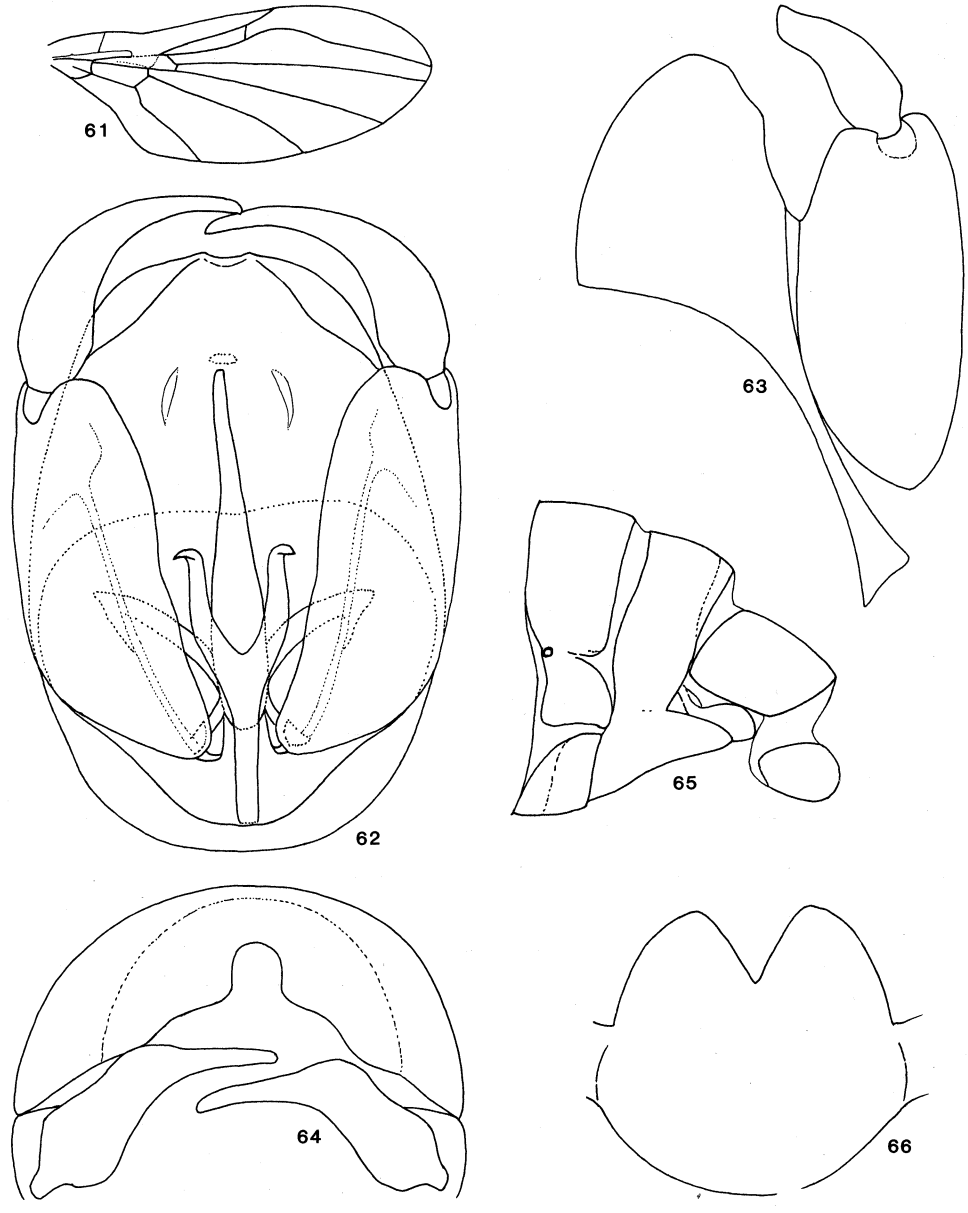
Male genitalia: tergite 9 posteriorly slightly convex, lateral corners distinctive but rounded, without teeth; basistyles not reaching posterior margin of tergite 9; dististyles with straight almost cylindrical basal half, strongly bent at about their middle, thence slightly curved and tapering into a blunt hook; parameres forming an anchor-shaped structure with two peaks pointing anteroventrally; aedeagus Y-shaped with narrow base, arms evenly curved anteriorly.

Female genitalia: tergite 9 not longer than tergite 8; sternite 8 conspicuously bowed dorsally from lateral aspect, a wide V-shaped notch between subtriangular, appically rounded lobes which are much shorter than their basal width.

Dimensions: wing length, ♂ 2.7–3.0 mm, ♀ 3.0–3.7 mm.

Distribution. Tasmania.

Etymology. The specific name, meaning "from Tasmania", is a latinized adjective, the species being known only from Tasmania.



Figs 61–66. *Austrothaumalea sinuosa* n. sp. **61–64,** male: **61,** wing; **62–64,** genitalia: **62,** ventral; **63,** lateral; **64,** caudal. **65,66** female: **65,** genitalia, lateral; **66,** sternite 8.

Austrothaumalea tonnoiri n. sp.

Figs 77–81

Material examined. HOLOTYPE ♂: New South Wales, Belmore Falls, nr Robertson, 23 Jan 1963, D.H. Colless (ANIC). PARATYPES: New South Wales: 10 ♂, 1 ♀, same data as holotype (ANIC); 4 ♂, 1 ♀, Belmore Falls, nr Robertson, 2 Oct 1938, A.L. Tonnoir (ANIC); 5 ♂, 1 ♀, Fitzroy Falls, 22–27 Nov 1937, A.L. Tonnoir (ANIC); 1 ♀, Wentworth Falls, 18 Nov 1921, A. Tonnoir (ANIC).

