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A new bee genus from the pampas of eastern Argentina, with appended notes on the classification of “paracolletines” (Hymenoptera: Colletidae)

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Abstract. A new genus and species are described and figured from the eastern pampas of Tandil, Argentina. *Aenarete roigi* Engel & Gonzalez, new genus and species, is quite similar to *Spinolapis* Moure (here used in a restricted sense), occurring in southern Chile, and particularly *Patagoniapis* Engel, new genus (type species: *Pasiphae cyanea* Cockerell) from further southward in Argentina (Rio Negro to Tierra del Fuego). The genus is distinguished from these two genera and other South American “paracolletines”. Given the employment of different concepts for “paracolletine” genera herein and in recent published works relative to the classification outlined by Michener, a revised key to these groups is appended based on the genera as envisioned by the authors. This necessitates making available the following new taxa (eight new subtribes, 20 new genera, 13 new subgenera): *Aageocolletes* Engel, new genus; *Aglaocolletes* Engel, new genus; *Asciocolletes* Engel, new genus; *Baeocolletina* Engel, new subtribe; *Bicolletopsis* Engel, new subgenus of *Bicolletes* Friese; *Calloproctus* Engel, new genus; *Chilicolletina* Engel, new subtribe; *Chrysopasiphae* Engel, new genus; *Conospermapis* Engel, new genus; *Cyanopasiphae* Engel, new subgenus of *Bicolletes*; *Cygnella* Engel, new subgenus of *Euryglossidia* Cockerell; *Cyranocolletes* Engel, new genus; *Damocrateia* Engel, new genus; *Donovanapis*, new subgenus of *Leioproctus* Smith; *Eremocolletes* Engel, new genus; *Erythropasiphae* Engel, new subgenus of *Bicolletes*; *Hexaproctus* Engel, new genus; *Houstoniella* Engel, new subgenus of *Eremocolletes*; *Kanakapis* Engel, new subgenus of *Lamprocolletes* Smith; *Leucopasiphae* Engel, new subgenus of *Perditomorpha* Ashmead; *Lonchorhynchina* Engel & Gonzalez, new subtribe; *Manocolletes* Engel, new subgenus of *Euryglossidia*; *Machaerocolletes* Engel, new genus; *Maoricolletes* Engel, new subgenus of *Leioproctus*; *Maynardapis* Engel, new genus; *Nanopasiphae* Engel, new genus; *Niltoniina* Engel, new subtribe; *Notinopasiphae* Engel, new subgenus of *Euryglossidia*; *Packercolletes* Engel, new genus; *Perditomorphina* Engel, new subtribe; *Phenacolletina* Engel, new subtribe; *Rhamphocolletes* Engel, new genus; *Ruzopria* Engel, new subgenus of *Belopria* Moure; *Sarocolletidion* Engel, new genus; *Spinolapina* Engel, new subtribe; *Sthenele* Engel, new ge-

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nus; *Stilbopasiphæ* Engel, new genus; *Stoclele* Engel, new subgenus of *Lamprocolletes*; *Torocolletina* Engel, new subtribe; *Walkerapis* Engel, new genus; *Zyzzocolletes* Engel, new genus.

INTRODUCTION

The bee fauna of Argentina is diverse and filled with comparatively unique elements, reflective of the unique history of much of the region. This is particularly true for many of the groups formerly classified in the subfamily Paracolletinae, a problematic group for which no satisfactory classification has been made, although significant attempts have been made to clarify these fascinating bee lineages (*e.g.*, Michener, 1989).

Here we provide the description of a new genus and species superficially resembling bees placed in *Spinolapis* Moure (either as a genus or subgenus of *Leioproctus* Smith). We consider *Spinolapis* as conceived by prior authors to consist of two distinct groups, one of which is more closely related to the genus described herein. The descriptions loosely follow the format employed by Michener (1989), while the morphological terminology follows Engel (2001) and Michener (2007). The genus is established in order to make its name available for use in forthcoming works. In addition, revised keys to the tribes, genera, and subgenera of those bees formerly classified as Paracolletinae are appended, with several names established for similar use in forthcoming projects.

SYSTEMATICS

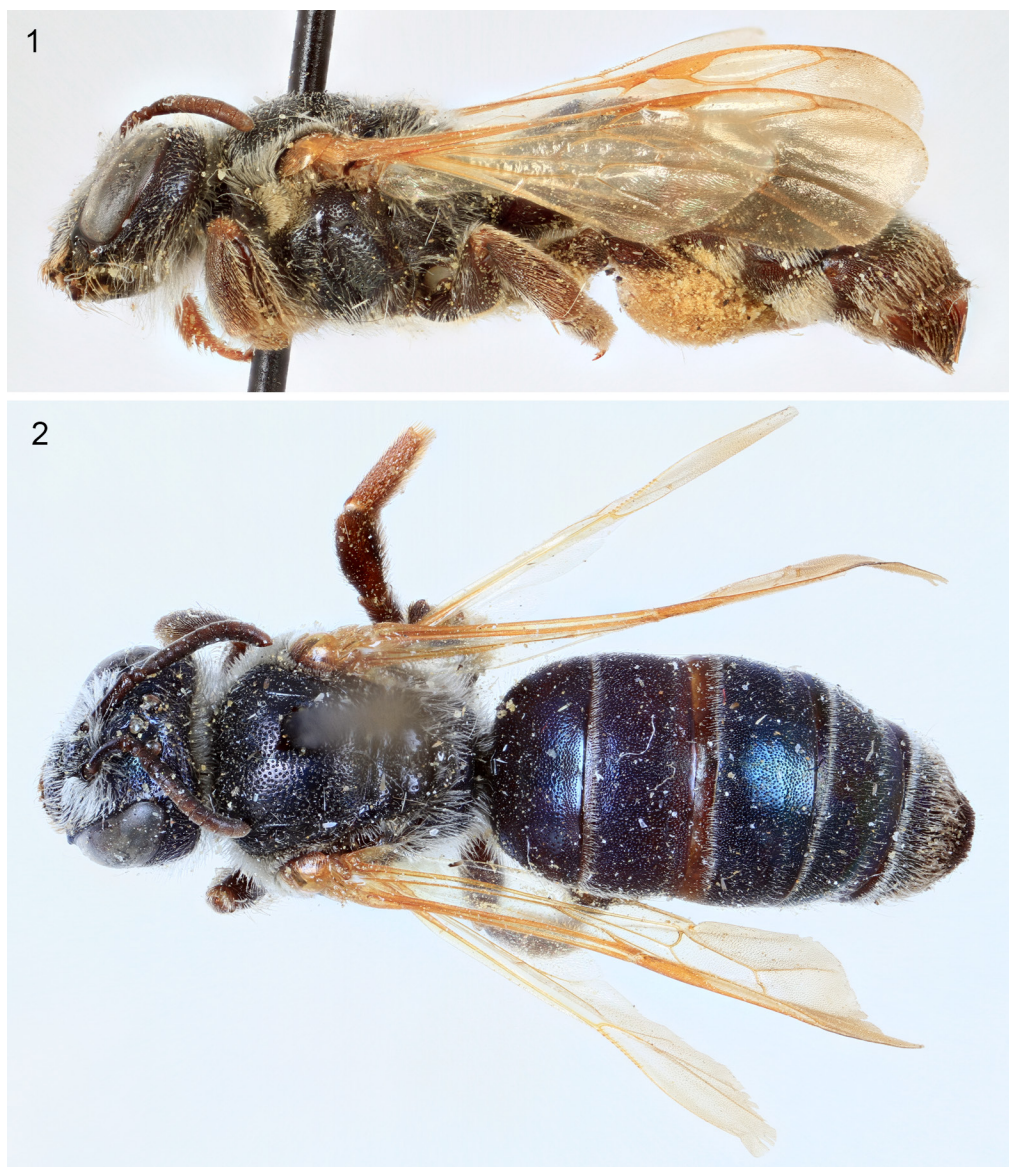
Tribe Eulonchopriini Moure
Subtribe Spinolapina Engel (*vide* Appendix)

Aenarete Engel & Gonzalez, new genus

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TYPE SPECIES: *Aenarete roigi* Engel & Gonzalez, new species.

DIAGNOSIS: The new genus is similar to the Chilean genus *Spinolapis* and the Argentine *Patagoniapis* Engel (*vide* Appendix, *infra*) in that all have a deep metallic blue or green color to the body, particularly in the Argentine *Aenarete* and *Patagoniapis*. Unlike *Spinolapis*, the latter two genera have a finely granular and matte sculpturing to the basal area of the propodeum, while it is smooth and shining in the former genus, and pectinate inner metatibial spurs in females (ciliate in *Spinolapis*). In addition, *Spinolapis* and *Patagoniapis* have the pretarsal claws either simple (former) or with the inner ramus reduced to a minute tooth (latter), while in *Aenarete* the pretarsal claws are toothed, with the inner ramus normal. Additionally, *Spinolapis* and *Patagoniapis* have the marginal line of the propodeum simple or narrowly and faintly areolate, while in *Aenarete* the marginal line is broader and strongly areolate. The legs of *Patagoniapis* are reddish orange and the lateral margins of the pygidial plate are straight, while in *Aenarete* the legs are a dark reddish brown and the lateral margins of the pygidial plate are weakly concave. Lastly, *Spinolapis* has abundant, long, shaggy, white setae on the mesoscutum and often the metasomal terga, although not arranged into setal hands, while such white setae are lacking in the Argentine genera.



Figures 1–2. Holotype female of *Aenarete roigi*, new genus and species. 1. Lateral habitus. 2. Dorsal habitus.

DESCRIPTION: Moderate-sized bees, approximately 8 mm in length; integument largely dark metallic blue, tegula and wing veins orange, legs dark brown or reddish brown, lighter on tarsi, integument with abundant shallow punctation; pubescence typically moderate length, minutely plumose, white, and not obscuring integument, although more tomentose on pronotal lobe and obscuring integument and more yellowish to fuscous on clypeal apical margin and more distal leg podites, metasomal terga I–IV with thin, fine, apical vibrissae of white setae, prepygidial and pygidial fimbriae dark fuscous to black.

Face weakly convex, supraclypeal area not more protuberant than clypeus; inner orbits of compound eyes roughly parallel; malar space linear; facial fovea absent; ver-

tex convex, above upper ocular tangent in facial view; median ocellus just below upper tangent of compound eyes and above midpoint between antennal toruli and posterior margin of vertex, lateral ocelli at upper tangent; preoccipital ridge rounded; mandible of female with preapical tooth on upper margin; labrum much broader than long, apical margin convex.

Pronotum dorsolaterally rounded, without carina or lamella; omaular carina absent; axillae simple. Basal area of propodeum subhorizontal, sloping, rounding onto posterior vertical surface, without posterior carina separating surfaces, sloping subhorizontal zone shorter than metanotum, matte, finely granulose-coriaceous, with some fine transverse ridges at extreme base, without deep areolae; marginal line broadly and strongly areolate; lateral surface of propodeum with abundant, long scopal setae.

Probasitarsus of female without comb on outer edge; metafemoral scopa of female composed of long arched setae with short branches, but such setae not wrapping ventrally, leaving ventral surface glabrous and not enclosed (this kind of metafemoral scopa typical for subtribe Spinolapina); metatibia with setae of outer surface long, with numerous branches in apical two-thirds of rachis, setae of inner surface long, largely simple; metabasitibial plate of female ovoid, covered with dense appressed setae, margins weakly well-delimited; inner metatibial spur of female coarsely pectinate, with nine branches; pretarsal claws toothed, inner ramus not vestigial.

Forewing with 1M (basal vein) confluent with 1cu-a; pterostigma not parallel sided, widest at midlength, r-rs arising near midlength, margin within marginal cell gently convex; apex of marginal cell obliquely truncate and appendiculate; two submarginal cells (1rs-m absent); both 1m-cu and 2m-cu meeting second submarginal cell. Hind wing with 10–11 distal hamuli; jugal lobe exceeding level of cu-a.

Metasoma without basal or broad apical setal bands, apical margins of terga I–IV thin, fine, apical vibrissae; prepygidial fimbria of female not as dense as pygidial fimbria; pygidial plate of female with surface comparatively flat, margins not elevated, lateral margins faintly concave medially, apex acutely rounded; metasomal sterna densely, but not contiguously punctate in apical halves to two thirds, proximally imbricate and impunctate, sterna I–II with abundant fields of decumbent, apically directed, translucent yellow setae, such setae largely simple; sterna III–V with such setae in apical halves to thirds and progressively with more plumose setae encroaching from laterally, such setae with short branches directly apically, setae also being progressively less translucent and lightly fuscous.

ETYMOLOGY: The new genus-group name is taken from Ancient Greek mythology where Aenarete (*Αἰναρέτη*) was the mother of Sisyphus, the latter of whom was cursed to spend eternity rolling a boulder up hill, much like the process of practicing systematics. The gender of the name is feminine.

Aenarete roigi Engel & Gonzalez, new species

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(Figs. 1–7)

DIAGNOSIS: As for the genus (*vide supra*).

DESCRIPTION: As for genus with following additions: ♀: Total body length 8.20 mm; forewing length 5.40 mm. Head broader than long, width 2.10 mm, length 1.83 mm; upper interocular distance 1.33 mm, lower interocular distance 1.30 mm; gena narrower than compound eye in profile. Scape long, reaching to upper tangent of median ocellus. Intertegular distance 1.58 mm.



Figures 3–5. Details of female of *Aenarete roigi*, new genus and species. 3. Facial view. 4. Pygidial plate. 5. Mesoscutellum, metanotum, and basal area of propodeum.

