Laphria (Diptera: Asilidae) of Ontario, with a key to the eastern Canadian species of Laphriini and *Dasylechia*

Kate G. Lindsay[1]* and Stephen A. Marshall[1]

[1]School of Environmental Sciences, University of Guelph, Guelph, ON, N1G 2W1, Canada (lindsay.kate6@gmail.com, samarsha@uoguelph.ca)

*Corresponding author

Abstract

The 24 described and two undescribed species of *Laphria* Meigen (Diptera: Asilidae) currently known from eastern Canada (defined here as Manitoba eastward) and the adjacent United States are reviewed and keyed, with an emphasis on the Ontario fauna. Species in the related genera *Dasylechia* Williston and *Lampria* Macquart found in the same region are also keyed. *Laphria cinerea* (Back) and *Laphria canis disparella* Banks are recorded from Ontario for the first time. The female of *Laphria sicula* McAtee is included in a key for the first time.

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Introduction

Laphria, broadly defined, is among the most easily recognized genera of flies in northeastern North America. Although they range in body length from 7.7 to 40.0 mm, most *Laphria* species are relatively robust and distinctively coloured bee-like or wasp-like flies. *Laphria* and the related genus *Lampria* can be further distinguished from other northeastern robber flies by the blade-like, laterally compressed proboscis that characterizes all North American members of the tribe Laphriini (as defined by Bullington 2016). *Dasylechia* belongs to the tribe Dasylechiini (Fisher and Wilcox, 1997), but was included in the key as it is superficially similar to *Laphria* species. As discussed below, we treat all eastern Canadian Laphriini other than *Lampria bicolor* (Wiedemann) as part of the genus *Laphria*. Further traits that characterize *Laphria* include a hind femur without tubercles, an abdomen with segments 1-7 unmodified and the 8th segment reduced, a gibbous face, a relatively unmodified third antennal segment and a cylindrical 2-segmented palpus (Hull, 1962; Baker and Fischer, 1975).

Laphria species are often called bee-like robber flies as many are mimics of bees, especially *Bombus spp*., and a few resemble wasps. Adults are generalist ambush predators that prey on a wide array of insects and arthropods (Lavigne *et al*. 1978). There are 63 described species of *Laphria* in North America, 24 of which occur in eastern Canada and the bordering northern United States (Fisher and Wilcox, 1997). The remaining two eastern Canadian *Laphria* species are undescribed.

Most of the relatively few works dealing with the Nearctic species have been taxonomic surveys. McAtee (1918) provides a key to the Nearctic species, Bromley (1934) provides a key to the North American species, Baker and Fischer (1975) provide a key to the *Laphria* of Michigan, and Bullington (2016) provides a key to one subgroup (*Laphria* s. str.) in eastern North America. These sparsely illustrated keys are either outdated or relatively difficult for non-specialists to use; they are also missing several species of eastern Canadian robber flies here treated as part of the genus *Laphria*. We here provide the first complete key to the *Laphria* of eastern Canada.

Materials and Methods

Specimen data were obtained for the University of Guelph Insect Collection (DEBU), the Royal Ontario Museum (ROM) and the Canadian National Collection of Insects, Arachnids and Nematodes (CNC).

Terminology used in the key follows the Manual of Nearctic Diptera (McAlpine *et al*., 1981) and is depicted in Figures 1–5. The use of the word "tergite" refers to abdominal tergites. Diagnoses for species are based on specimens from the University of Guelph Insect Collection where possible, but in some cases photos of type specimens were used instead. When only one specimen of a species was available, photos from BugGuide (https://bugguide.net) were used to indicate variation within species. Diagnoses were checked against the original descriptions, Bullington (1986), and Baker and Fischer (1975). Body length data were supplemented from the literature. Flight ranges were determined using label data from DEBU and CNC. Distribution maps were created using the online software SimpleMappr (Shorthouse

2010). Locations were obtained from specimen data labels and were converted to GPS coordinates using Google Maps GPS Coordinates (https://www.gps-coordinates.net). Non-Ontario distributions were mapped using whole provinces, territories or states to indicate the presence of *Laphria* within these jurisdictions. Specimen photographs were taken using a Canon DSLR mounted on a Stackshot rail, and then stacked using Helicon Focus. All photographs of living flies were taken by the second author unless otherwise indicated.

Systematics

Laphria was previously (and is occasionally still) diagnosed primarily on hair coloration and patterns, which we now know can vary greatly within species; this has resulted in confusion around species limits within the group. It has also led to *Laphria* species being historically misplaced, as many were reassigned to the genus *Bombomima* Enderlein only to be later placed back into *Laphria* (Bullington, 1986). Similarly, some species of *Dasyllis* were at one time treated as *Laphria* due to their bee-like appearance (Bullington, 1986).

Bullington (2016) includes three described North American genera in the tribe Laphriini: *Laphria* Meigen (*Laphria sensu stricto*), *Choerades* Walker, and *Lampria* Macquart. *Lampria* is a mostly Neotropical group represented in eastern Canada only by *Lampria bicolor,* which is included in our key because of its similarity to *Laphria*. *Choerades* is a mostly Old World group that has been treated either as part of *Laphria* (Baker and Fischer, 1975) or as a separate genus including several species originally described as *Laphria* (Hull, 1962; Nagatomi, 1964; Bullington, 1986; Lehr, 1992). *Laphria* including *Choerades* is an easily recognizable group in North America, but *Laphria* without *Choerades* is difficult to diagnose or define.

In an unpublished thesis, Bullington (1986) groups the North American species here treated as *Laphria* (*Laphria sensu lato*) into four genera, placing some species (*L. gilva, L. sicula and L. sadales)* in the genus *Choerades* and reassigning several further species to two new genera. Recognition of these genera is based primarily or entirely on features of the male genitalia. Until such time as this classification is published and supported by strong data showing that the newly recognized genera are monophyletic we prefer to retain the conservative and pragmatic approach of using one name, *Laphria*, for all eastern Canadian members of the easily recognized and charismatic group of flies traditionally treated under that name.

Biology

Adult *Laphria* are opportunistic predators that are often found perching in sunlit areas waiting to catch prey on the wing. Like other Asilidae, they paralyze and digest prey using neurotoxins and proteolytic enzymes injected through the blade-like hypopharynx, a structure sheathed by the proboscis (Wood, 1981). The laterally compressed proboscis apparently facilitates the piercing of flying beetles between the elytra before they can be closed. *Laphria* are most often seen perched on the trunks and branches of trees, fallen logs or foliage; they also sometimes perch on rock surfaces (Bullington, 1986). They often perch adjacent to streams, paths and forest edges. Most species have preferences for perch type and height (Wood, 1981). The larvae of *Laphria* are predaceous, developing in plant roots or decaying wood where they prey on wood-boring or soil-dwelling insects (Lavigne *et al*. 1978).

Checklist

Table 1. Checklist of eastern Canadian *Laphria*. ON, Ontario; QC, Quebec; NB, New Brunswick; NS, Nova Scotia; PEI, Prince Edward Island; LB, Labrador; NF, Newfoundland. *Record is not verified.

Dasylechia							
D. atrox (Williston)	ON						
Lampria							
L. bicolor (Wiedemann)	ON						
Laphria							
L. aeatus Walker	ON	QC					
L. aktis McAtee	ON						
L. altitudinum Bromley	ON	QC	NB	NS			
L. canis canis Williston	ON	QC	NB				
L. canis disparella Banks	ON						
L. champlainii (Walton)	No Canadian records						
L. cinerea (Back)	ON						
L. divisor (Banks)	ON	QC		NS			
L. flavicollis Say	ON	QC	NB	NS			
L. gilva (Linnaeus)	ON	QC	NB	NS			
L. grossa Fabricius		QC*					
L. huron (Bromley)	ON	QC	NB				
L. index McAtee	ON	QC	NB	NS			
L. insignis (Banks)	ON	QC	NB	NS		LB	
L. janus McAtee	ON	QC	NB	NS	PEI		
L. posticata Say	ON	QC	NB	NS	PEI	LB	
L. royalensis (Bromley)	ON*	QC					
L. sacrator (Walker)	ON	QC	NB	NS	PEI		
L. sadales Walker	ON	QC	NB	NS	PEI	LB	
L. scorpio McAtee	ON	QC	NB	NS			NF
L. sericea Say	ON	QC	NB	NS	PEI		
L. sicula McAtee	ON	QC					
L. thoracica Fabricius	ON	QC	NB	NS			
"Undescribed Species 1"	ON	QC					
"Undescribed Species 2"	ON	QC	NB	NS		LB	
L. winnemana McAtee	ON	QC					

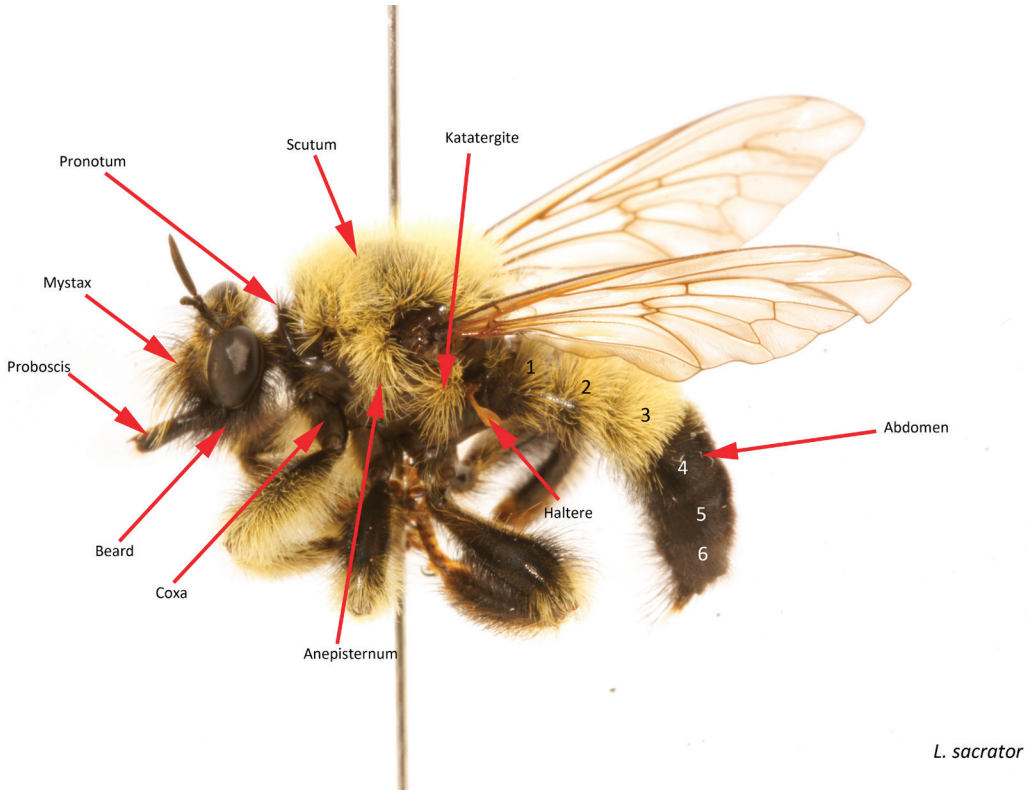


Figure 1: Lateral view of *Laphria sacrator* showing external morphology.

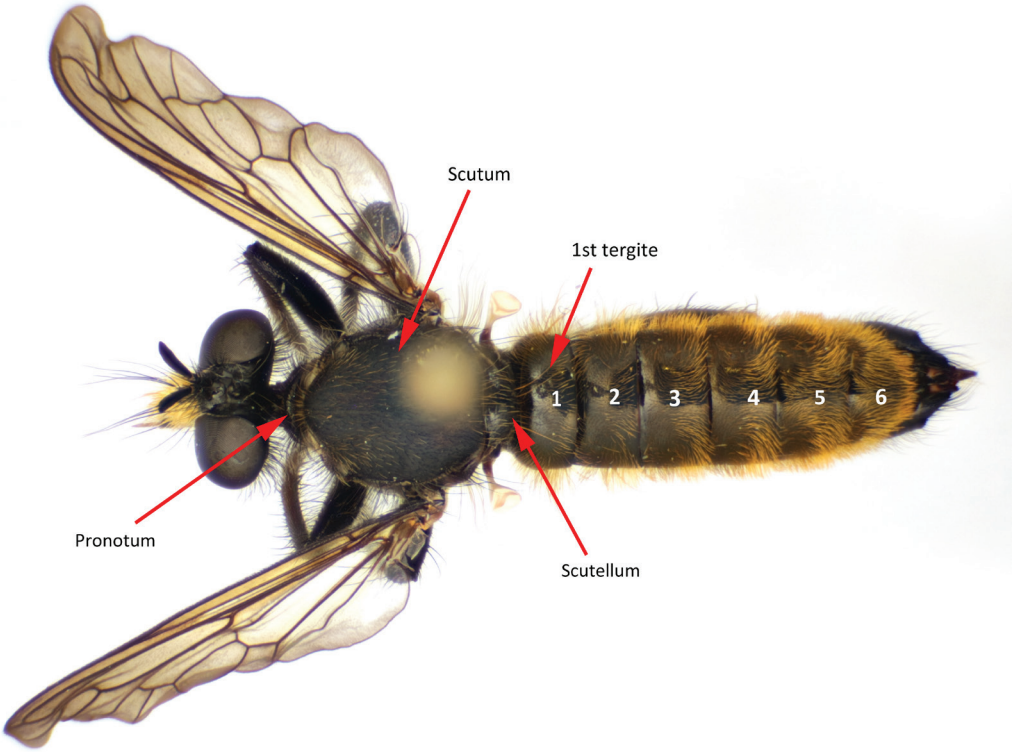


Figure 2: Dorsal view of *Laphria scorpio* showing external morphology.

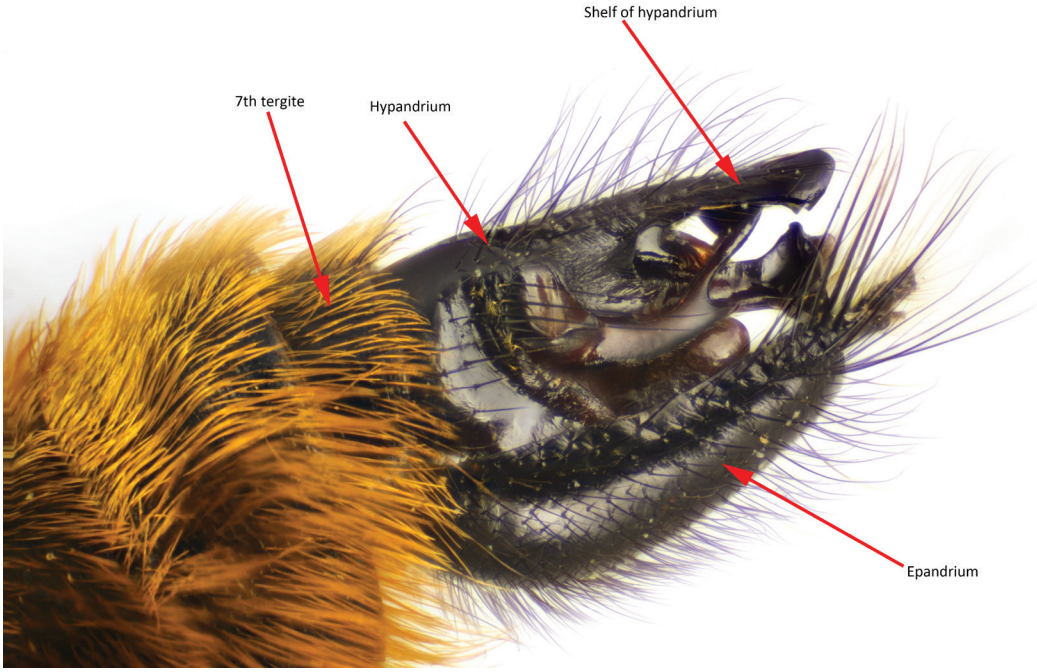


Figure 3: Lateral view of external male terminalia of *Laphria sericea*.

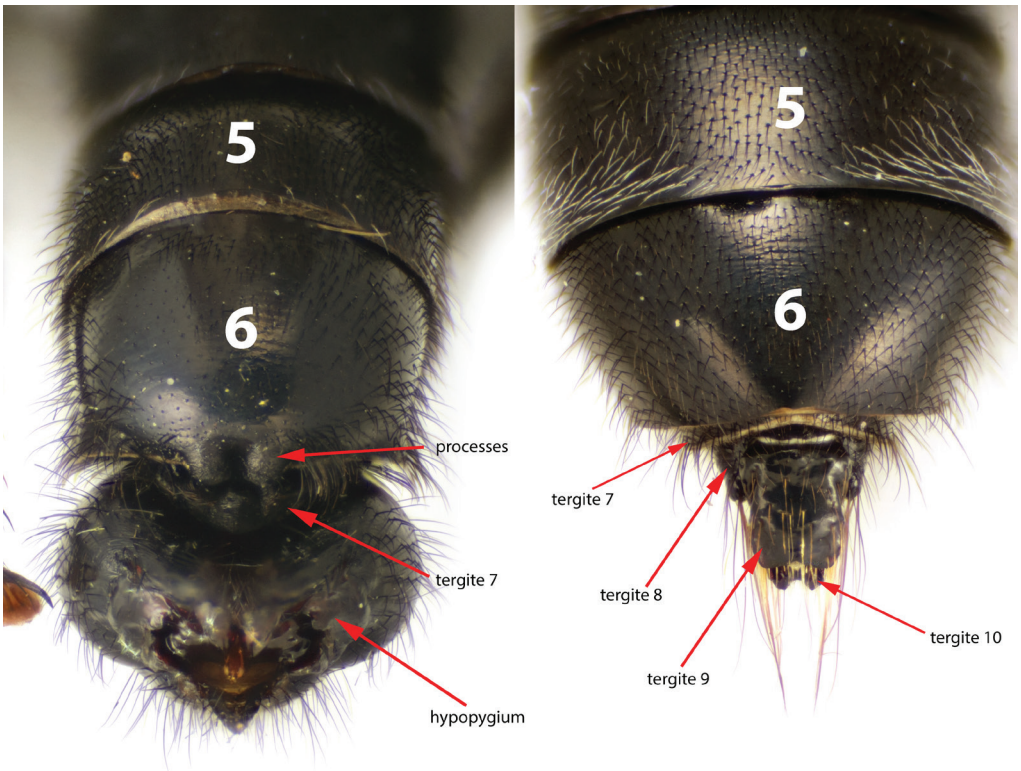


Figure 4: Dorsal view of male (left; *Laphria canis*) and female (right; *Laphria canis*) external terminalia. Numbers on female terminalia refer to tergite number.

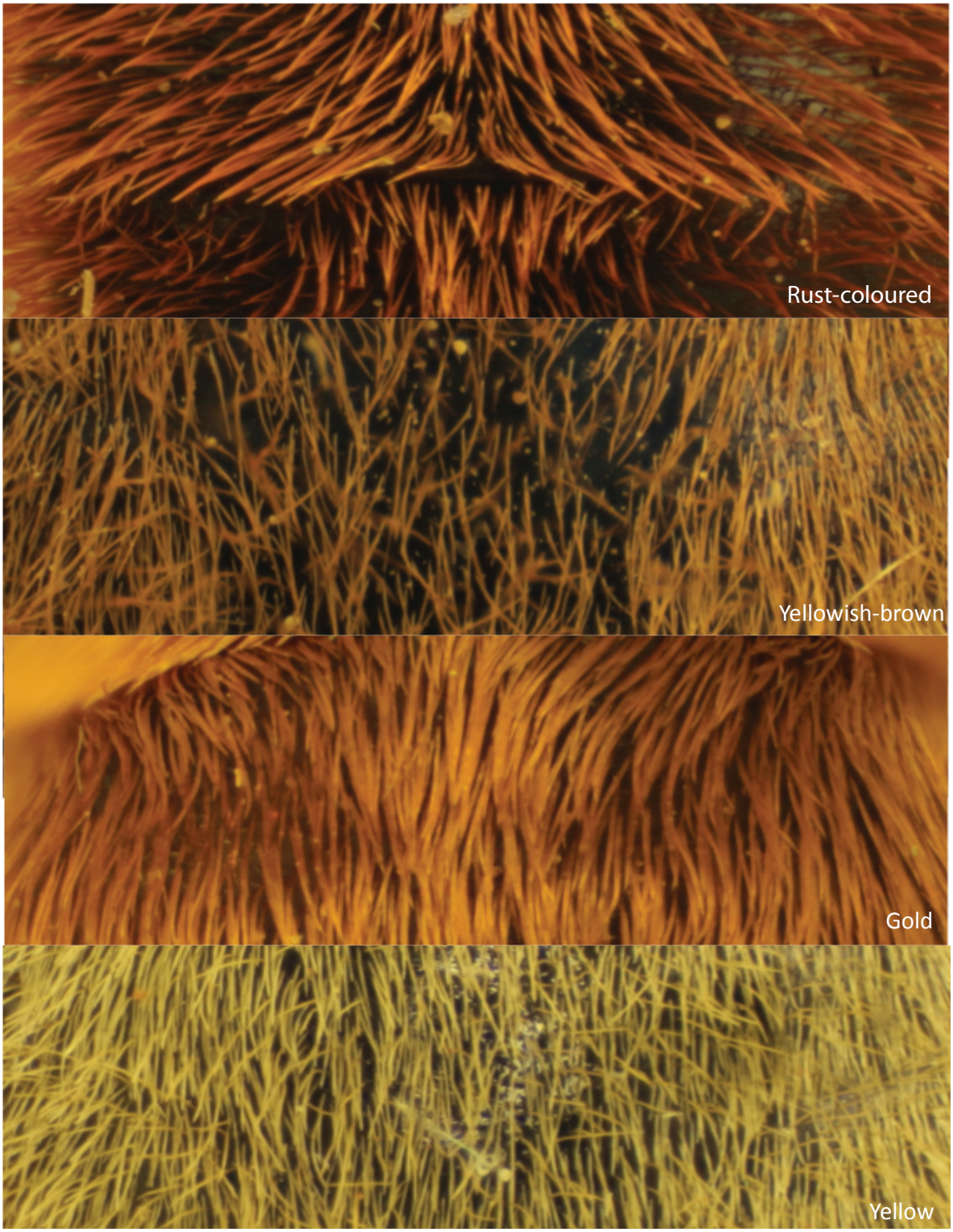


Figure 5: Colour index for different coloured hairs on *Laphria* species (from top to bottom: *Laphria janus*, *L. posticata brunneus*, *L. index*, and *L. posticata posticata*).

1) Abdomen with black and/or yellow or yellowish-brown hairs.

Abdomen usually ovate in males.

Couplet 2 (incl. *Dasylechia*)

1') Abdomen with gold or rust-coloured hairs.

Abdomen usually parallel sided in males.

Couplet 14

1") Abdomen nearly bare with the exception of some scattered, fine, white or pale yellow hairs.

Abdomen usually parallel sided in males.

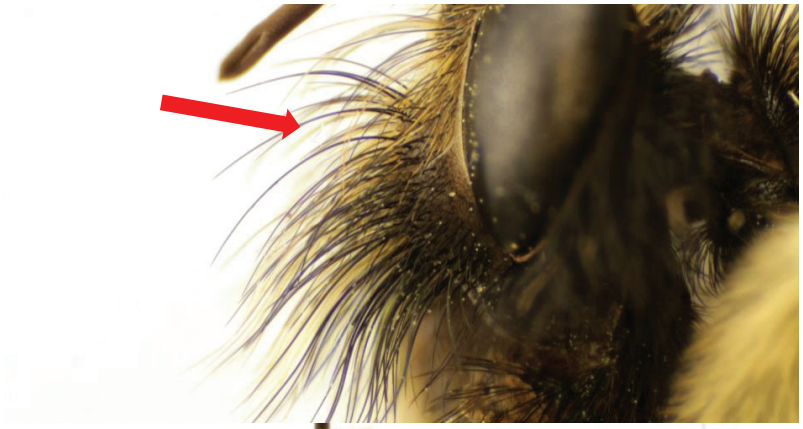
Couplet 22 (incl. *Lampria*)

2) Proboscis stout, not laterally compressed.

Dasylechia atrox

2') Proboscis elongate, laterally compressed.

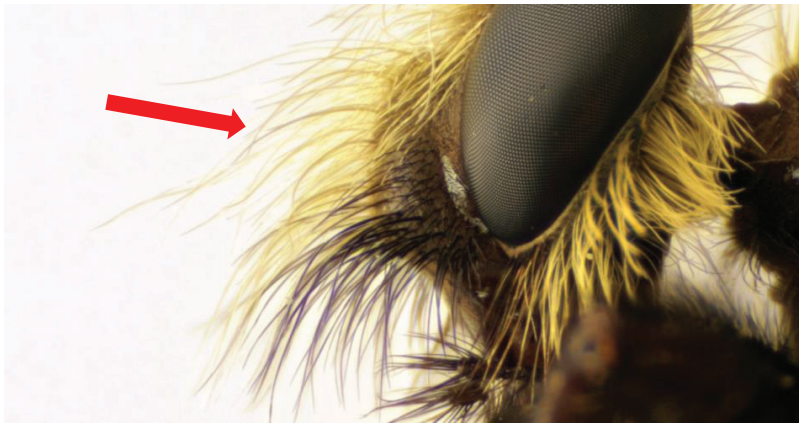
Couplet 3



3) Upper mystax mostly black, often sparsely haired with some yellow hairs intermingled.

Tuft of hairs on anepisternum yellow.