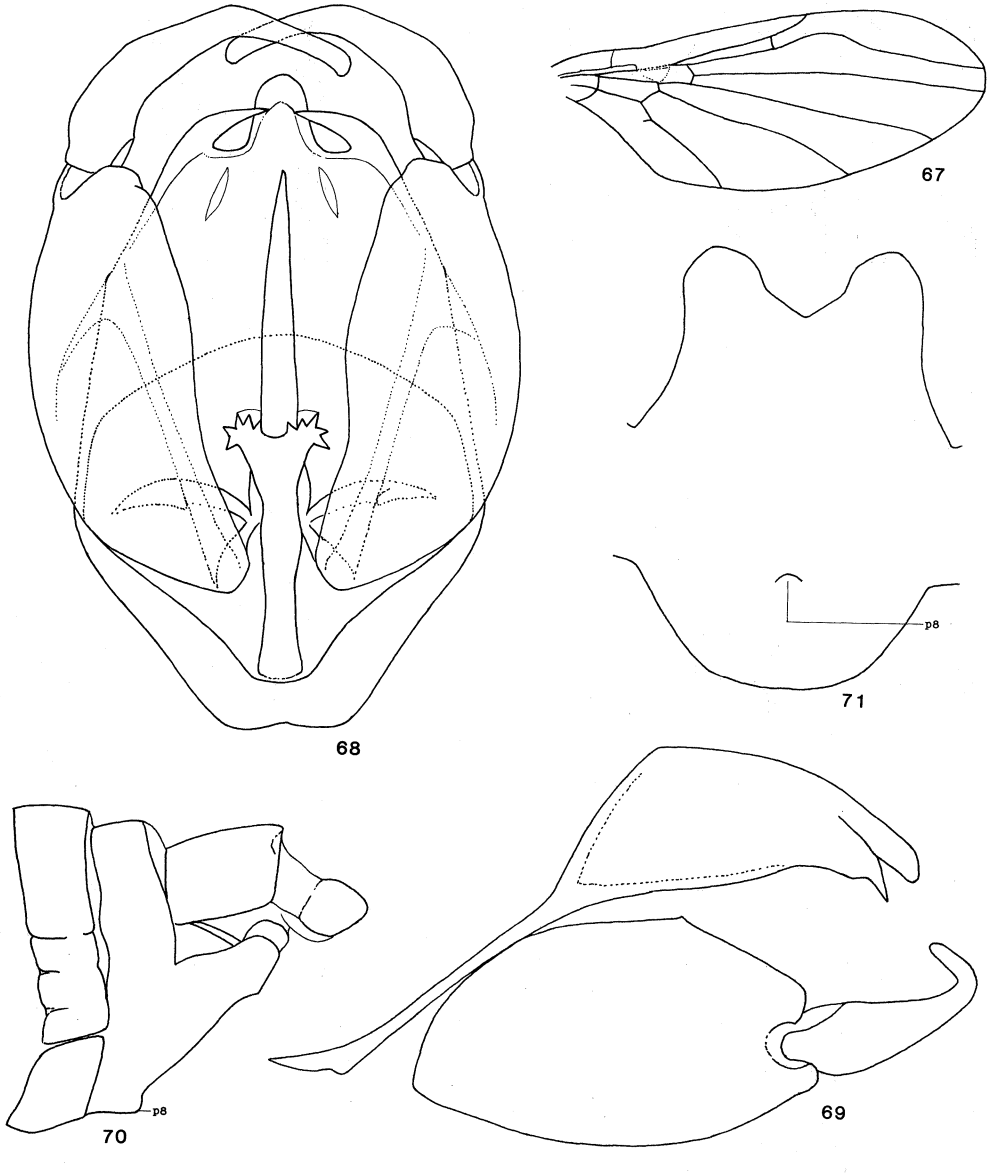
Additional material. 2 ♀, New South Wales, Point Lookout, New England National Park, 12–22 Feb 1984, I.D. Naumann (ANIC).

Description. Colouration: head greyish to brownish black; thorax dark yellowish to reddish, greyish or even blackish brown; coxae, trochanters and femora yellowish to pale greyish brown, tibiae medium to blackish brown, remaining leg segments blackish brown; wing and haltere yellowish to pale greyish brown; abdomen medium to dark greyish brown.

Wing: R_3 very slightly sinuous; CuA + 1A slightly bent and without any indication of an appendix.

Male genitalia: tergite 9 long, narrow, trapezoid, with posterior corners rounded, and no teeth or processes; basistyles reaching far short of posterior margin of tergite 9; dististyles long, curved, particularly at about midlength, very slightly tapered for basal ⅔ of length, thence strongly tapered to form a narrow, weakly hooked tip; parameres forming a very long broad-based sigmoid cone with blunt tip; aedeagus short, appearing goblet-shaped from ventral aspect.

Female genitalia: tergite 9 markedly longer than



Figs 67–71: *Austrothaumalea spinosa* n. sp. **67–69,** male: **67,** wing; **68,69,** genitalia: 68, ventral; 69, lateral. **70,71,** female: **70,** genitalia, lateral; **71,** sternite 8. p8, protrusion of sternite 8.

tergite 8; sternite 8 widely and evenly curved dorsally from lateral aspect, a very shallow notch between very widely rounded, extremely short and wide lobes.

Dimensions: wing length, ♂ 2.2–2.8 mm, ♀ 2.8–3.1 mm.

Distribution. New South Wales.

Remarks. As males have not been collected together with the two females from north-eastern New South Wales, those specimens were not included in the type series.

Etymology. The species is dedicated to the late A.L. Tonnoir, in recognition of his invaluable collections of Australian Thaumaleidae.

Austrothaumalea uptoni n. sp.

Figs 82–85

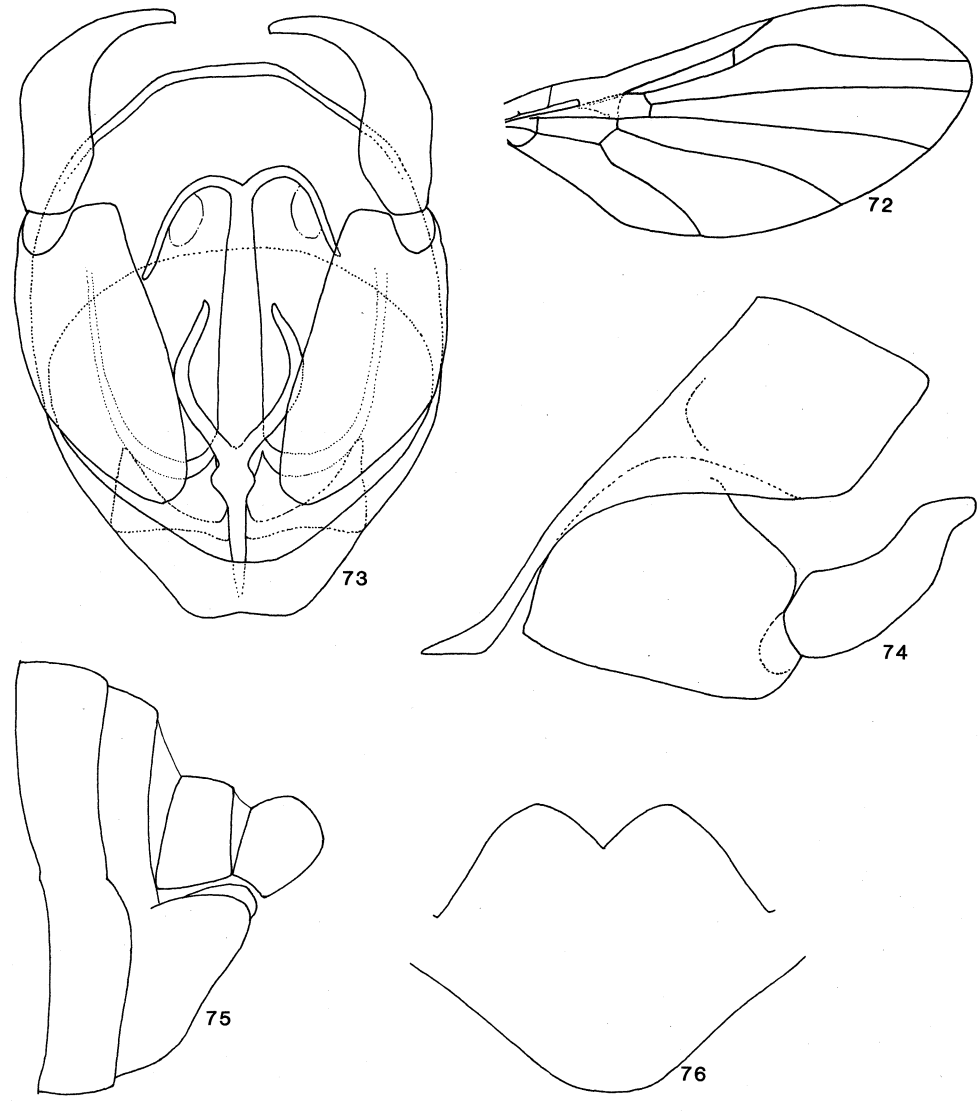
Material examined. HOLOTYPE ♂: New South Wales, Clyde Mountain, 732 m, 17 Oct 1960, I.F.B. Common & M.S. Upton (ANIC). PARATYPES: 1 specimen (abdomen missing), New South Wales, Clyde Mountain, 732 m, 21 Oct 1960, 1 ♂, same loc., 21 Mar 1961, I.F.B. Common & M.S. Upton (ANIC).

