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Revision of the Polycentropodidae of Australia (Insecta: Trichoptera). Part I. The genus *Polyplectropus* Ulmer, 1905

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Abstract

Two species of polycentropodid caddisfly are newly described in the genus *Polyplectropus* Ulmer, 1905, raising the number of species recorded from Australia to five. The new species, *Polyplectropus anakope* **sp. nov.** and *P. lochensis* **sp. nov.**, are distinguished by features of the wings and male genitalia. *Polyplectropus anakope* **sp. nov.** is endemic to northeastern Queensland and *P. lochensis* **sp. nov.** is endemic to southern central Victoria, reinforcing the oddly disjunct distribution of the established species, two of which are endemic in the tropical region, and the other in southeastern Australia. Conflicts in the diagnoses of *Polyplectropus* and other polycentropodid genera are discussed, and understanding of the instability of wing venation is further reinforced by features of one of the new species. A key is provided for the identification of all five Australian *Polyplectropus* species.

Key words: caddisflies, aquatic insects, new species, taxonomy, morphology

Introduction

Worldwide, 287 species of *Polyplectropus* have been recorded by Morse (2025), with the highest diversity found in the Oriental (OL, 146 species, 51% of the total) and Neotropical regions (NT, 92 species, 32%, among which six species extend their ranges into the Nearctic region (NA) (Chamorro & Holzenthal 2010). Forty-two species are recorded for the Australasian Region (AU), 2 Afrotropical (AT), and 5 East Palearctic (EP); and none are recorded from the Western Palearctic regions (WP).

In a comprehensive revision of New World *Polyplectropus*, Chamorro & Holzenthal (2010) described general features of adults and larvae and their biology, discussed variability, and added 39 new species. Other new species have been described recently from the Australasian Region – New Caledonia (Johanson & Ward 2009), Fiji (Oláh & Johanson 2010), and northern Australia (Cartwright & Dostine 2022).

Polyplectropus is usually diagnosed based on wing venation, primarily the combination of fork1 present in the forewings and usually in the hind wings, although sometimes absent in the latter, and the hind wing discoidal cell open. However, these features are of limited diagnostic value as they are also characteristic of the genus *Polycentropus* Curtis, 1835, species of which have been described from the island of New Guinea, just to the north of Australia (Kumanski 1979; Oláh 2014). New World *Polyplectropus* have hind wings with fork 1 generally present or occasionally absent (Chamorro & Holzenthal 2010, figs 15-17) and one instance of forewings with fork 1 absent (Chamorro & Holzenthal 2010, *P. dubitatus* Flint 1983, fig. 15D). *Plectrocnemia eximia* Neboiss, 1982 from South Western Australia, also has the hind wings with discoidal cell open, but Neboiss placed the species in *Plectrocnemia* rather than *Polycentropus* (or *Polyplectropus*) due mainly to the general form of the male genitalia (Neboiss 1982). Several New Caledonian *Polyplectropus* species have the forewing fork 1 absent or present; when present, it is stalked. In all species, forewing forks 2 and 4 are sessile, and forks 3 and 5 are stalked. In the hind wings, fork 1 may be present or absent; if present, it is stalked; and fork 5 is always present, and is usually stalked.

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The variation in venation seen in the New Caledonian species also occurs in other species in the Australasian Region (Johanson & Ward 2009). Neboiss (1993) postulated a relationship between the eight polycentropodid genera based on the shared absence of fork 1 in the forewing. However, the variability seen in New Caledonian *Polyplectropus* shows that the state of forewing fork 1 (i.e., presence or absence) is probably an unstable character for establishing major taxonomic lines within the family.

It is apparent that although diagnoses and keys to Polycentropodidae genera are frequently based on characteristics of wing venation, a revision of the taxonomy of the groups based on other characters is needed to establish a stable classification (Johanson & Ward 2009). Furthermore, in support of the need for a thorough revision, Johanson *et al*. (2012) in their phylogenetic analysis of Polycentropodidae, found that some genera, such as *Polyplectropus,* are polyphyletic. More specifically, they found that New Caledonian *Polyplectropus* are polyphyletic and seem to fall into three clades, each with a sister group among New Caledonian clades from Australia, New Zealand, and Chile, respectively (Johanson *et al*. 2012; see Polycentropodidae tree, fig. 2), one near *Plectrocnemia* (*Tasmanoplegus*) *spilota* (Neboiss, 1977), a second near *Adectophylax volutus* Neboiss, 1982, and a third near Polycentropodid BIN AAZ2252 group. Chamorro & Holzenthal (2011), too, found their phylogenetic study neither supported nor rejected a monophyletic *Polyplectropus* as currently recognised. A World Polycentropodidae tree we recently created from the BOLD database (http://www.boldsystems.org) showed about five clades of species/BINS placed in *Polyplectropus*: two northern Australian species (*P. berryensis* Cartwright & Dostine, 2022 and *P. anakope* **sp. nov.**) grouped in a clade with Asian species.