Integument largely with coarse but comparatively shallow punctures, with integument between smooth and shining; clypeus with punctures separated by less than a puncture width, albeit more spaced medially and apically; supraclypeal area with similar punctures except smaller; punctures of lower face nearly contiguous; similar



Figures 6–7. Details of female of *Aenarete roigi*, new genus and species. 6. Metabasitibial plate and metatibial setae. 7. Dorsal view of head and mesosoma.

punctuation on frons although slightly more spaced on upper part of frons; ocellular area similar to frons except with small impunctate area near lateral ocellus; vertex and gena as on frons. Mesoscutum with punctures nearly contiguous anteriorly, becoming more spaced by disc, with punctures separated by a puncture width or slightly less, along posterior border again becoming closer, separated by less than a puncture width; mesoscutellum with punctures separated by less than a puncture width along anterior, lateral, and posterior margins as well as in weak mediolongitudinal depression, otherwise punctures sparse in large paramedian areas; metanotum with small punctures nearly contiguous. Mesepisternum with punctures separated by 0.5–2× a puncture width, integument between punctures faintly coriaceous, punctures of hypopimeral area smaller and denser, separated by less than a puncture width to nearly contiguous; metepisternum with small, nearly contiguous punctures similar to hypopimeral area; lateral surface of propodeum with contiguous, ill-defined, coarse punctures, integument noticeably granulate-coriaceous; basal area of propodeum granulate-coriaceous, with weak transverse ridges at extreme base, marginal line comparatively broad, strongly areolate. Metasomal terga with small punctures separated by less than a puncture width, including in marginal zones, integument between punctures faintly coriaceous or imbricate except tergum I with punctures of anterior-facing surface more widely spaced and integument between smooth. Sterna largely imbricate, with dense small punctures in apical halves to two thirds.

Integument dark metallic blue except mandible dark brown with reddish apex; labiomaxillary complex and antenna dark brown; labrum black; clypeus with blue faint; teguyla orange; legs largely dark brown, with areas of reddish brown and tarsi lighter; metasoma with apical margins more reddish dark brown on more apical terga; pygidial plate dark brown to black; sterna dark reddish brown, with prominent metallic blue highlights. Wing membranes hyaline clear; veins orange.

Pubescence generally white (except as noted); setae of face largely long and with minute branches, nearly obscuring integument of lower face and lower frons, such setae sparser and somewhat shorter on clypeus, upper frons, vertex, and gena; setae on apical margin of clypeus dirty yellowish; such setae becoming progressively longer on lower gena and greatly elongate on postgena. Mesosoma with similar setae as those of vertex except tomentose on pronotal lobe and upper mesepisternum immediately posterior to pronotal lobe; mesoscutum with such setae more numerous along margins, more sparsely distributed on disc, similar setation on mesoscutellum, albeit longer posteriorly; metanotum with setae similar to those on posterior of mesoscutellum except abundant and nearly obscuring integument; pleura with setae progressively longer ventrally and more numerous on lateral surfaces of propodeum. Setation of legs as described for genus (*supra*). Metasoma with scattered short erect to suberect white setae, with thin apical vibrissae on terga I–IV; prepygidial and pygidial fimbria dark fuscous to black. Sternal setae as described for genus (*supra*).

♂: *Latet*.

HOLOTYPE: ♀, Tandil, 250 m, Prov. Bs. Aires [Buenos Aires Province], Arg. [Argentina], XI.1954, F.H. Walz (SEMC = Snow Entomological Collection, Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas, USA).

PARATYPE: ♀, Tandil, 250 m, Prov. Bs. Aires [Buenos Aires Province], Arg. [Argentina], XI.1954, F.H. Walz (SEMC).

ETYMOLOGY: The specific epithet honors Arturo Roig-Alsina, magisterial melittologist whose contributions have not only elevated the study of South American Apoidea, but have had a global reach and impact.

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APPENDIX
Preliminary Keys to Neopasiphaeinae

The following keys outline a preliminary revised classification for Neopasiphaeinae. The classification of Colletidae and for the groups of neopasiphaeines are outlined in tables 1–3. These keys are presented in advance of a forthcoming work on apoid classification so as to make the various names taxonomically available. Abbreviated diagnoses are presented for now but will be supplemented by further information in a forthcoming work. Characters in the individual couplets leading to each genus or subgenus also supplement the greatly abbreviated diagnoses. Note that Diphaglossinae and Paracolletinae share a short pterostigma (shorter than the prestigma), with a truncate apex in the marginal cell; a metabasitibial plate in males that is absent or represented posteriorly by a weak carina (in *Paracolletes* Smith), with that of the female hidden by setae, not margined by distinct carinae (or only posterior carina evident, except *Mydrosomella* Michener with completely carinate margins), and typically bluntly rounded apically; and the elongate linear apical lobes of the male seventh sternum (although in *Ptilogossidia* Moure, *Ptiloglossium* Engel, *Cadeguala* Reed, and *Cadegualina* Michener the lobes of sternum VII are not elongate linear; the elongate linear form is perhaps plesiomorphic as it is also present in Neopasiphaeinae: Trichocolletini).

Key to Subfamilies and Tribes of Colletidae
(Tribes of Neopasiphaeinae are treated individually by region below)

- 1. Body usually setose, female with well-formed scopa enclosing fiscina (*sensu* Engel, 2001; Engel *et al.*, 2021) on underside of metafemur; prepygidial fimbria (apical setal band of tergum V) of female much stronger (setae longer and denser) than setal bands (if any) of preceding terga, and tergum VI with abundant setae (pygidial fimbria) lateral to pygidial plate (except in genera that lack both fimbriae and pygidial plate); pygidial plate of female, if present, usually broad and tapering posteriorly; forewing with three submarginal cells or, if two, then second at least two-thirds as long as first (note that two submarginal cells results from the loss of 1rs-m); 2rs-m sinuate, at acute angle to distal part of Rs forming free part of marginal cell 2
 - Body with setae short and relatively sparse, female lacking scopa or with a sparse or short scopa forming fiscina on underside of metafemur; prepygidial and pygidial fimbriae of female nearly always absent; pygidial plate of female absent or, if present, then usually narrow and parallel-sided posteriorly, or spinelike; forewing with two submarginal cells, second usually much shorter than first; 2rs-m usually not sinuate, usually at right or obtuse angle to distal part of Rs 8
- 2(1). Pterostigma small, shorter than prestigma (as measured along posterior margin in first submarginal cell), as wide as prestigma measured to costal wing margin, truncate, sometimes obliquely, inside marginal cell 3
 - Pterostigma usually large, at least longer than prestigma (sometimes only slightly longer, *e.g.*, *Anthoglossa* Smith), usually wider than prestigma measured to wing margin, typically tapering within marginal cell, rarely truncate 6
- 3(2). Glossa deeply bifid with apical lobes commonly directed strongly apicolaterally; mandible of female bidentate or tridentate [Western Hemisphere] [Subfamily Diphaglossinae] 4
 - Glossa weakly bilobed; mandible of female tridentate owing to bilobed preapi-

Table 1. Hierarchical outline of higher classification of Colletidae.

Family Colletidae Lepeletier de Saint Fargeau	
Subfamily Diphaglossinae Vachal	
Tribe Diphaglossini Vachal	
Tribe Dissoglottini Moure	
Tribe Caupolicanini Michener	
Subfamily Paracolletinae Cockerell	
Subfamily Colletinae Lepeletier de Saint Fargeau	
Subfamily Scraptrinae Ascher & Engel	
Subfamily Euryglossinae Michener	
Tribe Pachyprosopidini Engel	
Tribe Euryglossini Michener	
Subfamily Hylaeinae Sagemehl	
Tribe Hyleoidini Cockerell	
Tribe Hylaeini Sagemehl	
Subfamily Xeromelissinae Cockerell	
Subfamily Neopasiphaeinae Cockerell	
Tribe Callomelittini Almeida	
Tribe Trichocolletini Plant	
Tribe Anthoglossini Engel	
Tribe Neopasiphaeini Cockerell	
Tribe Lonchopriini Moure	
Tribe Reedapini Engel	
Tribe Eulonchopriini Moure	
<hr/>	
	cal tooth (worn in some individuals) [Australia] Paracolletinae
4(3).	Episternal groove absent below scrobal groove; flagellomere I much shorter than scape, less than twice as long as middle flagellomeres, not or only moderately petiolate; mandible of female bidentate or tridentate 5
—.	Episternal groove complete; flagellomere I nearly as long as, to longer than, scape, much longer than subsequent flagellomeres, petiolate; mandible of female bidentate Caupolicanini
5(4).	Notaulus represented by deep groove in anterior part of mesoscutum; malar space nearly one-third as long as compound eye or longer; mandible of female tridentate Diphaglossini
—.	Notaulus weak or absent; malar space short or absent; mandible of female bidentate (except tridentate in <i>Mydrosomella</i>) Dissoglottini
6(2).	Metabasitibial and pygidial plates present, at least in females (pygidial plate absent in most males; metabasitibial plate absent in both sexes of a few Australian taxa); prepygidial and pygidial fimbriae of female present; sternum VII of male with apicolateral lobes of moderate size (sometimes greatly reduced or absent), disc of sternum and apodemes thus constituting major part of sternum VII 7
—.	Metabasitibial and pygidial plates absent; prepygidial and pygidial fimbriae lacking, in both sexes vestiture of terga V and VI thus similar to that of preceding terga; sternum VII of male with apicolateral lobes greatly enlarged, disc of sternum and apodemes reduced, slender and delicate, lobes thus constituting major part of sternum VII [Worldwide except Indo-Australian region] Colletinae
7(6).	Posterior (ventral) surface of prementum lacking a fovea or with only a narrow medial groove; galeal comb usually well developed [South America, Australia] Neopasiphaeinae

- Posterior (ventral) surface of prementum with a broad longitudinal depression or fovea margined by shiny ridges that diverge on basal part of prementum and converge near base of subligular process; galeal comb reduced to three or four small bristles [Africa] Scaptrinae
- 8(1). Facial fovea usually a narrow groove, sometimes a broader area, wider than diameter of scape, absent in a few females and some males; scopa absent; longitudinal part of hypostomal carina usually not longer than clypeus; clypeus usually not protuberant, not much bent back around ends of labrum 9
- Facial fovea absent or broad, at least one-third as wide as long; female with sparse scopa on sterna I–III and outlining ventral fovea on metafemur; longitudinal part of hypostomal carina usually longer than clypeus but, if not, then clypeus protuberant and its lower lateral extremities bent back around ends of labrum [Neotropical] Xeromelissinae
- 9(8). Supraclypeal area elevated abruptly above level of antennal torulus; pygidial and metabasitibial plates usually absent but, if present (as in a few Australian and New Guinea species), then pygidial plate of female broad, its margins converging posteriorly; anterior surface of tergum I usually without longitudinal median groove; posterior (ventral) surface of prementum with longitudinal, usually spiculate depression or fovea (weak in a few males) margined by ridges that diverge on basal half of prementum and meet near base of subligular process [Subfamily Hylaeinae] 10
- Supraclypeal area sloping up from level of antennal torulus; apical part of pygidial plate of female slender, sometimes a spine, its margins parallel or converging slightly toward apex or spatulate; metabasitibial plate usually indicated in female, sometimes only by one or more tubercles; anterior surface of tergum I with longitudinal median groove; posterior (ventral) surface of prementum lacking longitudinal medial fovea but with comparable spiculate area [Australia] [Subfamily Euryglossinae] 11
- 10(9). Anterior protibial spine prolonged into long curved process, at least as long as probasitarsal diameter; pterostigma with edge within marginal cell straight; posterior margin of tergum I angulate near apex of lateral carina; apex of sternum I transverse; sternum II strongly produced downward proximally [Australia, introduced to New Zealand] Hyleoidini
- Anterior protibial spine small or absent; pterostigma with edge within marginal cell usually convex; posterior margin of tergum I straight or with broadly rounded posterior lateral angle; apex of sternum I with median cleft or slit; sternum II not produced downward proximally [Worldwide] Hylaeini
- 11(9). Forewing with posterobasal angle of first submarginal cell orthogonal (*i.e.*, 1Rs transverse); posterior margin of second submarginal cell (*i.e.*, Rs+M) straight (also *Brachyhesma* Michener); second submarginal cell much less than half as long as first submarginal cell (also present in *Brachyhesma*), or absent entirely; 1m-cu meeting first submarginal cell or rarely confluent with 1Rs Pachyprosopidini
- Forewing with posterobasal angle of first submarginal cell acute (*i.e.*, 1Rs oblique); posterior margin of second submarginal cell sinuate (except *Brachyhesma*); second submarginal cell nearly half as long as or more than half as long as first submarginal cell (except some *Hyphesma* Michener); 1m-cu meeting second submarginal cell Euryglossini

Key to Tribes of South American Neopasiphaeinae

- 1. Forewing with two or three submarginal cells, if with three, then second usually much shorter than third on posterior margin (except in Reedapini); inner metatibial spur of female ciliate to coarsely pectinate, not at all palmate and not thickened medially; scopa not hiding tibial surface; metabasitarsus of female flat or convex on outer surface, this surface superficially similar to that of metatibia, its setae longer than those of inner surface (ignoring setae of upper margin); apical process of eighth sternum of male usually with flat, bare apical region on upper side, superficially resembling a pygidial plate and usually exposed at apex of metasoma (a noteworthy exception is *Eulonchopria* Brèthes) 2
- Forewing with three submarginal cells, second usually about as long as third on posterior margin (except *Lonchopria* Vachal, *s.str.*); inner metatibial spur of female usually densely palmate-pectinate, bases of branches close together and diverging from thick part of rachis, or uncommonly coarsely pectinate (in *Lonchorhyncha* Michener); metatibial scopa (except *Lonchoprella* Michener and *Lonchorhyncha*) extremely dense, obscuring metatibial surface; metabasitarsus of female weakly concave on outer surface near upper margin, this surface unlike that of metatibia in appearance (except in *Lonchoprella*), surface easily visible among setae that are usually shorter than those of inner surface; apical process of S8 of male lacking flat apical region resembling a pygidial plate Lonchopriini
- 2(1). Forewing with two or three submarginal cells, if with three, then second much shorter than third on posterior margin; floccus-like setae absent on female metatrochanter Eulonchopriini
- Forewing with three submarginal cells, second about as long as third on posterior margin; floccus-like setae present on female metatrochanter Reedapini

Keys to genera and subgenera of Lonchopriini and Reedapini provided by Engel (2020a, 2020b, in press).