Description (male). Colouration: head blackish grey; thorax blackish brown; coxae, trochanters and femora medium brown, remaining leg segments greyish to blackish brown; wing and haltere pale greyish brown; abdomen dark greyish brown.

Wing: R_3 not sinuous; CuA + 1A distinctly bent and with substantial appendix.

Genitalia: tergite 9 wide, trapezoid with posterior corners slightly rounded; basistyles reaching far short of posterior margin of tergite 9; dististyles forked, with wide cylindrical base and short, narrow knob-like outer, and long tapering apically weakly hooked inner branch; parameres forming a short cone; aedeagus appearing broadly spoon-shaped from ventral aspect.

Dimensions: wing length 1.7–2.4 mm.



Figs 72–76. *Austrothaumalea tasmanica* n. sp. **72–74,** male: **72,** wing; **73,74,** genitalia: 73, ventral; 74, lateral. **75,76,** female: **75,** genitalia, lateral; **76,** sternite 8.

Distribution. New South Wales.

Etymology. The species is dedicated to Mr M.S. Upton, one of its collectors.

Austrothaumalea victoriae n. sp.

Figs 86–91

Material examined. HOLOTYPE ♂: Victoria, Sassafras, 19–20 Oct 1922, A. Tonnoir (ANIC). PARATYPES: 2 ♂, 3 ♀, same data as holotype (ANIC).

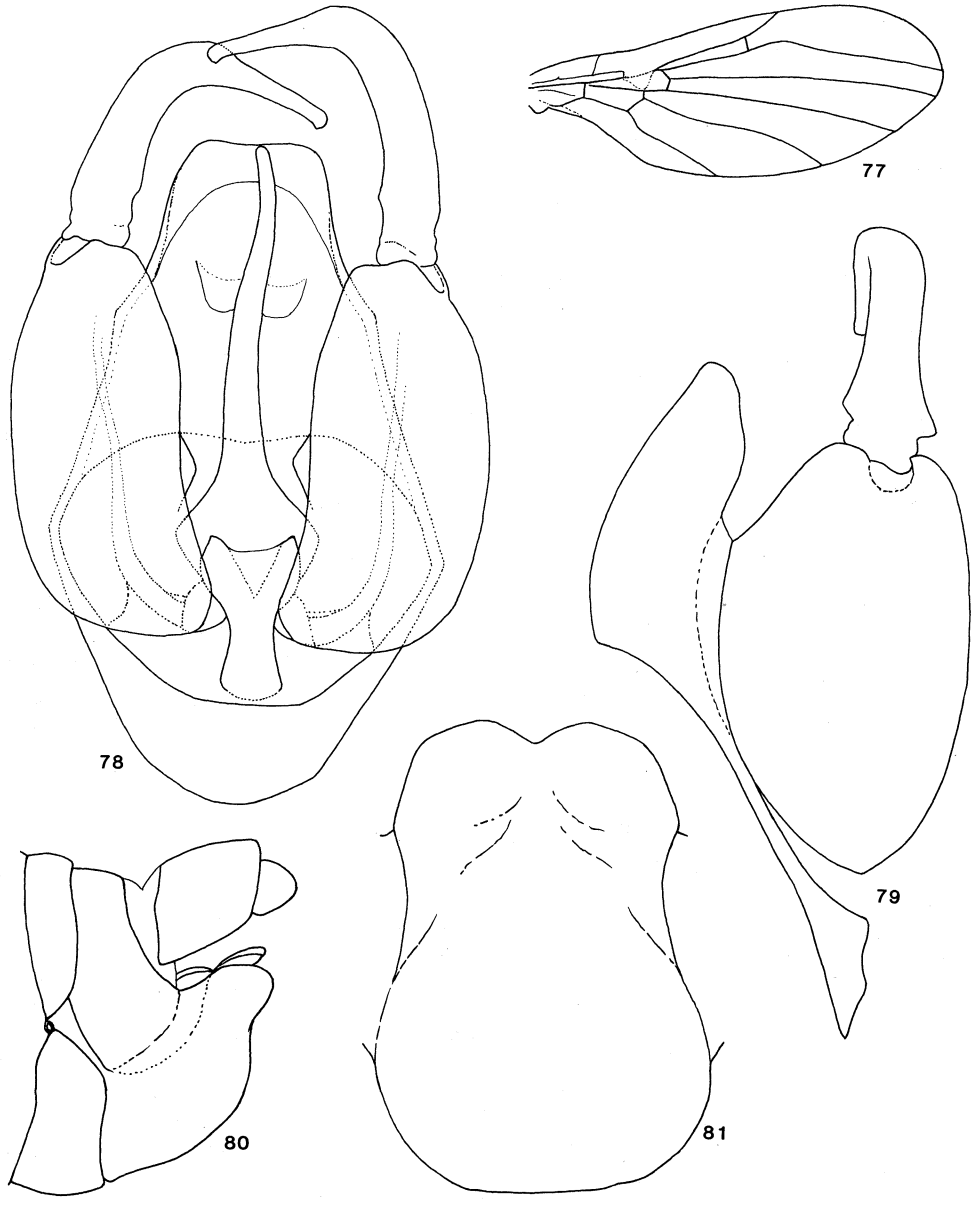
Additional material. Victoria: 1 ♀, Cumberland Creek, 24 Nov 1964, N. Dobrotworsky (ANIC); 1 ♀, Wilsons Promontory, Chinana Creek, 20 Nov 1964, N. Dobrotworsky (ANIC).