In Australia, *Polyplectropus* is represented presently by three established species: *Polyplectropus bamboosa* Cartwright & Dostine, 2022, *P. berryensis* Cartwright & Dostine, 2022, both from northern Australia, and *P. lacusalbinae* Kimmins, 1953 from southeastern Australia. In this study, we describe one new northeastern Queensland species, *P. anakope* **sp. nov.,** and a second species, *P. lochensis* **sp. nov.,** from two sites in south-central Victoria. *Polyplectropus lochensis* **sp. nov.** has atypical wing venation with fork 1 present in the hind wings, a character state which has also been reported in the New Caledonian species, *P. nathalae* Johanson & Ward, 2009, and *P. viklundi* Johanson & Ward, 2009, plus several other species (Johanson & Ward 2009).

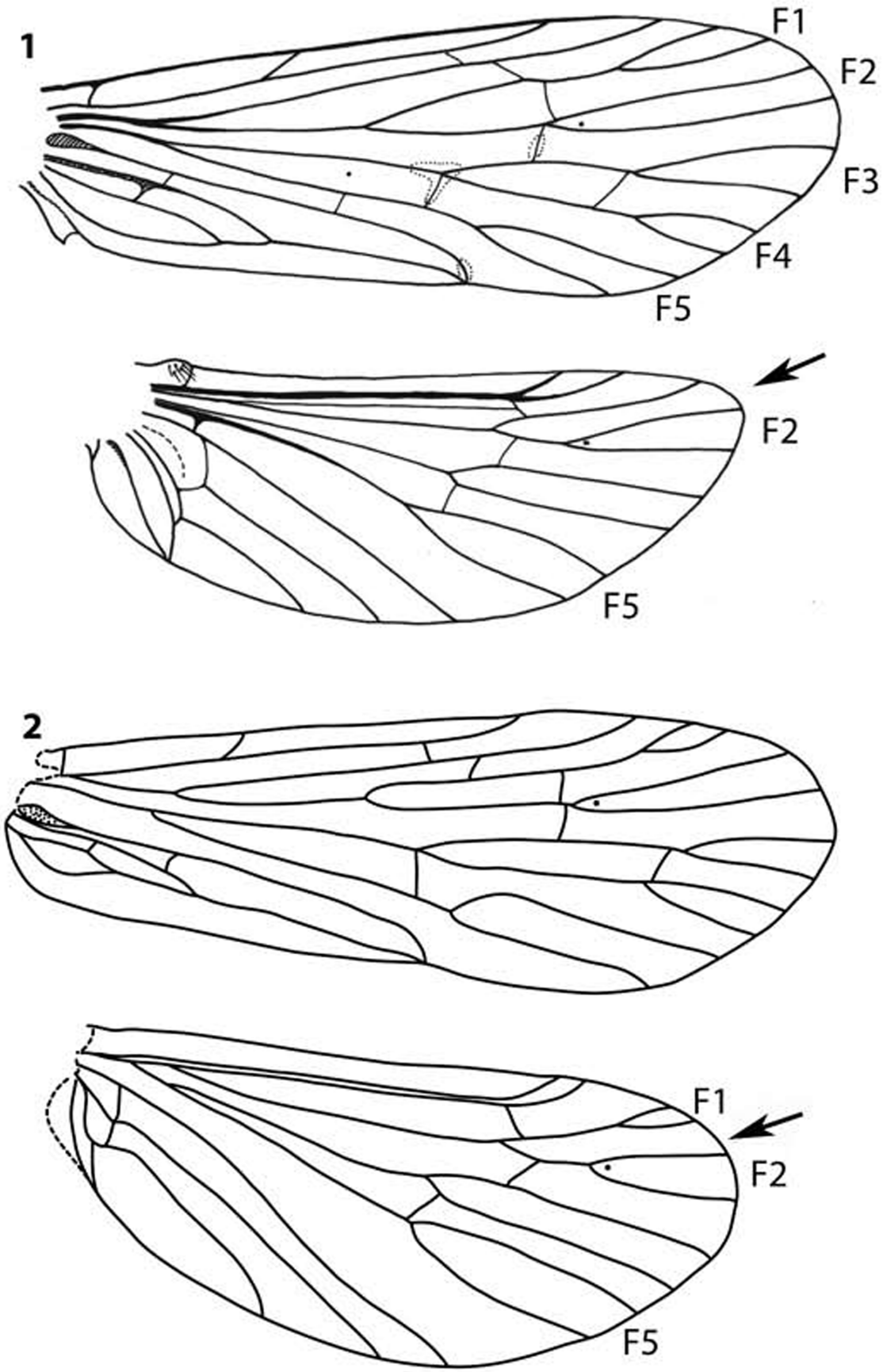
Material and methods

All specimens, including types, are lodged at the Museum of Victoria, Melbourne (NMV), the Australian National Insect Collection, Canberra (ANIC), and the Queensland Museum, Brisbane (QM). Males of each species are readily distinguished by genital features. Visibility of these features in selected specimens required clearing of the abdomen in room temperature potassium hydroxide overnight, followed by placement in glycerol. Females were provisionally paired with respective males on the basis of similarities in characters such as wing venation, size, and colouration, combined with locality. Hence, there may be less than 100% certainty with some of these associations.