Couplet 4

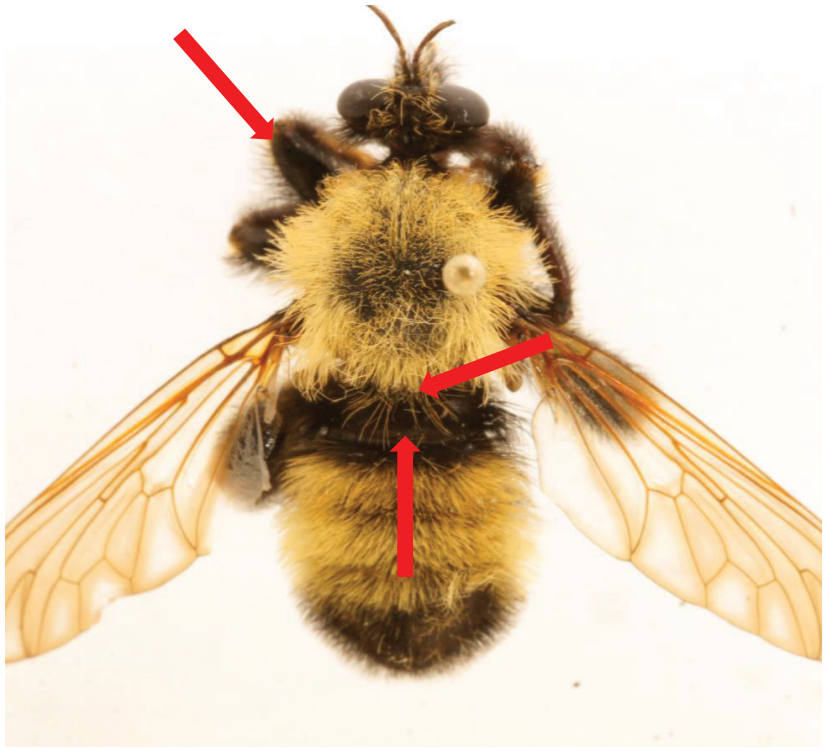


3') Upper mystax mostly yellow, often densely haired with very few black hairs.

Tuft of hairs on anepisternum black or yellow.

Couplet 6

doi:10.3752/cjai.2019.37



4) Most hairs on forelegs short and black, especially on the dorsal surface.
Medial hairs of the first tergite always black.
Scutellar hairs and bristles yellow and/or black.

Laphria thoracica

4') Forelegs densely covered in long yellow hairs, especially on the dorsal and/or posterior surfaces.
Medial hairs of the first tergite black or yellow.
Scutellar hairs and bristles yellow.

Couplet 5

doi:10.3752/cjai.2019.37

5) Tergites 1–3 black haired, sometimes with gold hairs on the edges of tergites 2–3.

Laphria huron

5') Tergites 1–3 yellow haired.

Laphria sacrator

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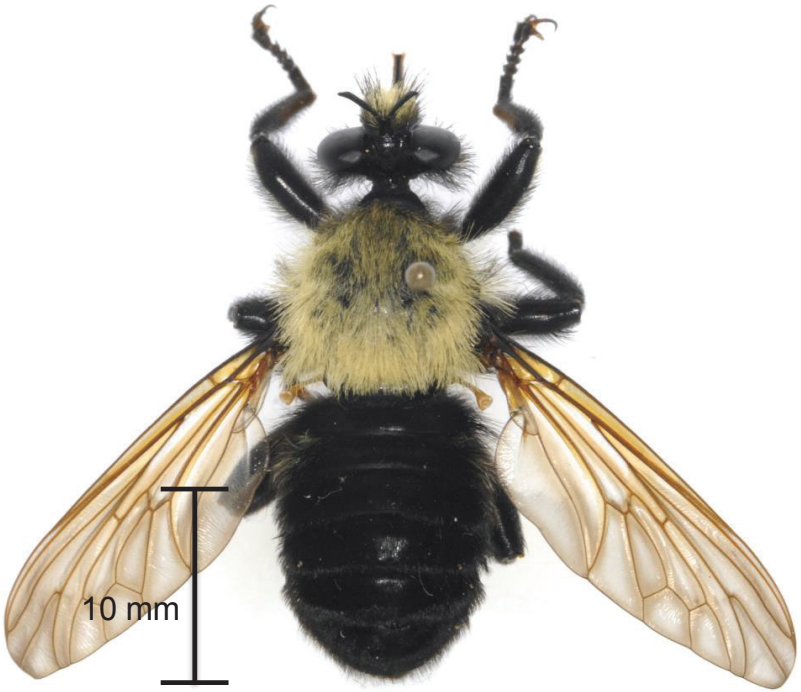
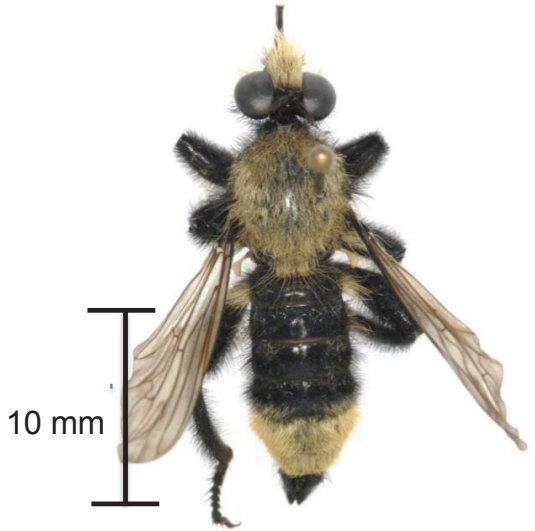


6) Length of body, from face (not including mystax or proboscis) to tip of genitalia equal to or greater than 23 mm.

Couplet 7



6') Length of body, from face (not including mystax or proboscis) to tip of genitalia less than 20 mm.

Couplet 8

7) Length 23–35 mm.

Hairs on tergite 1 black laterally and medially.

End of proboscis taller than middle.

Laphria grossa

Photo courtesy of Ben Coulter

Photo courtesy of Rachel Díaz- Bastin

7') Length 19–24 mm.

Hairs on tergite 1 black medially, mostly yellow laterally.

End of proboscis not taller than middle.

Laphria champlainii

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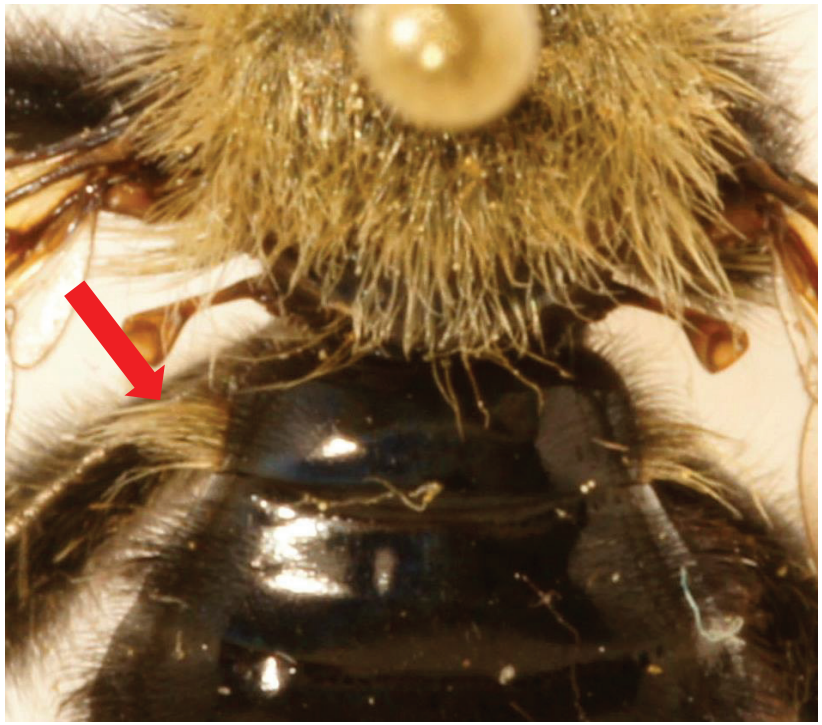

8) Edges of tergite 1 with at least some yellow hairs.

Couplet 9

8') Edges of tergite 1 with only black hairs.

Couplet 12

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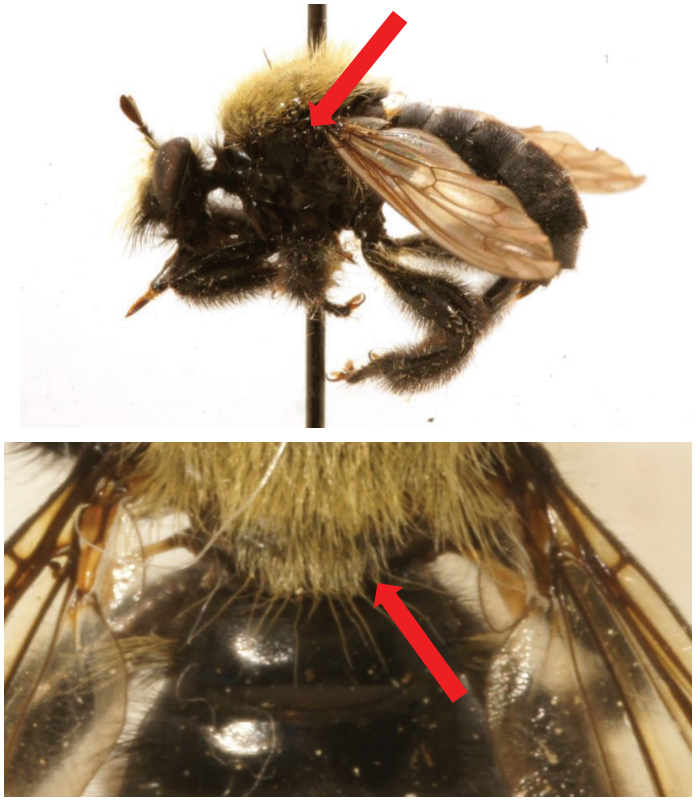
9) Tuft of hairs on anepisternum yellow.

Hair and bristles on scutellum black, often sparse.

Laphria cinerea



9') Tuft of hairs on anepisternum black.

Hair and bristles on scutellum yellow or black.

Couplet 10

doi:10.3752/cjai.2019.37

10) Tergites 2–7 with only black hairs.

Laphria flavicolliis

10') Tergites 2–7 with yellow hairs.

Couplet 11

doi:10.3752/cjai.2019.37

Photo courtesy of Ben Coulter

11) Tergites 1–2 with distinct patches of yellow hairs toward the margins.

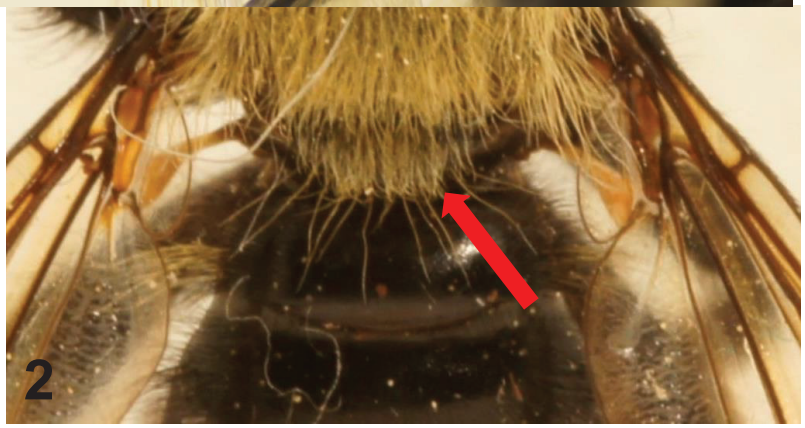
Body length 19–24 mm.

Laphria champlainii

11') Tergites 1–2 with black hairs, some yellow hairs on may be on the edges of tergite 1 but do not form distinct patches.

Body length 11–18 mm.

Couplet 12

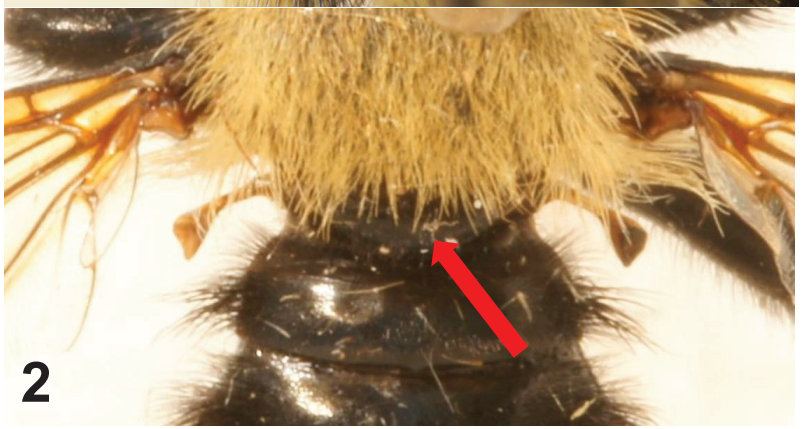


12) Hair on pronotum black.[1]

Hair and bristles on scutellum yellow.[2]

No yellow hairs on tergite 3.

Laphria divisor



12') Hair on pronotum yellow.[1]

Hairs and bristles on scutellum black and/or yellow.[2]

Yellow or yellowish-brown hairs on the dorsolateral edges of tergite 3.

Couplet 13

doi:10.3752/cjai.2019.37

13) Posterior half of scutum with band of reddish hairs, which can vary in intensity.

Yellow hairs on tergites 3–7.

Laphria insignis

13') Scutum with uniform yellow or yellowish-brown hairs.

Yellow hairs usually on tergites 3–5 but can be on 6 and 7 as well.

Laphria posticata (incl. *L. royalensis*)

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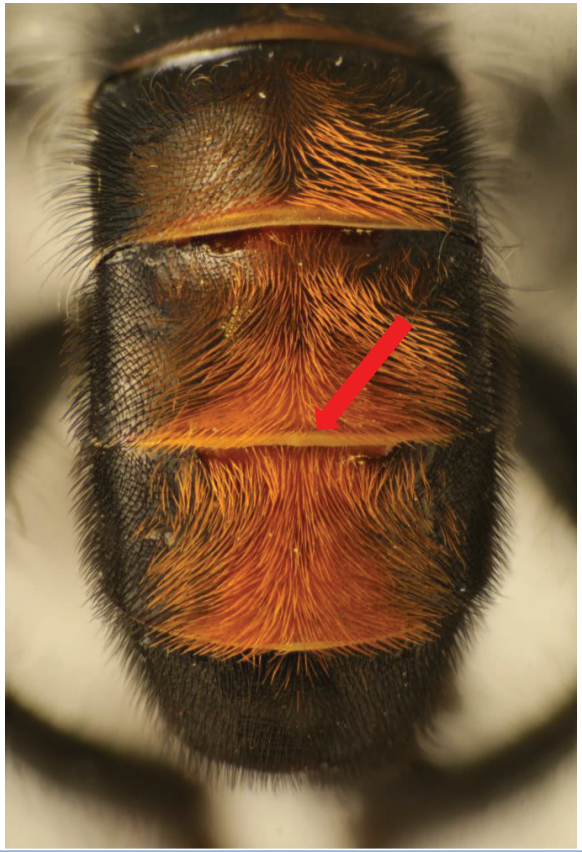
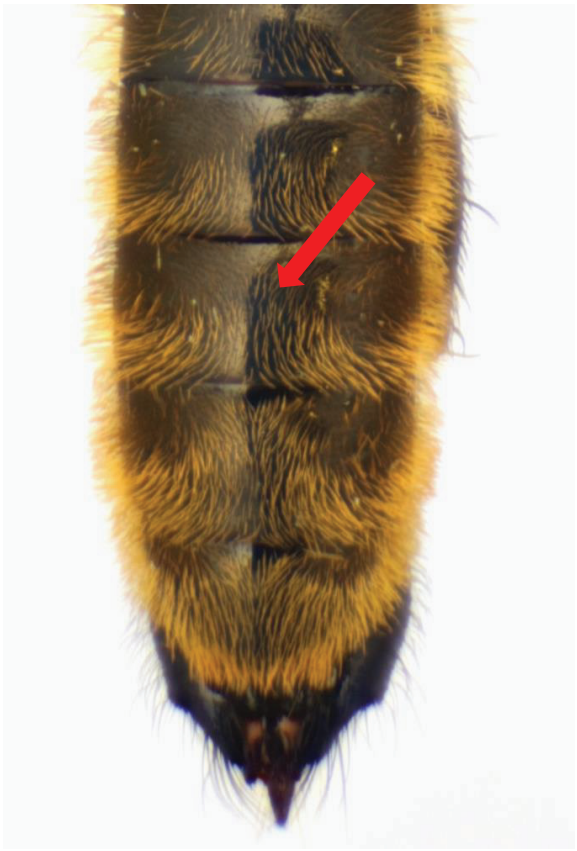


14) Ground colour of abdomen reddish in center, especially near posterior edges of tergites 3–5.

Laphria gilva



14') All tergites usually black in ground colour, edges of tergites sometimes red-brown.

Couplet 15

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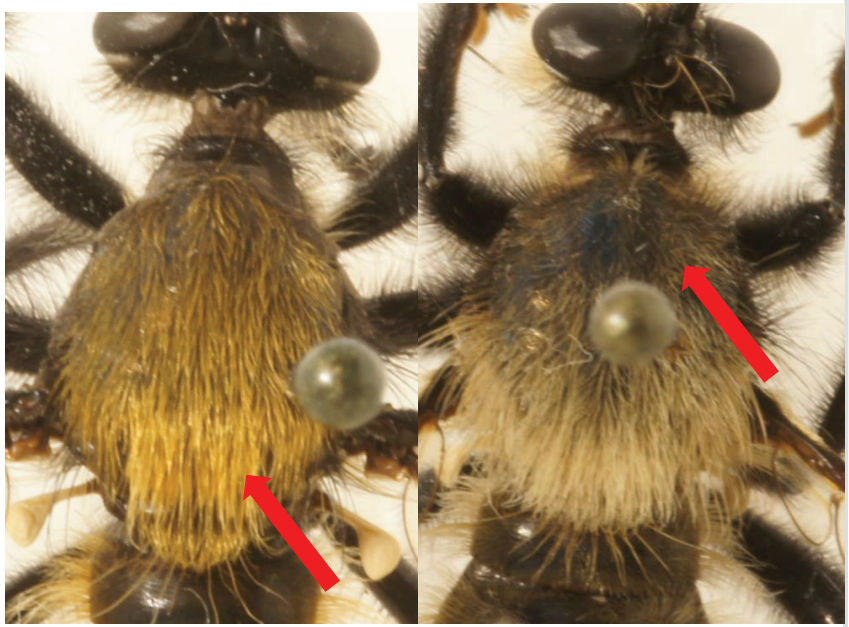

15) Scutum covered in gold or pale-yellow hairs that are can be very sparse anteriorly and long and dense posteriorly.

Couplet 16

15') Scutum mostly covered with fine black hairs, sometimes also with gold hairs that are either sparsely distributed or form a triangular pattern.

Couplet 20

doi:10.3752/cjai.2019.37

16) Hairs on scutum pale yellow, longer and denser on the posterior half of the scutum compared to the anterior half.

Hairs on tergites 1–2 often pale yellow, tergites 3 to apex reddish to rust coloured.

Couplet 17

16') Hairs on scutum gold, can be evenly distributed or denser on the posterior half of the scutum compared to the anterior half.

Hairs on all tergites gold.

Couplet 18 (*L. aktis* species complex)

doi:10.3752/cjai.2019.37

17) Upper mystax yellow.

Laphria janus

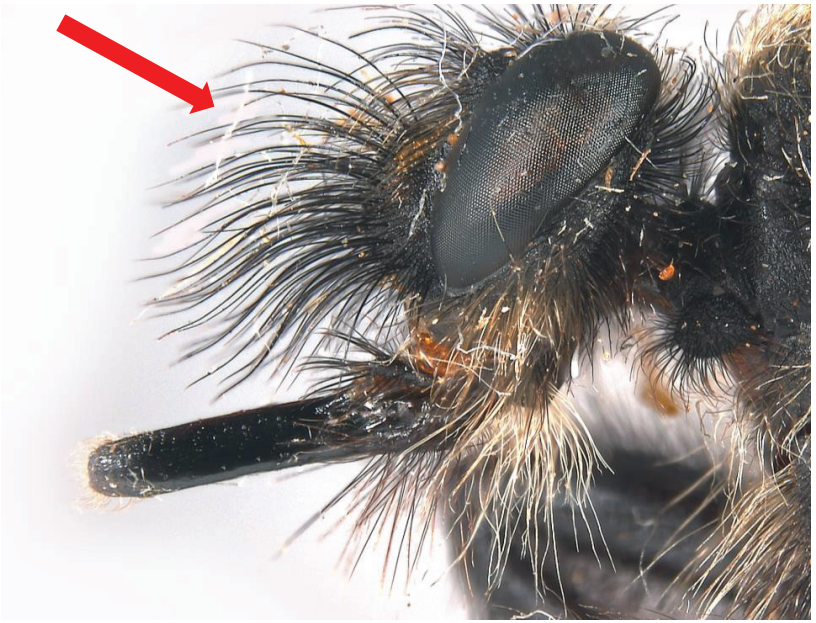

Photo courtesy of Rachel Diaz- Bastin

17') Upper mystax black.

Laphria altitudinum

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18) **Male:** Shelf of hypandrium stout and broad.

Female: Indistinguishable from other females in the *L. aktis* species complex.

**Photo has been edited to increase clarity*

Laphria aktis

18') **Male:** Shelf of hypandrium elongate and thin.

Female: Indistinguishable from other females in the *L. aktis* species complex.

**Photo has been edited to increase clarity*

Couplet 19

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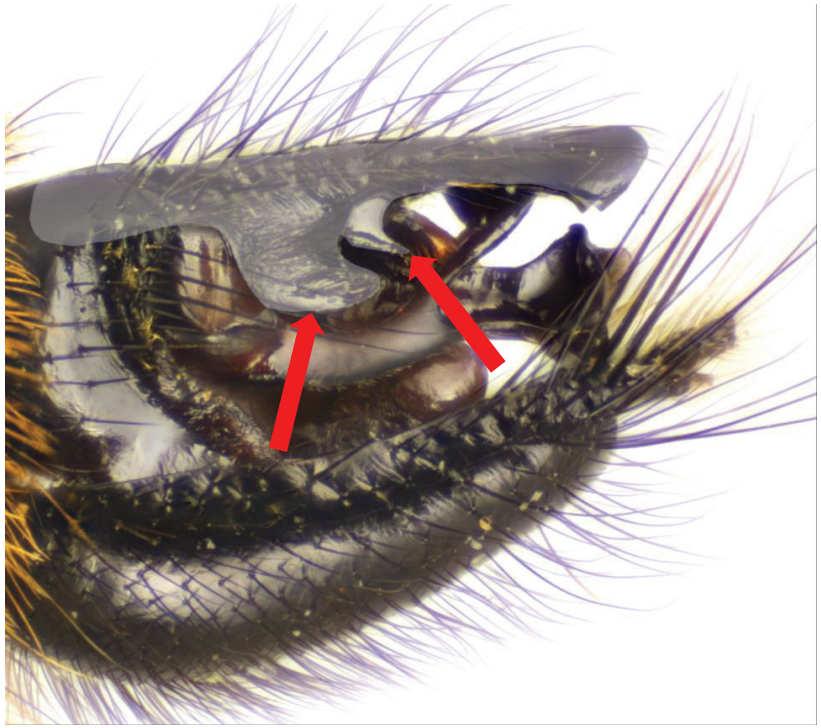

19) **Male:** Shelf of hypandrium straight with one hooked and one spiked projection.

Female: Indistinguishable from other females in the *L. aktis* species complex.

**Photo has been edited to increase clarity*

Laphria sericea

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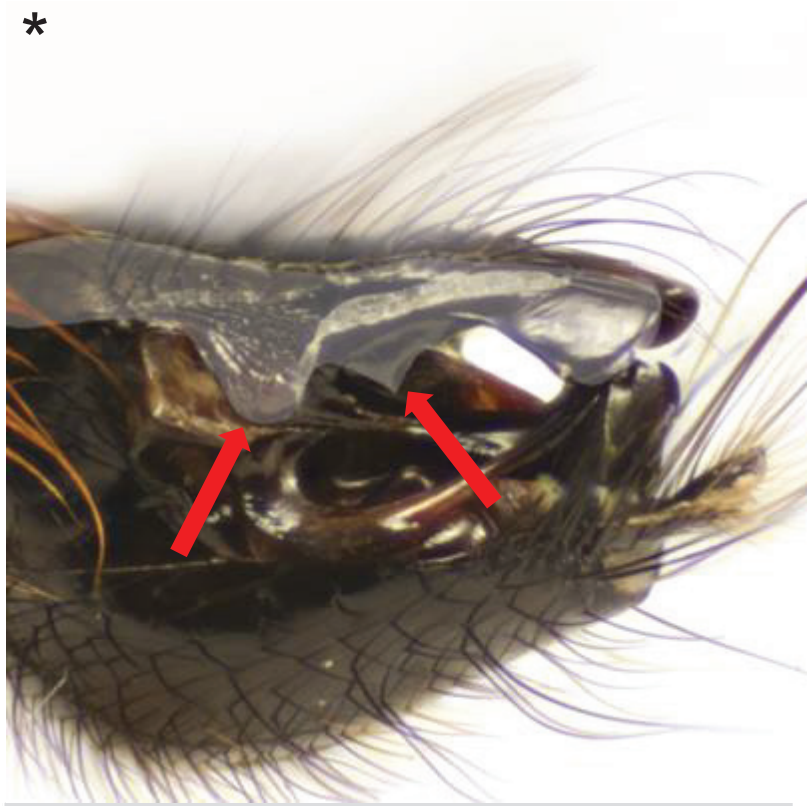
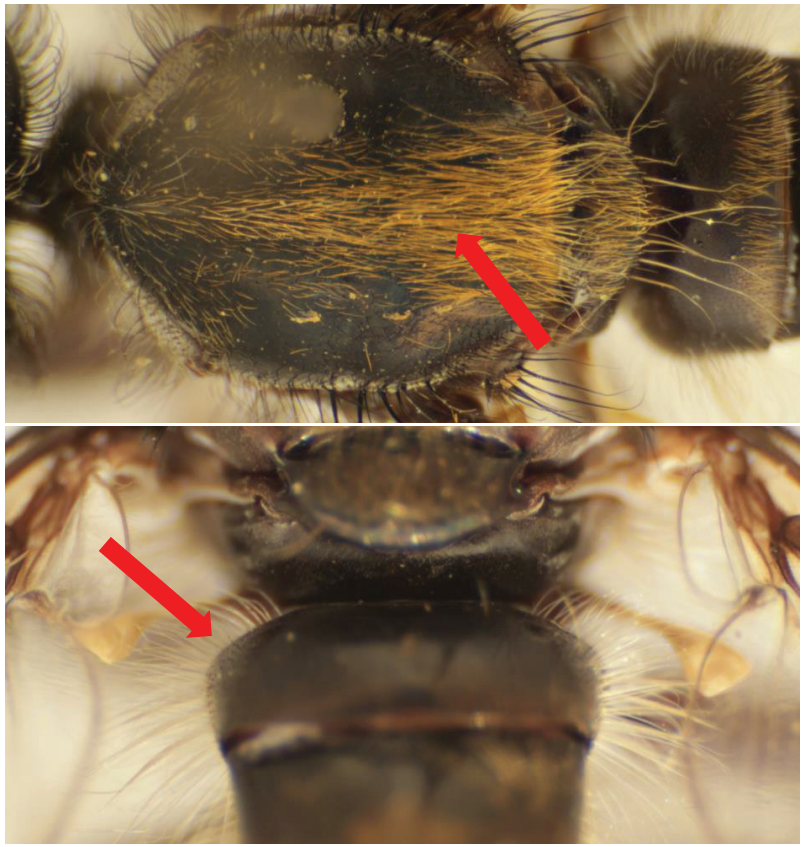


19') **Male:** Shelf of hypandrium convex dorsally with one rounded and one spiked ventral projection.