Description. Colouration: head dark greyish brown; thorax brownish yellow; legs yellow to pale greyish brown; wing and haltere yellowish to greyish brown; abdomen pale to very dark greyish brown.

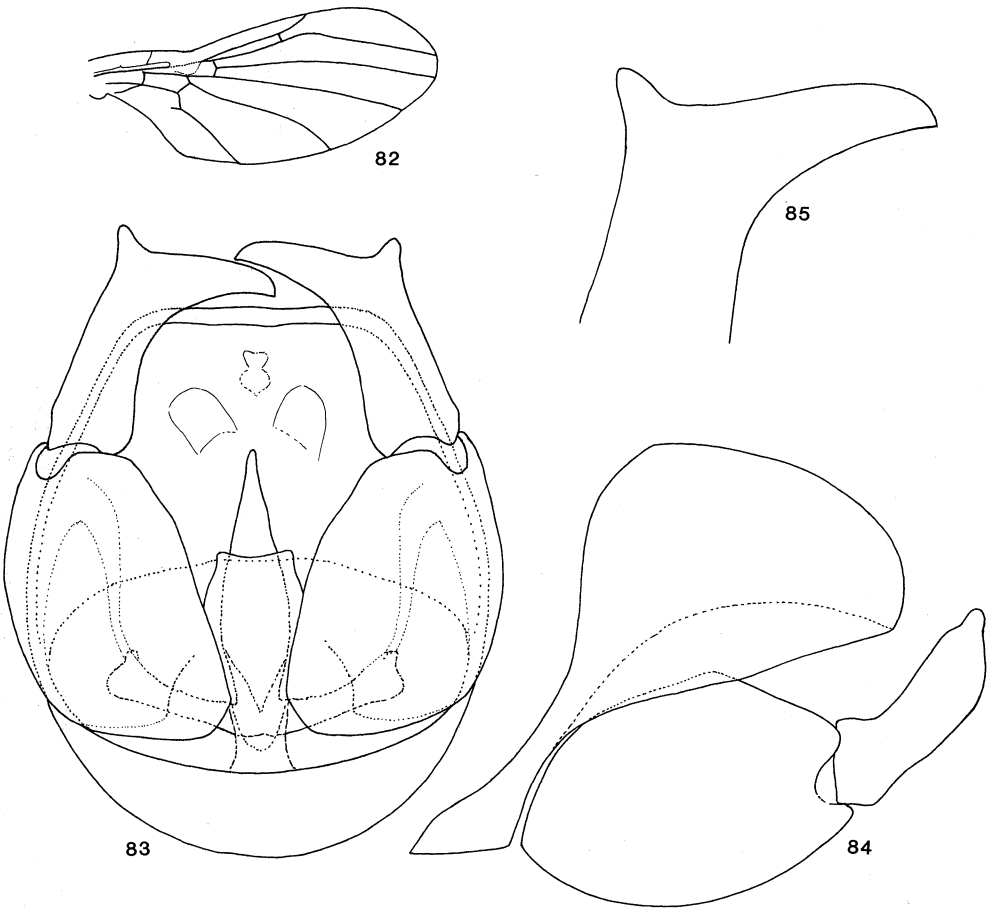
Wing: R_3 slightly sinuous; CuA + 1A distinctly bent and with small but distinct appendix.

Male genitalia: tergite 9 with almost straight posterior margin between the apical rounded corners, a small subapical tooth on each lateral margin; basistyles reaching about level of subapical lateral tooth of tergite 9; dististyles evenly curved, tapering into a moderately narrow apex; parameres forming a long narrow cone; aedeagus long and slender with slightly bifurcate apex.

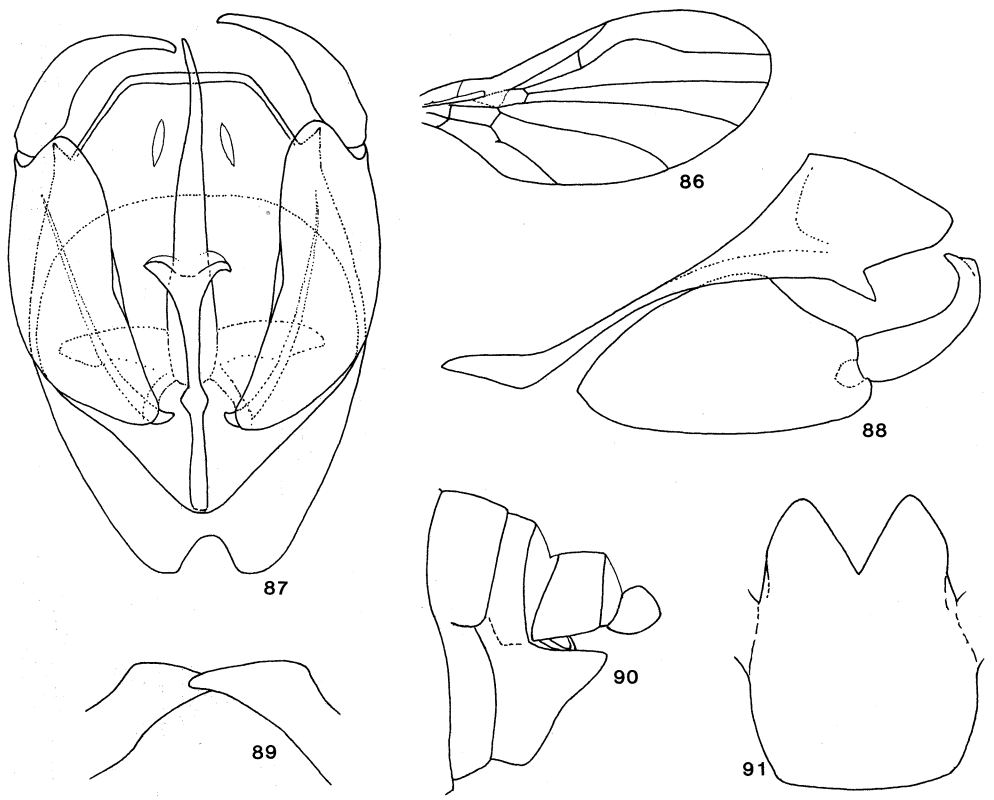
Female genitalia: tergite 9 longer than tergite 8; sternite 8 with moderately wide V-shaped notch between subtriangular, apically rounded lobes which are almost as long as their basal width.