Photographs were taken with a Leica M205C stereomicroscope and Leica DFC 500 digital colour camera, utilizing a Leica Application Suite version 3.8.0 c 2011 software. Figures were drawn using a grid graticule in the eyepiece of a stereomicroscope and transcribed to graph paper and inked on tracing paper. Only images are provided for established species. Images and line drawings of male genitalia are given for the new species.

Figured specimens are identified by the notebook numbers of the senior author (prefix CT-) and Arturs Neboiss (prefix PT-). COI (Cytochrome Oxidase subunit I gene) sequenced specimens have been allocated a specimen sample ID number (prefix DC-) (BOLD, http://www.boldsystems.org). Terminology generally follows that of Chamorro & Holzenthal (2010) and Zhong *et al*. (2010) in preference to any of the multiple terms that have been applied to some genital structures by different authors, e.g., dorsobasal process of a superior appendage (Li & Morse 1997; Zhong *et al.* 2006), dorsolateral process of the preanal appendages (Chamorro & Holzenthal 2010), and dorsal paraproctal process (Oláh & Johanson 2010).

Abbreviations for genital parts are indicated on selected figures. Typically, setae or spines are illustrated only on the right side of the figure (as viewed) to enable a better depiction of the underlying structures. Length and width measurements generally refer to the maximum length divided by the maximum width. Other abbreviations used include the following: creek (Ck), river (R), National Park (NP), Australian Capital Territory (ACT), New South Wales (NSW), Northern Territory (NT), Queensland (Qld), Tasmania (Tas.), Victoria (Vic.) and Western Australia (WA).



FIGURES 1–2. Male wings of the *Polyplectropus* new species described in this study. 1, *Polyplectropus anakope* **sp. nov.** (PT-1821). 2, *Polyplectropus lochensis* **sp. nov. (**CT-899). Abbreviations: F1 to F5 = fork 1 to fork 5.

Taxonomy

Genus *Polyplectropus* Ulmer, 1905

Ulmer, 1905:103; Li & Morse 1997: 301; Chamorro & Holzenthal 2010: 44.
Type species. Polyplectropus flavicornis Ulmer 1905: 103 by monotype.

Key to males of *Polyplectropus* from Australia

1 Inferior appendages, in lateral view, appear subovate (Fig. 3); tergum X with slender, elongate dorsobasal process of a preanal appendage posteriorly (Figs 3, 5) NSW, Vic., Tas . . . . . *P. lascusalbinae* Kimmins
- Inferior appendages, in lateral view, appear elongate, not subovate; tergum X without slender, elongate dorsobasal process of a preanal appendage posteriorly (Figs 6, 9) 2
2 Inferior appendages, in lateral view, broadest in posterior half (Fig. 6) NT, ,N-WA . . . . . *P. berryensis* Cartwright & Dostine
- Inferior appendages, in lateral view, broadest in basal half (Figs 12, 15) 3
3 Inferior appendages, in lateral view, appear to have acute projection ventrobasally (Figs 9, 12) NE-Qld . . *P. anakope* **sp. nov.**
- Inferior appendages, in lateral view, appear without acute projection ventrobasally (Figs 15, 18, 21) 4
4 Inferior appendages, in ventral view, form a narrow postero-mesal angle, without small peg-like spines posteriorly (Fig. 16) NT, NE Qld . . . . . *P. bamboosa* Cartwright & Dostine
- Inferior appendages, in ventral view, form a wide postero-mesal angle, with small peg-like spines posteriorly (Figs 19, 22) EC Vic . . . . . *P. lochensis* **sp. nov.**

New species

Polyplectropus anakope sp. nov.

Figs 1, 9–14

Holotype male (PT-1821, figured specimen)**: Australia: Queensland:** 16 km W of Ravenshoe, 2 Jan 1975, M.S. Moulds (NMV WTH-0274).

Paratypes: Same data as holotype, except 2 males (CT-767/768), 3rd ck on Kirrama Range Rd, 3 km from NP sign, -18.1655, 145.8695, 7 May 2011, M. Shackleton and J. Mynott (NMV TRI-57083/57090); 10 males, Rykers Ck on Bloomfield Rd, 2 km N of Cape Tribulation, 16.0720°S, 145.4624°E, 29 Oct 2017, D. Cartwright and R. StClair (NMV TRI-57084/QM).