Key to Genera and Subgenera of Eulonchopriini

- 1. Metasomal terga I–IV of female and I–V or VI of male with enamel-like apical marginal zones of yellowish, green, bluish, or whitish, these zones usually at least partly impunctate and glabrous 2
- Metasomal terga without enamel-like apical marginal zones, with setae and punctures near apical margins that are concolorous with other parts of terga, or translucent or brownish 7
- 2(1). Punctuation coarse and dense, with punctures contiguous or nearly so; metatibial setae of female shorter than metatibial diameter [female of *Mimozibyne* Engel unknown] 4
- Punctuation not so coarse, moderate to fine and not so dense, with large interspaces among punctures; metatibial setae of female variable, but sometimes as long as or longer than metatibial diameter 3
- 3(2). Forewing with two submarginal cells; yellow metasomal bands setose; most metatibial setae of female shorter than metatibial diameter; metafemur and metatibia of male unmodified [Brazil] *Baptonedys* Moure *et al.*
- Forewing with three submarginal cells; yellow metasomal bands glabrous; many metatibial setae of female as long as or longer than metatibial diame-

- ter; metafemur of male crassate, metatibia of male swollen apically [Argentina, Bolivia, Brazil] *Nomiocolletes* Brèthes
- 4(2). Preoccipital carina strong, often lamella-like; pronotum dorsolaterally with strong transverse carina or lamella extending onto pronotal lobe; pterostigma inside of marginal cell slightly concave to straight [Genus *Eulonchopria* Brèthes, *s.l.*] 5
- . Preoccipital and pronotal carinae (or lamellae) absent; pterostigma inside of marginal cell convex 6
- 5(4). Facial fovea absent; omaular carina absent (*i.e.*, anterior and lateral surfaces of mesepisternum not separated by carina); axilla simple; pterostigma inside of marginal cell slightly concave [Bolivia, Brazil (Santa Catarina)] *E. (Ethalonchopria)* Michener
- . Facial fovea distinct; omaular carina present (*i.e.*, anterior and lateral surfaces of mesepisternum separated by carina); axilla angulate; pterostigma inside of marginal cell straight [Argentina to USA (Arizona)] *E. (Eulonchopria)* Brèthes, *s.str.*
- 6(4). Forewing with three submarginal cells; metasomal enamel-like bands narrower than median ocellar diameter; basal area of propodeum rugose; metepisternum transversely striate; metabasitibial plate of male acutely pointed apically, with carina extending to metatibial apex [southeastern Brazil, Peru] ... *Apatosigynes* Engel
- . Forewing with two submarginal cells; metasomal enamel-like bands broader than median ocellar diameter; basal area of propodeum smooth; metepisternum punctate; metabasitibial plate of male broadly rounded apically, without longitudinal carina extending along length of metatibia [Argentina (Salta), Paraguay] *Mimozibyne* Engel
- 7(1). Labial palpi unremarkable; pretarsal claws with inner rami shorter than outer rami and differently shaped, at least in female, or, rarely, pretarsal claws simple 8
- . Labial palpi enormous, 8–9 mm long, in repose reaching metasomal sterna III or IV; pretarsal claws of both sexes deeply cleft, the two rami similar in shape and of almost equal length [Brazil] *Niltonia* Moure
- 8(7). Forewing with three submarginal cells 9
- . Forewing with two submarginal cells 15
- 9(8). Length of second medial cell 2× width or typically less (length from 1m-cu+M junction to 2m-cu+Cu junction, width from 1m-cu+Cu junction to 2m-cu+M junction) 10
- . Length of second medial cell 2.1× width or more 12
- 10(9). Dorsolateral angle of pronotum low, rounded, scarcely evident; metabasitibial plate of female distinct, setae short, appressed, different from those of adjacent areas, its marginal carinae clearly exposed 11
- . Dorsolateral angle of pronotum produced as small tooth projecting upward and outward (smallest in male); metabasitibial plate of female not easily seen because setae are erect, similar to those of adjacent parts of metatibia, largely hiding marginal carinae [Brazil] *Halictanthrena* Ducke
- 11(10). Mesosoma dull, minutely roughened, almost lacking punctures; malar area as long as minimum diameter of flagellum; clypeus protuberant in lateral view by fully compound eye width; inner metatibial spur of female pectinate or coarsely ciliate [Chile] *Torocolletes* Michener

- Mesosoma with at least some areas of shining integument between strong punctures; malar area linear; clypeus not or little protuberant; inner metatibial spur of female finely ciliate [Brazil] *Actenosigynes* Moure *et al.*
- 12(9). Metasomal sterna II–V of female with apical bands of long, dense setae forming a ventral scopa that partially obscures surfaces of sterna; basal vein confluent or nearly confluent with 1cu-a 13
- Metasomal sterna II–V of female with apical bands of sparse, simple setae not obscuring surfaces of sterna; basal vein slightly distad 1cu-a [Chile] *Chilicolletes* Michener
- 13(12). Metatibial and sternal scopal setae with numerous short, fine branches projecting laterally from rachis; marginal line simple; tergum I matte, finely imbricate with scattered punctures [Genus *Holmbergeria* Jörgensen, *s.l.*] 14
- Metatibial scopal setae dividing to form few major branches; sternal scopal setae simple; marginal line areolate; tergum I smooth and shining [Brazil] *Hoplocolletes* Michener
- 14(13). Subantennal sulcus of male little over half as long as diameter of antennal torulus; supraclypeal and subantennal areas impunctate, shining, asetose, in conspicuous contrast to adjacent areas [Female unknown] [Argentina, Paraguay] *H. (Holmbergeria)* Jörgensen, *s.str.*
- Subantennal sulcus of male as long as torular diameter; supraclypeal and subantennal areas punctate, with setae [Argentina] *H. (Sarocolletes)* Michener
- 15(8). Pterostigma elongate, r-rs arising at or slightly beyond midlength; costal marginal of marginal cell 1.5–2.0× as long as pterostigma; propodeum usually with subhorizontal or sloping basal part curving onto steeply declivitous posterior surface; meso- and metatibial spurs not curved and coarsely pectinate; mandible of male simple or bidentate; volsella of male more or less horizontal, ventral, not attaining dorsum of genital capsule 16
- Pterostigma small, r-rs arising well beyond midlength; costal margin of marginal cell 2.5–3.0× as long as pterostigma; propodeum wholly declivitous in profile; mesotibial and both metatibial spurs strongly curved and coarsely pectinate, or outer metatibial spur of male sometimes dentate to nearly simple; mandible of male tridentate; volsella of male large, vertically expanded, reaching dorsum of genital capsule, bifid [Argentina, Bolivia] *Brachyglossula* Hedicke
- 16(15). Mandible of male simple; labrum about 6× as wide as long, in female with apicolateral lobe bearing part of marginal fringe of bristles [Genus *Protodiscelis* Brèthes, *s.l.*] 17
- Mandible of male with preapical tooth on upper margin, as in female, or rarely simple (if simple, then labial palpus subequal to much shorter than maxillary palpus); labrum 2–5× times as wide as long, without apicolateral lobe 18
- 17(16). Glossal lobes not much longer than basal width; scopal setae of metatibia and sterna with numerous short, fine branches; clypeal margin of male unmodified, truncate [Brazil, Paraguay] *P. (Protodiscelis)* Brèthes, *s.str.*
- Glossa deeply divided, lobes elongate, 7–10× as long as basal width; scopal setae of metatibia and sterna simple, or those of metatibia with a few major branches; clypeal margin of male with short median lobe overhanging base of labrum [Argentina, Brazil] *P. (Tetraglossula)* Ogloblin
- 18(16). Glossal lobes short, not much if any longer than basal width 19
- Glossa deeply bifid, lobes about 5× as long as basal width [Brazil] *Glossopasiphae* Michener

- 19(18). Labial palpus with five to nine palpomeres, longer than maxillary palpus; metatibia of male with strong carina from apex of metabasitibial plate to apex of metatibia [Genus *Hexanthes* Ogloblin, s.l.] 20
- . Labial palpus with four palpomeres (tetramerous), usually shorter than maxillary palpus; metatibia of male without longitudinal carina or, rarely, with weak carina arising behind apex of metabasitibial plate 21
- 20(19). Labial palpus with five palpomeres (pentamerous); apicolateral lobes of metasomal sternum VII of male small, rounded [Brazil] ... *H. (Albinapis)* Urban & Graf
- . Labial palpus with six to nine palpomeres; apicolateral lobes of sternum VII of male well-developed [Argentina, Brazil] *H. (Hexanthes)* Ogloblin, s.str.
- 21(19). Metasomal sterna II–V of female with broad apical bands of relatively long, simple, or branched setae; metatarsus of male not especially elongate, metatarsomere II less than 3× as long as greatest breadth; tergum VII of male with pygidial area indicated only by lack of setae (but large and somewhat defined in *Kylopassiphæ* Michener) 22
- . Metasomal sterna II–V of female covered with short, unbranched, erect setae enlarged and curved posteriorly at tips and of uniform length except longer on sternum II; metatarsus of male elongate, metatarsomere II well over 3× as long as broad; pygidial plate of male defined, at least posterior end limited by carina [Argentina] *Pygopassiphæ* Michener
- 22(21). Body metallic bluish or less frequently greenish; pretarsal claws simple or with inner rami reduced to small teeth, shorter than basal diameters of outer rami, or with longer, more typical rami; margin of metasomal sternum VI of male produced midapically as rounded setose lobe about one-third as wide as sternum, notched medially 23
- . Body lacking metallic coloration, or, if metallic, then lower margin of median ocellus at or above upper tangent of compound eyes; inner rami of pretarsal claws strong, longer than basal diameters of outer rami, claws thus bifid, or, rarely with rami of each leg asymmetrical; margin of metasomal sternum VI of male broadly rounded, not produced midapically, with median notch, often broad and shallow 25
- 23(22). Basal area of propodeum granular, matte, with marginal line weakly or coarsely areolate; pygidial plate with lateral margins straight to weakly concave; pretarsal claws with inner rami, inner ramus either reduced to small tooth or normal; mesoscutum and metasomal terga without long, shaggy, white setae, at most with greyish or sooty white setae on mesoscutum; inner metatibial spur of female pectinate 24
- . Basal area of propodeum smooth, somewhat shining, with marginal line simple or with exceedingly faint indications of areolae; pygidial plate with lateral margins concave; pretarsal claws simple; mesoscutum and often metasomal terga with abundant, long, shaggy, white setae; inner metatibial spur of female ciliate [Chile] *Spinolapis* Moure
- 24(23). Pretarsal claw with inner ramus reduced to minute tooth; marginal line narrow and faintly areolate; legs red to orange; pygidial plate with lateral margins straight [Argentina] *Patagoniapis* Engel, n. gen.
- . Pretarsal claw with inner ramus normal; marginal line broader, particularly basally, and strongly areolate; legs dark reddish brown; pygidial plate with lateral margins weakly concave [Argentina] *Aenarete* Engel & Gonzalez, n. gen.

- 25(22). Metasomal terga with tomentose apical bands (sometimes a bit worn in older specimens); metasomal sterna IV and V of male with well-developed apical bands 26
- Metasomal terga without tomentose apical bands; only metasomal sternum V of male with apical band 28
- 26(25). Metasomal terga II–IV with short, white, apical tomentose bands; basal area of propodeum steeply sloping and short, shorter than metanotum, profile almost wholly declivitous, surface smooth to finely imbricate or granulose and basally rugulose; antenna and legs dark brown to black [Genus *Belopria* Moure, *s.l.*] 27
- Metasomal terga II–IV with long, strongly developed, white, apical tomentose bands; basal area of propodeum smooth, shining, weakly sloping, about as long as metanotum; antenna and legs red to orange [Chile]
..... *Edwyniana* Moure
- 27(26). Basal area of propodeum granulose and rugulose basally, surface wholly declivitous, basal area poorly differentiated from posterior surface [Chile]
..... *B. (Ruzopria)* Engel, n. subgen.
- Basal area of propodeum smooth to finely imbricate, with short, steeply sloping surface somewhat distinct from posterior surface [Brazil]
..... *B. (Belopria)* Moure, *s.str.*
- 28(25). Metatibial scopal setae with long branches directed distad; sterna with setae simple or their branches directed distally; metasoma of male commonly rather slender, not flattened, usually distinctly different in shape from that of female 29
- Metatibial and sternal scopal setae with numerous short, fine side branches projecting at right angles to rachis or curled basally; metasoma of male rather broad and flattened, resembling that of female in shape [Argentina]
..... *Sarocolletidion* Engel, n. gen.
- 29(28). Metatibial scopa formed around metatibia without long, loose setae extending above and below; metabasitibial plate with carinate margins not hidden by hair; metasomal tergum VII of male with dull or shiny, usually ill-defined pygidial area, sometimes a longitudinal strip, sometimes a broader area narrowed posteriorly; sternum VII of male with well-developed apical lobes, two to four on each side, usually at two levels 30
- Metatibia with a few long, loose setae fully half as long as metatibia on upper and lower margins; metabasitibial plate hidden by setae except sometimes at base; metasomal tergum VII of male with shiny, aetose, irregularly rough pygidial area, not narrowed posteriorly, defined across posterior border by weak carina, this area occupying much of dorsum of tergum; sternum VII of male with apical lobes much reduced, all in a single plane [Argentina] *Kylopasiphae* Michener
- 30(29). Pretarsal claws with rami symmetrical; tarsomeres V and IV unmodified 31
- Pretarsal claws with rami asymmetrical; tarsomere V of each leg elongate and arched, with base set deeply into apex of preceding tarsomere [Argentina]
..... *Chrysopasiphae* Engel, n. gen.
- 31(30). Metabasitibial plate acutely rounded or pointed apically; inner metatibial spur of female finely ciliate to sharply serrate, or, rarely, coarsely ciliate with 10 or more branches [Genus *Peditomorpha* Ashmead, *s.l.*] 32
- Metabasitibial plate broadly rounded apically, rarely acutely rounded at apex; inner metatibial spur of female coarsely pectinate, with 4–8 branches 33