Figs 77–81. *Austrothaumalea tonnoiri* n. sp. **77–79,** male: **77,** wing; **78,79,** genitalia: 78, ventral; 79, lateral. **80,81,** female: **80,** genitalia, lateral; **81,** sternite 8.



Figs 82–85. *Austrothaumalea uptoni* n. sp., male. **82,** wing; **83,84,** genitalia: 83, ventral; 84, lateral; **85,** apical portion of dististyle.



Figs 86–91. *Austrothaumalea victoriae* n. sp. **86–89,** male: **86,** wing; **87,88,** genitalia: 87, ventral; 88, lateral; **89,** apical portion of dististyles, caudal. **90,91,** female: **90,** genitalia, lateral; **91,** sternite 8.

Dimensions: wing length, ♂ 2.2–2.4 mm, ♀ 2.2–2.5 mm.

Distribution. Victoria.

Remarks. The identity of the two females which are not included in the type series is doubtful as males from the same localities are not available.

Etymology. The specific name refers to the state of Victoria where the material was collected.

Austrothaumalea zentae n. sp.

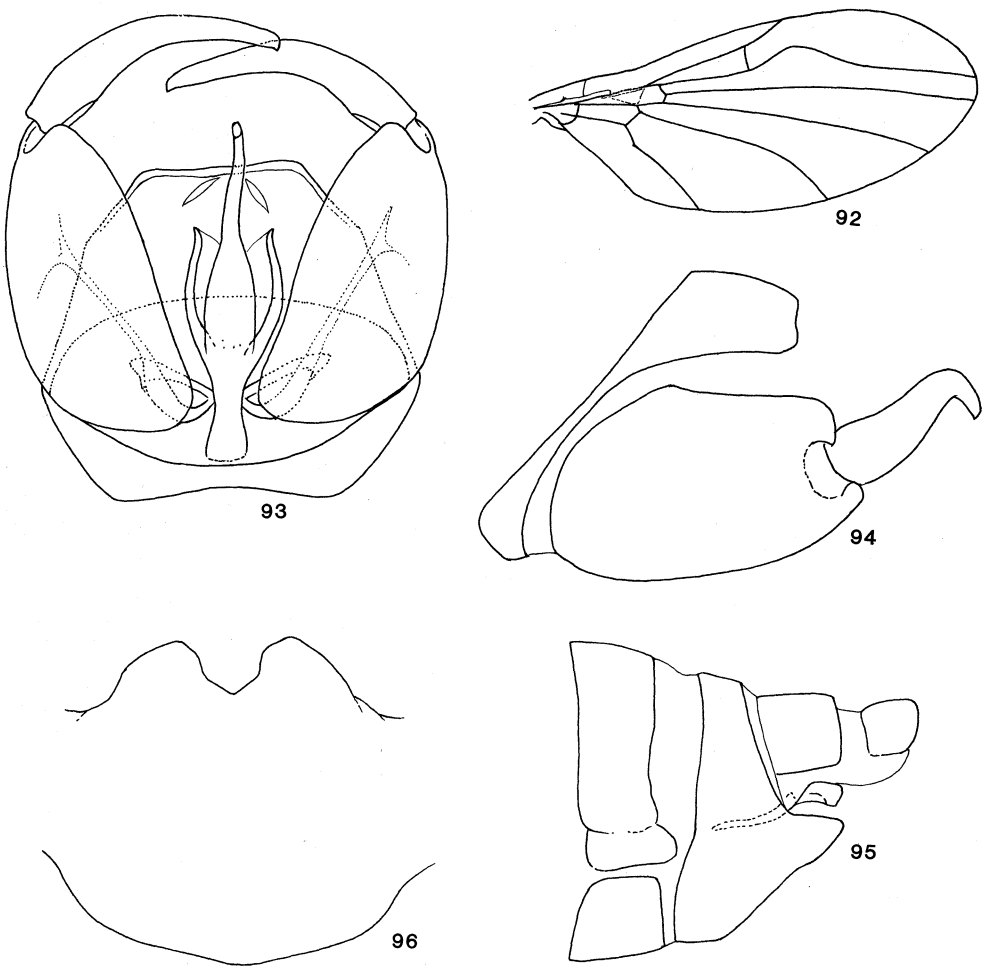
Figs 92–96

Material examined. HOLOTYPE ♂: New South Wales, Rutherford Creek, Brown Mountain, 17 July 1963, Z. Liepa (ANIC). PARATYPES: New South Wales: 2 ♂, 3 ♀, same locality and data as holotype, D.H. Colless (ANIC); 1 ♀, Brown Mountain, 25 Feb 1939, A.L. Tonnoir (ANIC); 4 ♀, Fitzroy Falls, 22–27 Nov 1937, 1 ♂, 1 ♀, same loc., 3 Oct 1938, A.L. Tonnoir (ANIC); 2 ♂, 1 ♀, Macquarie Pass, 2 Oct 1938, A.L. Tonnoir (ANIC); 1 ♂, McCarrs Creek, Kuring-gai Chase, 23 Sept 1962, D.H. Colless (ANIC); 1 ♂, Mt Kosciusko, 14 Feb 1934, A.L. Tonnoir (ANIC); 1 ♂, 2 ♀, Pacific Highway, 1.6 km south of Hawkesbury River, 29 Sept 1956, 1 ♂, same loc., 13 Oct 1956, D.K. McAlpine (AM); 4 ♂, 1 ♀, Rutherford Creek, Brown Mountain, 9 Aug 1962, 1 ♀, same loc., 15 Mar 1966, D.H. Colless (ANIC); 1 ♂, Sassafras Gully, Springwood, 23 Sept 1972, D.K. McAlpine (AM); 3 ♂, 5 ♀, Wentworth Falls, 18 Nov 1921, A. Tonnoir (ANIC); 2 ♂, same loc., 20 Nov 1959, D.K. McAlpine (AM); 2 ♂, Mount Wilson, 19 Nov 1933, A. Tonnoir (ANIC). Tasmania: 2 ♂, Adventurers Bay, 30 Dec 1922, A. Tonnoir (ANIC); 1 ♂, Burnie, 26 Nov 1922, A. Tonnoir (ANIC); 1 ♀, Cradle Valley, 10 Jan 1923, A. Tonnoir (ANIC); 1 ♀, Eaglehawk Neck, 22 Nov 1922, A.L. Tonnoir (ANIC); 3 ♂, Harz Mountains, 10 Dec 1922, A. Tonnoir (ANIC); 9 ♂, 9 ♀, Maria Island, 6 Nov 1933, A. Tonnoir (ANIC); 3 ♂, 1 ♀, St Patrick, 31 Oct & 1 Nov 1922, A. Tonnoir (ANIC); 1 ♂, Weldboro Pass, 25 Oct 1933, A.L. Tonnoir (ANIC).