Other material examined: Australia: Queensland: 2 males, trickle on Bloomfield Rd, 4 km N of Cape Tribulation, 16.0614°S, 145.4622°E, 29 Oct 2017, D. Cartwright and R. StClair (NMV TRI-57085); 2 males, Thompson Ck, Bloomfield Rd, 2 km S of Cape Tribulation, 16.1020°S, 145.4585°E, 29 Oct 2017, D. Cartwright and R. StClair (NMV TRI-57086); 1 female, Zarda Ck nr Mt Misery, W of Mossman, 1200m, 23 Dec 1974, M.S. Moulds (NMV WTH-0432); 1 male, U. Freshwater Ck, Whitfield Range, Cairns, 24 Aug 1974, MV light, M.S. Moulds (NMV WTH-0275); 3 males, Zillie Falls nr Millaa Millaa, 22 Feb 1982, M.S. and B.J. Moulds (NMV WTH-0277/0278); 1 male, 1 female, Bellenden Ker Range, Cableway Base Stn, 100m, 25–31 Oct 1981, Earthwatch/Qld Museum (NMV WTH-0279/0280); 1 male, Rocky Ck, Tully, 1 May 1979, A. Wells (NMV WTH-0276); 1 male, Laceys Ck, Mission Beach, 22 Apr 1970, S.R. Curtis (NMV WTH-0449); 1 male, Goddard Ck, Kirrama State Forest, 18°06'S, 145°41'E, Apr 1993, G. Theischinger (NMV WTH-1018); 2 males, creek at Bridge 7, Kirrama Range Rd, 3 km from NP sign, 18.1957°S, 145.8697°E, 25 Oct 2017, D. Cartwright and R. StClair (NMV TRI-57087); 2 males, 1 female (all teneral), Little Crystal Ck, near Paluma {about lat. 19°S}, 29 Aug 1997, D. Cartwright (NMV).

Diagnosis. *Polyplectropus anakope* **sp. nov.** appears to be most similar to *P. bamboosa* and *P. chapmani* Kumanski, 1979 from New Guinea, but it differs in that the inferior appendages in ventral view appear to have an acute projection ventrobasally.

Description. *Adult male*. Spur formula: 3:4:4. Wings (Fig. 1) similar to *P. lochensis* **sp. nov.** (Fig. 2), except fork 1 in hind wings missing. Length of forewing 5.3–6.1 mm. Head, body and wings light brown. *Male genitalia.* Sternum IX in lateral view with posterior margin smoothly rounded near middle (Figs 9, 12). Tergum X membranous (Figs 9, 11). Intermediate appendage laterally compressed (Figs 9, 11), in lateral view irregularly subrectangular, length approximately 1.8 times maximum width (Figs 9, 12). Inferior appendages robust, apices subacute (Figs 9–13), with curved basoventral process best viewed in lateral view (Figs 9, 12); in ventral view distal and mesal

margins curved, tapered and inflexed slightly posteriorly (Figs 10, 13). Phallus tubelike, with the vesica of the aedeagus inflated and two odd-shaped embedded structures apically (Figs 10–14). *Female*. Unknown.

Etymology. *Anakope*—Greek word for recoil (name chosen by Arturs Neboiss).

Distribution. *Polyplectropus anakope* **sp. nov.** is commonly recorded from about 13 sites through the Wet Tropics area of NE Queensland (latitudinal range 16.1–19.0°S).

Polyplectropus lochensis sp. nov.

Figs 2, 18–23

Holotype male (specimen CT-899 figured)**: Australia: Victoria:** Loch R., down site, 37.79338°S, 145.97262°E, light trap, 26 Jan 2022, J. Lancaster and B. Downes (NMV TRI-57088).

Paratypes: Same data as holotype, except 2 males (PT-1703), Wilsons Promontory, Miranda Ck, 38°55'S, 146°27'E, 19 Jan 1987, A. Neboiss (NMV TRI-39893/40005).

Diagnosis. *Polyplectropus lochensis* **sp. nov.** is distinguished from other Australian *Polyplectropus* species by the presence of a row of small peg-like spines meso-posteriorly on each inferior appendage and by the presence of fork 1 in the hind wings. This latter character state also occurs in some *Polyplectropus* species from New Caledonia (see *Polyplectropus nathalae* Johanson & Ward, 2009, fig. 35). *Polyplectropus lochensis* **sp. nov.** is placed in *Polyplectropus* because of the similar wing venation to *P. nathalae* but differs markedly from the New Caledonian species in the shape and structures of the male genitalia.

Description. *Adult male*. Spur formula: 3:4:4. Wings (Fig. 2) similar to those of *P. nathalae* and *P. anakope* **sp. nov.** (Fig. 1), except fork 1 in hind wings present. Length of each forewing 4.2 mm. Head, body, and wings light brown. *Male genitalia*. Posterior margin of sternum IX with angular extension near mid-height in lateral view, forming a right angle (Figs 18, 21). Fused terga IX+X short, membranous (Figs 20, 23). Intermediate appendages small, slightly laterally compressed (Figs 18, 20); in lateral view, irregularly subovate, approximately 1.8 times as long as maximum width, with rounded apex (Fig. 18, 21). Inferior appendages laterally compressed in basal half and dorsoventrally compressed in posterior half, angled mesally near middle, with small peg-like spines posteriorly (Figs 18, 19, 21, 22); in lateral view, broadest in basal half, tapered strongly near mid length (Figs 18, 21); in ventral view, each appendage with mesal and distal margins curved or angled slightly near midlength, inflexed in posterior third, apices appear rounded (Figs 19, 22). Phallus tubelike, tapered, and slightly downturned posteriorly (Figs 18, 20, 21, 23). *Female*. Unknown.