- 32(31). Inner metatibial spur finely ciliate to sharply serrate [Argentina, Brazil, Colombia, Paraguay] *P. (Peditomorpha)* Ashmead, *s.str.*
- Inner metatibial spur coarsely ciliate, with 10 or more short, fine branches [Argentina] *P. (Leucopasiphae)* Engel, n. subgen.
- 33(30). Integument of head and mesosoma with punctures small, fine, and dense or widely spaced, if dense on head, then mesoscutum with well-separated punctures on mesoscutal disc; metasomal punctation and tergal margins not as described below 34
- Integument of head and mesosoma coarsely, densely punctate, punctures virtually contiguous in most places; metasomal coarsely and densely punctured on terga I and II, remaining terga densely punctate but punctures smaller; apical margins of terga I and sometimes II upturned [Brazil] *Sthenele* Engel, n. gen.
- 34(33). Flagellum moderate to long, at least extending to tegula; metafemoral and metatibial scopal setae with branches pectinate along ill-defined rachis from point of branching to apex 35
- Flagellum short, not attaining tegula; metafemoral scopal setae anteriorly and outer metatibial scopal setae plumose with branches on either side of distinct rachis *Nanopasiphae* Engel, n. gen.
- 35(34). Protarsus unmodified; clypeus and supraclypeal area with abundant punctures, both gently curved [Genus *Bicolletes* Friese, *s.l.*] 35
- Protarsus shortened, at most as long as protibia, probasitarsus greatly shortened with a flat, translucent, inner apical process extending to base of protarsomere IV; clypeus with sparse punctures, supraclypeal area impunctate, clypeus and supraclypeal area comparatively flat [Argentina] *Stilbopasiphae* Engel, n. gen.
- 35(34). Basal area of propodeum finely tessellate, coriaceous, or with fine transverse striations, less frequently smooth, with marginal line weakly or distinctly areolate 36
- Basal area of propodeum smooth, shining, with marginal line almost entirely effaced [Argentina] *B. (Bicolletes)* Friese, *s.str.*
- 36(35). Integument dark brown to black, sometimes with red on metasoma 37
- Integument of head and metasoma with prominent metallic blue highlights [Argentina] *B. (Cyanopasiphae)* Engel, n. subgen.
- 37(36). Subhorizontal basal area of propodeum shorter than metanotum; 8–9 distal hamuli; marginal cell apex obliquely truncate and appendiculate; metasoma largely reddish [Chile] *B. (Erythropasiphae)* Engel, n. subgen.
- Subhorizontal basal area of propodeum as long as or typically longer than metanotum; 5–7 distal hamuli; marginal cell apex rounded, sometimes feebly appendiculate; metasoma typically black to dark brown, sometimes with areas of reddish [Argentina, Bolivia, Brazil, Paraguay, Peru]
..... *B. (Bicolletopsis)* Engel, n. subgen.

Tribe Eulonchopriini Moure

Torocolletina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:A1E2CA8D-059C-45FF-87F6-F3D21157815F

TYPE GENUS: *Torocolletes* Michener, 1989.

DIAGNOSIS: This subtribe includes those South American groups with three submarginal cells and in which the length of the second medial cell is 2× its width or of-

ten less (length measured from the junction of 1m-cu+M to the junction of 2m-cu+Cu, while the width is measured from the junction of 1m-cu+Cu to the junction of 2m-cu+M).

INCLUDED GENERA: The subtribe includes three genera: the Chilean *Torocolletes*, and the southeastern Brazilian *Halictanthrena* Ducke and *Actenosigynes* Moure *et al.*

Chilicolletina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:E452D15A-D3F7-4322-995E-943932F30BFB

TYPE GENUS: *Chilicolletes* Michener, 1989.

DIAGNOSIS: This subtribe includes a single Chilean genus with three submarginal cells but in which the length of the second medial cell is 2.1× or more its width combined with a basal vein (1M) that is slightly distad 1cu-a, and in which metasomal sterna II–V of the female has apical bands of sparse, simple setae not obscuring the sternal surfaces of sterna.

INCLUDED GENERA: The subtribe includes only the type genus.

Niltoniina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:AF1A2A73-AA18-435F-B9D3-9FA33008AD33

TYPE GENUS: *Niltonia* Moure, 1964.

DIAGNOSIS: This subtribe is distinctive among South American Neopasiphaeinae for its greatly elongate labial palpi, which in repose extend to metasomal sterna III or IV.

INCLUDED GENERA: The subtribe includes only the type genus, which itself is monotypic and found only in southeastern Brazil.

Spinolapina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:4BF96337-A98B-4F5B-8DAA-9F17C438F1C4

TYPE GENUS: *Spinolapis* Moure, 1951.

DIAGNOSIS: This subtribe includes three genera in which the body is metallic bluish or greenish with two submarginal cells. In addition, the pretarsal claws are quite variable, but typically simple or with the inner rami reduced to small teeth (although in one genus, *Aenarete*, the inner rami are not so reduced). The margin of metasomal sternum VI of the male is produced midapically as a rounded setose lobe about one-third as wide as the sternum, and is notched medially.

INCLUDED GENERA: The lineage includes three genera: the Chilean *Spinolapis*, and the Argentinian *Patagoniapis*, n. gen. (*infra*), and *Aenarete*, n. gen. (*supra*).

Patagoniapis Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:5B7425A8-6A12-4B26-A11A-830C878BAC70

TYPE SPECIES: *Pasiphae cyanea* Cockerell, 1915.

DIAGNOSIS: This genus of three species can be distinguished from *Aenarete* (*supra*) by the inner ramus of the pretarsal claws reduced to a minute tooth (not so reduced in *Aenarete*), the reddish orange legs, the marginal line of the propodeum narrowly and faintly areolate, and the margins of the pygidial plate comparatively straight.

ETYMOLOGY: The generic name is a combination of Patagonia and the Latin noun *apis* (meaning, “bee”). The gender of the name is feminine.

Perditomorphina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:52F3912E-9118-499A-B1C9-28561C82BE7C

TYPE GENUS: *Perditomorpha* Ashmead, 1899.

DIAGNOSIS: This is a heterogeneous assemblage of genera and includes the majority of South American Neopasiphaeinae. The forewing may have two, or less frequently, three submarginal cells, with the length of the second medial cell 2.1× or more its width, but lacking the unique features of the previous subtribes. Unambiguous synapomorphies have been elusive.

INCLUDED GENERA: Genera included are summarized in table 2.

Genus *Belopria* Moure

Ruzopria Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:96E248D8-E8DB-4385-A782-6716ADC75570

TYPE SPECIES: *Leioproctus mourei* Toro, 1968.

DIAGNOSIS: This subgenus differs from the nominate subgenus by the wholly declivitous basal area of the propodeum that is poorly differentiated from the posterior surface, and with a granulose sculpturing that is rugulose at the extreme base. In the nominate group the basal area of the propodeum is smooth to finely imbricate and with a more defined, steeply sloping, subhorizontal zone.

ETYMOLOGY: The new subgeneric name is a combination of the surname Ruz, honoring Luisa Ruz, the doyenne of Chilean melittology, and the stem of *Belopria* Moure. The gender of the name is feminine.

Sarocolletidion Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:1CEC1011-36C6-4292-9F12-0691CEA667B6

TYPE SPECIES: *Leioproctus (Sarocolletes) duplex* Michener, 1989.

DIAGNOSIS: This genus is clearly related to *Sarocolletes* Michener and could perhaps be easily classified as a third subgenus of *Holmbergeria* Jörgensen. It differs from *Sarocolletes* most obviously by the presence of only two submarginal cells (rather than three in *Sarocolletes*) and the generally smaller size (total lengths of 7–8 mm versus 9–11.5 mm in *Sarocolletes*). In addition, the basal area of the propodeum is shining and largely smooth, aside from some fine transverse ridges basally (*versus* matte and imbricate in *Sarocolletes*), and the labrum is convex apically (rather than broadly concave in *Sarocolletes*). In most other features, the genus agrees with Michener’s (1989) account of *Sarocolletes*.

ETYMOLOGY: The new generic name is a combination of *Sarocolletes* and the Ancient Greek diminutive suffix *-idion* (*-ιδιον*). The gender of the name is neuter.

Table 2. Comparison of hierarchical classifications of New World Neopasiphaeinae. →

Michener (1989, 2007)

Tribe Paracolletini Cockerell

*Lonchorhyncha**Lonchoprella**Lonchopria**Lonchopria* (*Biglossa*), *partim**Lonchopria* (*Ctenosibyne*)*Lonchopria* (*Biglossa*), *partim**Lonchopria* (*Lonchopria*)*Lonchopria* (*Porterapis*)*Leioproctus* (*Reedapis*)*Leioproctus* (*Cephalocolletes*), *partim**Leioproctus* (*Cephalocolletes*), *partim**Leioproctus* (*Cephalocolletes*), *partim**Leioproctus* (*Torocolletes*)*Leioproctus* (*Leioproctus*), *partim**Leioproctus* (*Halicanthrena*)*Leioproctus* (*Chilicolletes*)*Leioproctus* (*Nomiocolletes*), *partim**Leioproctus* (*Hoplocolletes*)*Leioproctus* (*Nomiocolletes*), *partim**Eulonchopria**Eulonchopria* (*Eulonchopria*)*Eulonchopria* (*Ethalonchopria*)*Niltonia**Leioproctus* (*Spinolapis*), *partim**Leioproctus* (*Spinolapis*), *partim**Leioproctus* (*Holmbergeria*)*Leioproctus* (*Sarocolletes*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Brachyglossula**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Albinapis*)*Leioproctus* (*Hexanthesa*)*Leioproctus* (*Protodiscelis*)*Leioproctus* (*Tetruglossula*)*Leioproctus* (*Pygopasiphae*)*Leioproctus* (*Kylopasiphae*)*Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Glossopasiphae*)*Leioproctus* (*Sarocolletes*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim**Leioproctus* (*Perditomorpha*), *partim*System employed herein

Tribe Lonchopriini Moure

Subtribe Lonchorhynchina Engel & Gonzalez, n. subtrib.

Genus *Lonchorhyncha* Michener

Subtribe Lonchopriina Moure

Genus *Lonchoprella* MichenerGenus *Lonchopria* Vachal, *s.l.*Subgenus *Aeganopria* MoureSubgenus *Ctenosibyne* MoureSubgenus *Biglossa* FrieseSubgenus *Lonchopria* Vachal, *s.str.*Subgenus *Porterapis* Michener

Tribe Reedapini Engel

Genus *Reedapis* MichenerGenus *Cephalocolletes* MichenerGenus *Lonchoprisicus* EngelGenus *Cactocolletes* Engel

Tribe Eulonchopriini Moure

Subtribe Torocolletina Engel, n. subtrib.

Genus *Torocolletes* MichenerGenus *Actenosigynes* Moure *et al.*Genus *Halicanthrena* Ducke

Subtribe Chilicolletina Engel, n. subtrib.

Genus *Chilicolletes* Michener

Subtribe Eulonchopriina Moure

Genus *Nomiocolletes* BrèthesGenus *Hoplocolletes* MichenerGenus *Apatosigynes* EngelGenus *Eulonchopria* Brèthes, *s.l.*Subgenus *Eulonchopria* Brèthes, *s.str.*Subgenus *Ethalonchopria* Michener

Subtribe Niltoniina Engel, n. subtrib.

Genus *Niltonia* Moure

Subtribe Spinolapina Engel, n. subtrib.

Genus *Spinolapis* MoureGenus *Patagoniapis* Engel, n. gen.Genus *Aenarete* Engel & Gonzalez, n. gen.

Subtribe Perditomorphina Engel, n. subtrib.

Genus *Holmbergeria* Jörgensen, *s.l.*Subgenus *Holmbergeria* Jörgensen, *s.str.*Subgenus *Sarocolletes* MichenerGenus *Belopria* Moure, *s.l.*Subgenus *Ruzopria* Engel, n. subgen.Subgenus *Belopria* Moure, *s.str.*Genus *Edvyniana* MoureGenus *Brachyglossula* HedickeGenus *Baptonedys* Moure *et al.*Genus *Mimozibyne* EngelGenus *Hexanthesa* Ogloblin, *s.l.*Subgenus *Albinapis* Urban & GrafSubgenus *Hexanthesa* Ogloblin, *s.str.*Genus *Protodiscelis* Brèthes, *s.l.*Subgenus *Protodiscelis* Brèthes, *s.str.*Subgenus *Tetruglossula* OgloblinGenus *Pygopasiphae* MichenerGenus *Kylopasiphae* MichenerGenus *Chrysopasiphae* Engel, n. gen.Genus *Stilbopasiphae* Engel, n. gen.Genus *Glossopasiphae* MichenerGenus *Sarocolletidion* Engel, n. gen.Genus *Sthenele* Engel, n. gen.Genus *Bicolletes* Friese, *s.l.*Subgenus *Cyanopasiphae* Engel, n. subgen.Subgenus *Erythropasiphae* Engel, n. subgen.Subgenus *Bicolletopsis* Engel, n. subgen.Subgenus *Bicolletes* Friese, *s.str.*Genus *Nanopasiphae* Engel, n. gen.Genus *Perditomorpha* Ashmead, *s.l.*Subgenus *Perditomorpha* Ashmead, *s.str.*Subgenus *Leucopasiphae* Engel, n. subgen.