Additional material. 2 ♀, New South Wales, Tubrabucca Falls, 16 Nov 1953, A. Neboiss (MV).

Description. Colouration: head greyish brown; thorax brownish yellow to dark ochreous; coxae, trochanters and femora pale brownish yellow, tibiae yellowish brown to greyish brown, remaining leg segments brownish grey; wing and haltere yellowish to brownish grey; abdomen dull yellowish brown to greyish black.

Wing: R_3 strongly sinuous; CuA + 1A distinctly



Figs 92–96. *Austrothaumalea zentae* n. sp. **92–94,** male: **92,** wing; **93,94,** genitalia: 93, ventral; 94, lateral. **95,96,** female: **95,** genitalia, lateral; **96,** sternite 8.

angulated, with or without slight indication of an appendix.

Male genitalia: tergite 9 widely trapezoid with lateral corners rounded from dorsal and lateral aspect, no teeth or processes; basistyles reaching beyond posterior margin of tergite 9; dististyles slightly arched and gradually tapering from a moderately wide base into a narrow, slightly hooked tip; parameres forming a basally swollen, otherwise narrow and slightly sigmoid structure with blunt tip; aedeagus Y-shaped, with base short and branches curved.

Female genitalia: tergite 9 markedly longer than tergite 8; sternite 8 conspicuously bowed dorsally from lateral aspect, a wide almost U-shaped notch between widely rounded, somewhat medially directed lobes.

Dimensions: wing length, ♂ 1.9–2.6 mm, ♀ 2.4–3.2 mm.

Distribution. New South Wales and Tasmania.

Remarks. As males from Tubrabucca Falls are not available, the females from this locality were not included in the type series.

Etymology. This species is named after Ms Zenta Liepa in recognition of the help that she has given me.

Niphta n. gen.

Type species. *Niphta bickeli* n. sp.

Description. Mesothorax with strongly developed, short antealar ridge on each side. Abdomen of male with tergites 1–9 and sternites 1–8 developed; tergite 9 without ventral bridge (i.e. sternite 9). Tergites and sternites 1–9 developed in the female. Pubescence much as in *Austrothaumalea,* in addition large bristles on antealar ridge.

Wings: much as in *Austrothaumalea,* with the following differences: tip narrowly rounded; macrotrichia present but sparse on C, very sparse on remaining wing margin and on R_{1+2} (very few only), immediately beyond level of humeral crossvein; humeral crossvein at the level of proximal side of basal cells; R_3 widely and evenly arched posteriorly; free transverse section of R_2 markedly closer to the origin of R_{2+3} than to the end of R_{1+2}; R_{4+5} very slightly arched anteriorly; M_{1+2} almost straight; CuA + 1A angulated and bent anteriorly at about the level of crossvein m-cu; no appendix at this bend.

Male genitalia: tergite 9 very wide and short, without ventral bridge; basistyles reaching beyond posterior margin of tergite 9, attached by membrane to sternite 8; parameres fused medially to form a symmetrical structure consisting at least of a median part which is bent ventrally; two sclerotized rods running towards posterior margin of tergite 9; aedeagus apparently not developed.

Female genitalia; sternite 7 not significantly modified; sternite 8 strongly modified, bilobed, markedly wider than long; sternite 9 highly modified, strongly sclerotized and generally largely covered by lobes of sternite 8; tergite 9 much longer than tergite 8, with posterolateral corners produced but evenly rounded.

Etymology. The generic name is an arbitrary combination of letters. Its gender is feminine.

Niphta bickeli n. sp.

Figs 97–102

Material examined. HOLOTYPE ♂: New South Wales, Dorrigo, Newell Falls, 12 Oct 1962, D.H. Colless (ANIC). PARATYPES: New South Wales: 1 ♀, same data as holotype (ANIC); 1 ♀, Dorrigo National Park, 22–23 Oct 1980, D.J. Bickel (ANIC).

Description. Colouration: head, thorax and abdomen greyish to blackish brown; legs yellowish to dark greyish brown; wing and haltere dark yellowish to brownish grey.

Male genitalia: tergite 9 with posterior margin straight laterally, and with a posteriorly wide, anteriorly narrow, roughly V-shaped cleft medially; basistyles wide and short; dististyles hook-like with very small inner subapical tooth and large apical spur; parameres forming only a median tap-like structure.

Female genitalia: sternite 8 with triangular lobes wide and almost as long as sternite along midline.

Dimensions: wing length, ♂ 2.8 mm, ♀ 2.9–3.5 mm.

Distribution. New South Wales.

Etymology. The species is dedicated to Dr D.J. Bickel, one of its collectors.

Niphta collessi n. sp.

Figs 103–106

Material examined. HOLOTYPE ♂: Australian Capital Territory, Mount Gingera, 20 Nov 1960, D.H. Colless (ANIC).

Description (male). Colouration: head, greyish black; thorax greyish to blackish brown; legs brownish yellow to greyish brown; wing and haltere dark yellowish to brownish grey; abdomen medium to blackish brown.

Genitalia: tergite 9 from dorsal aspect almost semicircular with posterior margin very slightly undulate and very weakly sclerotized posteromedially; basistyles short and very wide; dististyles long, wide at base, tapering to a thin spine which is slightly bent at about half length; parameres forming a tap-like median structure flanked by a horn-shaped structure on each side.

Dimensions: wing length uncertain (wings partly destroyed), however, the species is rather large; remaining wing parts suggest a length of about 3.2 mm.

Distribution. New South Wales.

Etymology. The species is dedicated gratefully to Dr D.H. Colless, in recognition of the invaluable contribution made by his extensive collecting of Australian Thaumaleidae and the help and encouragement he has given me.

Niphta farecta n. sp.

Figs 107–112

Material examined. HOLOTYPE ♂: New South Wales, Fitzroy Falls, 22–27 Nov 1937, A.L. Tonnoir (ANIC). PARATYPES: New South Wales: 1 ♂, Belmore Falls, 2 Oct 1938, A.L. Tonnoir (ANIC); 2 ♀, Macquarie Pass, 2 Oct 1938, A.L. Tonnoir (ANIC); 1 ♀, Sydney, Terrey Hills, 14 Sept 1963, D.H. Colless (ANIC).