Etymology. Named for the type locality, Loch River in Victoria.

Distribution. Known from two sites only in southern-central Victoria (latitudinal range 37.8–38.9°S).

Known species

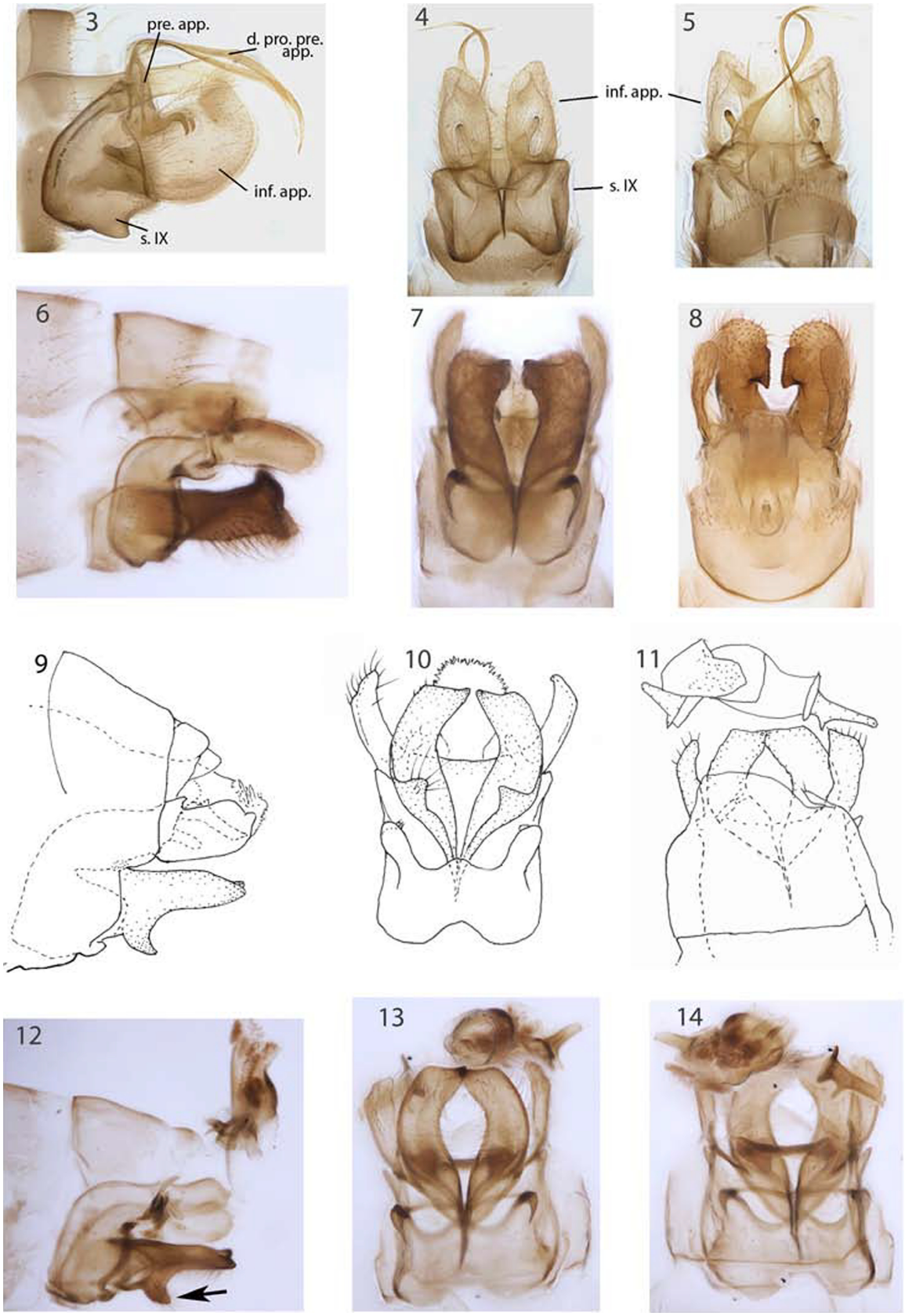
Polyplectropus lascusalbinae Kimmins, 1953

Figs 3–5

Polyplectropus lascusalbinae (originally *lacus-albinae*) Kimmins *in* Mosely & Kimmins, 1953: 363, fig. 249. Neboiss, 2002: 67.

