

Flight Phenology.

0 0 1 0 2 0 0 1 12 3 3 0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Remarks. *Lasioglossum eurycephalum* is one of the few black, non-metallic black species that occurs exclusively within the Eyrean province. Males of *L. eurycephalum* have unusual strongly defined propodeal carinae and coarse sculpture. The head length (HL 72–75) and frons length (OAD 21–22) of the female are some of the shortest known within the subgenus.

Lasioglossum (Chilalictus) expansifrons
(Cockerell)

Figures 16B, 26A, 84A–H

Halictus expansifrons Cockerell, 1914a: 521.

Lasioglossum (Chilalictus) expansifrons. —
Michener, 1965: 176.

Material examined. Syntypes. 2♂♂, New South Wales, Nat. Mus. Victoria, 102, BM Type Hym 17.a.946 (BMNH, both syntypes are glued to triangular cards attached to the same pin. One card has type written on the base. The other syntype has lost its head.)

Other specimens examined (98♀♀, 65♂♂). Queensland: Roma.

New South Wales and Australian Capital Territory: Conargo, Canberra, Gilgandra, Wilcannia, Cobar, Coonabarabran, Gunnedah, Mt Kaputar, Bellata, Boggabilla.

Victoria: Moe, Pakenham, Mordialloc, Kewell, Warracknabeal, Wilkur, Gunbower, Lake Albacutya, Kerang, Mildura.

South Australia: Adelaide, Athelstone, Wilmington.

Diagnosis. Most like *L. chapmani*. Both sexes with body black. Female with frons reticulate-striate, mesoscutum surface shining, densely punctate, dorsal surface of propodeum weakly ruguloso-striolate, weakly defined posterolaterally by carinae. Male with antennae moderately long, frons, paraocular areas and supraclypeal area with dense hair forming a mat, S4 with two median tufts of long plumose hair, tufts weakly separated along midline, hair posterolaterally directed; forewings with 2nd r-m as strong as 1st r-m.

Description of female. Body length 6.16–6.93 mm (\bar{x} =6.61 mm, SD=0.25, n=10), head width 1.97–2.12 mm (n=10), forewing length 1.60–1.86 mm (\bar{x} =1.71 mm, SD=0.08, n=10). Relative dimensions: HW 100, HL 78–79, UID 61–62, LID 53–56, AOD 20–21, IAD 11–12, OAD 23–25, IOD 19–20, OOD 15–16, CL 19–21, GW 19–20, EW 23–25, SL 38–40, FL 65–68.

Structure. Head broad and triangular, inner orbits converging below, median frontal carinae

reaches median ocellus, eyes with sparse cover of minute setae. Scape reaches anterior margin of median ocellus. Clypeus short (CL 0.38 × LID), convex, surface shining, open to closely punctate, supraclypeal area weakly projected, shining, sparsely punctate. Frons (fig. 84A) reticulate-striate above antennal bases, pattern, sculpture weaker laterally, sculpture extends to anterior margin of lateral ocelli. Labrum (fig. 84B) basal median area raised, surface weakly nodulated, anterior margin rounded, distal process not tapered, widest at base, median keel extends to distal margin, lateral ridges weak, distinctly serrate, not reaching distal margin, setae not present across distal margin, lateral teeth large, distally hooked. Pronotum dorsolateral angles acute, weakly projected. Mesoscutum (fig. 84C) anterior margin rounded, surface shining, anterior margin dull with fine lineation, punctation moderately coarse, surface entirely densely punctate. Scutellum 1.3 × longer than dorsal surface of propodeum, surface shining, closely to densely punctate. Dorsal surface of propodeum (fig. 84C) weakly defined posterolaterally by carinae set well below dorsal level, posteroververtical carinae extend to dorsal carinae, dorsal sculpture weakly ruguloso-striolate, extends to rim mesially only. T1 densely punctate except small impunctate areas laterally (fig. 16B). Mesepisternum and metepisternum striate. BP rounded.

Colour. Body black; antennae, legs and anterior margin of tergites brown.

Vestiture. Body sparse, paraocular area with adpressed and erect branched hair, clypeus and supraclypeal area almost glabrous, frons with erect simple hair, mesoscutum with short erect branched hair, tomentum laterally on T2, across terga on T3 and T4.

Description of male. Body length 5.16–6.01 mm (\bar{x} =5.56 mm, SD=0.27, n=10), head width 1.69–1.81 mm (n=10), forewing length 1.36–1.57 mm (\bar{x} =1.44 mm, SD=0.07, n=10). Relative dimensions: HW 100, HL 87–88, UID 63–64, LID 48–49, AOD 16–17, IAD 11–13, OAD 23–25, IOD 19–20, OOD 17–19, CL 20–21, GW 19–20, EW 25–27; ML 37–38, SL 28–29, FL 120–123.