Description. Colouration: head and thorax greyish to blackish brown; legs yellowish to greyish brown; wing and haltere dark yellowish to brownish grey; abdomen medium to greyish brown.

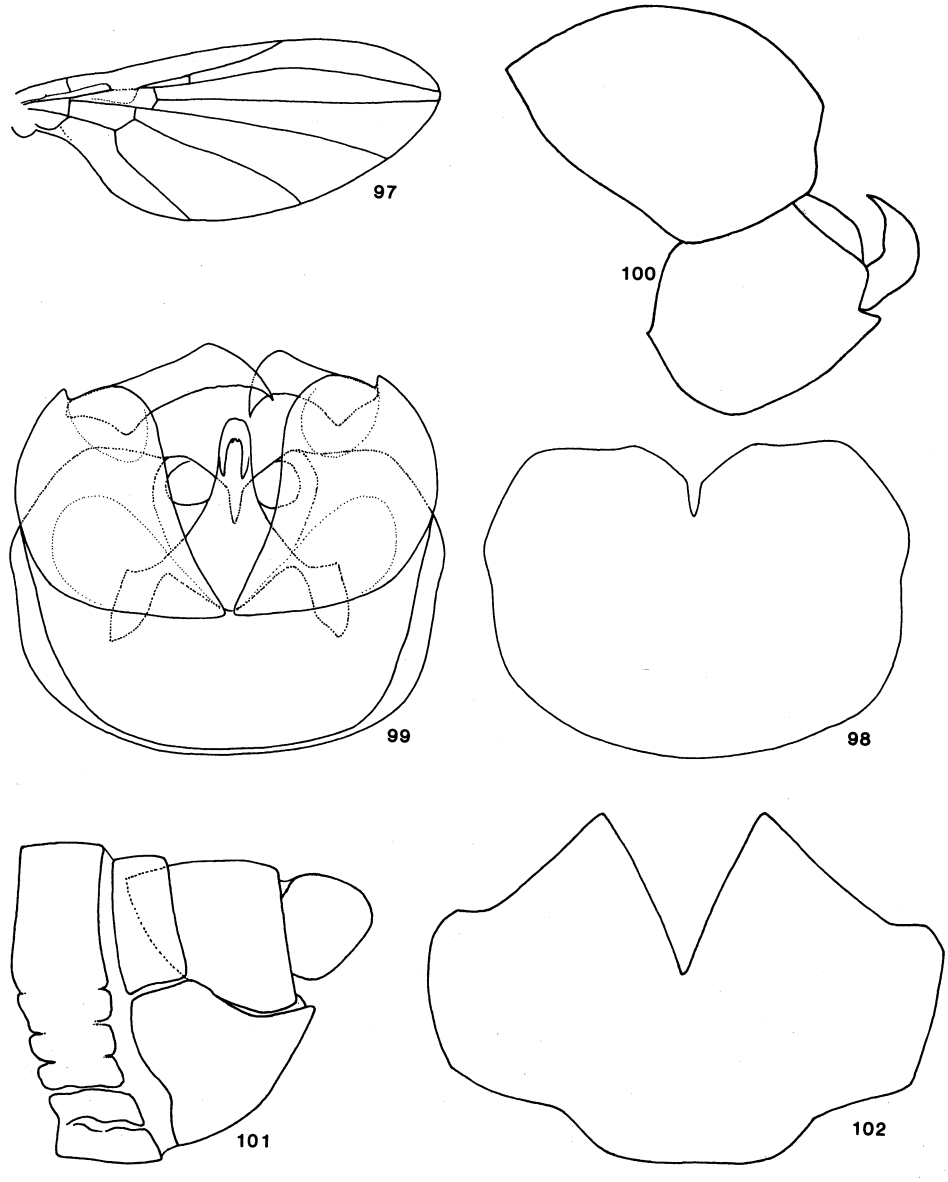
Male genitalia: tergite 9 very wide with median third produced posteriorly, strongly sclerotized except for a narrow median wedge; basistyles wide and short, with short rounded inner appendix and stylet-shaped outer process; dististyles with widely rounded and rather flat membranous portion and, along its margins, with highly arched lanceolate sclerotized portion; parameres forming a bird-head-like median structure, with a long straight spine on each side at its base.

Female genitalia: sternite 8 with triangular lobes narrow and markedly shorter than sternite along midline.

Dimensions: wing length, ♂ 2.0–2.1 mm, ♀ 2.4–2.5 mm.

Distribution. New South Wales.

Etymology. The specific name is an arbitrary combination of letters and is indeclinable.



Figs 97–102. *Niphta bickeli* n. sp. **97–100,** male: **97,** wing; **98,** tergite 9; **99,100,** genitalia: 99, ventral; 100, lateral. **101,102,** female: **101,** genitalia, lateral; **102,** sternite 8.

Affinities of the Australian Thaumaleidae

The known Australian Thaumaleidae (genera *Austrothaumalea* and *Niphta)* show close affinities to other southern hemisphere Thaumaleidae only. All Australian species of *Austrothaumalea* seem closely related to *A. neozealandica* Tonnoir, the type species of the genus, to *A. appendiculata* Tonnoir, to several other species from New Zealand (being described by McLellan) and to some of the species described under *Austrothaumalea* from South America (*A. chilensis* Edwards, *A. apicalis* Edwards, *A. spatulata,* described by Schmid, 1970). Only one Australian species of *Austrothaumalea, A. tasmanica* n. sp., deviates from typical *Austrothaumalea* in the wing setation (macrotrichia additionally on R_{4+5}) and, in this respect, corresponds with a new genus from New Zealand (McLellan, personal communication) and with *A. setipennis* Edwards from South America. However, whereas McLellan's new genus and *A. setipennis* also differ significantly from *Austrothaumalea* in male genitalia, *A. tasmanica* has male genitalia typical for *Austrothaumalea.* How close *Niphta* is to *Afrothaumalea* Stuckenberg is hard to tell because of insufficient material of *Afrothaumalea.* However, the species of *Niphta* appear very similar to *Austrothaumalea halteris* Edwards and *A. nudipennis* Edwards from South America, both of which are considered here to be extra-limital members of *Niphta [Niphta halteris (*Edwards) n. comb., *Niphta nudipennis* (Edwards) n. comb.]. In fact, the Australian *Niphta farecta* n. sp. appears closer to *N. nudipennis* than to any Australian species.

All those affinities, together with the predominantly southern distribution of Thaumaleidae in Australia, suggest a southern origin (Gondwana) of all Australian forms and indicate a remarkable age even for units of low taxonomic rank.