Holotype male: NSW, Mt Kosciusko, Lake Albina, 6350 ft, 28 Jan 1930, R.J. Tillyard (ANIC) (Type not found).

New material examined: Australia: Australian Capital Territory: 1 male, Wombat Ck, 6 km NE of Picadilly Circus, 750m, 35°19'S, 148°51'E, Apr 1984, T. Weir & J. Lawrence (ANIC). New South Wales: 1 male (CT-848, figured specimen), Kosciuszko NP, 0.8 km NE Thredbo, 1480m, 36°29'49"S, 148°18'51"E, Malaise, 2–11 Jan 2004, C.L. Lambkin & N.T. Starick (ANIC). Victoria: 1 male (CT-915), Pioneer Ck, mid site, 37.89890°S, 145.79206°E, light trap, 11 Jan 2022, J. Lancaster & B. Downes (NMV TRI-57117); 2 males (& 1 female), Pioneer Ck, up site, 37.90255°S, 145.76997°E, light trap, 11–12 Jan 2022, J. Lancaster & B. Downes (NMV TRI-57114/57115); 1 male, Tarago R., mid site, 37.94053°S, 145.81497°E, light trap, 11 Jan 2022, J. Lancaster & B. Downes (NMV TRI-57116); 1 male, Wilsons Promontory, McAlister Ck bridge, Telegraph Track, -39.0483, 146.3656, 6 Nov 2024, J. Finn (NMV JKF_2024_EPT#38). Other records (see Neboiss, 2002).



FIGURES 3–14. Male genitalia of *Polyplectropus* treated in this study. 3–5, *Polyplectropus lascusalbinae* Kimmins (CT-848): 3, lateral view; 4, ventral view; 5, dorsal view. 6–8, *Polyplectropus berryensis* Cartwright & Dostine (PT-1101): 6, lateral view; 7, ventral view; 8, dorsal view. 9–14, *Polyplectropus anakope* **sp. nov.** (PT-1821) (drawings): 9, lateral view; 10, ventral view; 11, dorsal view; (photos): 12, lateral view; 13, ventral view; 14, dorsal view. Abbreviations: d. pro. pre. app. = dorsobasal process of preanal appendage; inf. app. = inferior appendage; s. IX = sternum IX; pre. app. = preanal appendage.

Diagnosis. This is the only Australian species of *Polyplectropus* which has genitalia with an elongate dorsolateral process on the preanal appendages, combined with inferior appendages which in lateral view appear robust, rounded.

Remarks. *Polyplectropus lacusalbinae* is a distinctive species, originally described from a single male from Lake Albina, Mt Kosciusko, New South Wales. Neboiss (2002) recorded the species more widely with records of a male from each of Noojee, Victoria, and Flinders Island, Tasmania. It seems to be uncommon but with a disjointed distribution in SE Australia. *Polyplectropus lacusalbinae* is likely more widespread in Tasmania (Neboiss 2002).

Distribution. Recorded from Victoria, New South Wales (Neboiss 2002), ACT, and Tasmania (a single male, PT-1694, from Flinders Island), (latitudinal Range 35.3–40.1°S).

Polyplectropus berryensis Cartwright & Dostine, 2022

Figs 6–8

Polyplectropus berryensis Cartwright & Dostine, 2022: 291, figs 16, 17.

Holotype male (specimen CT-765 figured): NT, Berry Ck, 17–18 Mar 2015, P. Dostine (NMV, T- 22582).

New material examined: Australia: Western Australia: 1 male, King Edward R., 14°54'S, 126°12'E, 3 Sep 1996, I. Edwards (NMV TRI-39678); 2 males (PT-1101), Mitchell Plateau, Kimberleys, light trap, 30 Jan 1978, J.E. Bishop (NMV TRI-39662/39670); 1 male, same loc. and coll., 14 Feb 1979 (NMV TRI-39664); 2 males (& 2 females), Mitchell Plateau, Camp Ck, 31 Jan 1978, J.E. Bishop (NMV TRI-39660/39665); 12 males, Mitchell Plateau, Camp Ck at crusher, 15 Feb 1979, J.E. Bishop (NMV TRI-3966739669); 11 males, same loc. and coll., 18 Feb 1979 (NMV TRI-39658); 1 male, Morgan R., Theda HS, Kimberley, 28 Sep 1979, J. Blyth (NMV TRI-39659). Northern Territory. 1 male, Adelaide R., 15 km E of Stuart Hwy, 15 Aug 1979, J. Blyth (NMV TRI-39661). Other NT and WA sites (see Cartwright and Dostine, 2022).

Diagnosis. *Polyplectropus berryensis* appears to be most similar to *P. bamboosa* and *P. chapmani* Kumanski, 1979 from New Guinea, but it differs in that the inferior appendages in lateral view appear broadest in the posterior half.