Female: Indistinguishable from other females in the *L. aktis* species complex.

**Photo has been edited to increase clarity*

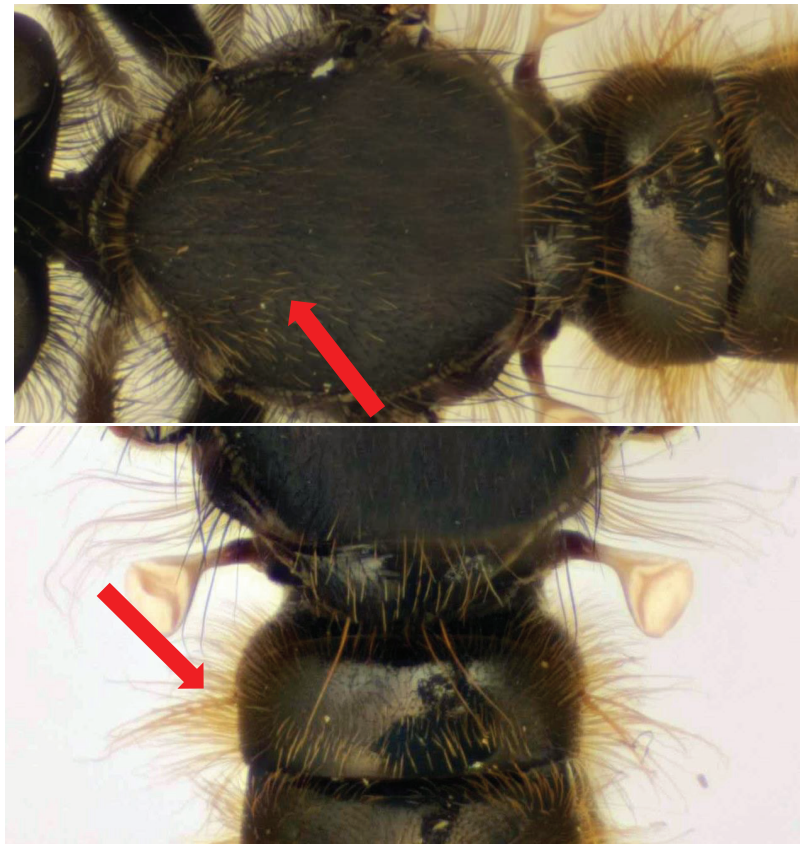
"Undescribed Species 1"



20) Scutum with a narrow triangle of yellow or gold hairs.

Tergite 1 with white hairs.

Laphria index (incl. *L. aeatus)*



20') Scutum with sparse or no yellow or gold hairs.

Tergite 1 with yellow or gold hairs.

Couplet 21

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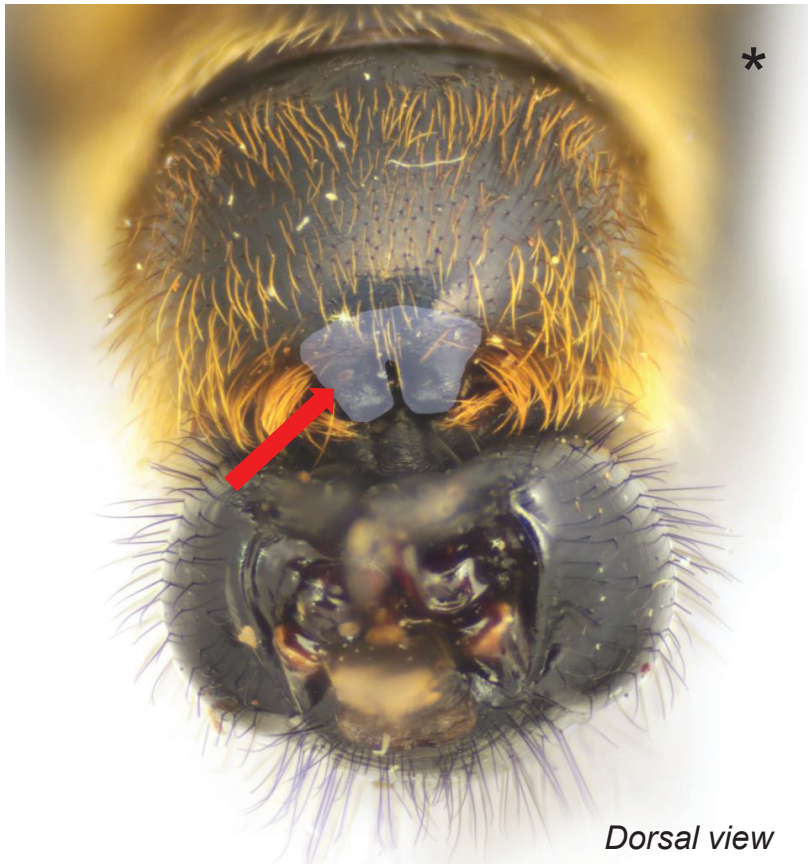

Dorsal view

21) **Male:** Processes of tergite 6 broad and not projecting on the same plane as tergite 6. Mystax composed mostly of long black bristles with some short yellow hairs[1].
Pale hairs on scutum white[2].
Female: Indistinguishable from females of *L. scorpio.*
**Photo has been edited to increase clarity*

Laphria canis disparella

Dorsal view

21') **Male:** Processes of tergite 6 thin and projecting on the same plane as tergite 6. Mystax composed mostly of long yellow hairs with black bristles intermingled[1].
Pale hairs on scutum gold[2].
Female: Indistinguishable from females of *L. canis disparella.*
**Photo has been edited to increase clarity*

Laphria scorpio

22) Ground colour of tergites 1–8 completely red.

Hind femora with tubercles.

Lampria bicolor

22') Ground colour of tergites 1–8 completely black.

Hind femora without tubercles.

Couplet 23

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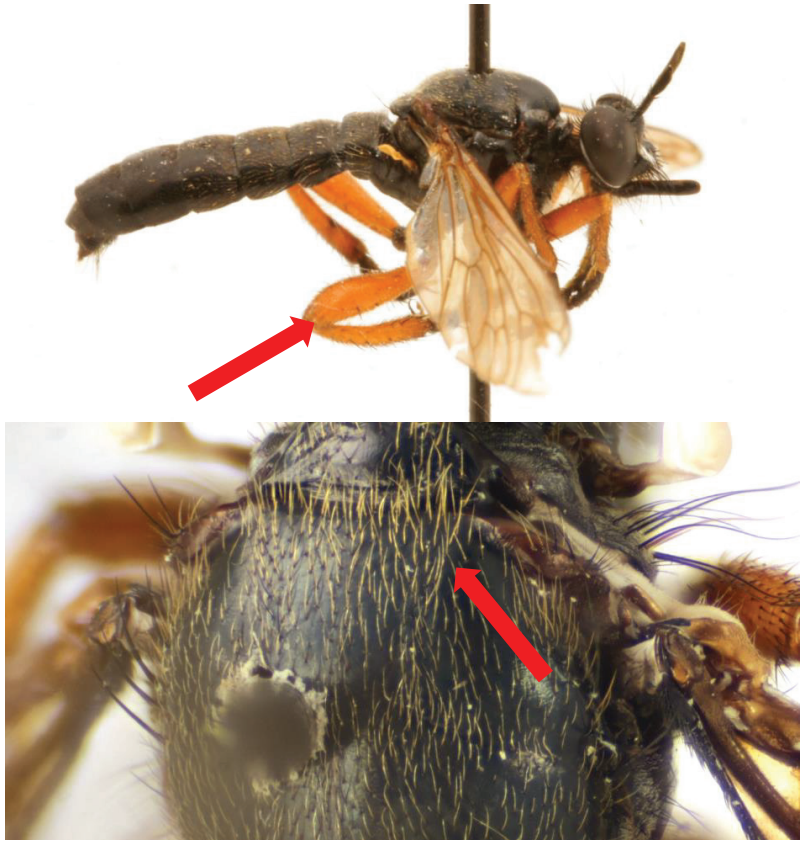
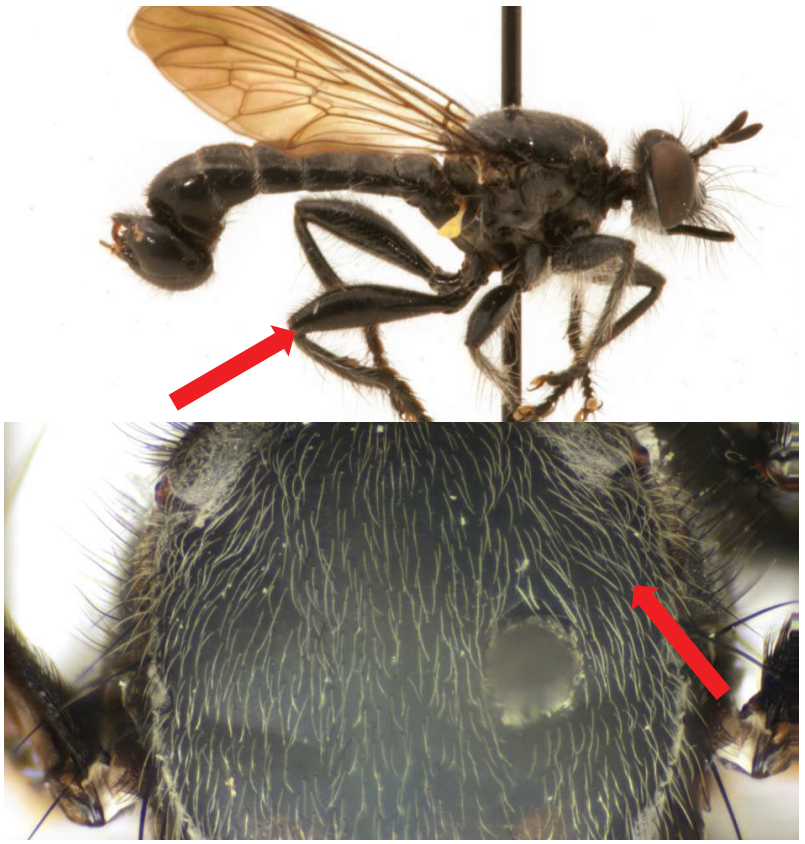


23) Legs red.

Scutum and abdomen with short, sparse pale yellow hairs.

Laphria sadales

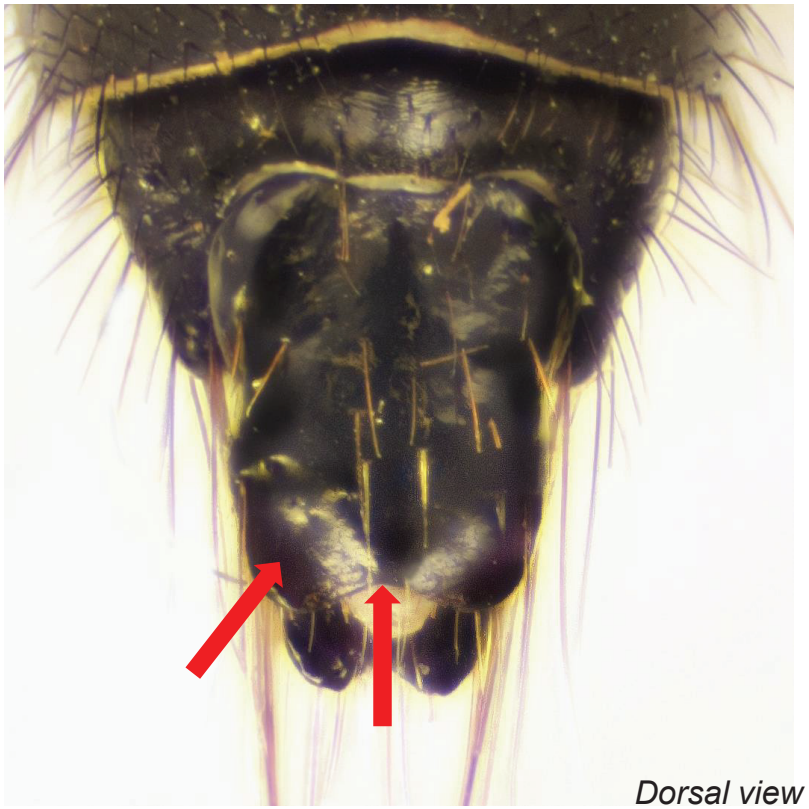


23') Legs black.

Scutum and abdomen with short, sparse white hairs.

Couplet 24 (Female) and 27 (Male) (*L.canis species* complex)

doi:10.3752/cjai.2019.37

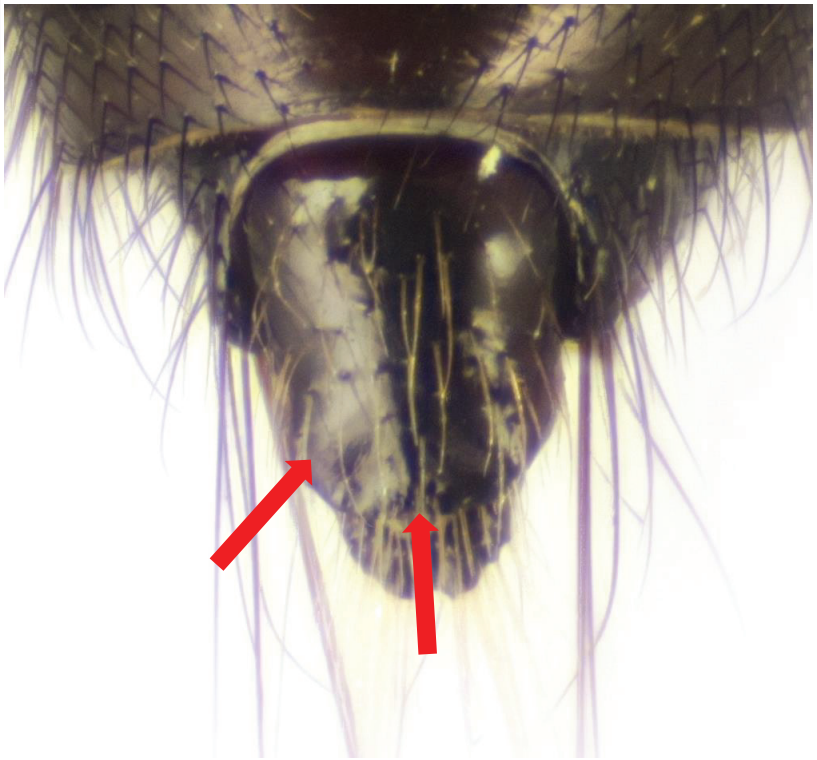


Dorsal view

24) Tergite 9 with two dorsolateral depressions at the apex.

Apex of tergite 9 often indented or notched medially.

Couplet 25



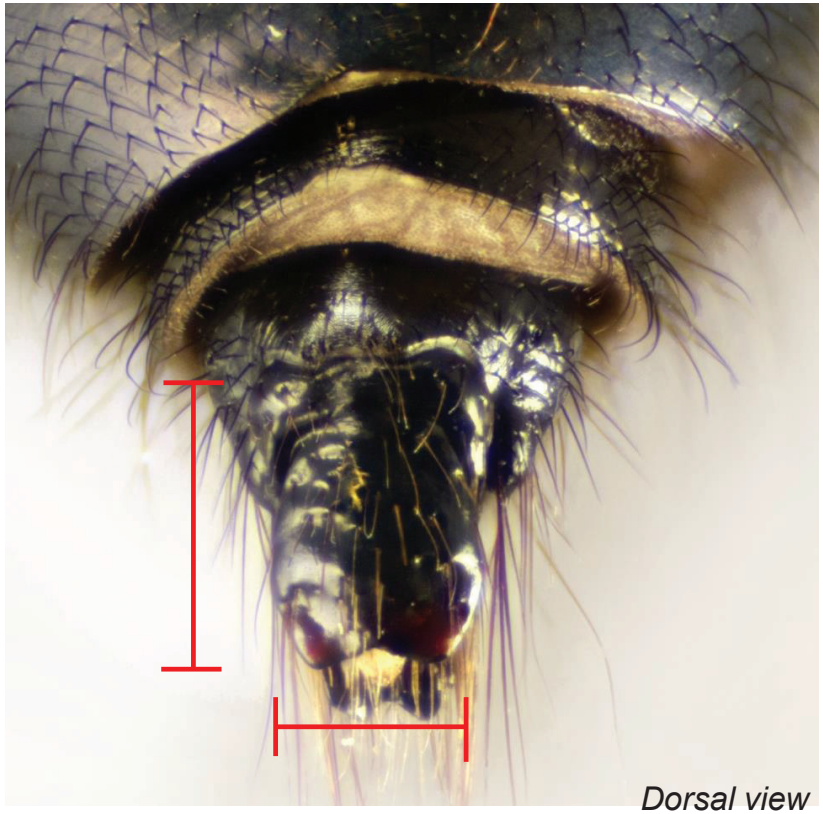
Dorsal view

24') Tergite 9 with no dorsolateral depressions.

Apex of tergite 9 rounded.

Couplet 26

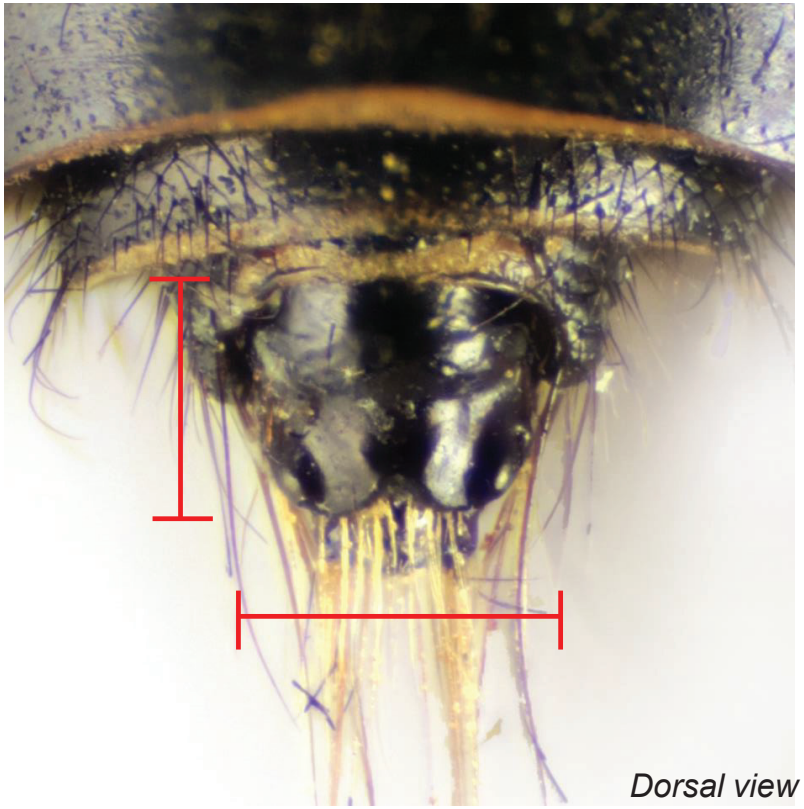
doi:10.3752/cjai.2019.37



Dorsal view

25) Tergite 9 longer than wide.

Laphria canis canis

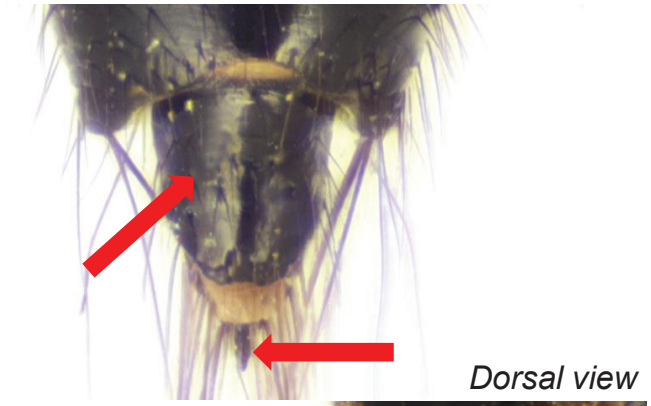


Dorsal view

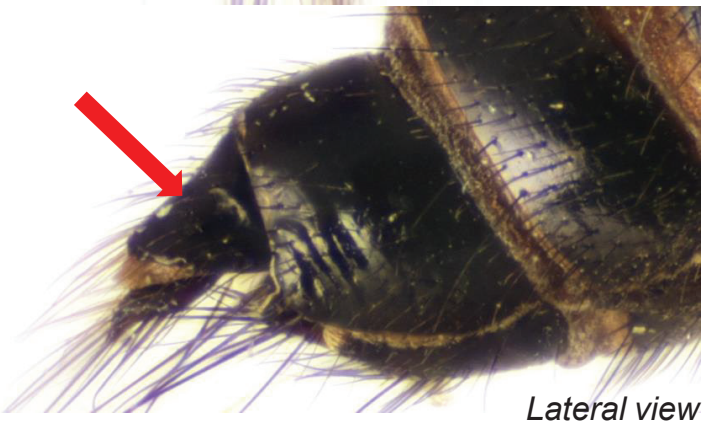
25') Tergite 9 at least as wide as long, usually distinctly wider.

Laphria winnemana

doi:10.3752/cjai.2019.37



Dorsal view

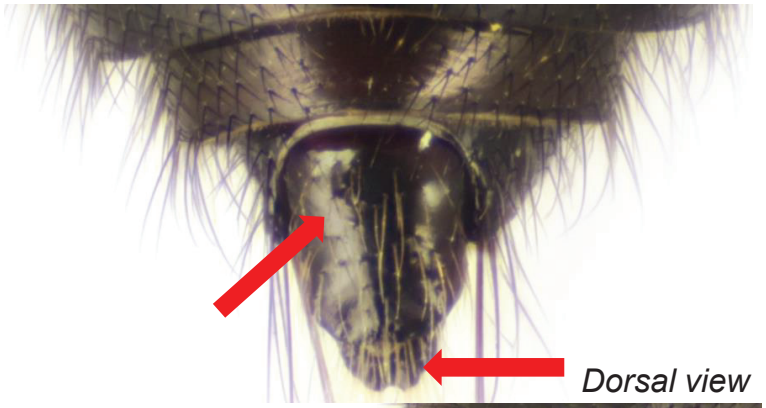


Lateral view

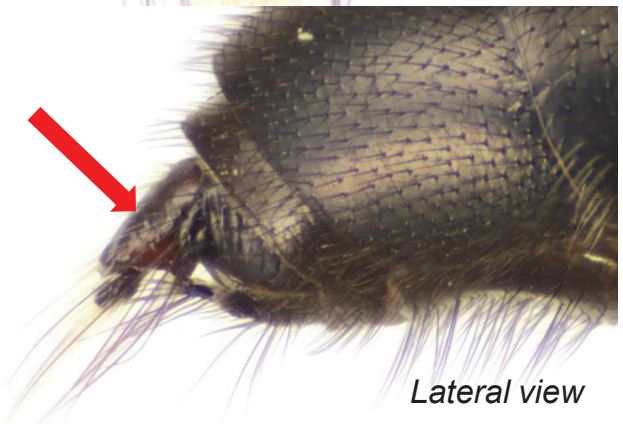
26) Tergite 9 thin, appearing very convex dorsally and triangular laterally.

Tergite 10 thin and straight when viewed dorsally.

Laphria sicula



Dorsal view



Lateral view

26') Tergite 9 broad, appearing flat to slightly convex dorsally and rectangular laterally.

Tergite 10 broad and apically indented or round when viewed dorsally.

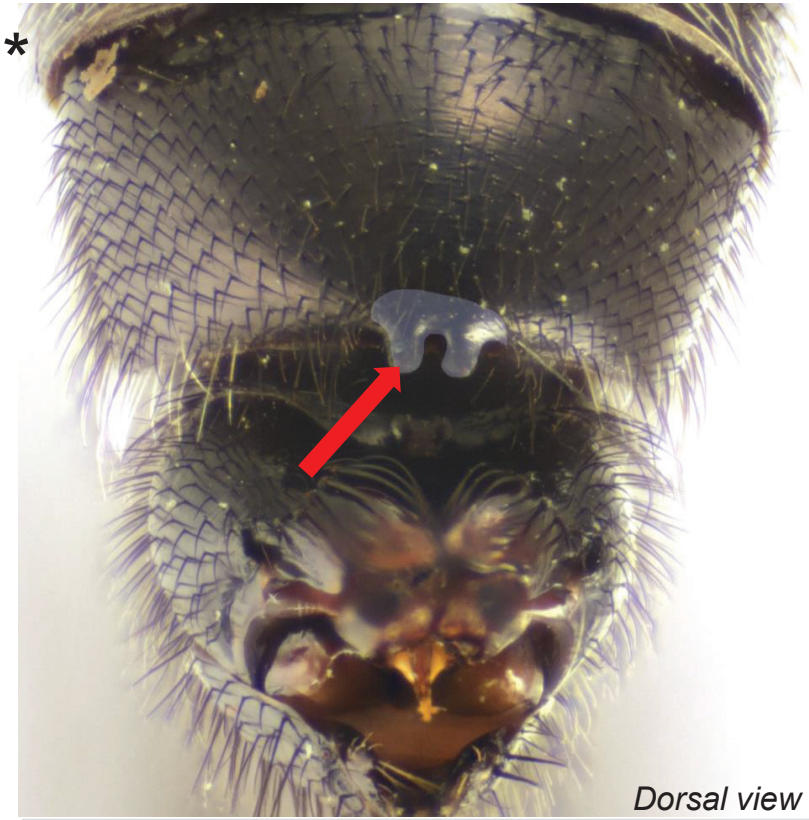
"Undescribed Species 2"

Dorsal view

27) Tergite 6 with no processes.