***Chrysopasiphae* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:ADE1BEC7-51B6-44C1-B026-55CDF2A06E97

TYPE SPECIES: *Pasiphae chrysostoma* Cockerell, 1917.

DIAGNOSIS: This genus generally agrees with *Bicolletes* Friese but differs most notably in the rami asymmetrical of the pretarsal claws, whereby the principal posterior ramus is enlarged and thickened relative to the principal anterior ramus. In addition, tarsomere V of each leg is elongate and arched, with its base set deeply into the apex of tarsomere IV resulting in a bilobate appearance to the latter in dorsal view.

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek *khrysós* (χρῦσός, meaning, "gold", or in poetry refers to anything "precious") and *Pasiphae* Spinola, an older name for two-celled paracolletines and taken from the Cretan Queen Pasiphāē (Πασιφάη), mother of the Minotaur. The gender of the name is feminine.

***Sthenele* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:0FBA3657-6B0A-441C-B493-D8AA6FFD2BBE

TYPE SPECIES: *Pasiphae iheringi* Schrottky, 1910.

DIAGNOSIS: This genus, like the preceding one, agrees with *Bicolletes* in most characters but quite characteristically the integument of the head and mesosoma is coarsely and densely punctate, in this regard resembling the sculpturing of *Mimozibyne* Engel, and with the punctures virtually contiguous, rather than with distinct areas of integument between the punctures, at least on the mesosoma, in *Bicolletes s.l.*

ETYMOLOGY: The new genus-group name is taken from the Ancient Greek mythology where Sthenele (Σθενέλη, "strong one") was one of the hypothesized mothers of Patroclus, tragic hero of the Trojan War whose death launched Achilles' bloodlust. The gender of the name is feminine.

Genus *Perditomorpha* Ashmead***Leucopasiphae* Engel, new subgenus**

ZooBank: urn:lsid:zoobank.org:act:3668DCBC-72F3-4DAF-A1F4-A0D648FEFEB6

TYPE SPECIES: *Pasiphae leucostoma* Cockerell, 1917.

DIAGNOSIS: The new subgenus differs from the nominate subgenus in that the inner metatibial spur is coarsely ciliate, with 10 or more short fine branches, rather than the finely ciliate to sharply serrate condition of *Perditomorpha s.str.*

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek adjective leukós (λευκός, meaning, "white", "bright", or "shining") and *Pasiphae*. The gender of the name is feminine.

***Stilbopasiphae* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:A611F863-D711-4987-A22E-B53C02AC7B0A

TYPE SPECIES: *Bicolletes abdominalis stilborhinus* Moure, 1954.

DIAGNOSIS: This genus generally agrees with *Bicolletes* but differs in the noticeably flat, smooth, and shining clypeus and supraclypeal area, the former with sparse punctures and the latter wholly impunctate. In addition, the protarsus is characteristically

modified such that it is shortened, at most as long as the protibia, with the probasitarsus greatly shortened and bearing a flat, translucent, inner apical process that extends to the base of protarsomere IV.

ETYMOLOGY: The new generic name is a combination of the Ancient Greek *stílbō* (στίλβω, meaning, “to shine”) and *Pasiphae*. The gender of the name is feminine.

Nanopasiphae Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:131BC09C-D740-4F41-B6D9-7B1809C6F58B

TYPE SPECIES: *Leioproctus (Perditomorpha) inconspicuus* Michener, 1989.

DIAGNOSIS: This genus resembles *Perditomorpha* in the form of the metafemoral and metatibial scopal setae and shortened flagellum, but has a distinctly pectinate inner metatibial spur.

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek *nânos* (νᾶνος, meaning, “dwarf”) and *Pasiphae*. The gender of the name is feminine.

Genus *Bicolletes* Friese

Cyanopasiphae Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:B84AF72C-60AF-4FBA-B79F-98BDD1A6BE37

TYPE SPECIES: *Leioproctus (Perditomorpha) indigoticus* Compagnucci & Roig Alsina, 2008.

DIAGNOSIS: This subgenus includes robust, metallic blue species that superficially resemble *Spinolapina* but lack the projection of the male sternum VI and have the median ocellus above the upper tangent of the compound eyes.

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek *kúanos* (κῦᾶνος, meaning, “dark blue”) and *Pasiphae*. The gender of the name is feminine.

Erythropasiphae Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:CF436873-503C-4164-A9DF-261FA6E8333B

TYPE SPECIES: *Pasiphae rufiventris* Spinola, 1851.

DIAGNOSIS: This subgenus has the marginal line of the basal area of the propodeum distinct (not effaced as in *Bicolletes s.str.*), the subhorizontal basal area finely coriaceous and shorter than the metanotum. The hind wing has 8–9 distal hamuli (rather than the 5–7 of *Bicolletes s.str.* and *Bicolletopsis*), while the forewing marginal cell apex is obliquely truncate and appendiculate. The metasoma is largely reddish to reddish orange.

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek adjective *eruthrós* (ἐρυθρός, meaning, “reddish”) and *Pasiphae*. The gender of the name is feminine.

Bicolletopsis Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:5F62D813-F55D-48D9-AAAC5-DAB58A27119B

TYPE SPECIES: *Bicolletes pseudozonatus* Moure, 1954.

DIAGNOSIS: This group includes those species that have traditionally been most readily recognized as *Bicolletes s.l.* Like the previous subgenus, this group has the

marginal line of the basal area of the propodeum distinct (not effaced as in *Bicolletes s.str.*), while the subhorizontal basal area is finely tessellate, coriaceous, or transversely striate, but typically longer than the metanotum. The hind wing has 5–7 distal hamuli, while the forewing marginal cell apex is rounded and sometimes feebly appendiculate. The metasoma is typically dark brown to black.

ETYMOLOGY: The new subgeneric name is a combination of *Bicolletes* Friese and the Ancient Greek *opsis* (ὄψις, meaning “view” or “appearance”). The gender of the name is feminine.

Key to Tribes of Australian Neopasiphaeinae

- 1. Forewing marginal cell bent away from anterior wing margin at apex, sometimes only slightly so; facial fovea broad or absent; mandible of female usually four or more times as long as basal width, bidentate, lower tooth much longer than upper (upper tooth bilobed, giving tridentate appearance, in *Anthoglossini*); pygidial plate of female with lateral margins not strongly concave, apex neither slender nor parallel-sided (except a few rare exceptions) 2
 - Forewing marginal cell with apex on anterior wing margin; facial fovea linear or nearly so (often very short or absent in male); mandible of female two to three times as long as basal width, ending in three equally conspicuous teeth; pygidial plate of female with lateral margins concave, apex quite slender and parallel-sided [*Callomelitta* Smith] Callomelittini
- 2. Pterostigma small, parallel-sided, truncate (sometimes obliquely so) at base of r-rs or rarely shortly beyond that point, not or scarcely tapering to apex within marginal cell; marginal cell on leading edge of wing 2.75–5.0× as long as pterostigma 3
 - Pterostigma usually larger and usually not parallel-sided, apex usually tapering to a point on leading edge of marginal cell, r-rs thus arising near mid-length of pterostigma; marginal cell on leading edge of wing 1.3–2.5× as long as pterostigma Neopasiphaeini
- 3. Inner metatibial spur of female finely serrate or pectinate with slender branches of approximately uniform length arising from a rachis that tapers rather uniformly toward apex; metabasitibial plate fully defined, in some females visible without removal of setae, rounded or blunt apically; mandible slender near base, expanded apically, female with upper apical tooth bidentate in unworn mandibles, mandibular apex of female thus tridentate; compound eyes parallel or converging below [*Anthoglossa* Smith] Anthoglossini
 - Inner metatibial spur of female densely pectinate and almost palmate, with long branches, rachis thick near base and narrowing in region where most branches arise; metabasitibial plate of female defined only along posterior margin, or, at least apex not defined, plate never visible without removal of setae; metabasitibial plate of male variable, acutely pointed if defined; mandible approximately parallel-sided, apex bidentate; compound eyes often diverging below [*Trichocolletes* Cockerell] Trichocolletini

Key to Genera of Neopasiphaeini

1. Metasoma without yellow integumental bands, yellowish-brown bands occasionally present but not emarginate or broken sublaterally; clypeus dark in female, rarely yellow in male; scape of male usually unmodified, sometimes thickened but not flat 2
 - Metasoma with transverse, pale-yellow, integumental bands, broken or narrowed sublaterally, on subapical parts of terga; clypeus yellow in both sexes; scape of male greatly broadened *Neopasiphae* Perkins
- 2(1). Basal vein (1M) meeting or distal to 1cu-a of forewing; maxillary palpus much longer than width of galea, typically hexamerous (six palpomeres); 1m-cu received beyond basal one-third of second submarginal cell [except in *Baeocolletes* Michener and *Packercolletes*, n. gen., where 1m-cu enters first submarginal cell] 3
 - Basal vein (1M) basal to 1cu-a of forewing; maxillary palpus about as long as width of galea, tetramerous (four palpomeres); 1m-cu received near basal one-third or one-fourth of second submarginal cell *Phenacolletes* Cockerell
- 3(2). Pretarsal claws cleft apically in male and usually in female, inner ramus pointed like outer ramus or sometimes in female reduced to a tooth or absent; episternal groove distinct below scrobal groove; no strong carina behind posterior orbit 4
 - Pretarsal claws (at least of male, those of female unknown) each with broad, flat inner ramus arising near base; episternal groove below scrobal groove represented only by weak, short depression; strong carina just behind posterior orbit *Hesperocolletes* Michener
- 4(3). Metasomal sternum VIII of male with median apical process robust, heavily sclerotized, its apex suggesting a pygidial plate and commonly exposed in repose, or (in some species of *Goniocolletes* Cockerell) process broadened and appearing as extension of elongate disc; volsella not reaching gonostylus or reaching only its basal part, gonostylus fused to gonocoxite; pterostigma usually large; apex of marginal cell only minutely bent away from wing margin; profile of propodeum usually with sloping or subhorizontal basal area 5
 - Metasomal sternum VIII of male with median apical process slender and hairy at apex, pale, not exposed; volsella large, produced posteriorly, reaching beyond apex of articulated gonostylus; pterostigma less than one-half as long as marginal cell, measured on wing margin; apex of marginal cell bent gradually from wing margin for about one-sixth length of cell and bearing long appendage; profile of propodeum nearly vertical *Chrysocolletes* Michener
- 5(4). Two submarginal cells [except in some *Coletellus aberrans* (Leijds)] 6
 - Three submarginal cells [except in some specimens of *Minycolletes abnormis* (Cockerell)] 17
- 6(5). Forewing 1m-cu basal to 2Rs 7
 - Forewing 1m-cu distal to or rarely meeting 2Rs 8
- 7(6). Clypeus and supraclypeal area usually flat, depressed, shining, largely impunctate; metatibial spurs robust, coarsely serrate, arched apically, outer one nearly as coarsely serrate as inner; pretarsal claws simple; male fore- and mid-legs unmodified; mandible of male unmodified *Baeocolletes* Michener
 - Clypeus and supraclypeal area convex, latter elevated above level of antennal toruli, with abundant punctures; metatibial spurs slender, not strongly

- arched apically, inner spur pectinate, outer spur not like inner spur; pretarsal claws with inner ramus; male fore- and midlegs greatly modified; mandible of male flattened *Packercolletes* Engel, n. gen.
- 8(6). Facial fovea absent; propodeum with short sloping or broad basal subhorizontal or horizontal area, curving onto vertical posterior surface; pterostigma large, not parallel-sided, at least two-thirds as long as marginal cell on costal margin of wing 9
- . Facial fovea broad; propodeum almost wholly vertical in profile; pterostigma small, nearly parallel-sided, little more than half as long as marginal cell on costal margin of wing *Andrenopsis* Cockerell
- 9(8). Propodeum with broad basal subhorizontal or horizontal area, curving onto vertical posterior surface; scape length variable; jugal lobe of hind wing short, well short of attaining level of 1cu-a, or extending well beyond level of 1cu-a; inner metatibial spur pectinate or ciliate 10
- . Propodeum with short, sloping basal area curving onto vertical posterior surface; scape not meeting median ocellus; jugal lobe of hind wing nearly attaining level of 1cu-a; inner metatibial spur pectinate *Minycolletes abnormis* (Cockerell), *partim*
- 10(9). Jugal lobe of hind wing short, well short of attaining level of 1cu-a; middle flagellomeres longer than broad; scape long, meeting or surpassing level of median ocellus, or rarely not meeting median ocellus [e.g., *Euryglossidia* (*Euryglossidia*) *nigrescens* Cockerell]; inner metatibial spur pectinate or ciliate 11
- . Jugal lobe of hind wing extending well beyond level of 1cu-a; middle flagellomeres broader than long; scape short, well below level of median ocellus; inner metatibial spur ciliate 16
- 11(10). Mouthparts unmodified; probasitarsus without spines [Genus *Euryglossidia* Cockerell, *s.l.*] 12
- . Galea with several elongate apical setae and labial palpus filamentose, about as long as face; probasitarsus with thickened spines on distal dorsal surface ... *Filiglossa* Rayment
- 12(11). Mesoscutum typically minutely roughened, sometimes with widely spaced punctures 13
- . Mesoscutum with coarse, dense punctures *E. (Cygnella)* Engel, n. subgen.
- 13(12). Metatrochanter and metafemur with well-developed scopae composed of elongate, branched setae; metatibia with abundant plumose setae 14
- . Metatrochanter and metafemur with scopae absent; metatibia with simple setae *E. (Manocolletes)* Engel, n. subgen.
- 14(13). Inner metatibial spur of female pectinate; integument dully metallic blue or green 15
- . Inner metatibial spur of female finely ciliate; integument nonmetallic, shining *E. (Notinopasiphae)* Engel, n. subgen.
- 15(14). Male legs unmodified *E. (Euryglossidia)* Cockerell, *s.str.*
- . Male legs modified, with protarsomeres II–V short and squat, mesobasitarsus broad and rectangular, metabasitarsus thin, elongate, and greatly arched to form deep concavity on inner surface; metasomal sterna V and VI of male with pronounced medial swellings *E. (Notocolletes)* Cockerell
- 16(10). Probasitarsus of female elongate and flattened, twice as long as combined length of remaining protarsomeres, with elongate, thick, simple setae; protibial calcar thickened, without malus; mandible broad, with wide outer sur-