Remarks. Generally, fork 1 is absent from the hind wings, however, at least one specimen of *P. berryensis* (illustrated specimen PT-1101) has hind wings with fork 1 present, like those of *P. lochensis* **sp. nov.** (Fig. 2).

Distribution. *Polyplectropus berryensis* was recorded from about nine sites in the Top End of the NT and two sites from the Kimberley Region of northern WA (Cartwright & Dostine 2022). Here it is reported from additional sites in the Kimberley and NT (latitudinal range 12.6–16.4°S).

Polyplectropus bamboosa Cartwright & Dostine, 2022

Figs 15–17

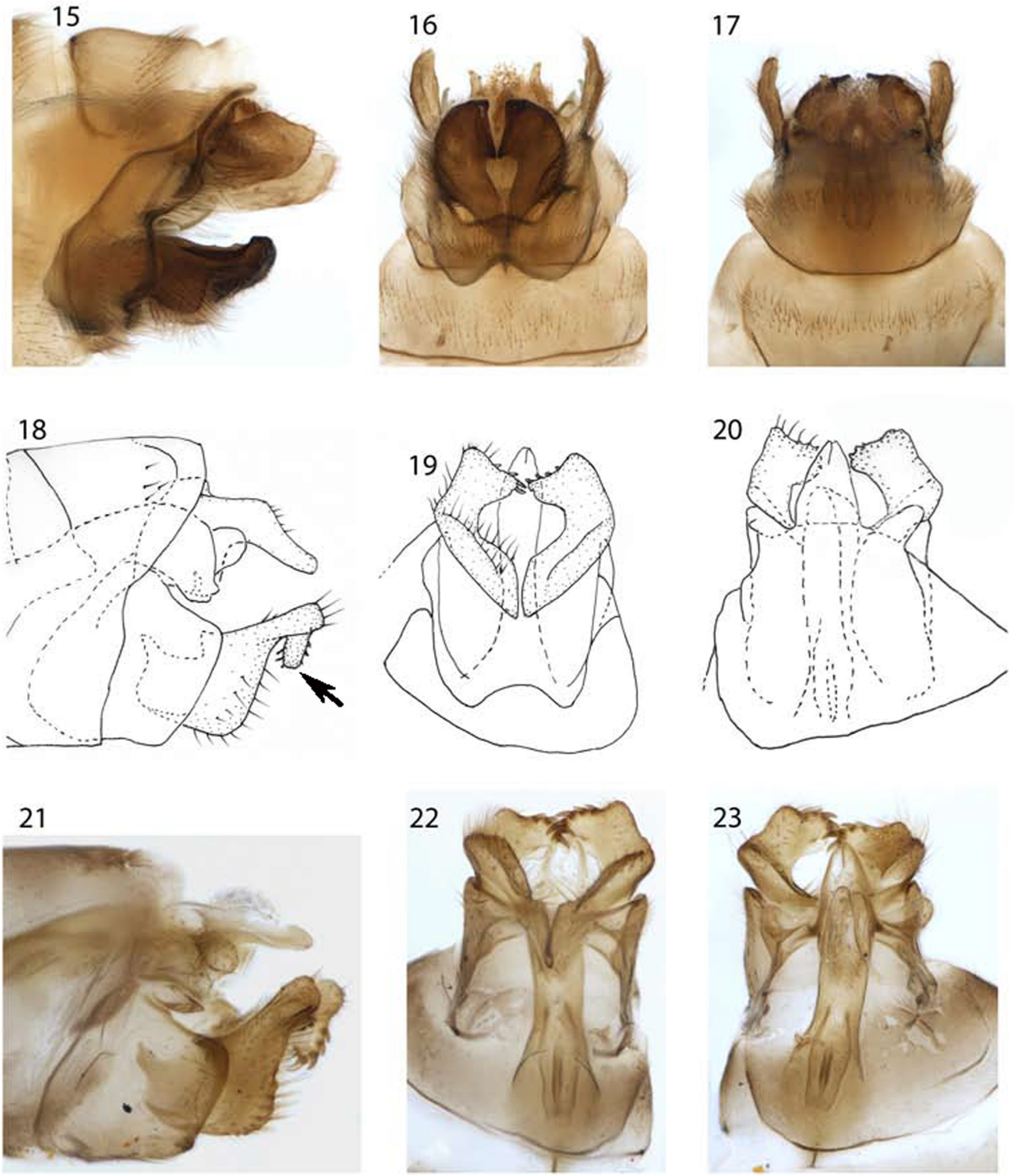
Polyplectropus bamboosa Cartwright & Dostine, 2022; 291, figs 13-15.

Holotype male (specimen CT-819 figured)**:** NT, Bamboo Ck, 26 May 2019, P. Dostine (NMV, T- 22581).