Laphria sicula

*



Dorsal view

27') Tergite 6 with two processes.

** Photo has been edited to increase clarity*

Couplet 28

doi:10.3752/cjai.2019.37

28) Tergite 6 with two widely spaced triangular processes.

** Photo has been edited to increase clarity*

Laphria winnemana

28') Tergite 6 with two closely apposed rounded processes.

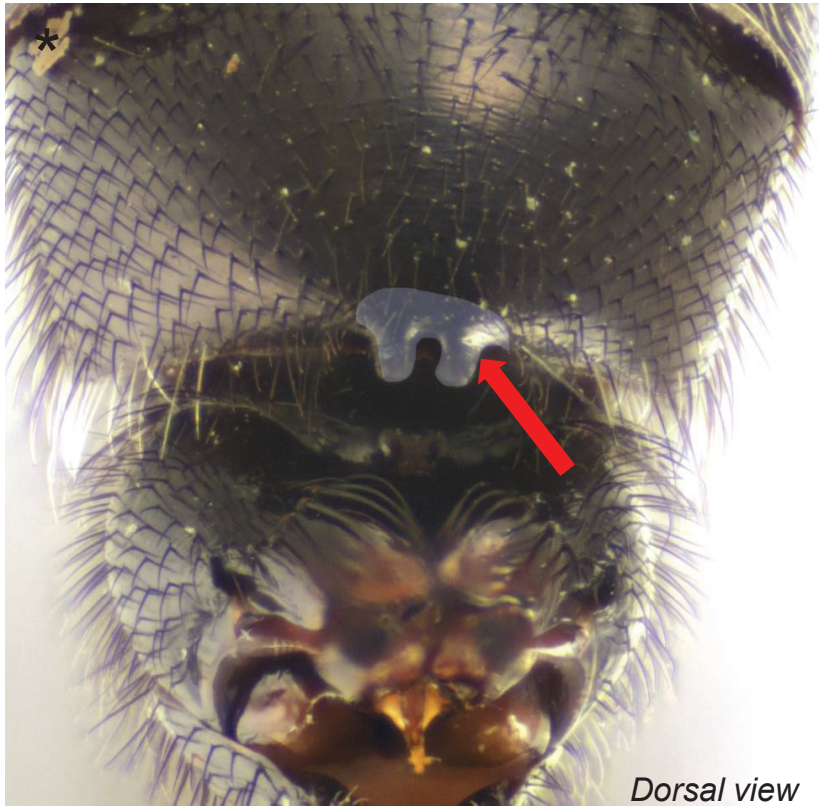
** Photo has been edited to increase clarity*

Couplet 29

29) Processes on tergite 6 broad, projecting below the dorsal plane of tergite 6.

* Photo has been edited to increase clarity

Laphria canis canis

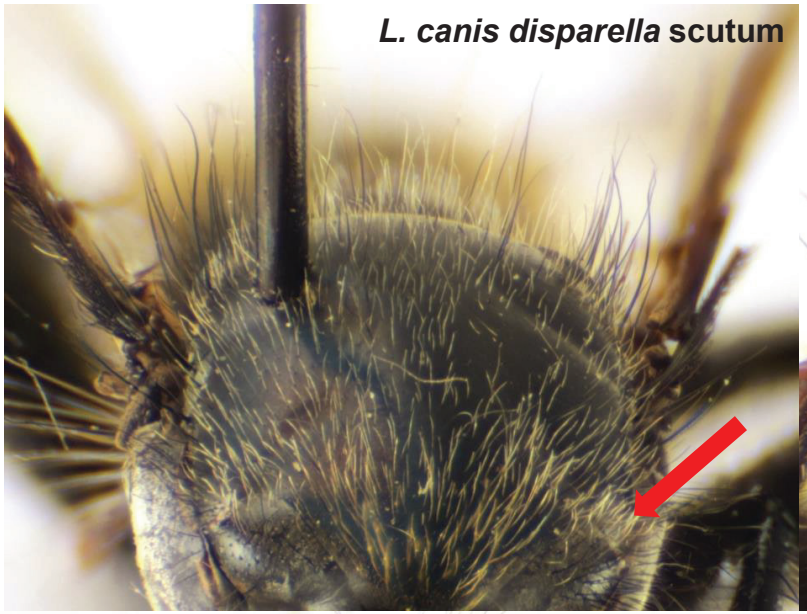


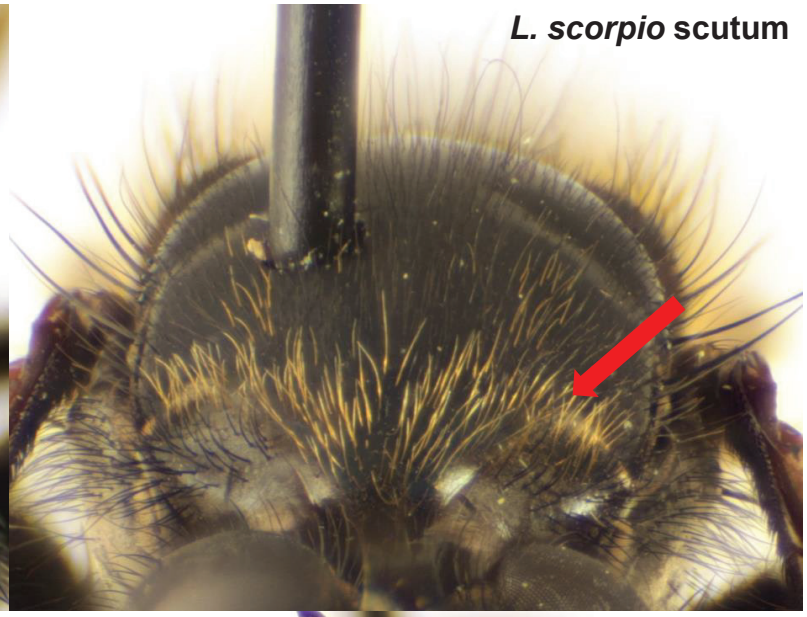
29') Processes on tergite 6 narrow, projecting on the same plane as tergite 6.

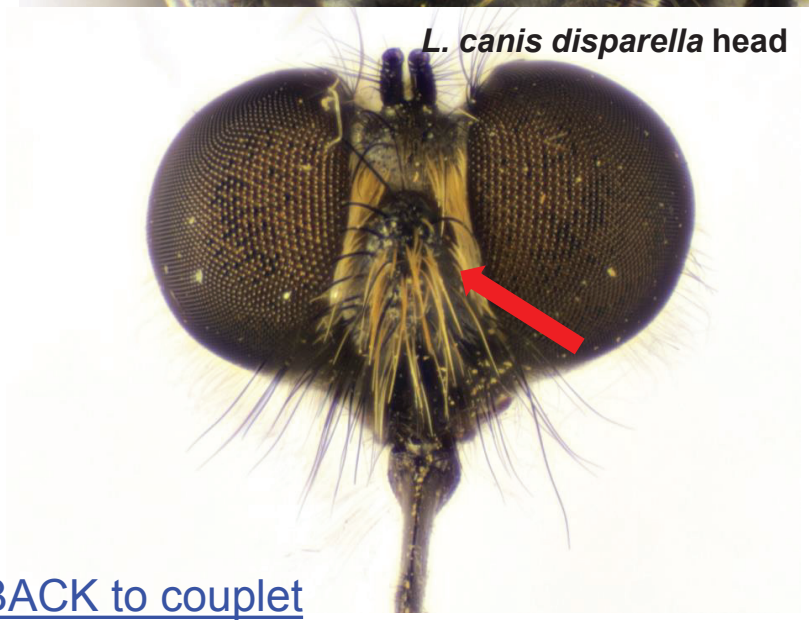
* Photo has been edited to increase clarity

"Undescribed Species 2"

doi:10.3752/cjai.2019.37







BACK to couplet

doi:10.3752/cjai.2019.37

Dasylechia atrox (Williston)

Similar to the bee-like species in the genus *Laphria* but the proboscis is stout and cylindrical.

Diagnosis: Length ~25 mm. Pronotal and anepisternal hairs black. Katatergal hairs yellow. Tergites 1–3 with yellow hairs present. Scutellar hairs dense and yellow. Scutum with yellow hairs. Upper mystax yellow or black, lower mystax black. Beard black. Forelegs black haired, middle and hind legs with yellow hairs. Hypandrium and epandrium unknown.

Habitat: Can be found in open pastures with gravelly soils and oak, hickory and maple trees (Bromley, 1936).

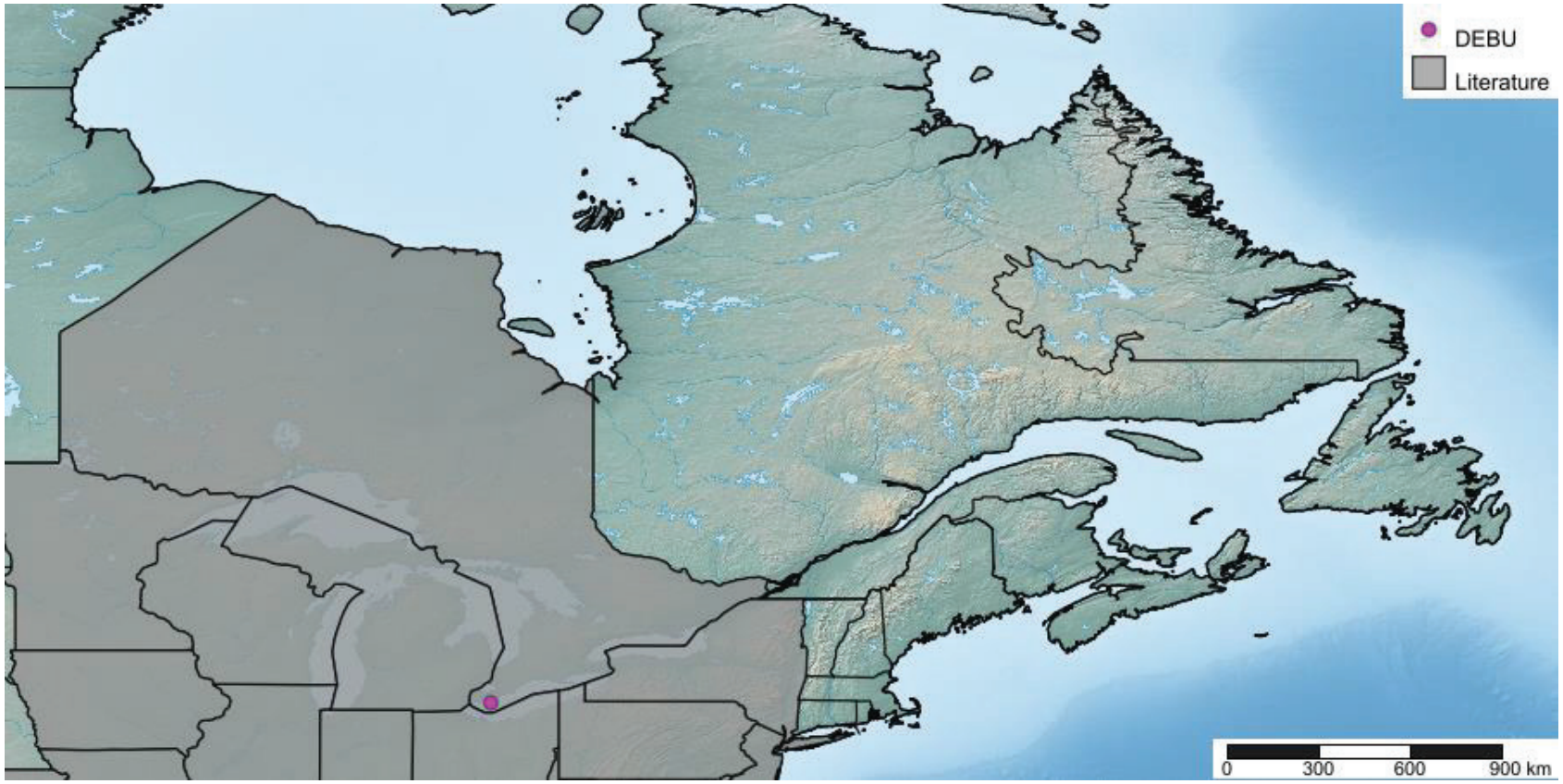
Flight period (Ohio): June 7th to August 29th, predominantly in July (Bromley, 1931).

Distribution: There is one Ontario record of *Dasylechia atrox* from the east beach of Point Pelee National Park. This uncommon species ranges from Ontario to New York south to Kentucky, west to Utah (Fisher and Wilcox, 1997).

MAP

Photo courtesy of Jeff Gruber

doi:10.3752/cjai.2019.37



Known distribution of *Dasylechia atrox* (Walker) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU).

doi:10.3752/cjai.2019.37

Laphria aeatus Walker

Both Baker and Fischer (1975) and Bullington (1986) include *L. aeatus* in their keys. Baker and Fischer (1975) describe a species that resembles *L. scorpio* in having yellow hairs on the first tergite. They differentiate *L. aeatus* from similar species based on the processes on the 6th tergite, which are supposedly turned upwards. Bullington (1986) also suggests that *L. aeatus* is most similar to *L. scorpio*, but describes a species closer to *L. index* with white hairs on the first tergite. He differentiates *L. aeatus* from similar species by the process on the tergite 7 which is rounded instead of pointed. Based on the lectotype images of *L. aeatus*, it is essentially identical to *L. index*.

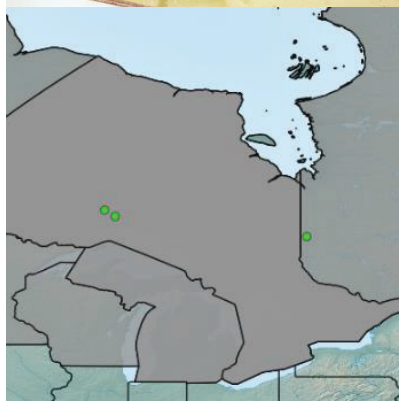
Diagnosis: Length 11–19 mm (Bullington, 1986). Anepisternal hairs white with some black hairs. Katatergal hairs white. Hairs on tergite 1 white, tergites 2–7 golden haired in males, 2–6 in females. Ground colour of abdomen black. Scutum with black and gold hairs which form a poorly defined triangle. Scutellar hairs and bristles golden. Mystax mostly black with white hairs. Beard white. Legs with black hairs and white hairs. Coxae with white hairs. Processes on the 6th tergite of males straight. Hypandrium and epandrium with black and yellow hairs.

Habitat: Boreal mixed forest.

Flight period: Unknown.

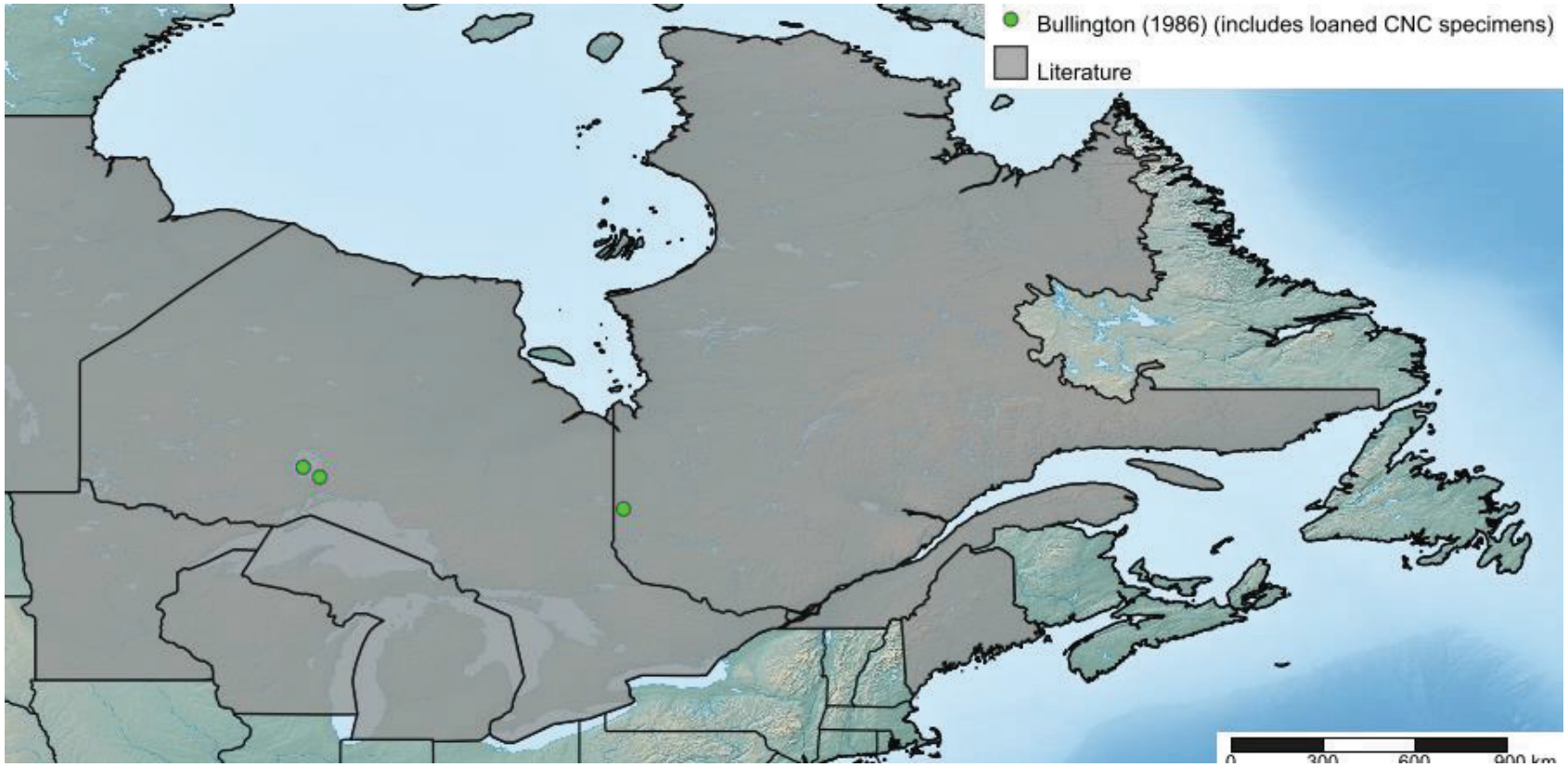
Distribution: Rare species found in northern Ontario. Ranges from Alberta to Quebec, south to Michigan and Maine (Bullington, 1986; Fisher and Wilcox, 1997).

MAP



Photos on this page are of the lectotype specimen of *L. aeatus*. Courtesy of Erica McAlister.

doi:10.3752/cjai.2019.37



Known distribution of *Laphria aeatus* Walker in northeastern North America, based on state and province records from literature and distributional records from Bullington (1986).

Laphria aktis McAtee

Falls into the *L. aktis* species complex with *L. sericea* and "Undescribed Species 1". The shelf of the hypandrium is broad and apically rounded. Females of this species complex are here treated as indistinguishable.

Diagnosis: Length 17–21 mm (Baker and Fischer, 1975). Hairs on coxae, mystax and sternites generally brighter white than those of *L. sericea* and "Undescribed Species 1". Otherwise apparently identical to *L. sericea*, except for the structure of male genitalia.

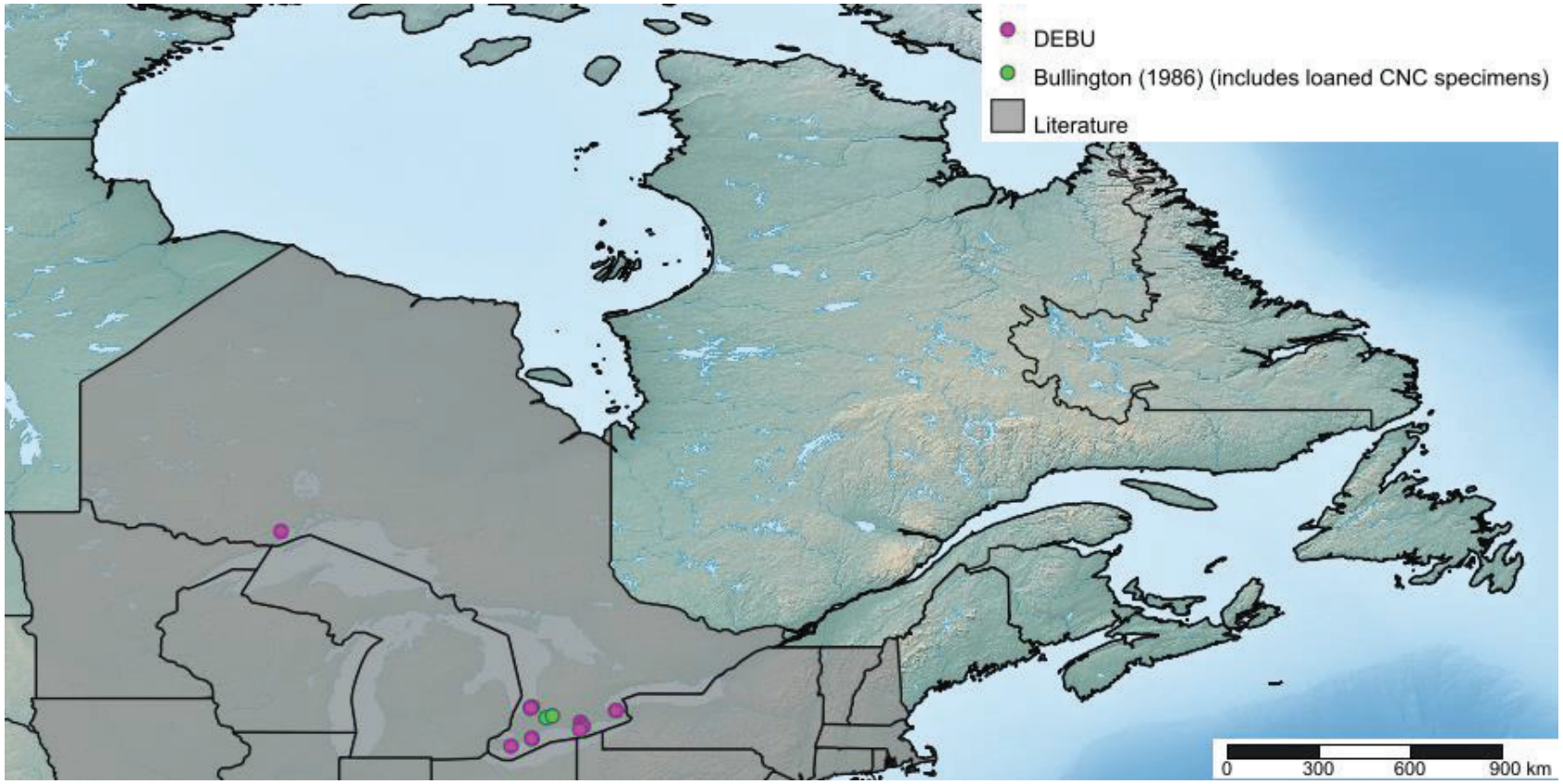
Habitat: Bullington (1986) notes that this species can be found in oak forests in partially shaded areas near roads and that they are very active.

Flight period (Ontario): June 11th to July 28th.

Distribution: Found mostly in southern Ontario north to Thunder Bay. Ranges from Minnesota and Iowa to New Hampshire and south to Georgia and Arkansas (Fisher and Wilcox, 1997).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria aktis* McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU) and Bullington (1986).

Laphria altitudinum Bromley

Similar to the much more common *L. janus* but the mystax is black and there are black hairs on tergite 1.

Diagnosis: Length 16–24 mm (Baker and Fischer, 1975). Pronotal and anepisternal hairs black. Katatergal hairs yellow or black. Tergites 1–7 with rust-coloured hairs and some black hairs interspersed. Sparse yellow hair on anterior scutum, getting denser and longer posteriorly. Scutellar hairs and bristles yellow. Mystax black. Beard black or yellow. Legs mostly black haired. Hypandrium and epandrium unknown.

Habitat: Mixed forest.

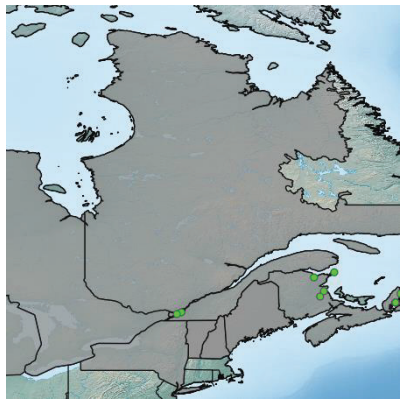
Flight period (entire distribution): June 16th to July 30th (Bromley, 1934).

Distribution: This uncommon species is found from Ontario and Michigan to Maine, New Hampshire, New York, and Nova Scotia (Bullington, 1986; Fisher and Wilcox, 1997).