- face but pronouncedly narrowed apically to long, simple, acute tooth, without preapical tooth; metasomal sternum VIII of male bifid apically
 *Machaerocolletes* Engel, n. gen.
- Probasitarsus of female unmodified; protibial calcar with malus; mandible unmodified, with preapical tooth; metasomal sternum VIII of male simple apically *Colletellus* Michener, *partim*
- 17(5). Metasomal sternum VIII of male ending in a single, heavily sclerotized, apical process; supraclypeal area broadly convex, median area sometimes impunctate; flagellomeres rarely modified 18
- Metasomal sternum VIII of male with two flat, delicate, apical processes, longer than body of sternum; supraclypeal area with longitudinal, strongly elevated, impunctate, shining carina or broad ridge extending from frontal carina down to upper margin of clypeus; distal three flagellomeres of male modified *Glossurocolletes* Michener
- 18(17). Metabasitibial plate present (but anterior margin obsolescent in one species of *Lamprocolletes* Smith); pygidial plate of female broad, sides converging posteriorly [except in *Protomorpha fallax* (Cockerell)]; basal vein (1M) slanting 45° or more to costal margin of wing, and much longer than 1Rs 19
- Metabasitibial plate of female and some males absent; pygidial plate of female with apical part slender, parallel-sided or slightly narrowed preapically; basal vein (1M) more or less transverse, slanting about 30° to costal margin of wing, and little if any longer than 1Rs *Excolletes* Michener
- 19(18). Arolia present 20
- Arolia absent *Urocolletes* Michener
- 20(19). Clypeus and supraclypeal area flat, depressed, shining, at least partly impunctate, sometimes longitudinally striate 21
- Clypeus and supraclypeal area not flat, usually punctate 22
- 21(20). Occipital and genal areas not swollen, sulcus separating clypeus and supraclypeal area weak; probasitarsus of female with long coarse bristles on outer surface; compound eyes of male slightly converging below; mandibles of male not elongate, shorter than length of compound eye; metasomal sternum VIII of male with narrow neck, apodemes not projecting as pronounced basal extensions *Cladocerapis* Cockerell
- Occipital and genal areas swollen, vertex long, median ocellus closer to posterior margin of head than to antennal toruli; sulcus separating clypeus and supraclypeal area strong; probasitarsus with dense, short, simple setae; compound eyes of male slightly diverging below; mandibles of male elongate, as long as compound eyes; metasomal sternum VIII of male quadrate, without neck, with apodemes projecting as pronounced basal extensions
 *Ottocolletes* Houston & Maynard
- 22(20). Dorsolateral angle of pronotum weak or absent, pronotal dorsal margin not concave 23
- Dorsolateral angles of pronotum much elevated above adjacent mesoscutal surface so that pronotal dorsal margin between them concave
 *Colletopsis* Michener
- 23(22). Jugal lobe of hind wing well short of attaining level of 1cu-a, separated by at least length of 1cu-a if not frequently more 24
- Jugal lobe of hind wing nearly attaining or exceeding level of 1cu-a 34
- 24(23). Metasoma with weak punctures and granular or coriaceous interspaces 25

- Metasoma with strong punctures and smooth interspaces 30
- 25(24). Basal area of propodeum with noticeable horizontal to subhorizontal area curving onto vertical surface 26
- Basal area of propodeum wholly declivitous [Genus *Leioproctus* Smith, *s.l.*, *partim*] 27
- 26(25). Basal area of propodeum delimited by carina posteriorly; inner metatibial spur of female pectinate *Aageocolletes* Engel, n. gen.
- Basal area of propodeum not delimited by carina posteriorly; inner metatibial spur of female ciliate *L. (Leioproctus)* Smith, *s.str.*, *partim*
- 27(24). Inner metatibial spur finely ciliate; metasoma dark brown to black 28
- Inner metatibial spur pectinate; metasoma reddish orange *L. (Anacolletes)* Michener
- 28(27). Malar space short, linear to 0.25× as long as wide; at most half of clypeus below lower tangent of compound eyes, but typically even less 29
- Malar space long, 0.33–0.5× as long as wide, sometimes more than 0.5× basal mandibular width; more than half of clypeus below lower tangent of compound eyes *L. (Nesocolletes)* Michener
- 29(28). Male sternum VIII with broad, almost trapeziform disc and broad medially emarginate spiculum; metatrochanteral flocuss composed of setae with minute branches giving spiculate appearance; gonostyli tapering to broadly rounded apex *L. (Maoricolletes)* Engel, n. subgen.
- Male sternum VIII with largely transverse disc and triangular spiculum tapering to acutely rounded point; metatrochanteral flocuss composed of setae with numerous long branches, giving typical plumose appearance; gonostyli tapering to acutely rounded apex *L. (Donovanapis)* Engel, n. subgen.
- 30(24). Metanotum with median tubercle, projection, spine, or bifid process [Genus *Lamprocolletes* Smith, *s.l.*] 31
- Metanotum without median tubercle or other ornamentation 33
- 31(30). Basal area of propodeum wholly declivitous or nearly so, without subhorizontal zone 32
- Basal area of propodeum subhorizontal *L. (Stoclele)* Engel, n. subgen.
- 32(31). Metanotal spine, if present, thick, blunt, and slightly upward projecting, spine and metanotum together at most 0.5× length of mesoscutellum *L. (Lamprocolletes)* Smith, *s.str.*
- Metanotal spine elongate, slender apically, and projecting posteriorly, spine and metanotum together about 0.75× length of mesoscutellum *L. (Kanakapis)* Engel, n. subgen.
- 33(30) Metasomal terga of female with apical setal bands; metasomal terga, including apical marginal zones, densely punctate; clypeus protuberant, with shining mediolongitudinal convexity; malar space absent *Ceratocolletes* Michener
- Metasomal terga of female without apical setal bands; metasomal terga not densely punctate and apical marginal zones differently sculptured relative to discs; clypeus weakly protuberant, without shining mediolongitudinal convexity; malar space present, nearly linear *Asciocolletes* Engel, n. gen.
- 34(23). Pterostigma less than half the length of costal margin of marginal cell 35
- Pterostigma greater than or equal to half the length of costal margin of marginal cell 39
- 35(34). Frons not rugulose; male sternum VII with 4 apical lobes; malar space less

- than 0.6× basal mandibular width; male flagellum typically simple, sometimes ventrally crenulate; probasitarsus without spines ventrally 36
- Frons rugulose; male sternum VII with 2 apical lobes; malar space much greater than basal mandibular width; flagellomeres II–X of male with cup-shaped, ventral, prong, flagellomeres I and XI with simple ventral lobe; probasitarsus of female with spines ventrally and long, curved bristles dorsally
..... *Rhamphocolletes* Engel, n. gen.
- 36(35). Inner metatibial spur serrate to finely ciliate; scape of female not reaching median ocellus 37
- Inner metatibial spur coarsely pectinate; scape of female meeting or surpassing median ocellus 38
- 37(36). Inner metatibial spur finely ciliate; lower (ventral) surface of prementum unmodified; metatibial scopa with plumose setae *Walkerapis* Engel, n. gen.
- Inner metatibial spur serrate; lower (ventral) surface of prementum bowed; metatibial scopa sparse, with setae on outer surface mostly bifurcate or trifurcate *Conospermapis* Engel, n. gen.
- 38(36). Metacoxa with short, ventral, apical tubercle or spine; malar space linear; metasoma of female without apical setal bands; flagellum of male medially crenulate; metasomal terga with abundant, small, distinct punctures, separated by a puncture width *Damocrateia* Engel, n. gen.
- Metacoxa without ventral tubercle or spine; malar space about 0.5× basal mandibular width; metasoma of female with apical setal bands; flagellum of male not crenulate; metasomal terga weakly punctate, punctures widely spaced *Zosterocolletes* Maynard
- 39(34). Head and mesosoma with dull coriaceous, coriarius to imbricate or tessellate interspaces amid small punctures 40
- Head and mesosoma with smooth, polished interspaces between punctures 43
- 40(39). Flagellomere I not greatly attenuate; metasomal terga without lateral longitudinal furrows; metasoma of male not depressed or broadened medially; clypeus with scattered punctures 41
- Flagellomere I greatly attenuate, much longer than flagellomeres II–III or II–IV combined; metasomal terga III and IV with longitudinal furrows delimited by carinae on lateral margin; metasoma of male markedly depressed and broadened medially; clypeus coarsely and densely punctured *Alokocolletes* Maynard
- 41(40). Clypeus not protuberant; labial palpi elongate, 1.3–3.0× as long as maxillary palpi, with apical palpomere compressed, lanceolate, and typically 0.5–1.2× as long as antennal scape; inner metatibial spur of female densely pectinate; male protarsi unmodified; protibial calar with finely pectinate malus [Genus *Eremocolletes* Engel, n. gen.] 42
- Clypeus greatly protuberant in profile; labial palpi unmodified; inner metatibial spur of female coarsely punctate; male protarsi expanded and flattened; protibial calar lacking malus *Cyranocolletes* Engel, n. gen.
- 42(41). Inner orbits diverging below; maxillary palpus only 0.5× as long as post-palpal portion of galea; mandible of male with upper margin excavated subapically; males conspicuously larger than females *E. (Houstoniella)* Engel, n. subgen.
- Inner orbits converging below to roughly parallel; maxillary palpus 0.7× or more as long as post-palpal portion of galea; mandible of male not excavated subapically; females larger than males *E. (Eremocolletes)* Engel, n. subgen.

- 43(39). Malar space short, longer than 0.14× but shorter than 0.35× basal mandibular width; metatibial scopal setae monopodally branched 44
 —. Malar space typically linear, sometimes short; metatibial scopal setae plumose 46
- 44(43). Metanotum with median tubercle [Genus *Exleycolletes* Maynard, *s.l.*] 45
 —. Metanotum without median tubercle *Zyzzocolletes* Engel, n. gen.
- 45(44). Basal area of propodeum wholly declivitous, surface coriaceous or granular
 *E. (Hadrocolletes)* Maynard
 —. Basal area of propodeum sloping, curving to vertical posterior surface, basal area transversely rugose *E. (Exleycolletes)* Maynard, *s.str.*
- 46(43). Facial foveae impressed; densely punctured on head and mesosoma 47
 —. Facial foveae absent or present but distinctly not impressed; punctation variable 48
- 47(46). Female metasomal terga II–IV with narrow apical setal bands; integument of head and mesosoma black; male scape not reaching median ocellus
 *Protomorpha* Rayment
 —. Female metasomal terga II–IV without setal bands; integument of head and mesosoma variable, sometimes brightly metallic; male scape reaching median ocellus *Charicolletes* Maynard
- 48(46). Basal area of propodeum areolate; punctation of head and mesosoma dense [Genus *Odontocolletes* Maynard, *s.l.*] 49
 —. Basal area of propodeum smooth, coriaceous, or tessellate; punctation of head and mesosoma not dense 50
- 49(48). Labrum with depressed apical area; lengths of flagellomeres IV–X of male about equal to widths; apical margins of metasomal terga translucent; facial foveae indistinct *O. (Odontocolletes)* Maynard, *s.str.*
 —. Labrum without depressed apical area; lengths of flagellomeres IV–X greater than widths; apical margins of metasomal terga opaque; facial foveae distinct *O. (Fragocolletes)* Maynard
- 50(48). Scape reaching or surpassing median ocellus; metasoma variable; small to larger species 51
 —. Scape not reaching median ocellus; metasomal terga with scattered setae and translucent marginal zones, females at times with weak apical setal bands; small species *Minycolletes* Maynard, *partim*
- 51(50). Metasomal terga II–IV without apical setal bands; metanotum without tubercle 52
 —. Metasomal terga II–IV with apicolateral bands of white setae contrasting with black integument; metanotum with median tubercle
 *Hexaproctus* Engel, n. gen.
- 52(51). Metasoma not narrowed proximally, *i.e.*, not subpetiolate; basal area of propodeum shorter than metanotum; integumental sculpturing variable, but generally not as described below; without patches of bright yellow tomentum 53
 —. Metasoma typically subpetiolate; basal area of propodeum subhorizontal, longer than metanotum; integument minutely roughened with scattered weak punctures; generally wasp-like, frequently with patches of dense, bright yellow tomentum on pronotal lobe, mesoscutum, mesoscutellum, and metanotum *Maynardapis* Engel, n. gen.
- 53(52). Basal area not delimited posteriorly by transverse carina; integument generally black to dark brown but sometimes metallic olive green 54

- Basal area delimited by transverse carina posteriorly; integument frequently metallic, sometimes bright metallic and densely punctured *Calloproctus* Engel, n. gen.
- 54(53). Scape reaching median ocellus; metasomal terga with scattered setae; pterostigma not parallel-sided; small to moderate-sized species; integument dark brown to black *L. (Leioproctus)* Smith, *s.str.*, *partim*
- Scape surpassing level of median ocellus; metasomal terga with dense, short, erect setae and rows of longer subapical setae overarching apical marginal zones; pterostigma slender, parallel-sided; large, robust species; integument metallic olive green *Aglaocolletes* Engel, n. gen.