Structure. Head triangular, inner orbits converging below, eyes with sparse minute setae, scape not reaching median ocellus, clypeus and supraclypeal area shining, indistinctly punctate, clypeus yellow on basal half to three-quarters. Antennae moderately long (FL 1.92 × UID), AS4:AS2+3=1. Remainder of body similar to

female except mesoscutum punctation close mesially, posterolateral propodeum carinae absent, dorsal rim smooth and rounded, metasoma brown, tarsi and tibiae apically and basally light yellow-brown; forewings with 2nd r-m as strong as 1st r-m.

Vestiture. Frons, paraocular areas and supraclypeal area with dense short adressed hair forming a mat, anterior margin of clypeus with some similar hair, T2 and T3 with weak lateral tomentum; S2 with long plumose hair mesially, hair not reaching lateral margins of sternite, S3 with similar reaches lateral margins, S4 with two median tufts of long plumose hair, tufts weakly separated along midline, hair posterolaterally directed (fig. 28A).

Genitalia and associated sterna (figs 84E–H). Gonobase slightly flanged basally, gonocoxite setose on apical inner margin and lateral setae, retrorse lobes setose, well developed, ventral flanges present, penis valves flanged basally, gonostyli with short simple and weakly branched hair; S8 median process apically broad, truncate and bilobed, with a few setae, S7 median process rounded, glabrous.

Distribution (fig. 84D). Eastern zone (except Tasmania) of the Bassian province.

Floral Forage Record. Families visited=4. Catch total=16; Compositae (1 catch), Myrtaceae (7), Pittosporaceae (1), Sapindaceae (7). Genera visited=6; *Atalaya* (7), *Baeckea* (1), *Bursaria* (1), *Eucalyptus* (5), *Helichrysum* (1), *Melaleuca* (1).

Flight Phenology.

3 3 2 2 0 0 0 1 2 2 6 9
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Remarks. See *Remarks* for *L. chapmani*. Five macrocephalic males, two showing gross enlargement of the head capsule, were recorded (Cobar, NSW (1); Kerang, Vic (3); Wilmington, SA (1)). The measurements of these specimens are: body length 5.78–6.70 mm (\bar{x} =6.33 mm, SD=0.40), head width 1.93–2.35 mm, forewing length 1.48–1.64 mm (\bar{x} =1.56 mm, SD=0.07). Relative dimensions: HW 100, HL 78–82, UID 65–67, LID 58–64, AOD 18–20, IAD 16–17, OAD 22–24, IOD 19–20, OOD 17–19, CL 18–19, GW 21–26, EW 23–26; ML 41–46, SL 23–27, FL 105–112.

Lasioglossum (Chilalictus) falcatum sp. nov.

Figures 85A–D

Material examined. Holotype. ♀, Queensland, 35 mi

(56 km) W of Quilpie (26°37'S, 144°02'E), 16 Apr 1969, TFH, on *Abutilon* (QM T13857).

Paratypes. 7♀♀, same data as holotype (UQIC).

Diagnosis. Most like *L. lamellosum*. Female with body black, frons striate, clypeus and supraclypeal area produced forward, not continuing contours of frons and paraocular areas, both surfaces polished, mesoscutum densely punctate, dorsal surface of propodeum ruguloso-striolate, weakly defined by posterolateral carinae set well below dorsal level, outer hind tibial spur recurved distally.

Description of female (male unknown). Body length 7.55–8.47 mm (\bar{x} =8.12 mm, SD=0.29, n=7), head width 2.23–2.31 mm (n=7), forewing length 2.00–2.16 mm (\bar{x} =2.06 mm, SD=0.06, n=7). Relative dimensions: HW 100, HL 82–85, UID 60–62, LID 53–55, AOD 20–21, IAD 12–13, OAD 24–25, IOD 19–20, OOD 15–16, CL 20–22, GW 15–16, EW 24–26, SL 39–40, FL 69–71.

Structure. Head broad, distinctly triangular, inner orbits converging below, median frontal carina not reaching median ocellus, eyes with sparse cover of minute setae. Scape reaching at least anterior margin of lateral ocelli. Clypeus and supraclypeal area distinctly produced forward, not continuing contours of frons and paraocular areas, both surfaces polished, clypeus short (CL 0.4 × LID), convex, more so basally, densely punctate anteriorly with deeply impressed, rounded punctures, remainder open to closely punctate with shallow, smaller punctures, supraclypeal area closely punctate. Frons (fig. 85A) above antennal bases weakly striate, laterally sculpture weakens to almost smooth along inner margins of eyes, sculpture continues to anterior margin of lateral ocelli. Labrum (fig. 85B) basal median area raised, variously ridged and nodulated, lateral areas weakly recessed, anterior margin obtuse mesially, distal process not tapered, widest at base, median keel extends to setose distal margin, lateral ridges weak and smooth, extend to distal margin, lateral teeth large, not hooked. Pronotum dorsolaterally rounded, barely projected. Mesoscutum (fig. 85C) anterior margin rounded, punctation moderately coarse, anteriorly impunctate, with fine transverse lines, remainder with small punctures densely punctate, along midline and in parapsidal areas punctures contiguous, mesially small shining interspaces present. Scutellum 1.3 × longer than dorsal surface of propodeum, surface shining, densely punctate along midline and around margins, remainder open to closely