MAP

Photo courtesy of Rachel Diaz-Bastin

Photo courtesy of Charley Eiseman



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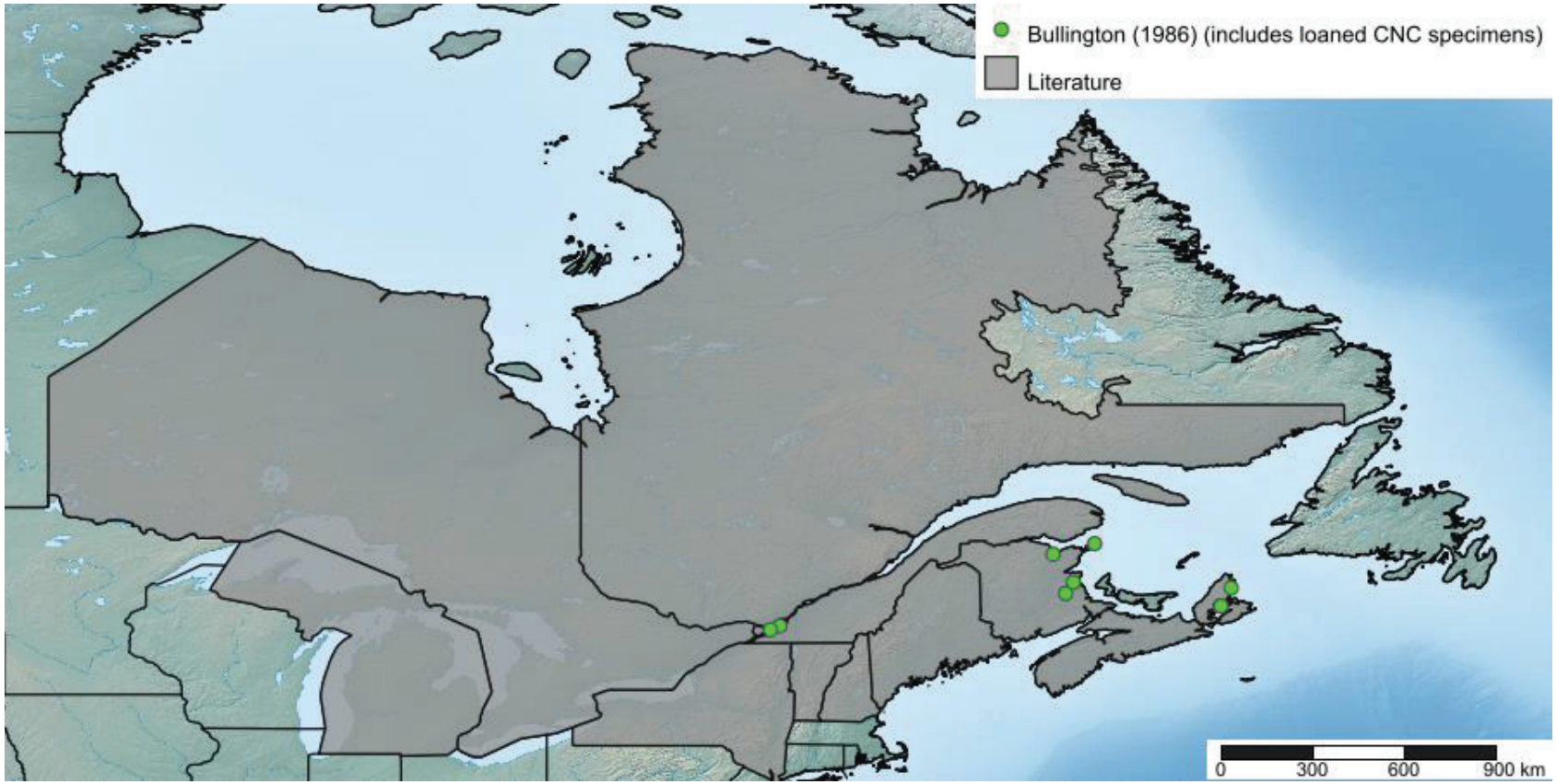


Known distribution of *Laphria altitudinum* Bromley in northeastern North America, based on state and province records from literature and distributional records from Bullington (1986).

Lampria bicolor (Wiedemann)

Lampria is closely related to *Laphria,* and both fall into the tribe Laphriini. The only species of *Lampria* in eastern Canada is *Lampria bicolor*, which can be easily distinguished from all species of *Laphria* by its red abdomen and tubercles on the hind femora.

Diagnosis: Length 9–16 mm (Bromley, 1934). Anepisternal hairs sparse and white. Katatergal hairs black. Tergites 1–6 with very sparse white and black hairs. Ground colour of abdomen red. Scutum with sparse white hairs. Scutellar hairs white, no scutellar bristles. Mystax mostly composed of long black hairs with patches of short white hairs. Beard white. Ground colour of legs black with white hairs. Coxae with white hairs. Hypandrium and epandrium unknown.

Photo courtesy of Charles Lewallen

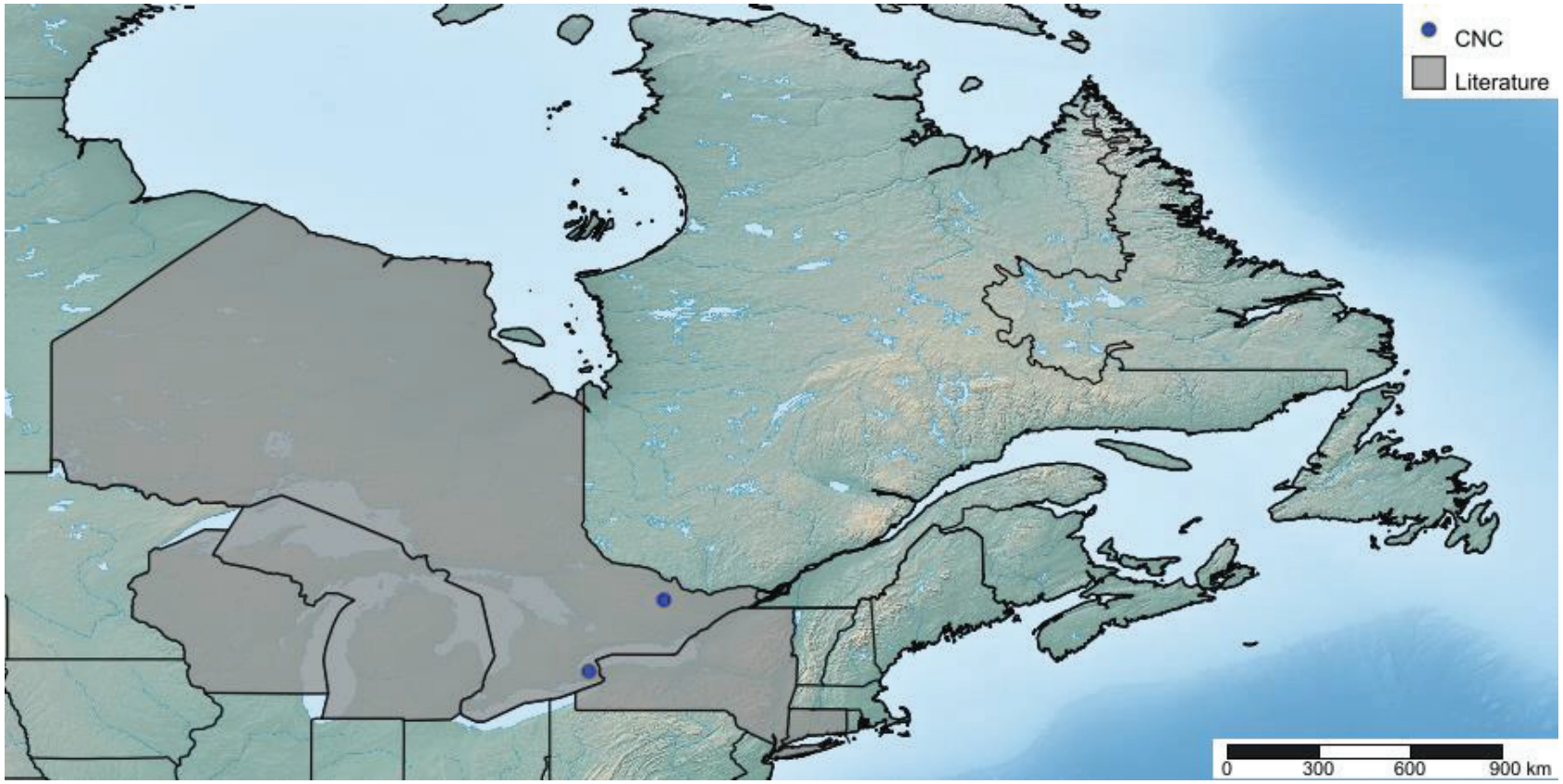
Habitat: Rests on stumps or logs in dry open woods. Associated with oak trees (Bromley, 1934).

Flight period (Ohio): June to September 14th (Bromley, 1934).

Distribution: Occurs in southern Ontario. It is an infrequently collected species ranging from Ontario to Wisconsin and Iowa, east to Connecticut, south to Texas and Florida (Fisher and Wilcox, 1997).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Lampria bicolor* (Wiedemann) in northeastern North America, based on state and province records from literature and distributional records from the Canadian National Collection (CNC).

doi:10.3752/cjai.2019.37

Laphria canis Williston

Falls into the *L. canis* species complex with *L. winnemana*, *L. sicula*, and "Undescribed Species 2". *Laphria canis* includes two subspecies: *L. canis canis* and *L. canis disparella.* Both subspecies of *L. canis* have two blunt processes on tergite 6 and one flattened, grooved process on tergite 7. Females of *L. canis canis* have a dorsally irregular and apically indented tergite 9. Females of *L. canis disparella* are here treated as indistinguishable from similar species.

***Laphria canis canis* Williston:**

Diagnosis: Length 7–12 mm (Baker and Fischer, 1975). Anepisternal and katatergal hairs black and white. Tergites 1–6 with sparse white hairs. Ground colour of abdomen black. Scutum with sparse pale white and black hairs. Scutellar hairs white and bristles white and black. Mystax mostly composed of long black bristles with patches of short white hairs. Beard white. Ground colour of legs black with white and black hairs. Coxae with white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Often found resting on the foliage of undergrowth in thick, damp forests in sunny openings. Also found near sunny paths, fields or openings close to a body of water or stream. Associated with oak and pine (Fattig, 1945).

Flight period (Ontario): May 25th to September 15th.

Distribution: Found in southern Ontario northwest to Lake of Woods area. Ranges from Minnesota and Manitoba to Quebec and New Brunswick, south to Florida (Bullington, 1986; Fisher and Wilcox, 1997; Rob Cannings (pers. com.).
MAP

doi:10.3752/cjai.2019.37

Laphria canis Williston continued

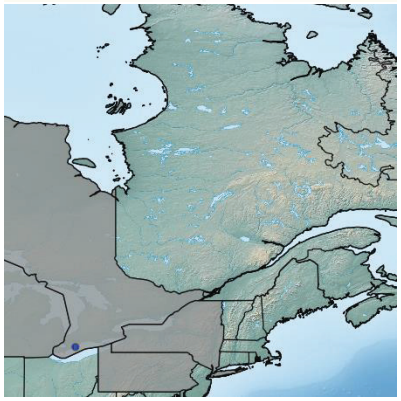
Laphria canis disparella Banks

L. canis disparella, previously treated as *L. disparella* but now treated as a subspecies of *L. canis* (Banks, 1913), is easily distinguished from the typical subspecies *L. canis canis* by the golden hairs on the abdomen. Otherwise it is very similar to *L. scorpio*, which it can be distinguished from by the processes on male tergite 6 and the white hairs on the scutum.

Diagnosis: Length 13–16 mm (Baker and Fischer, 1975). Anepisternal hairs black and white. Katatergal hairs yellow and white. Tergites 1–6 with gold hairs. Ground colour of abdomen black. Scutum with fine, sparse black and white hairs. Scutellar hairs pale yellow or white. Scutellar bristles golden with some black hairs. Mystax mostly black with some yellow hairs. Beard white. Legs mostly black with some white hairs. Coxae with white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Often in damp deciduous forests along streams or fields (Bullington, 1986).

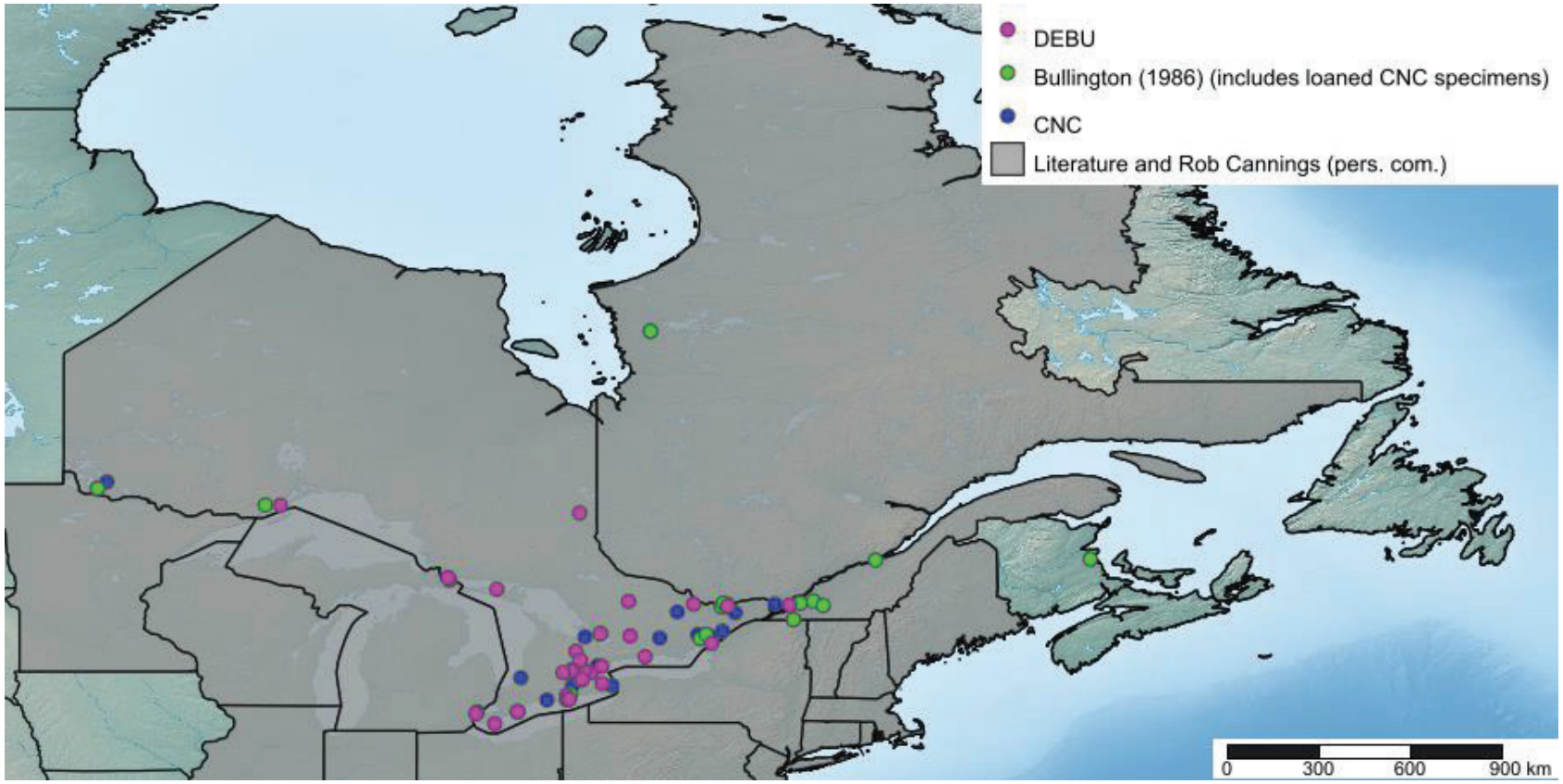
Flight period (Ohio): June 6th to August 10th (Bromley, 1934).



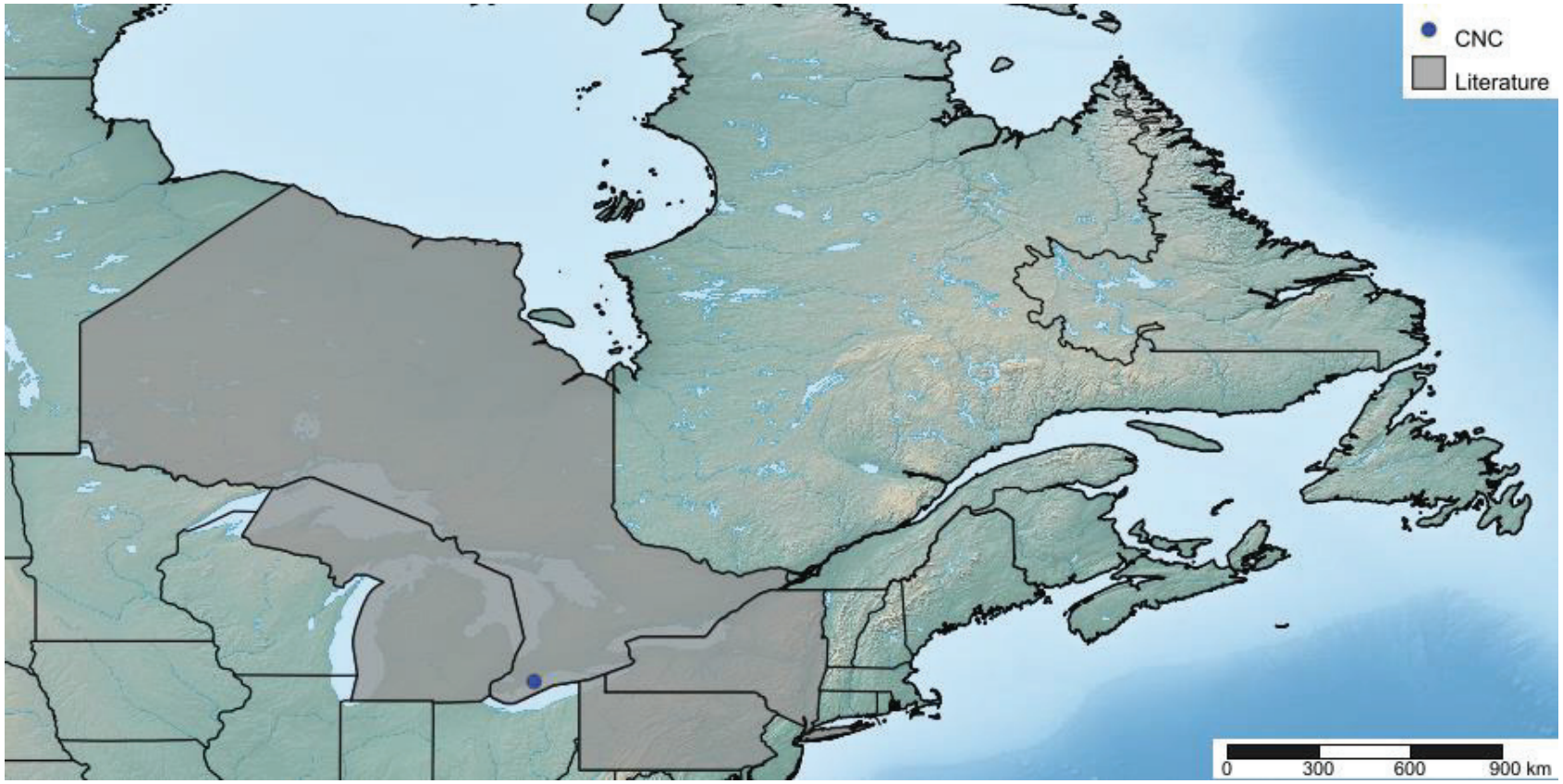
Distribution: There is one Ontario record of *L. canis disparella* from Rondeau Provincial Park. This uncommon subspecies is also found from Michigan and New York to Pennsylvania (Fisher and Wilcox, 1997).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria canis canis* Williston in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Canadian National Collection (CNC), Bullington (1986) and Rob Cannings (pers. com.).



Known distribution of *Laphria canis disparella* Banks in northeastern North America, based on state and province records from literature and distributional records from the Canadian National Collection (CNC).

doi:10.3752/cjai.2019.37

Laphria champlainii (Walton)

Similar to *L. grossa* but the first tergite has black hairs medially and patches of yellow hairs laterally and the proboscis is apically rounded.

Diagnosis: Length 19–24 mm (Bromley, 1934). Pronotal and anepisternal hairs black. Katatergal hairs yellow and/or black. Tergite 1 with black hairs medially, yellow hairs laterally. Tergites 2–3 with yellow hairs laterally, black hair medially. Tergite 4 completely yellow haired, 5 sometimes with yellow hairs, otherwise 5–7 black haired. Scutum with yellow hairs. Scutellar hairs black. Scutellar bristles black with possibly some yellow. Upper mystax yellow, lower mystax black. Beard yellow. Fore, middle and hind legs mostly black haired. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Generally found in dry areas dominated by scrub oak (Bromley, 1934).

Flight period: Unknown.

Distribution: There are no published records of *L. champlainii* in Canada. Found in Ohio, New York, Massachusetts, Connecticut and New Jersey (Fisher and Wilcox, 1997).

Photo courtesy of Ben Coulter

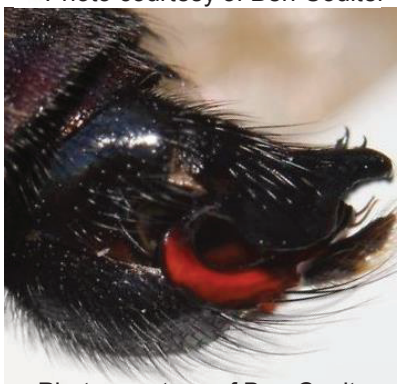


Photo courtesy of Ben Coulter

Photo courtesy of Jacob Gorneau

doi:10.3752/cjai.2019.37

Laphria cinerea (Back)

Similar to the more common *L. divisor* but the anepisternal hairs are yellow and generally paler than on other species.

Diagnosis: Length 10–16 mm (Baker and Fischer, 1975). Pronotal, anepisternal and katatergal hairs yellow. Tergite 1 with yellow hairs laterally, black hairs medially. Tergites 2–4 black haired and 5–7 yellow haired. Scutum with sparse yellow hairs. Scutellar hairs sparse and black. Scutellar bristles black. Upper mystax yellow, lower mystax black. Beard yellow. Fore, middle and hind legs with yellow hairs. Hypandrium and epandrium with yellow hairs.

Habitat: Usually found in hot, dry and sandy locations. Has been seen resting on conifer stumps or logs. Attracted to freshly cut pine (Bromley, 1931; Bromley 1934).

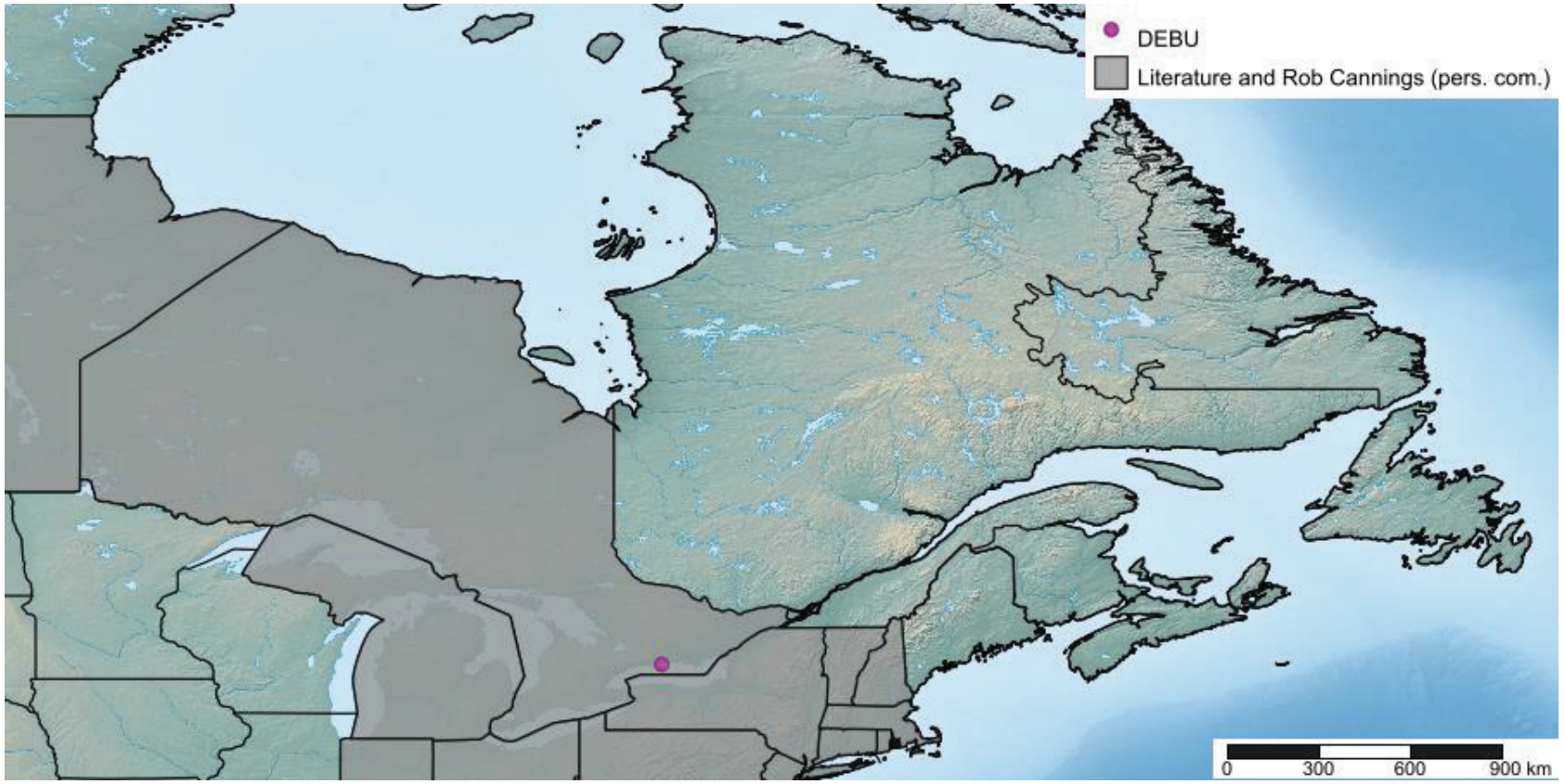
Flight period (Ontario): June 7th to July 16th (Bromley, 1934).

Distribution: There is one Ontario record of *Laphria cinerea* from Northumberland County. It is an uncommonly collected species from Saskatchewan to Michigan, New York and New Hampshire south to Mississippi and Florida (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

Photo courtesy of Greg Lasley

doi:10.3752/cjai.2019.37



Known distribution of *Laphria cinerea* (Back) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU) and Rob Cannings (pers. com.).

doi:10.3752/cjai.2019.37

Laphria divisor (Banks)

Similar to the less common *L. cinerea* but the anepisternal hairs are black.