New material examined: Australia: Northern Territory: 1 male (& 3 females), Radon Springs, 14 Apr 1989, Suter and Wells (NMV TRI-39653); Queensland: 1 male, Upper Jardine R., Cape York Peninsula, 11°17'S, 142°35'E, 17 Oct 1979, M.S. & B.J. Moulds (NMV TRI-39643); 1 male, McDonnell – Cockatoo Ck jn, 11°39'S, 142°28'E, 13 Feb 1992, D. Cartwright & A. Wells (NMV TRI-39891); 3 males, Gunshot Ck, Telegraph crossing, 11°44'S, 142°29'E, UV lt, 17 Feb 1992, D. Cartwright & A. Wells (NMV TRI-39895); 4 males, trib. Bertie Ck, 250m SW Heathlands HS, 11°45'S, 142°35'E, 11 Feb 1992, D. Cartwright & A. Wells (NMV TRI-39892/39897/39901); 2 males, Bertie Ck, 1 km SE Heathlands HS, 11°45'S, 142°35'E, 4-11 Feb 1992, D. Cartwright & A. Wells (NMV TRI-39899); 1 male, Iron Range, 30 Apr 1975, M.S. Moulds (NMV TRI-39647); 2 males, Middle Claudie R., Iron Range, 19 Sep 1974, Moulds (NMV TRI-39644); 4 males (CT-791), same loc. and coll., 2-25 Oct 1974 (NMV TRI-39641/39642/57089); 4 males (PT-1818), Gordon Ck, Iron Range, 12-14 May 1975, M.S. Moulds (NMV TRI-39648/39650/39652/39654); 4 males (PT-1121), 1 female (PT-1857), same loc. and coll., 16 Oct 1974–1 Jun 1975 (NMV TRI-39640/ 39645/ 39647/ 39649/ 39650); 1 female, W. Claudie R., Iron Range, 15-17 Sep 1974, M.S.

Moulds (NMV TRI-39639); 1 male, Claudie R., Iron Range NP, 25km NW of Lockhart River, 10 Nov 1988, MV light, K. Walker (NMV TRI-39651); 1 male, 3 km NE Mt Webb, 15°03'S, 145°09'E, 1-30 Oct 1980, J.C. Cardale (NMV, TRI-39655); 1 male, Sandstone outcrops, 30km W of Fairview via Laura, 22-24 Jun 1976, G.B. & S.R. Monteith (NMV TRI-39657).

Diagnosis. *Polyplectropus bamboosa* appears to be most similar to *P. chapmani* Kumanski from New Guinea but differs in that the inferior appendages in ventral view appear more truncate posteriorly with an acute angle disto-mesally (Fig. 16). *Female.* Unknown.



FIGURES 15–23. Male genitalia of *Polyplectropus* treated in this study. 15–17, *Polyplectropus bamboosa* Cartwright & Dostine (CT-791): 15, lateral view; 16, ventral view; 17, dorsal view. 18–23, *Polyplectropus lochensis* **sp. nov.** (CT-899) (drawings): 18, lateral view; 19, ventral view; 20, dorsal view; (photos): 21, lateral view; 22, ventral view; 23, dorsal view.

Distribution. *Polyplectropus bamboosa* was originally described from the holotype male collected from Litchfield N.P, in the NT (Cartwright & Dostine 2022). The species is also widely distributed on Cape York Peninsula, N Queensland (latitudinal range 11.3–15.5°S)

Remarks. The wing length of some North Queensland specimens is slightly more (4.9 mm) than the NT type specimen (4.2 mm).

Polyplectropus larvae

Polyplectropus larvae have been described from several countries – *P. gedehensis* Ulmer 1951 from Sunda Island, Indonesia (Ulmer, 1957), *P. puerilis* (McLachlan, 1868) from New Zealand (Cowley, 1978, fig. 9), *P. nanjinensis* Li & Morse, 1997 China (Li & Morse 1997, figs 29–33), and *P. malicky* and *P. protensus* both Nozaki, Katsuma & Hattori, 2010 from Japan (Nozaki *et al*. 2010, figs 4, 5), *P. unicus* Hsu & Chen 1996 (Hsu & Chen 1996; Nozaki & Shimura 2013). Most of the Asian and New Zealand *Polyplectropus* larvae have anal claws lacking basal processes which is quite different to North (and South) American and (putative) Australian species which have three basal processes (Wiggins 1977: 355, fig. A; Chamorro & Holzenthal 2010, fig. 1; Cartwright 1998, fig. 3.29).

For Australia, at least partial keys to larvae of polycentropodid genera are given by Cartwright & Dean (1982) and Dean *et al*. (2004), and keys to voucher species, together with basic diagrams, are provided by Cartwright (1998). All these references mention 'Genus I' larvae, a group comprising larvae of *Adectophylax*, possibly *Plectrocnemia* (*Tasmanoplegus*) (larva unknown), probably *Polyplectropus,* and maybe other 'genera'. At present, no Australian *Polyplectropus* larva has been associated positively with an adult male either through breeding out or COI/DNA association. Larvae from NT and Qld, figured in part by Cartwright (1998; figs 3.28, 3.29) are possibly those of *Polyplectropus.*

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