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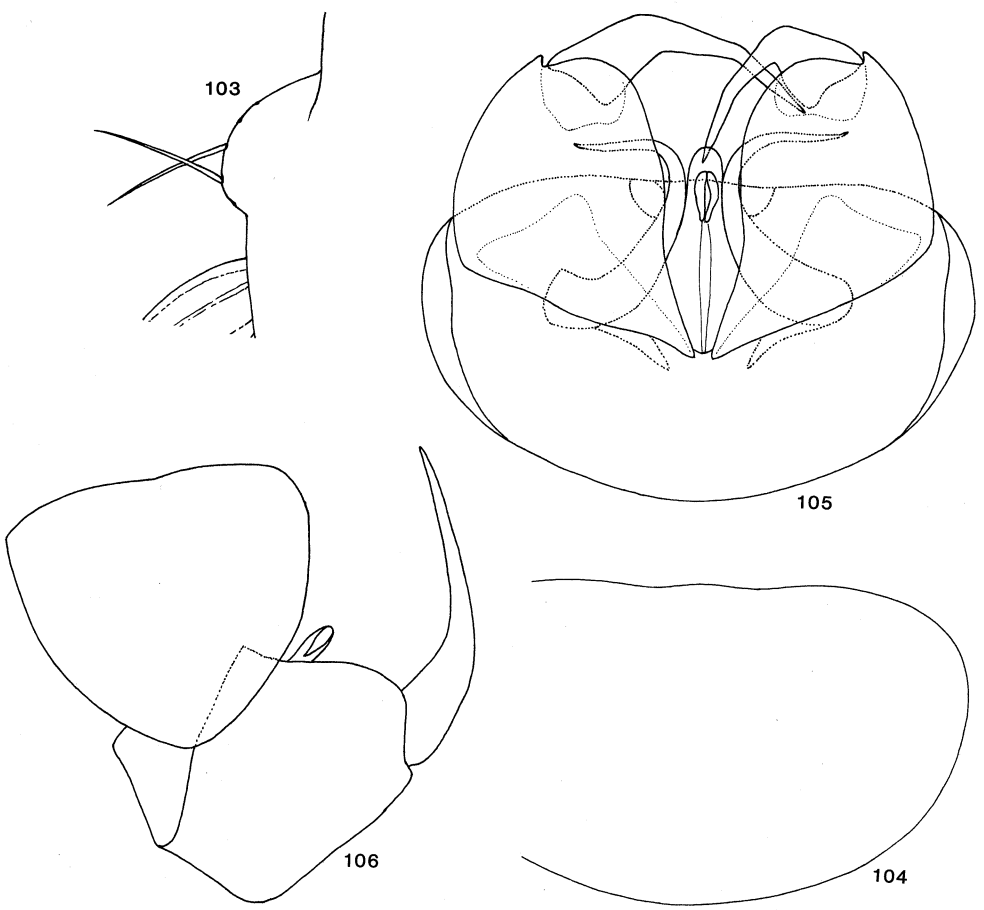

Figs 103–106. *Niphta collessi* n. sp., male. **103,** left side of thorax and wing base, corsal; **104,** tergite 9 (in part); **105,106,** genitalia: 105, ventral; 106, lateral.

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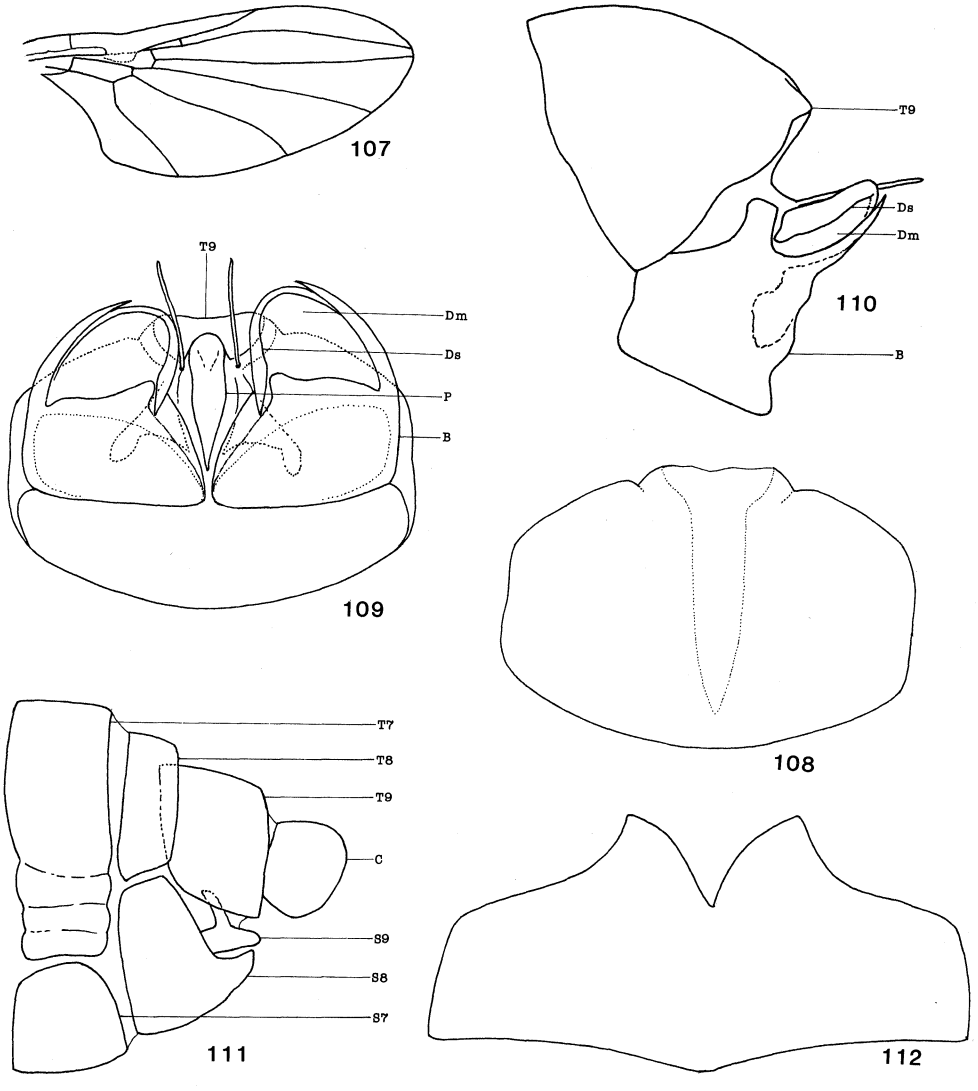

Figs 107–112. *Niphta farecta* n. sp. **107–110,** male: **107,** wing; **108,** tergite 9; **109,110,** genitalia: 109, ventral; 110, lateral. **111,112,** female: **111,** genitalia, lateral; **112,** sternite 8. B, basistyle; C, cercus; D, dististyle; S, sternite; T, tergite.