Diagnosis: Length 11–18 mm (Baker and Fischer, 1975). Pronotal and anepisternal hairs black. Katatergal hairs yellow. Tergite 1 with black hairs medially, tufts of yellow hairs laterally. Tergites 2–3 black haired and 5–6 (sometimes 4) with yellow hairs. Scutum with yellow hairs. Scutellar hairs and bristles yellow. Upper mystax yellow, lower mystax black. Beard yellow. Fore, middle and hind legs mostly black haired. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

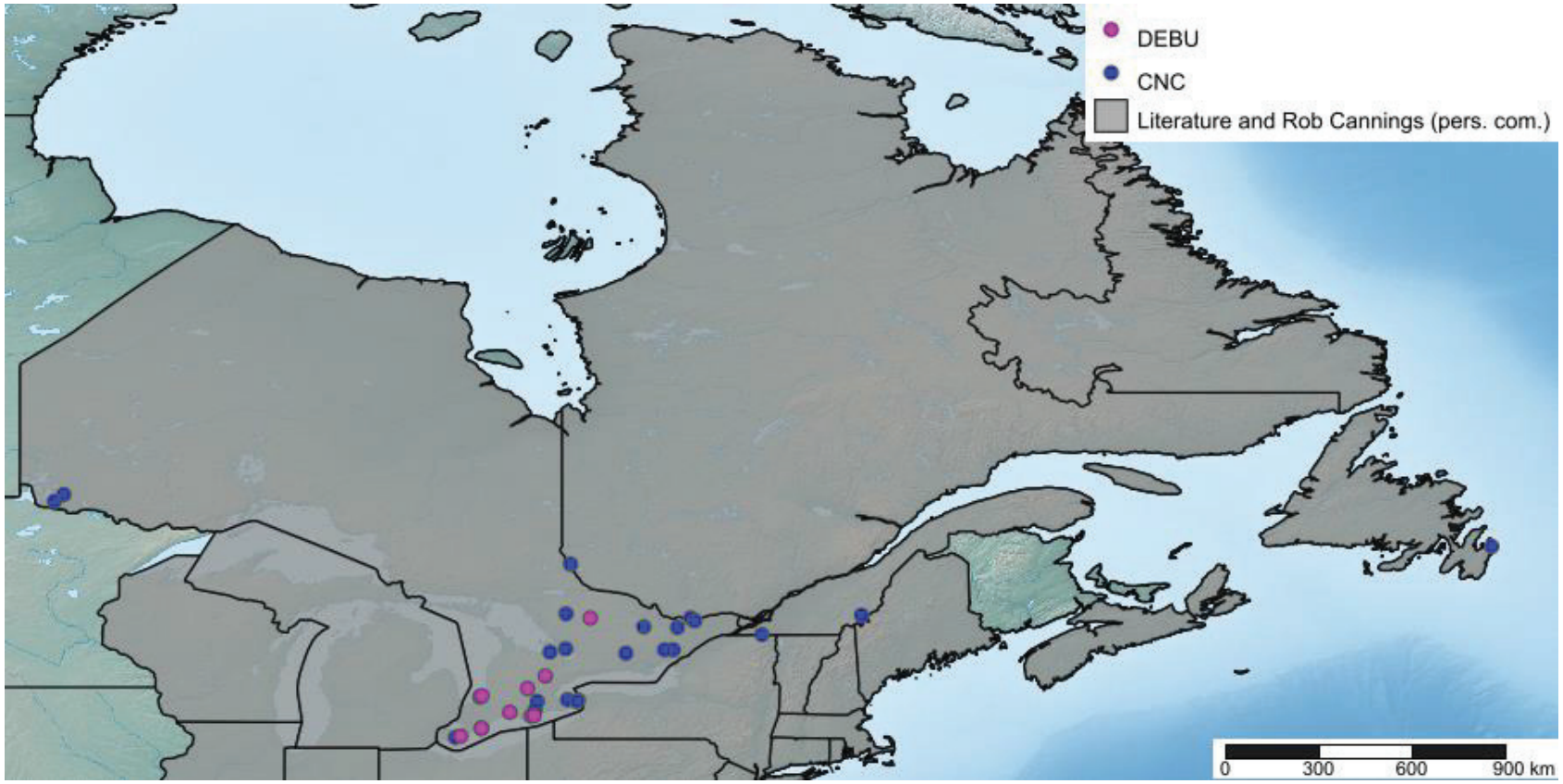
Habitat: Can be found near creeks and ponds or on the edges of trails or parking lots near forests.

Flight period (Ontario): Found June 3rd to July 22nd.

Distribution: Found in southern Ontario, less common in northern Ontario northwest to Rainy River district. Ranges from Wisconsin to Nova Scotia, Labrador and Maine, south to Tennessee and Florida (Fisher and Wilcox, 1997; CNC data; Rob Cannings (pers. com.).

MAP

Photo courtesy of Karen Yukich



Known distribution of *Laphria divisor* (Banks) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Canadian National Collection (CNC) and Rob Cannings (pers. com.).

Laphria flavicollis Say

Similar to *L. divisor* and *L. posticata* but the abdomen is completely black haired.

Diagnosis: Length 11–20 mm (Baker and Fischer, 1975). Pronotal hairs yellow or black. Katatergal hairs yellow. Anepisternal hairs black. Tergite 1 with black hairs medially, and tufts of yellow hairs laterally. Tergites 2–7 black haired. Scutum with yellow hairs. Scutellar hairs and bristles yellow. Upper mystax yellow, lower mystax black. Beard yellow or black. Fore, middle and hind legs with black or yellow hairs. Hypandrium with black and yellow hairs. Epandrium with black hairs.

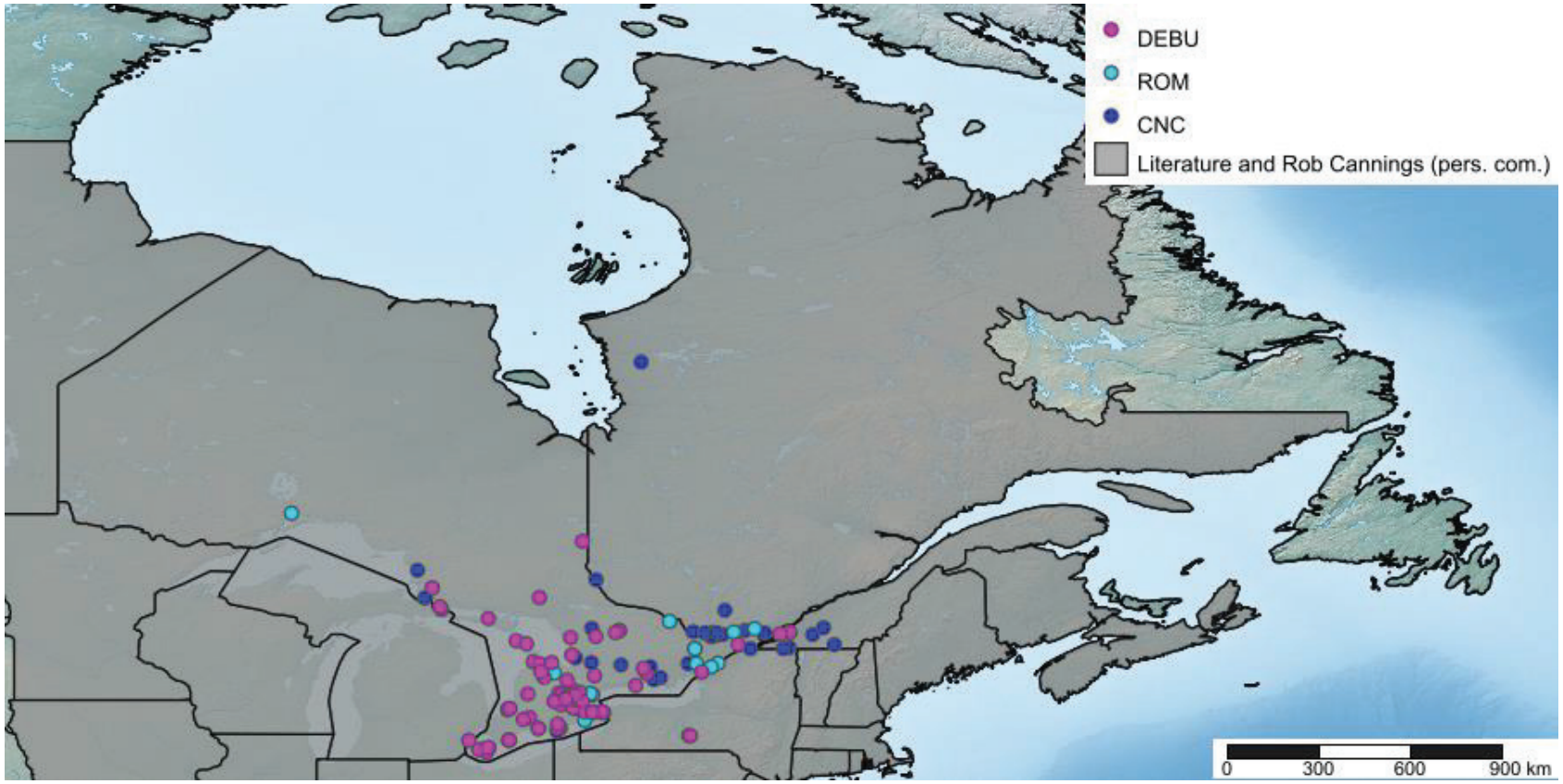
Habitat: Often found resting on foliage 3–4 feet above ground in sunny areas at the edges of forests with thick undergrowth or near roads, stumps or woodpiles. Usually in moist habitats near bodies of water. Moves resting spots frequently (Bromley, 1931; Bromley, 1934).

Flight period (Ontario): May 17th to August 24th, predominantly in June.

Distribution: Widespread and common in southern Ontario, north to Thunder Bay. Ranges from Manitoba and Iowa to Quebec, Nova Scotia and Maine, south to Texas and Florida (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria flavicollis* Say McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Rob Cannings (pers. com.).

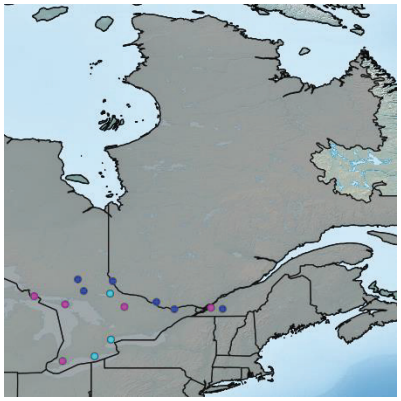
Laphria gilva (Linnaeus)

Similar to *L. aimatis*, which is limited to western North America (Fisher and Wilcox, 1997). *Laphria gilva* has previously been treated by some authors as *Choerades* (Bullington, 1986).

Diagnosis: Length 16–32 mm (Baker and Fischer, 1975). Anepisternal and katatergal hairs white and/or black. Hairs and ground colour of tergites black, except on tergites 3–5, which are reddish-orange medially with golden hairs. Scutum with fine black hairs. Scutellar hairs and bristles black. Mystax mostly black with some white hairs. Beard white. Legs with white and black hairs. Coxae with white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Commonly found in coniferous forests resting on pine stumps and logs. Often perches vertically and faces downwards 3–15 feet off the ground (Bromley, 1934).

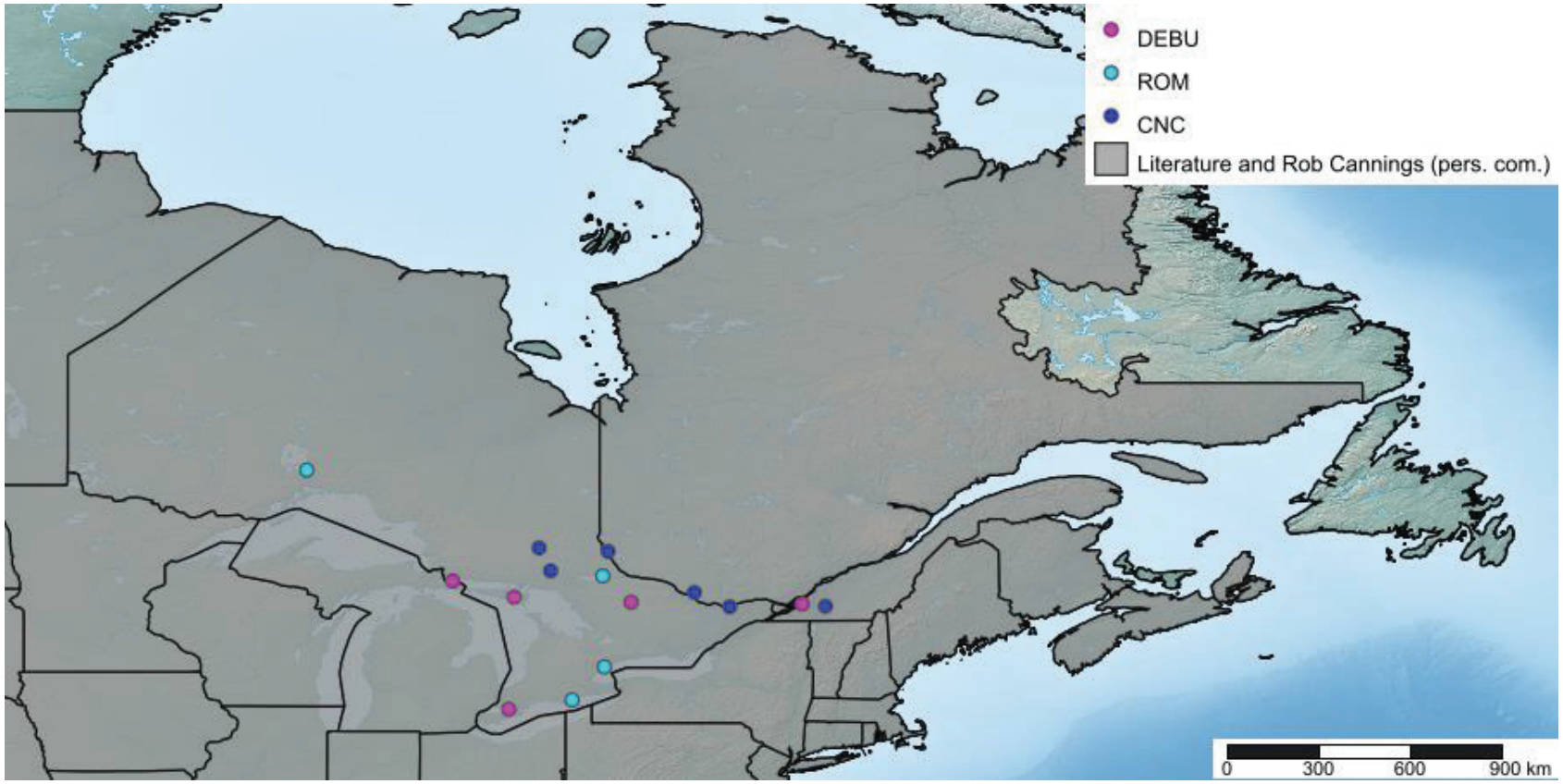
Flight period (Ontario): June 25th to August 25th.



Distribution: Found in southern Ontario north to Thunder Bay. Ranges from the Yukon and Northwest Territories to Quebec and Nova Scotia, south to California, Colorado and Pennsylvania (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria gilva* (Linnaeus) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Rob Cannings (pers. com.).

doi:10.3752/cjai.2019.37

Laphria grossa Fabricius

Similar to *L. champlainii* but the first tergite is black and the proboscis is apically taller.

Diagnosis: Length 23–35 mm (Bromley, 1934). Pronotal hairs black. Anepisternal and katatergal hairs yellow or black. Tergite 1 black haired medially and laterally. Tergites 2–7 either completely black haired or mostly yellow haired. Scutum with yellow hairs. Scutellar hairs and bristles black. Upper mystax yellow, lower mystax black. Beard yellow or black. Fore, middle and hind legs mostly black haired. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Unknown.

Flight period: Unknown.

Distribution: There is a published record of *L. grossa* in Ontario (Skevington, 1999), although the specimen is actually *L. thoracica*. Fischer and Wilcox (1997) state the range of *L. grossa* is from Ohio to Quebec and Maine and south to Mississippi and Florida, however, the record from Quebec is not verified.

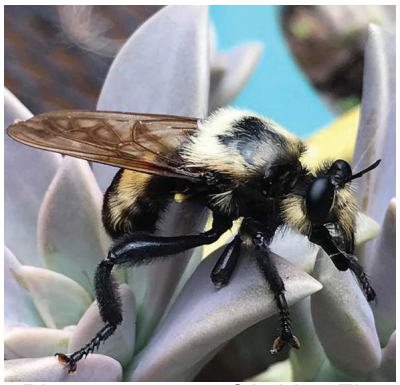


Photo courtesy of Ashley Fly

doi:10.3752/cjai.2019.37

Laphria huron (Bromley)

Similar to *L. sacrator* and *L. thoracica* but the first tergite is black haired and the forelegs have dense yellow hairs.

Diagnosis: Length 16–20 mm (Baker and Fischer, 1975). Pronotal hair black. Anepisternal and katatergal hairs yellow. Tergite 1 black haired medially and laterally. Tergite 2 sometimes with spots of brown hairs laterally, otherwise tergites 2–7 black haired. Scutum with yellow hairs. Scutellar hairs and bristles yellow. Mystax mostly black. Beard black. Forelegs with dense yellow hairs posteriorly. Middle pair of legs with dense yellow hairs mostly at the knees. Hind legs mostly black haired. Hypandrium and epandrium with black and yellow hairs.

Habitat: Near trails in boggy spruce or hardwood forests.

Flight period (Ontario): June 23rd to August 11th.

Distribution: Relatively uncommon and northern in distribution, with Ontario records from Thunder Bay south to Algonquin Provincial Park. Ranges from Michigan east to New Brunswick and south to New York (Fisher and Wilcox, 1997).

MAP

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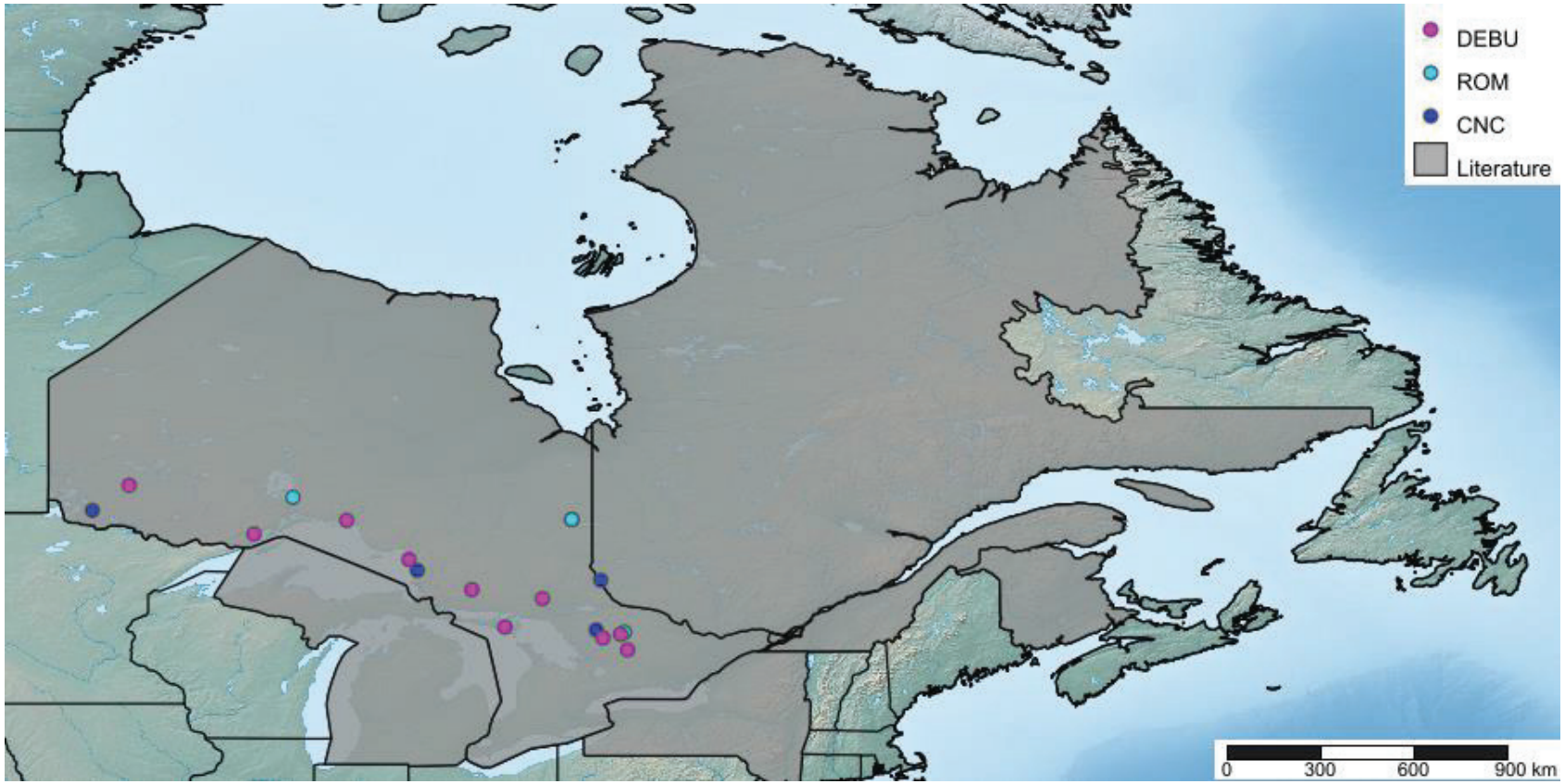


Known distribution of *Laphria huron* (Bromley) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM) and the Canadian National Collection (CNC).

doi:10.3752/cjai.2019.37

Laphria index McAtee

Similar to the rare *L. aeatus*. See *L. aeatus* species page for discussion.

Diagnosis: Length 12–20 mm (Baker and Fischer, 1975). Anepisternal hairs white with some black hairs. Katatergal hairs white. Tergite 1 with white hairs, 2–7 with golden hairs in males, 2–6 in females. Ground colour of abdomen black, reddish-brown on the edges of tergites on some specimens. Scutum with black and gold hairs which form a distinct triangle. Scutellar hairs white or yellow, bristles white or pale yellow, sometimes with some black bristles, Mystax mostly black with some white hairs. Beard white. Legs with black hairs and white hairs especially on the posterior margins of the first four legs. Coxae with white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

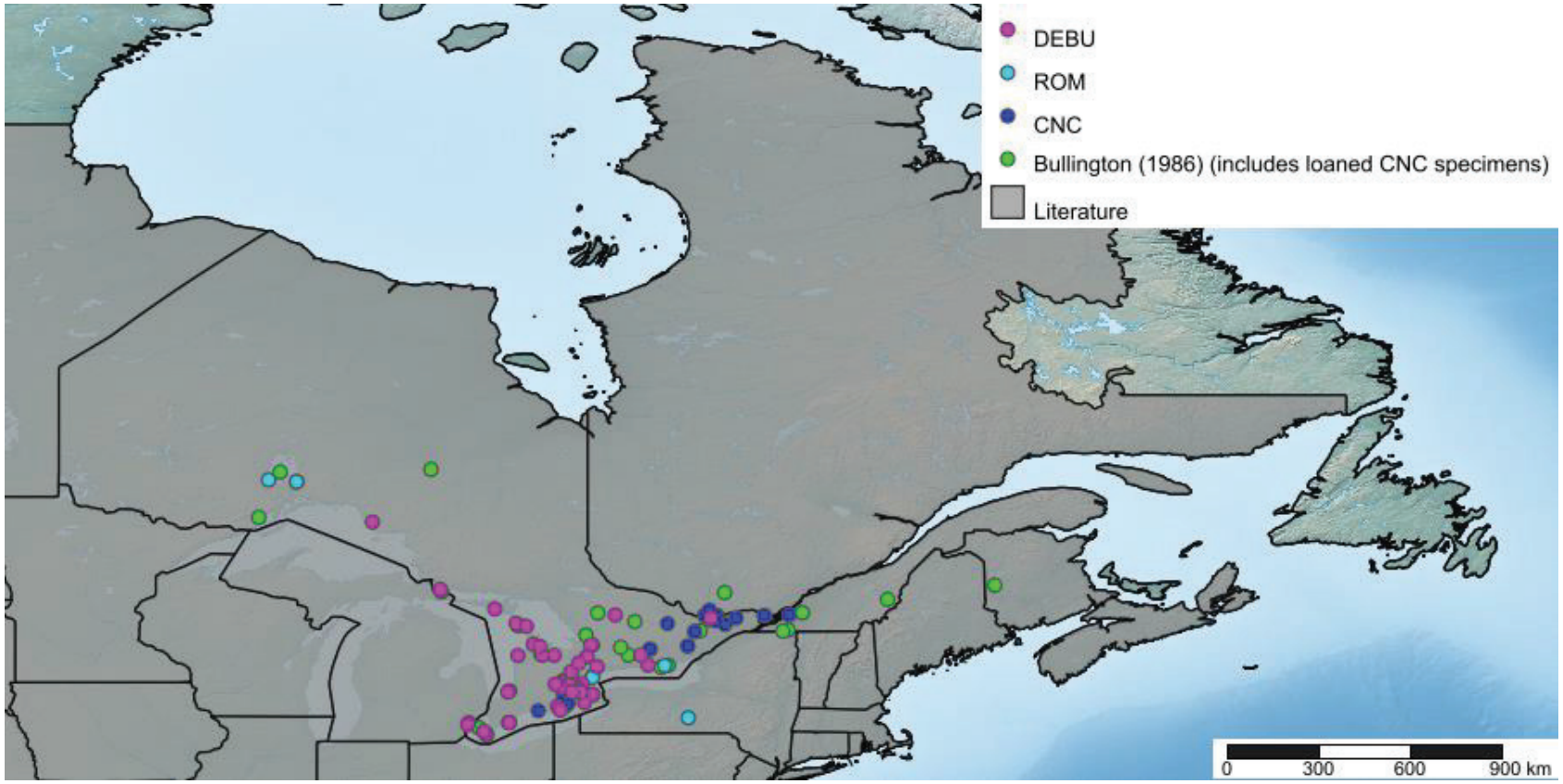
Habitat: Found along the edges of roads and damp mesophytic forests. Often rests 3 feet above undergrowth and faces downwards. *L. index* is quite active and will frequent the same perching location for up to several hours, returning after catching prey or mating (Bromley, 1931; Bromley, 1934; Bromley, 1946).