Tribe Neopasiphaeini Cockerell

Baeocolletina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:7813BA5F-3A4F-4AAC-B12C-422A05239EEC

TYPE GENUS: *Baeocolletes* Michener, 1965.

DIAGNOSIS: This subtribe includes the only Neopasiphaeini in which the forewing 1m-cu meets the first submarginal cell proximal to 1Rs. *Packercolletes* is included here tentatively owing to the possession of this feature, but it could have acquired it independently. Since there is, at present, no clear character evidence contradicting such a placement, I have included it here pending future work on the Australian fauna.

INCLUDED GENERA: The subtribe includes *Baeocolletes* and the enigmatic *Packercolletes*, n. gen. (*infra*).

Packercolletes Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:DCEC86F0-889A-43D9-ACE0-AACEC9AB0535

TYPE SPECIES: *Leioproctus idiotropoptera* Packer, 2006.

DIAGNOSIS: Like *Baeocolletes* Michener, this genus has 1m-cu entering meeting the first submarginal cell. The middle and hind legs of the male are spectacularly modified (as described by Packer, 2006), and the male mandible is uniquely flattened. Unlike *Baeocolletes*, the clypeus and supraclypeal area are convex, with the latter elevated above the level of the antennal toruli, and with abundant punctures; the metatibial spurs are slender and not strongly arched apically; the inner metatibial spur is pectinate and the outer spur differs from the inner spur; and the pretarsal claws have an inner ramus. Sternum VII of the male greatly resembles that of some *Protomorpha* Rayment (e.g., *Protomorpha tarsalis* Rayment), a group in which males also tend to have spectacular leg modifications, but of the hind legs. The other terminalic structures share no resemblance. *Protomorpha*, however, has three submarginal cells, females with metasomal tergal setal bands, and there is a distinct carina separating the basal area of the propodeum posteriorly from the vertical surface.

ETYMOLOGY: The new genus-group name is a combination of Packer, surname of Laurence Packer, esteemed melittologist who discovered the type species, and *kollitís* (κολλητήρ, meaning, “gluer” or “one who glues”). The gender of the name is masculine.

Phenacolletina Engel, new subtribe

ZooBank: urn:lsid:zoobank.org:act:25CDFC76-AE68-471C-A875-D36267724BFB

Phenacolletinae Cockerell, 1934: 7, *nomen nudum* (vide Michener, 1986; Engel, 2005). Type genus: *Phenacolletes* Cockerell, 1905a.

TYPE GENUS: *Phenacolletes* Cockerell, 1905a.

DIAGNOSIS: The diagnosis of the subtribe is identical to that of the genus as provided by Michener (1965, 2007), and as outlined by those characters in the above key (vide supra).

INCLUDED GENERA: The subtribe includes only the type genus.

Subtribe Neopasiphaeina Cockerell

Machaerocolletes Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:321B5AFE-229D-457C-8469-2F9341FB8CCD

TYPE SPECIES: *Leioproctus glendae* Batley in Batley & Popic, 2016.

DIAGNOSIS: This genus resembles *Colletellus* Michener but differs most notably in the peculiarly modified mandible, which is broadened in the basal two thirds and then abruptly and greatly tapered to a long, simple, apical tooth; the elongate and flattened female probasitarsus with long, erect, thick, simple setae; the protibial calcar thickened and lacking a malus; and the bifid apex to the male sternum VIII.

ETYMOLOGY: The new generic name is taken from Ancient Greek *mákhaira* (μάχαιρα, meaning, "dagger" or "dirk"), in reference to the mandibular form, and *kollitís* (κολλητήης, meaning, "gluer" or "one who glues"). The gender of the name is masculine.

Genus *Euryglossidia* Cockerell**Manocolletes** Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:8ADDE24E-AEC3-4B8D-A50C-7CDF7B16AA30

TYPE SPECIES: *Euryglossidia cyanescens* Cockerell, 1929.

DIAGNOSIS: This subgenus is distinctive for the absence of the metatrochanteral floccus and metafemoral scopa, and the simple metatibial setae.

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek adjective *mānós* (μᾶνός, meaning, "scanty" or "few") and *kollitís* (κολλητήης, meaning, "gluer" or "one who glues"). The gender of the name is masculine.

Cygnella Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:EBD96745-E3C0-4683-8000-87C35B9AD8AE

TYPE SPECIES: *Euryglossa cygnella* Cockerell, 1905b.

DIAGNOSIS: This subgenus is distinctive among *Euryglossidia* for the dense, coarse punctuation of the integument.

Table 3. Comparison of hierarchical classifications of Australasian-Zealandian Neopasiphaeinae. →

Michener (2007), Maynard (2013)

Tribe Paracolletini Cockerell

*Callomelitta**Trichocolletes**Paracolletes (Anthoglossa)**Leioproctus (Baeocolletes)**Phenacolletes**Leioproctus (Euryglossidia), partim**Leioproctus (Euryglossidia), partim**Leioproctus (Euryglossidia), partim**Leioproctus (Euryglossidia), partim**Leioproctus (Euryglossidia), partim**Leioproctus (Euryglossidia), partim**Leioproctus (Filiglossa)**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Excolletes)**Leioproctus (Andrenopsis)**Neopasiphae**Leioproctus (Colletellus)**Leioproctus (Lamprocolletes)**Leioproctus (Leioproctus), partim**Leioproctus (Charicolletes)**Leioproctus (Leioproctus), partim**Leioproctus (Exleycolletes)**Leioproctus (Hadrocolletes)**Leioproctus (Alokocolletes)**Leioproctus (Ottocolletes)**Leioproctus (Leioproctus), partim**Leioproctus (Urocolletes)**Leioproctus (Odontocolletes)**Leioproctus (Fragocolletes)**Glossurocolletes**Hesperocolletes**Chrysocolletes**Leioproctus (Goniocolletes)**Leioproctus (Minycolletes)**Leioproctus (Leioproctus), partim**Leioproctus (Protomorpha)**Leioproctus (Leioproctus), partim**Leioproctus (Ceratocolletes)**Leioproctus (Leioproctus), partim**Leioproctus (Colletopsis)**Leioproctus (Zosterocolletes)**Leioproctus (Leioproctus), partim**Leioproctus (Cladocerapis)**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Leioproctus), partim**Leioproctus (Nesocolletes), partim**Leioproctus (Nesocolletes), partim**Leioproctus (Nesocolletes), partim**Leioproctus (Nesocolletes), partim**Leioproctus (Leioproctus), partim*System employed herein

Tribe Callomelittini Almeida

Genus *Callomelitta* Smith

Tribe Trichocolletini Plant

Genus *Trichocolletes* Cockerell

Tribe Anthoglossini Engel

Genus *Anthoglossa* Smith

Tribe Neopasiphaeini Cockerell

Subtribe Baeocolletina Engel, n. subtrib.

Genus *Baeocolletes* MichenerGenus *Packercolletes* Engel, n. gen.

Subtribe Phenacolletina Engel, n. subtrib.

Genus *Phenacolletes* Cockerell

Subtribe Neopasiphaeina Cockerell

Genus *Euryglossidia* Cockerell, s.l.Subgenus *Manocolletes* Engel, n. subgen.Subgenus *Notinopasiphae* Engel, n. subgen.Subgenus *Cygnella* Engel, n. subgen.Subgenus *Euryglossidia* Cockerell, s.str.Subgenus *Notocolletes* CockerellGenus *Filiglossa* RaymentGenus *Aegeocolletes* Engel, n. gen.Genus *Calloproctus* Engel, n. gen.Genus *Rhamphocolletes* Engel, n. gen.Genus *Walkerapis* Engel, n. gen.Genus *Excolletes* MichenerGenus *Andrenopsis* CockerellGenus *Neopasiphae* PerkinsGenus *Machaerocolletes* Engel, n. gen.Genus *Colletellus* MichenerGenus *Lamprocolletes* Smith, s.l.Subgenus *Kanakapis* Engel, n. subgen.Subgenus *Stoclele* Engel, n. subgen.Subgenus *Lamprocolletes* Smith, s.str.Genus *Aglacolletes* Engel, n. gen.Genus *Charicolletes* MaynardGenus *Zyzzocolletes* Engel, n. gen.Genus *Exleycolletes* Maynard, s.l.Subgenus *Exleycolletes* Maynard, s.str.Subgenus *Hadrocolletes* MaynardGenus *Alokocolletes* MaynardGenus *Ottocolletes* Houston & MaynardGenus *Maynardapis* Engel, n. gen.Genus *Urocolletes* MichenerGenus *Odontocolletes* Maynard, s.l.Subgenus *Odontocolletes* Maynard, s.str.Subgenus *Fragocolletes* MaynardGenus *Glossurocolletes* MichenerGenus *Hesperocolletes* MichenerGenus *Chrysocolletes* MichenerGenus *Goniocolletes* CockerellGenus *Minycolletes* MaynardGenus *Hexaproctus* Engel, n. gen.Genus *Protomorpha* RaymentGenus *Conospermapis* Engel, n. gen.Genus *Ceratocolletes* MichenerGenus *Asciocolletes* Engel, n. gen.Genus *Colletopsis* MichenerGenus *Damocrateia* Engel, n. gen.Genus *Zosterocolletes* MaynardGenus *Cladocerapis* CockerellGenus *Cyranocolletes* Engel, n. gen.Genus *Eremocolletes* Engel, n. gen.Subgenus *Eremocolletes* Engel, n. subgen.Subgenus *Houstoniella* Engel, n. subgen.Genus *Leioproctus* Smith, s.l.Subgenus *Leioproctus* Smith, s.str.Subgenus *Nesocolletes* MichenerSubgenus *Maoricolletes* Engel, n. subgen.Subgenus *Domovanapis* Engel, n. subgen.Subgenus *Anacolletes* Michener

ETYMOLOGY: The new subgeneric name is derived from the epithet of the type species, *cygnellus* (Latin, meaning, “small swan” or “small minstrel” — *cygnus*, “swan” or “minstrel”, and the suffix *-ellus*, denoting a diminutive), but in the feminine form. Cockerell (1905b) took the specific epithet from the type locality: Swan River, Australia.

***Notinopasiphae* Engel, new subgenus**

ZooBank: urn:lsid:zoobank.org:act:0870E164-582D-4E0D-AE8B-1FE6EFF69D36

TYPE SPECIES: *Filiglossa striatula* Rayment, 1959.

DIAGNOSIS: This subgenus is distinctive for the combination of widely spaced punctures, a well-developed scopa, metatibia with abundant plumose setae, the inner metatibial spur of the female finely ciliate, and the dull, nonmetallic integument.

ETYMOLOGY: The new subgeneric name is a combination of the Ancient Greek adjective *nótinós* (νότινος, meaning, “southern”) and *Pasiphae*. The gender of the name is feminine.

***Aageocolletes* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:B613E8C0-4561-4C97-A382-43ACB7C7A1AE

TYPE SPECIES: *Paracolletes platycephalus* Cockerell, 1912.

DIAGNOSIS: This genus corresponds to the *platycephalus* species group of Maynard (2013). The genus superficially resembles *Leioproctus* Smith, *s.str.*, but differs by the pectinate inner metatibial spurs of females and the basal area of the propodeum posteriorly delimited by a carina.

ETYMOLOGY: The new generic name is taken from Ancient Greek adjective *aāgēs* [ἀαγής, meaning, “strong” or “solid” (*ā-*/*a-*, “not”; *āgnūmi*/*āgnūmi*, “break”; *-ής*/*-ēs*, adjectival suffix)], and *kollitís* (κολλητήρας, meaning, “gluer” or “one who glues”). The gender of the name is masculine.

***Calloproctus* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:7B2A69DA-5D2B-4C97-AAD3-DFE0C0812744

TYPE SPECIES: *Lamprocolletes amabilis* Smith, 1879.

DIAGNOSIS: These are *Leioproctus s.str.*-like bees in which the basal area of the propodeum is delimited by transverse carina posteriorly and the integument is frequently metallic, sometimes bright metallic and densely punctured. In addition, females have distinct facial foveae, the pterostigma is more than half the length of the costal margin of the marginal cell, the jugal lobe extends to the level of 1cu-a, the inner metatibial spur of females is pectinate, and the basal area of the propodeum is shorter than the metanotum.

ETYMOLOGY: The new generic name is a combination of Ancient Greek *kállós* (κάλλος, meaning, “beauty”) and *prōktós* (πρωκτός, meaning, “anus” or “rectum”). The gender of the name is masculine.

***Rhamphocolletes* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:2D43C99F-5488-4BAB-9800-18B31F7F788B

TYPE SPECIES: *Leioproctus (Leioproctus) macmillani* Houston, 1991.

DIAGNOSIS: This genus corresponds to Houston's (1991) *macmillani* species group, fully characterized by that author. Particularly noteworthy traits include: frons rugulose; malar space much greater than basal mandibular width; flagellomeres II–X of male with cup-shaped, ventral, prong, flagellomeres I and XI with simple ventral lobe; probasitarsus of female with spines ventrally and long, curved bristles dorsally; male sternum VII with two apical lobes.