Flight period (Ontario): May 8th to Aug 30th.

Distribution: Found in southern Ontario, north to Thunder Bay. Ranges from the Northwest Territories, British Columbia and Oregon southeast to Oklahoma and South Carolina, east to Nova Scotia and Quebec (Bullington, 1986; Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria index* McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC), Bullington (1986) and Rob Cannings (pers. com.).

Laphria insignis (Banks)

Similar to *L. posticata and L. royalensis* but the posterior scutum has a distinctive band of red hairs that may vary in intensity .

Diagnosis: Length 13–18 mm (Baker and Fischer, 1975). Pronotal hairs yellow. Anepisternal hairs black. Katatergal hairs yellow. Tergite 1 with black hairs medially and laterally. Yellow hairs on edges of tergite 3 and on tergites 4–7. Scutum with yellow hairs anteriorly, red hairs posteriorly. Scutellar hairs and bristles yellow or black. Upper mystax yellow, lower mystax black. Beard yellow. Legs mostly black haired. Hypandrium and epandrium with black and yellow hairs.

Habitat: Mixed forest.

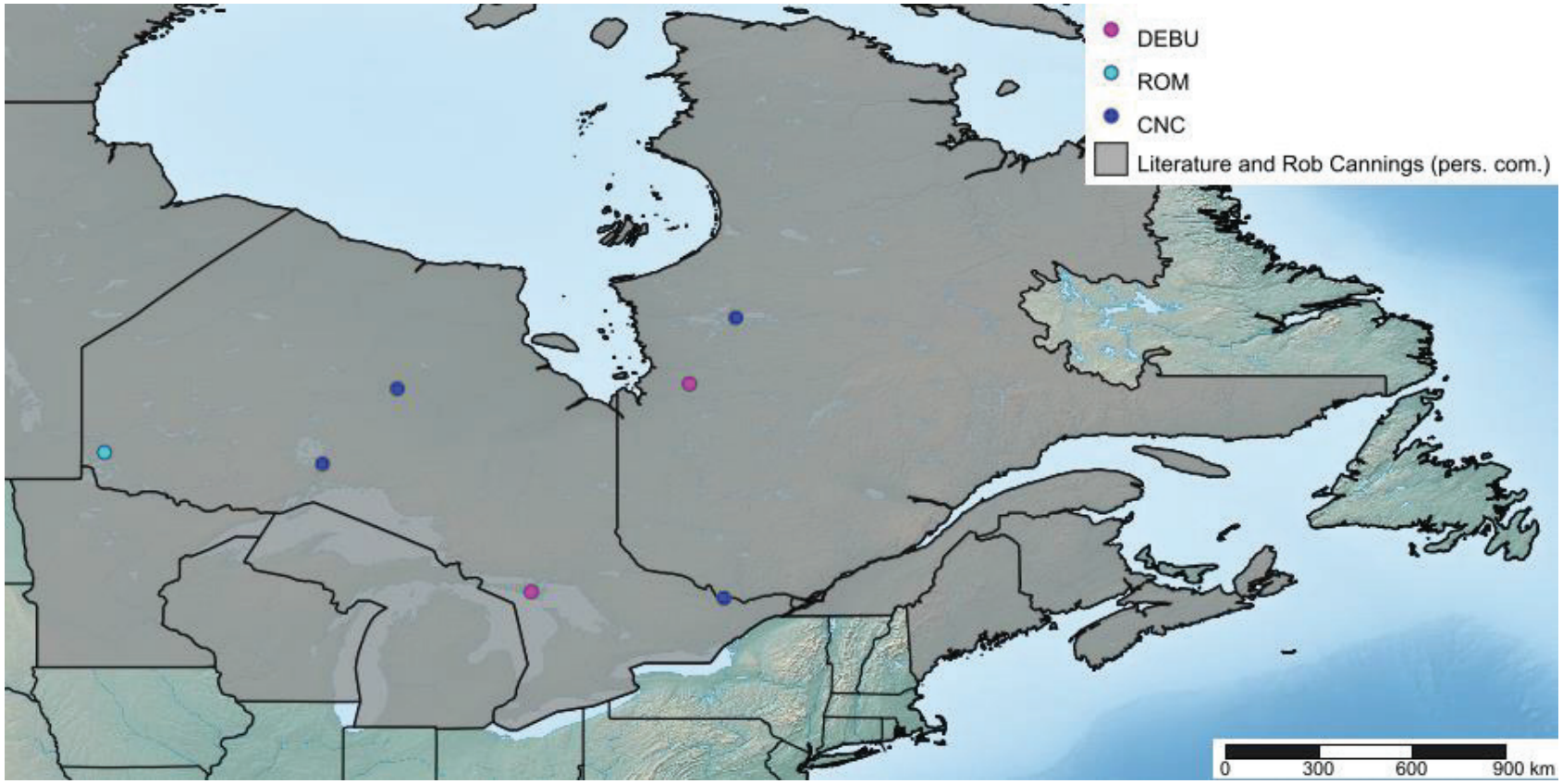
Flight period (Ontario): June 6th to August 13th.

Distribution: Widespread but uncommon in all of Ontario. Ranges from the Norwest Territories and Yukon to Labrador, south to Minnesota, Michigan and Maine (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

Photo courtesy of Dr. Mathew Brust

doi:10.3752/cjai.2019.37



Known distribution of *Laphria insignis* (Banks) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Rob Cannings (pers. com.).

doi:10.3752/cjai.2019.37

Laphria janus McAtee

Similar to the much less common *L. altitudinum* but the mystax is yellow and there are yellow hairs on tergite 1.

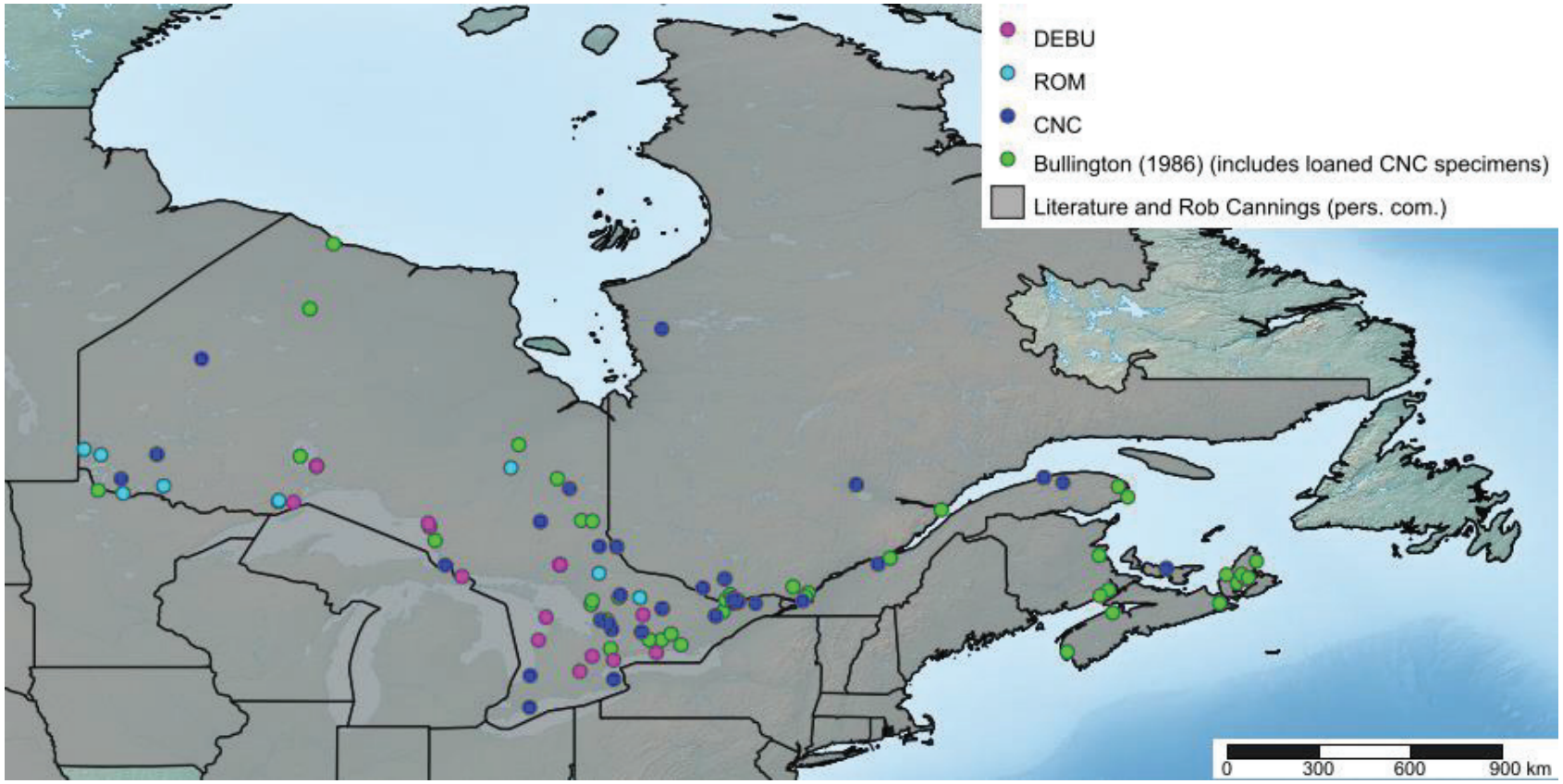
Diagnosis: Length 15–20 mm (Baker and Fischer, 1975). Pronotal and anepisternal hairs black. Katatergal hairs yellow. Tergites 1–2 with yellow hairs, 3–7 with rust-coloured hairs. Sparse yellow hairs on anterior scutum, getting denser and longer posteriorly. Scutellar hairs and bristles yellow or black. Upper mystax yellow, lower mystax black. Beard yellow. Legs mostly black haired. Hypandrium and epandrium with yellow hairs.

Habitat: Mixed, boreal and montane forest.

Flight period (Ontario): June 5th to August 14th.

Distribution: Found in southern and most of northwestern Ontario. Ranges from the Yukon, Northwest Territories and British Columbia to south to Oregon, southeast to Colorado, east to Illinois, Pennsylvania, Connecticut, Maine and Nova Scotia (Bullington, 1986; Fisher and Wilcox, 1997; Robb Cannings (pers. com.).

MAP



Known distribution of *Laphria janus* McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC), Bullington (1986) and Rob Cannings (pers.com.).

doi:10.3752/cjai.2019.37

Laphria posticata Say

L. posticata is a variable species including colour forms widely treated as separate subspecies. Some Ontario specimens of *L. posticata* (often found in western Canada and the Atlantic provinces*)* have a mixture of black and yellow scutellar bristles, and thus seem to fall in between the diagnoses of *L. posticata scutellaris* and *L. posticata posticata*.

Habitat: Often associated with white pine. Has been seen often resting on maple foliage (Bromley, 1934).

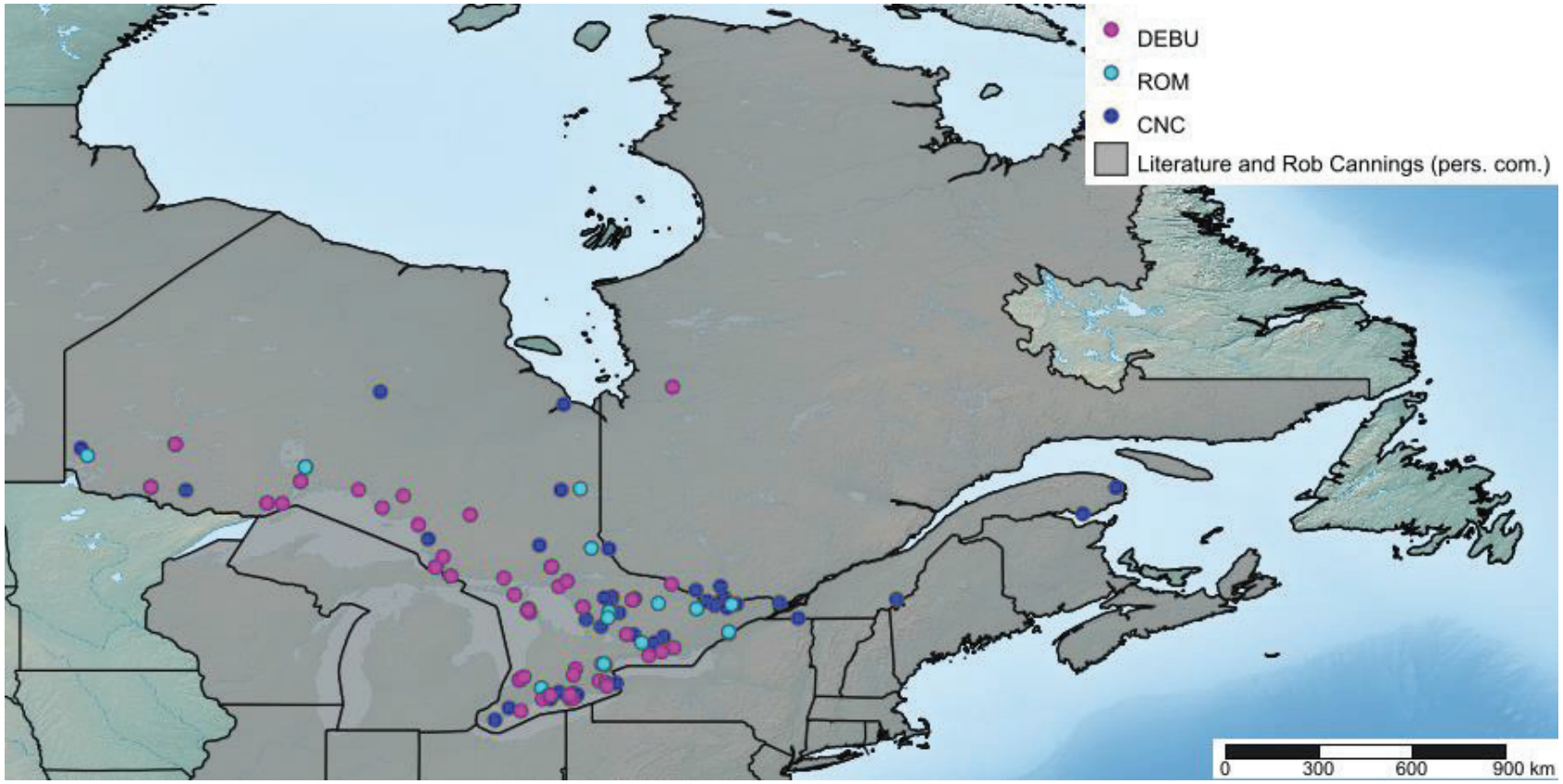
Flight period (Ontario): May 21st to August 25th, predominantly in late June to mid July.

Distribution: Occurs in every province and territory in Canada except Nunavut and Labrador, south to Wisconsin, Tennessee and Georgia (Fisher and Wilcox, 1997; Rob Cannings (pers. com.). MAP

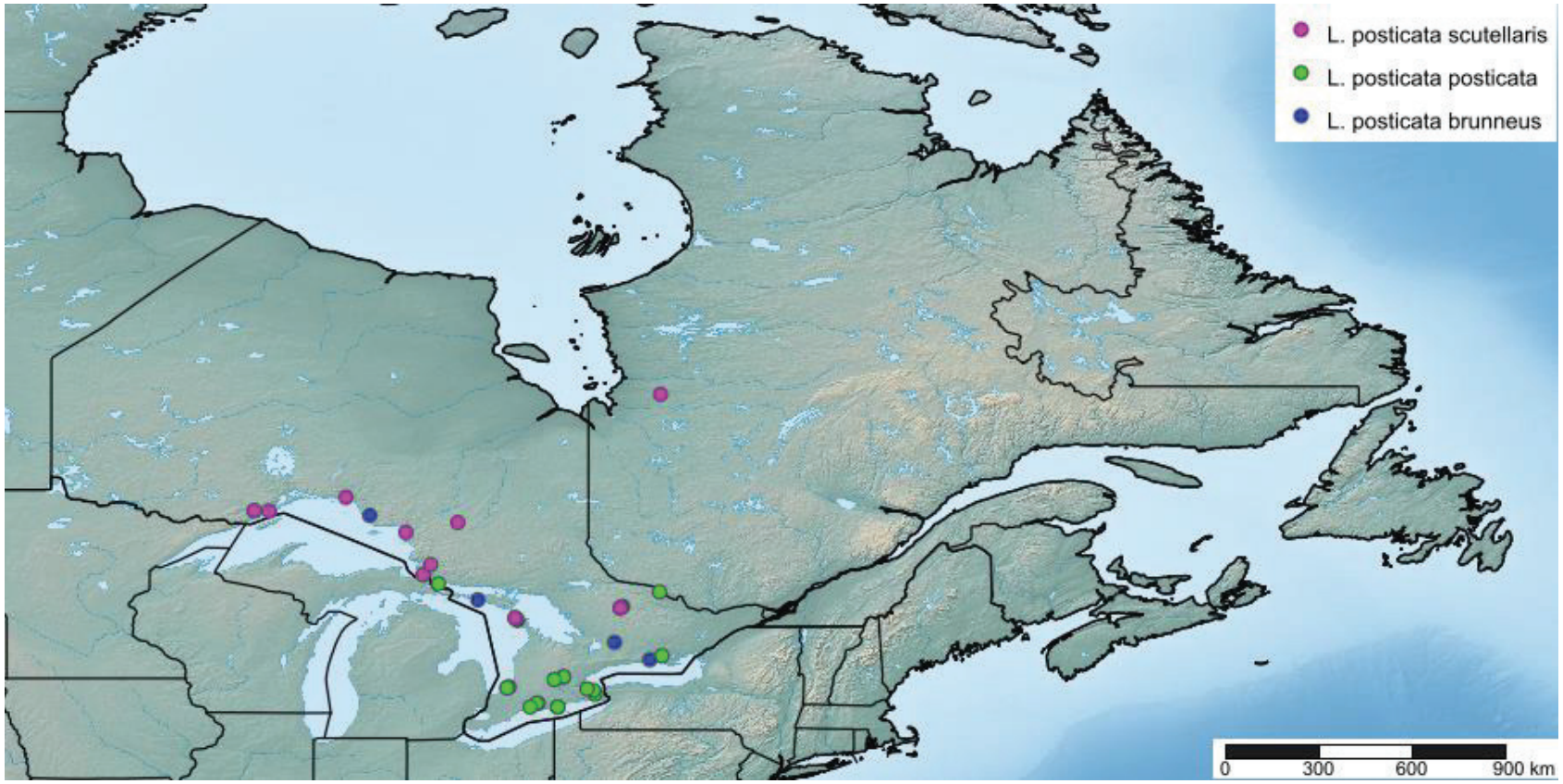
***L. posticata posticata* Say**: Length 12–18 mm (Baker and Fischer, 1975). Pronotal and katatergal hairs yellow. Anepisternal hairs black. Tergite 1 black haired medially, with yellow or black hairs laterally. Yellow hairs on edges of tergite 3 and on entirety of tergites 4–5. Scutum with yellow hairs. Scutellar hairs and bristles mostly black. Upper mystax yellow, lower mystax black or yellow. Beard yellow. Legs mostly black haired. Hypandrium and epandrium with black and/or yellow hairs.
Ontario distribution: Southern Ontario north to Sudbury. MAP

L. posticata brunneus* (Bromley)*: Same as *L. posticata posticata* but with brownish-yellow hairs on the scutum instead of yellow (Bromley, 1929).
Ontario distribution: Southern Ontario, north to Thunder Bay. MAP

L posticata scutellaris* (Bromley)*: *S*ame as *L. posticata posticata* but with yellow scutellar bristles instead of black and a more brownish tinge (Bromley, 1929). Bullington (2016) added that there are yellow hairs on tergites 3–7 instead of 3–5 and that the legs have yellow hairs. There are sometimes yellow hairs on the sides of tergite 1. *Laphria royalensis* (Bromley) is very similar to to *L. posticata scutellaris*.
Ontario distribution: Northern Ontario, from Algonquin to Moose Factory. MAP



Known distribution of *Laphria posticata* Say in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Rob Cannings (pers. com.)



Distributional records of *L. posticata scutellaris* (Bromley), *L. posticata posticata* Say and *L. posticata brunneus* (Bromley) from the University of Guelph (DEBU)*.

* Specimens not identifiable to subspecies are not included

Laphria royalensis (Bromley)

Similar to *L. insignis* and *L. posticata scutellaris* but the hairs on the scutum and abdomen are concolorous, distinguishing it from *L. insignis*. According to Bromley (1950), compared to *L. posticata scutellaris, L. royalensis* has fewer yellow hairs on the forelegs, more yellow hairs on tergite 3 in females, and a notch in the hypandrial shelf of the males. This species may not be distinct from *L. posticata*.

Diagnosis: Length 12–15 mm (Baker and Fischer, 1975). Pronotal hairs yellow-brown. Anepisternal hairs black. Katatergal hairs yellow-brown. Tergite 1 black haired medially and laterally. Tergites 3–7 and scutum with yellowish, reddish or brownish hairs. Scutellar hairs black, scutellar bristles yellowish. Upper mystax yellow, reddish or brownish. Beard yellow. Legs black haired. Hypandrium with yellow and black hairs and a notch on the shelf. Epandrium with black and yellow hairs.

Habitat: Unknown.

Flight period: Unknown.

Distribution: There are records of *L. royalensis* in Ontario at the CNC although they are not verified by the first author. Due to the cryptic nature of this species, the records were not included. Ranges from Michigan to Quebec, New Brunswick and Nova Scotia, south to Wisconsin (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

Photos on this page are of the holotype specimen of *L. royalensis*. Courtesy of Torsten Dikow

doi:10.3752/cjai.2019.37

Laphria sacrator (Walker)

Similar to *L. huron* and *L. thoracica* but the first tergite is completely yellow haired.

Diagnosis: Length 15–20 mm (Baker and Fischer, 1975). Pronotal hairs black. Anepisternal and katatergal hairs yellow. Tergite 1 with yellow hairs medially and laterally, tergites 2–3 and sometimes 4 yellow haired, tergites 5–7 black haired. Scutum with yellow hairs often sparser in the middle. Scutellar hairs and bristles yellow. Mystax mostly black. Beard black. Fore and middle legs with dense yellow hairs. Hind legs mostly black haired. Hypandrium with black and yellow hairs. Epandrium with black hairs.

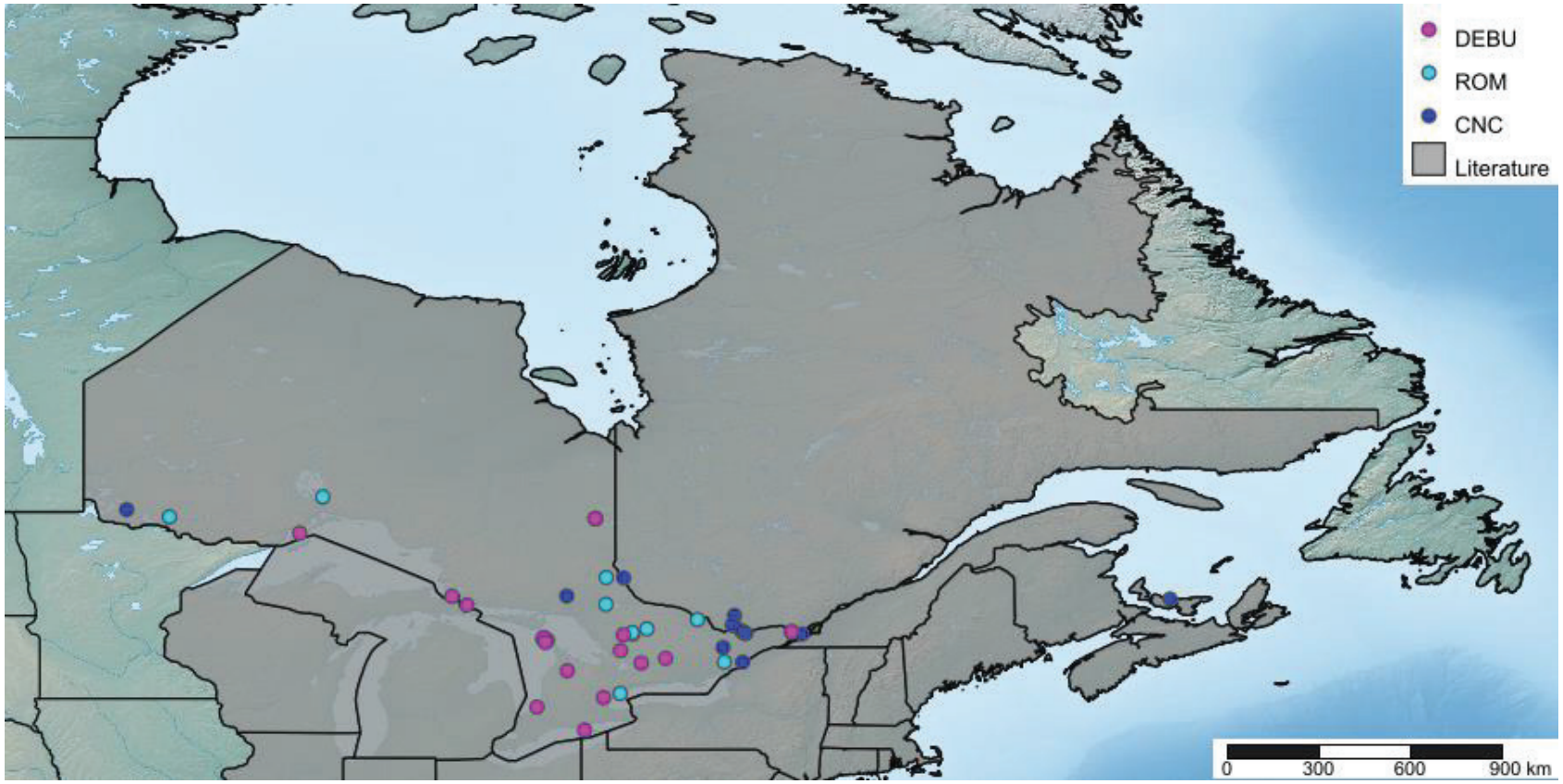
Habitat: Associated with white pine, hemlock, sugar maple and black and white birch. Can be found in openings resting in direct sunlight on foliage near brooks running through forests (Bromley, 1934).