ETYMOLOGY: The new genus-group name is a combination of the Ancient Greek *rhámphos* (ῥάμφος, meaning, "beak") and *kollitís* (κολλητήης, meaning, "gluer" or "one who glues"). The gender of the name is masculine.

***Walkerapis* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:266F54B4-1F85-4EBF-A136-E17DA01AA560

TYPE SPECIES: *Paracolletes subpunctatus* Rayment, 1935.

DIAGNOSIS: This genus is superficially similar to *Leioproctus s.str.*, in that they both have finely ciliate inner metatibial spurs in females. However, the scape is short, not reaching the median ocellus and the pterostigma is short, shorter than half as long as the costal portion of the marginal cells.

ETYMOLOGY: The new genus-group name honors Ken Walker, one of Australia's foremost authorities on bees, combining his surname with the Latin noun *apis* (meaning, "bee"). The gender of the name is feminine.

***Maynardapis* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:BA9E1A23-17EE-4499-930E-2B1F36626936

TYPE SPECIES: *Paracolletes nomadiformis* Cockerell, 1921.

DIAGNOSIS: This genus corresponds to the *irroratus* species group of Maynard (2013). These are generally wasp-like species in which the metasoma is typically subpetiolate, the basal area of the propodeum is subhorizontal and longer than the metanotum, the integument is minutely roughened with scattered weak punctures, and there are frequently patches of dense, bright yellow tomentum (*e.g.*, on the pronotal lobe, mesoscutum, mesoscutellum, and metanotum).

ETYMOLOGY: The new generic name honors Glynn V. Maynard, one of the leading melittologists of Australia and who has provided considerable insight into the systematics of the former Paracolletinae. The name combines her surname and the Latin noun *apis* (meaning, "bee"). The gender of the name is feminine.

Genus *Lamprocolletes* Smith

***Stoclele* Engel, new subgenus**

ZooBank: urn:lsid:zoobank.org:act:55377B07-284F-4748-B1E2-5804113E75F7

TYPE SPECIES: *Paracolletes tuberculatus insularis* Cockerell, 1913.

DIAGNOSIS: This subgenus differs from all other *Lamprocolletes* Smith in the presence of a distinct subhorizontal zone to the basal area of the propodeum.

ETYMOLOGY: The new subgeneric name is a euphonious combination of letters representing an anagram of *Colletes* Latreille. The gender is considered to be feminine.

***Kanakapis* Engel, new subgenus**

ZooBank: urn:lsid:zoobank.org:act:7981A29E-9F4A-42F4-859F-2A3FD08353A1

TYPE SPECIES: *Leioproctus (Nodocolletes) pacificus* Michener, 1965.

DIAGNOSIS: This endemic New Caledonian subgenus differs from other *Lamprocolletes* in the possession of an elongate metanotal spine that is slender apically and projects posteriorly. The length of the spine and metanotum together is about 0.75× length of the mesoscutellum.

ETYMOLOGY: The new generic name is a combination of Kanak, from the indigenous Melanesian inhabitants of New Caledonia, and the Latin noun *apis* (meaning, "bee"). The gender of the name is feminine.

***Hexaproctus* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:DB0AF0B8-D3DD-41A8-96D8-0D09F30A0F82

TYPE SPECIES: *Paracolletes sexmaculatus* Cockerell, 1914a.

DIAGNOSIS: This is a genus of robust bees with black, nonmetallic integument with apicolateral bands of white setae on metasomal terga II–IV. The metanotum has a low median tubercle. It superficially resembles *Protomorpha* Rayment but lacks impressed facial foveae.

ETYMOLOGY: The new generic name is a combination of Ancient Greek prefix *hexa-* (ἕξα-, forming compound words with the sense of "six") and *prōktós* (πρωκτός, meaning, "anus" or "rectum"). The gender of the name is masculine.

***Aglaocolletes* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:A47158FD-CD9F-4320-BB20-773AABABB1C9

TYPE SPECIES: *Leioproctus (Leioproctus) megachalcoides* Michener, 1965.

DIAGNOSIS: This is a genus of large, robust bees with metallic olive green integument. The genus has the scape surpassing the level of the median ocellus; a slender, parallel-sided pterostigma; metanotum without a medial tubercle; the basal area of the propodeum shorter than the metanotum and not delimited posteriorly by a carina from the vertical surface; and the metasomal terga without defined apical setal bands but instead with dense, short, erect setae on the discs and rows of longer subapical setae (at the end of the erect setal patches) overarching the apical marginal zones.

ETYMOLOGY: The new genus-group name is a combination of the Ancient Greek adjective *āglāós* (ἀγλαός, meaning, "splendid" or "shining") and *kollitís* (κολλητήης, meaning, "gluer" or "one who glues"). The gender of the name is masculine.

***Zyzzocolletes* Engel, new genus**

ZooBank: urn:lsid:zoobank.org:act:BD716552-4EAF-4087-8504-1A80F01918C7

TYPE SPECIES: *Paracolletes nigrofulvus* Cockerell, 1914b.

DIAGNOSIS: This genus superficially resembles *Exleycolletes* Maynard *s.l.* but lacks the metanotal tubercle otherwise present in species of that genus. In addition, the inner orbits of the compound eyes are parallel; the pterostigma is slender, roughly parallel-sided; and the basal area of the propodeum is finely and minutely tessellate, with a simple marginal line.

ETYMOLOGY: The new genus-group name is a combination of *zyzzo* (an artificial and

euphonious combination of letters) and *kollitís* (κολλητήρ, meaning, “gluer” or “one who glues”). The gender of the name is masculine.

Conospermapis Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:A73AB313-A76F-4065-BCDC-D363A11C664A

TYPE SPECIES: *Leioproctus (Leioproctus) conospermi* Houston, 1989.

DIAGNOSIS: This genus corresponds to the *conospermi* species group of Houston (1989). Aside from the characters outlined in the various couplets of the above key that lead to the genus, other noteworthy traits include the serrate inner metatibial spur of females, the ventrally bowed prementum, and the sparse metatibial scopa with bifurcate or trifurcate setae.

ETYMOLOGY: The new genus-group name is taken from *Conospermum* Sm. (Proteaceae: Proteoideae: Conospermeae) and the Latin noun *apis* (meaning, “bee”). The gender of the name is feminine.

Asciocolletes Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:5F34B567-E1BE-4E58-8EE1-B476AAB0DD6E

TYPE SPECIES: *Paracolletes opaculus* Cockerell, 1929.

DIAGNOSIS: This genus resembles to some degree *Ceratocolletes* Michener but differs in the weakly protuberant clypeus lacking a shining mediolongitudinal convexity, malar space present but exceptionally short, absence of apical setal bands in females, the metasomal terga not densely punctate, and the apical marginal zones differently sculptured relative to the tergal discs.

ETYMOLOGY: The new genus-group name is a combination of the Ancient Greek adjective *áskios* (ἄσκιος, meaning, “shady”) and *kollitís* (κολλητήρ, meaning, “gluer” or “one who glues”). The gender of the name is masculine.

Damocrateia Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:9F064A67-23A9-4D77-8536-9978A9371660

TYPE SPECIES: *Leioproctus (Chrysocolletes) crenulatus* Michener, 1965.

DIAGNOSIS: This genus is noteworthy for the presence of a short, ventral, apical tubercle or spine on the metacoxa, scape of female not reaching the median ocellus, and the male flagellum crenulate ventromedially. In addition, the genus has the following combination of traits: malar space linear, inner metatibial spur ciliate, metasomal terga of female without apical setal bands and with abundant, small, punctures separated by a puncture width.

ETYMOLOGY: The new genus-group name is taken from Ancient Greek mythology where Damocrateia (Δαμοκράτεια) was one of the hypothesized mothers of Patroclus, tragic hero of the Trojan War. The gender of the name is feminine.

Eremocolletes Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:863FE09A-AC03-4875-8154-472A31C74179

TYPE SPECIES: *Leioproctus (Leioproctus) eremites* Houston, 1990.

DIAGNOSIS: This genus is noteworthy for its elongate labial palpi, whereby they are 1.3–3.0× as long as the maxillary palpi and in which the apical palpomere is com-

pressed, lanceolate, and typically 0.5–1.2× as long as the antennal scape. In addition, the inner metatibial spur of females is densely pectinate, the protibial calcar has a finely pectinate malus, flagellomere I slightly longer than wide, metanotum without medial tubercle, propodeum with steeply sloping subhorizontal area not separated posteriorly by a carina. This genus corresponds to the *capito* species group of Houston (1990), who also provided a revision and key to the species.

ETYMOLOGY: The new generic name is a combination of the Ancient Greek adjective *erêmos* (ἐρήμος, meaning, "lonely"), as a reference to their host plants of the genus *Eremophila* R.Br. (Scrophulariaceae), and *kollitís* (κολλητήρ, meaning, "gluer" or "one who glues"). The gender of the name is masculine.

Houstoniella Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:508BFC0E-4E40-4FC7-994F-B3DB52F75595

TYPE SPECIES: *Leioproctus* (*Leioproctus*) *capito* Houston, 1990.

DIAGNOSIS: This subgenus differs from the nominate subgenus of *Eremocolletes* by the inner orbits of the compound eyes diverging below, the maxillary palpus only 0.5× as long as the post-palpal portion of the galea, the mandible of the male with the upper margin excavated subapically, and the males conspicuously larger than females.

ETYMOLOGY: The new subgeneric name is a combination of Houston, surname of Terry F. Houston who first recognized this group and to honor his masterful work on Australian bees, and the Latin suffix *-ellus*, denoting a diminutive. The gender of the name is feminine.

Cyranocolletes Engel, new genus

ZooBank: urn:lsid:zoobank.org:act:CCB4CBA1-3756-411A-A1E2-D4F8736B96F8

TYPE SPECIES: *Leioproctus* (*Leioproctus*) *nasutus* Houston, 1990.

DIAGNOSIS: This genus is most distinctive for the prominently protudent clypeus, along with the combination of a coarsely pectinate inner metatibial spur in females, the protibial calcar lacking a malus, the protarsi of males expanded and flattened, flagellomere I about as long as wide and not much different from the pedicel, the integument black (not metallic), metanotum without medial tubercle, propodeum with sloping subhorizontal area that is as long as the metanotum, and the head and mesosoma with small punctures and the integument between typically finely coriaceous. A full account of the sole included species was given by Houston (1990).

ETYMOLOGY: The new generic name is a combination of Cyrano, from the surname of Savinien de Cyrano de Bergerac (1619–1655), and *kollitís* (κολλητήρ, meaning, "gluer" or "one who glues"). The name plays on the fictionalized tale of Cyrano and his prodigious nose and the protudent clypeus of the type species. The gender of the name is masculine.

Genus *Leioproctus* Smith

Maoricolletes Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:D7501198-DC40-48B0-B6E9-C154F7D431C0

TYPE SPECIES: *Leioproctus* (*Nesocolletes*) *nunui* Donovan, 2007.

DIAGNOSIS: This endemic New Zealand subgenus is characterized by the follow-

ing combination of traits: malar space linear, less than half of clypeus below lower tangent of compound eyes, basal area of the propodeum wholly declivitous and not delimited posteriorly by a carina, inner metatibial spur finely ciliate, metasoma black, metatrochanteral floccus composed of setae with minute branches giving spiculate appearance, male sternum VIII with broad, almost trapeziform disc and broad medially emarginate spiculum, and gonostyli tapering to broadly rounded apex.

ETYMOLOGY: The new subgeneric name is a combination of Māori, for the indigenous Polynesian people of New Zealand, and *kollitis* (κολλητής, meaning, "gluer" or "one who glues"). The gender of the name is masculine.

Donovanapis Engel, new subgenus

ZooBank: urn:lsid:zoobank.org:act:A8F7A703-9E2F-4D8F-BCA2-B118D42CD15B

TYPE SPECIES: *Paracolletes maritimus* Cockerell, 1936.

DIAGNOSIS: This endemic New Zealand subgenus is characterized by the following combination of traits: malar space short or linear, at most half of clypeus below lower tangent of compound eyes, the basal area of the propodeum wholly declivitous and not delimited posteriorly by a carina, the inner metatibial spur finely ciliate, the metasoma dark brown to black, metatrochanteral floccus composed of setae with numerous long branches, male sternum VIII with largely transverse disc and triangular spiculum tapering to acutely rounded point, and gonostyli tapering to acutely rounded apex.

ETYMOLOGY: The subgeneric name honors the doyen of New Zealand melittology, Barry J. Donovan, and his masterful contributions to the science, particularly his monograph of the New Zealand fauna (Donovan, 2007). The gender of the name is feminine.

Tribe Lonchopriini Moure

Lonchorhynchina Engel & Gonzalez, new subtribe

ZooBank: urn:lsid:zoobank.org:act:1D8C1D13-D199-4383-B769-21B3E93F63E1

TYPE GENUS: *Lonchorhyncha* Michener, 1989.

DIAGNOSIS: This subtribe is unique among Lonchopriini for its greatly elongate head, the result of the malar space being about as long as the compound eye. The face is quite protrudent, with the frontoclypeal portion of the epistomal sulcus situated below the lower tangent of the compound eyes. The inner metatibial spur of the female is coarsely pectinate with about 10 branches. The male terminalia are quite distinctive and differ greatly from all other Lonchopriini and even from most New World Colletidae (*vide* Michener, 1989). The bees are of moderate size, about 11.5–13 mm in length. The genus and its sole species, *Lonchorhyncha ecuadoria* (Friese), were described in detail by Michener (1989), and a more elaborate account of the genus is therefore not repeated here. The species is found in southern Colombia and Ecuador (Michener, 1989, 2007). This group may be more closely allied to Eulonchopriina or some features even suggest an association with Paracolletinae + Diphaglossinae.

INCLUDED GENERA: The subtribe is monogeneric.



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