Flight period (Ontario): June 3rd to September 7th, predominantly in July.

Distribution: Found in southern Ontario, north to Thunder Bay. Ranges from Wisconsin to Nova Scotia, south to Connecticut, Pennsylvania and North Carolina (Fisher and Wilcox, 1997).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria sacrator* (Walker) in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), Royal Ontario Museum (ROM) and the Canadian National Collection (CNC).

doi:10.3752/cjai.2019.37

Laphria sadales Walker

Similar to species in the *L. canis* species complex but the legs are red in *L. sadales.*

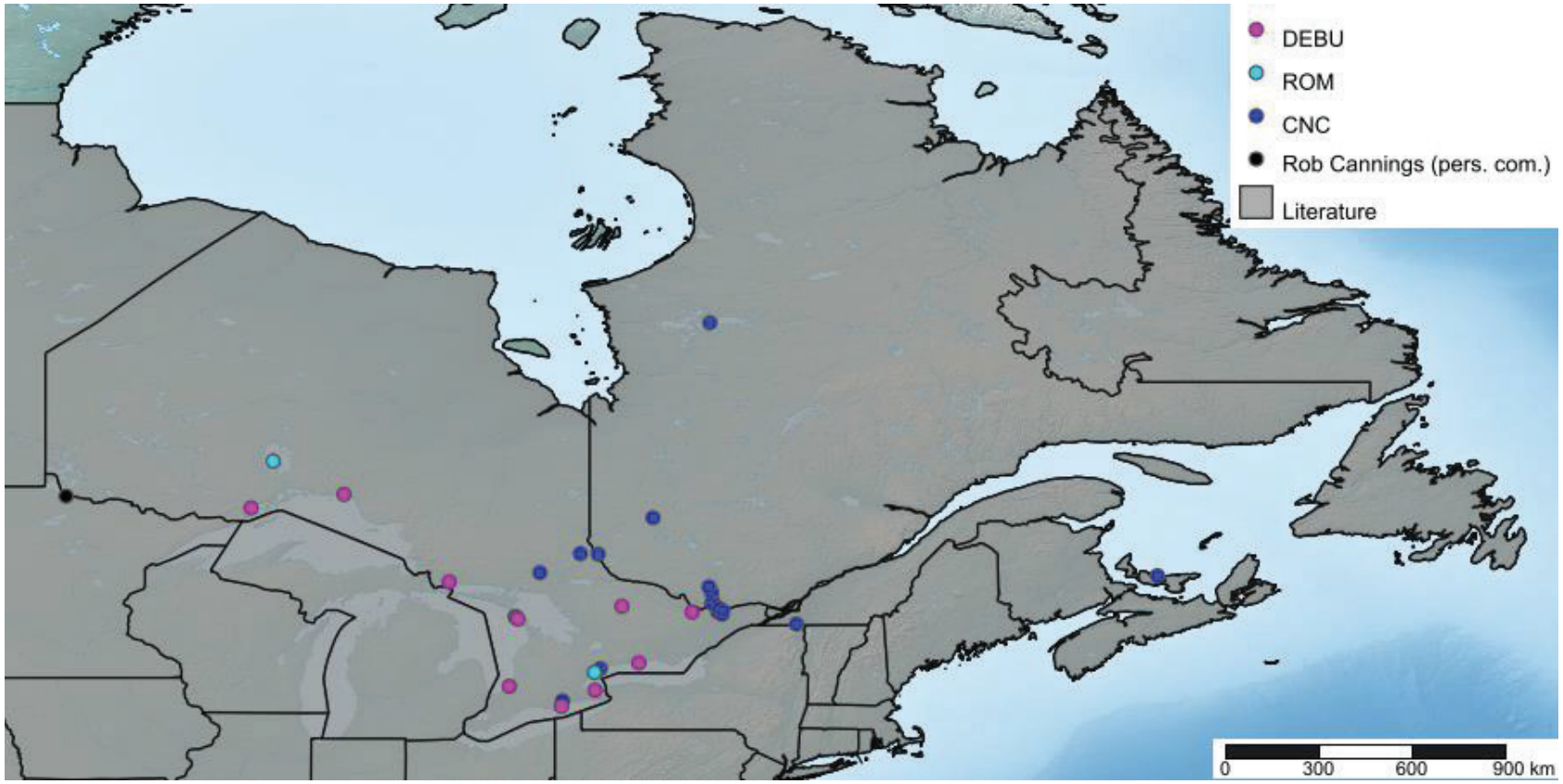
Diagnosis: Length 9–15 mm (Baker and Fischer, 1975). Anepisternal hairs black and white. Katatergal hairs yellow and white. Tergites 1–6 with thin, sparse, pale yellow hairs. Ground colour of abdomen black. Scutum with sparse pale yellow and white hairs. Scutellar hairs pale yellow and bristles yellow and black. Mystax mostly composed of long black hairs with patches of short white hairs. Beard white. Ground colour of legs red with few yellow and black hairs. Coxae with white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Typically found in mountainous regions and associated with white pine as well as plantains, willow, goldenrods, daisies, oak, alders, rushes, thimbleberry, horsetail, sedges, maple, mums and ferns. Can usually found in sunny areas perching on stones and sticks along paths or roads (Bromley, 1934).

Flight period (Ontario): June 6th to September 5th, predominantly in July.

Distribution: Found in Ontario northwest to Rainy River area. Ranges from the Northwest Territories, British Columbia and California east to Utah, Kansas and Labrador, south to Pennsylvania (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP



Known distribution of *Laphria sadales* Walker in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Rob Cannings (pers. com.).

Laphria scorpio McAtee

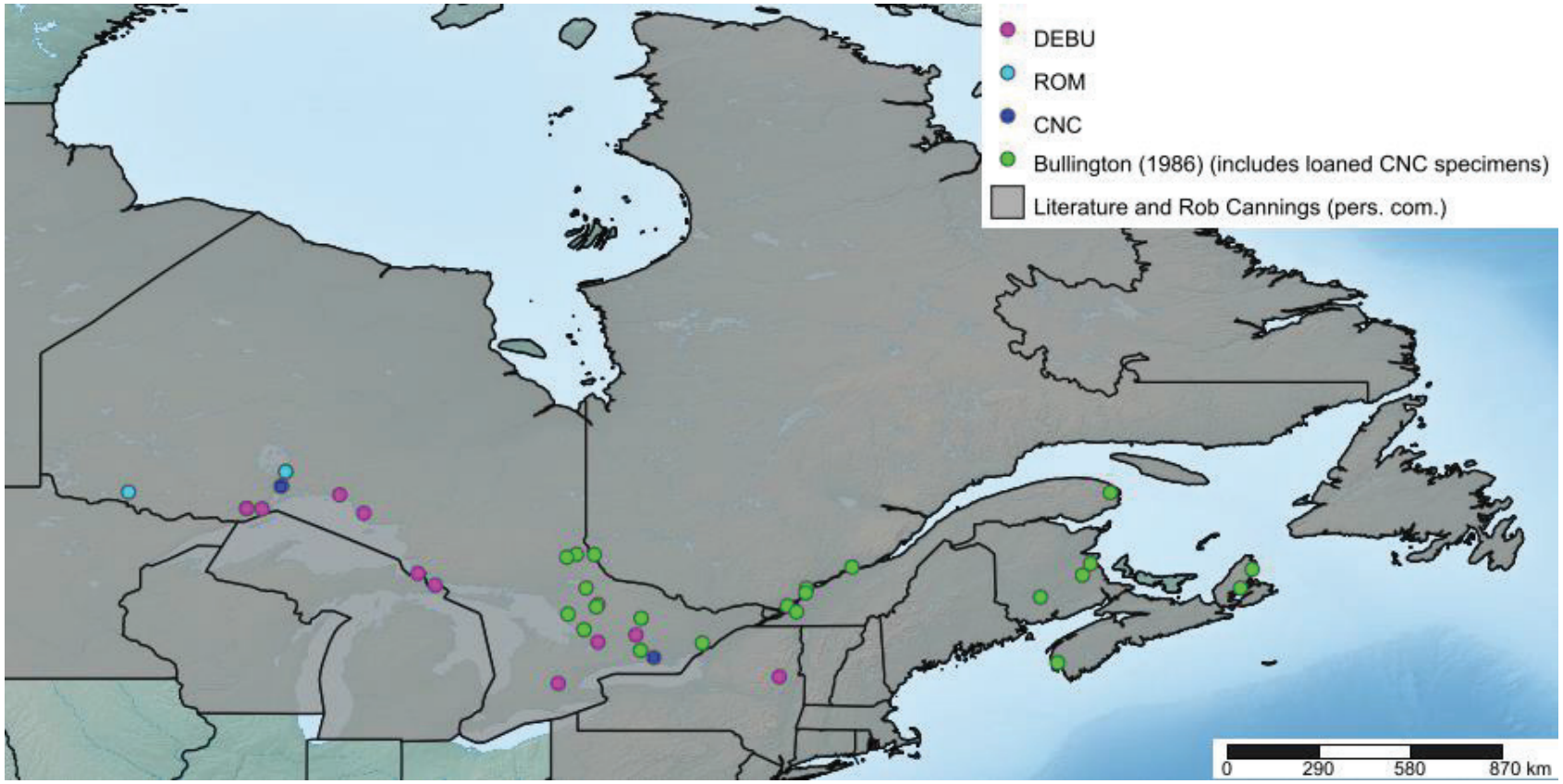
Similar to *L. canis disparella* but male tergite 6 has two straight processes and tergite 7 has an elongate, curved and slightly apically knobbed process. Previous keys have used hair coloration and pattern on the mystax, scutum, scutellum and abdomen to separate females however, these differences are too subtle to confidently differentiate species. Therefore females of *L. canis disparella* and *L. scorpio* are here treated as indistinguishable.

Diagnosis: Length 14–17 mm (Baker and Fischer, 1975). Anepisternal hairs black and white. Katatergal hairs yellow and white. Hairs on of tergite 1–6 gold. Ground colour of abdomen black. Sparse black and golden hairs on scutum. Scutellar hairs and bristles yellow. Mystax mostly composed of short yellow hairs with some long black hairs. Beard white. Legs mostly black with few white hairs. Coxae with white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Boreal and mixed forest.

Flight period (Ontario): June 25th to August 26th, predominantly in mid-July.

Distribution: Found in most of southern Ontario, north to Nipissing. Ranges from British Columbia the Northwest Territories, British Columbia and Idaho to Nova Scotia and Newfoundland, south to Pennsylvania (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).



Known distribution of *Laphria scorpio* McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC), Bullington (1986) and Rob Cannings (pers. com.).

doi:10.3752/cjai.2019.37

Laphria sericea Say

Falls into the *L. aktis* species complex with *L. aktis* and "Undescribed Species 1". The shelf of the hypandrium is elongate, straight and spatulate. Females of this species complex are here treated as indistinguishable.

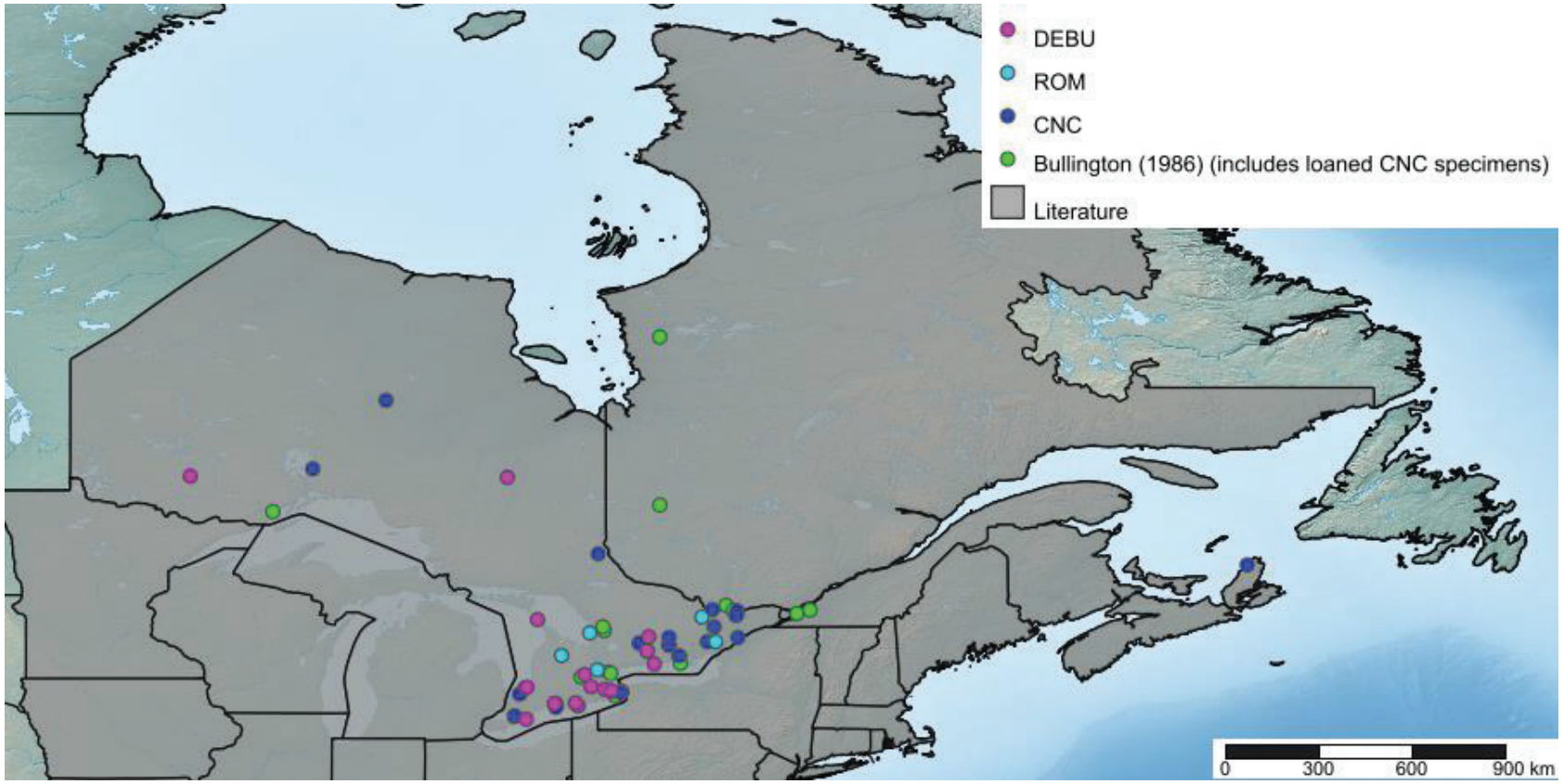
Diagnosis: Length 17–24 mm (Baker and Fischer, 1975). Anepisternal hairs black. Katatergal hairs white. Tergites 1–7 with golden hairs in males, 1–6 in females. Ground colour of abdomen black. Scutum with gold hairs. Scutellar hairs golden and bristles golden sometimes with some black bristles. Mystax mostly pale yellow or white with some black hairs. Beard pale yellow or white. Legs mostly black with some pale yellow or white hairs on posterior margins of first four legs. Coxae with pale yellow or white hairs. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

Habitat: Can be found in sunny glades of forests resting on leaves or logs less than two feet off the ground. Largely found in areas of dappled sunlight. Associated with pine as well as thick, mature, mesic woodlands. Very active flyers (McAtee and Banks, 1920; Bromley, 1934).

Flight period (Ontario): June 13th to August 17th.

Distribution: Found in southern Ontario, north to Thunder Bay. Ranges from Minnesota to Nova Scotia, south to Tennessee, Georgia and Texas (Bullington, 1986; Fisher and Wilcox, 1997; DEBU data).

MAP



Known distribution of *Laphria sericea* Say in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Bullington (1986).

Laphria sicula McAtee

Falls into the *L. canis* species complex with "Undescribed Species 2", *L. canis* and *L. winnemana*. Male tergite 6 lacks processes and there is a small bump on tergite 7. Female tergite 9 is long, thin and appears triangular when viewed laterally.

Diagnosis: Length 12–16 mm (Baker and Fischer, 1975). Tergites 1–6 and legs with sparse, white hairs that are often denser than other species in the *L. canis* species complex. Otherwise apparently identical to *L. canis canis*, except for genitalia.

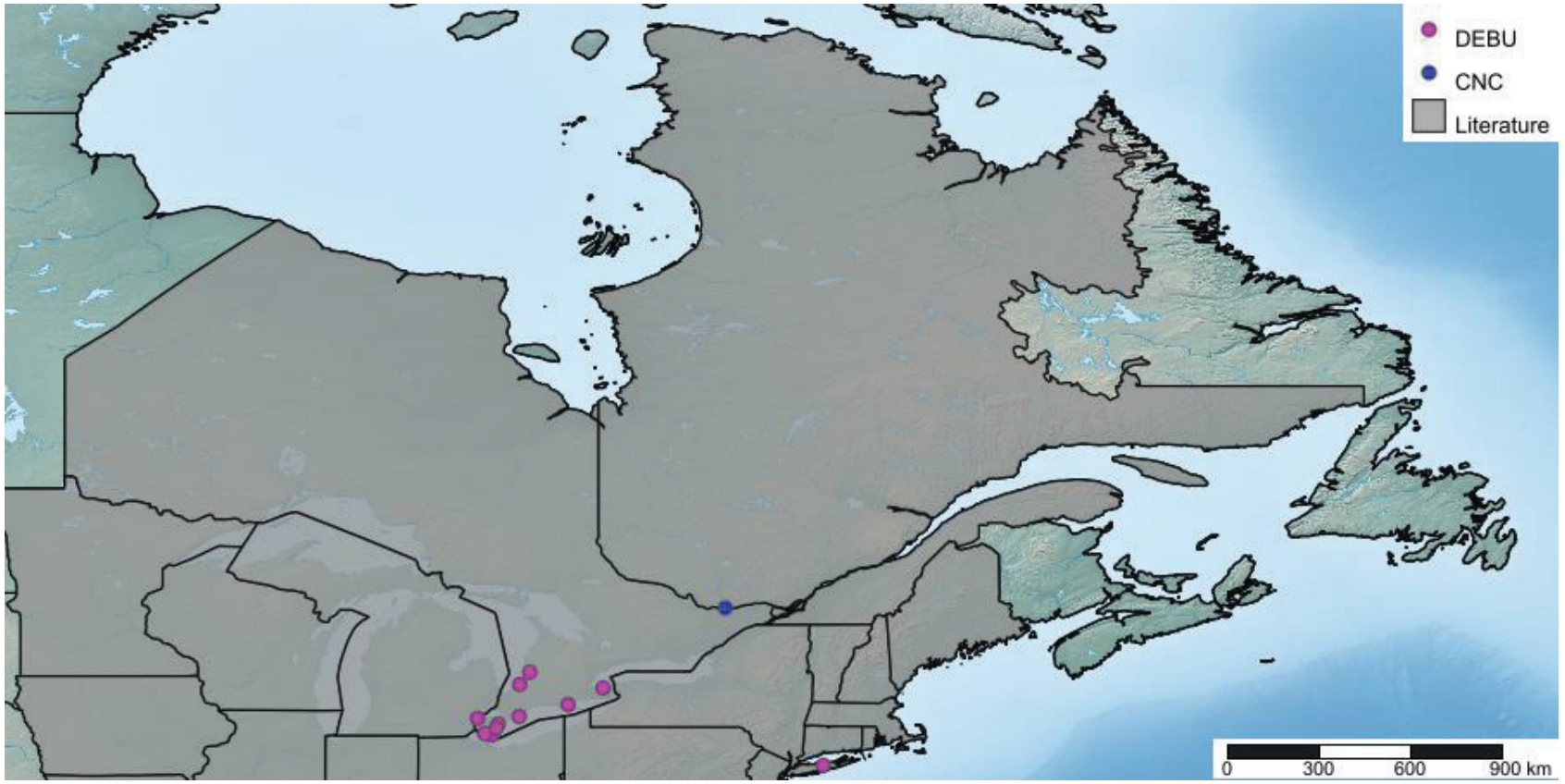
Habitat: Can be collected on the edges of forest paths and prairies, and in forested areas near beaches.

Flight period (Ontario): June 15th to August 24th.

Distribution: Common in southern Ontario. Ranges from Ontario and Illinois east to Quebec, south to Kansas, Oklahoma and Florida (Fisher and Wilcox, 1997).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria sicula* McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU) and the Canadian National Collection (CNC).

doi:10.3752/cjai.2019.37

Laphria thoracica Fabricius

Similar to *L. sacrator* and *L. huron* but the forelegs have mostly black hairs and the first tergite is black haired.

Diagnosis: Length 15–20 mm (Baker and Fischer, 1975). Pronotal hairs black. Anepisternal and katatergal hairs yellow. Tergite 1 with black hairs medially and laterally, hairs on tergites 2–7 may be completely black or mostly yellow. Scutellar hairs and bristles yellow or black. Scutum with yellow hairs that are usually sparser in the middle. Mystax mostly black with some yellow hairs. Beard black. Fore, middle and hind legs mostly black haired. Hypandrium and epandrium with mostly black hairs, some yellow hairs apically.

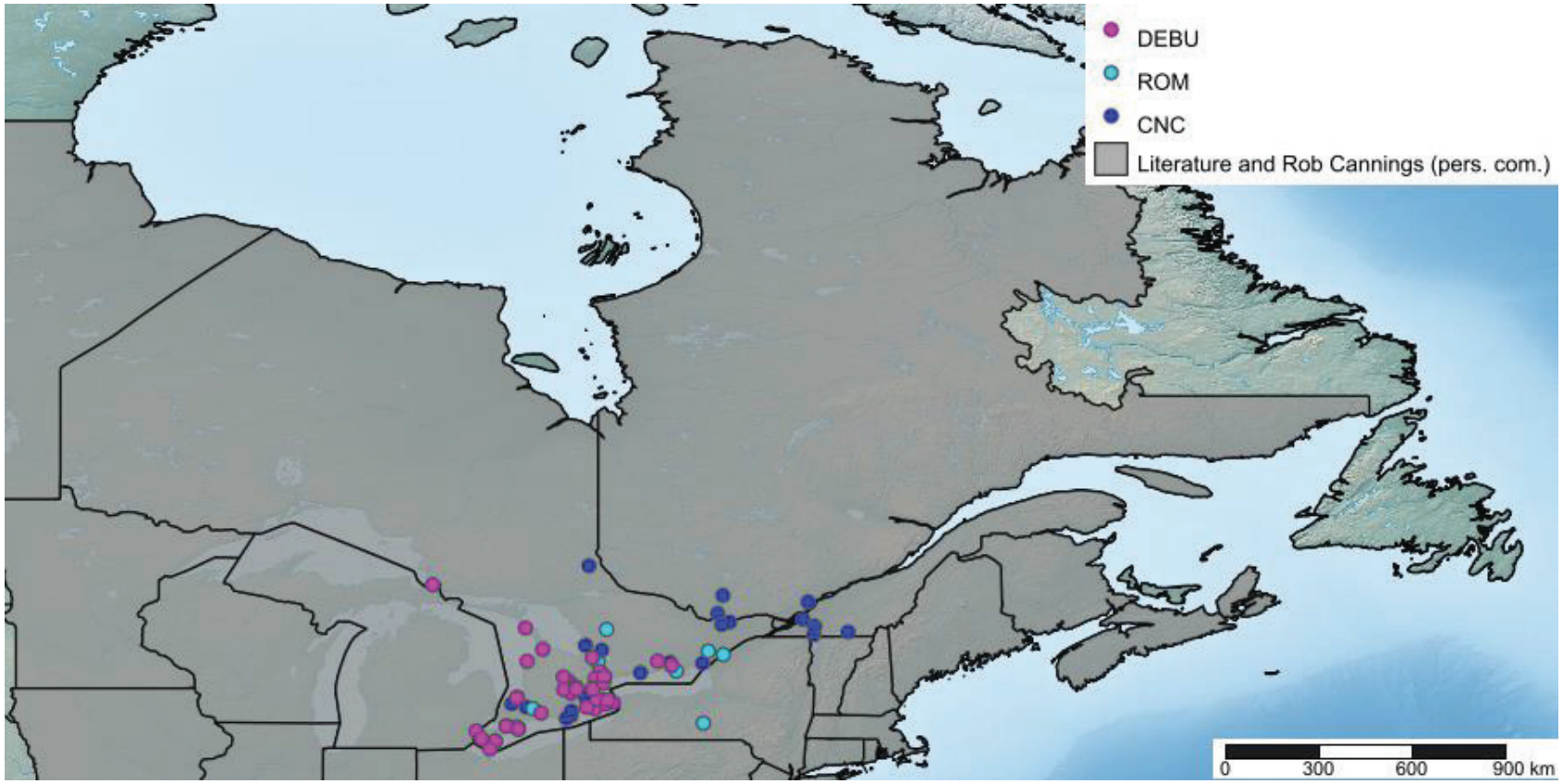
Habitat: Often found at sunny edges of mesic woods or pastures resting on logs of elm, maple or birch (Bromley, 1931; Bromley, 1934).

Flight period (Ontario): May 14th to August 16th, predominantly in mid June to mid July.

Distribution: Common throughout southern Ontario, north to Sault Ste. Marie. Ranges from Minnesota to Manitoba and Quebec, New Brunswick and Nova Scotia and southward to Mississippi, Kansas and Florida (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

doi:10.3752/cjai.2019.37



Known distribution of *Laphria thoracica* Fabricius in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), Royal Ontario Museum (ROM), the Canadian National Collection (CNC) and Rob Cannings (pers. com.).

"Undescribed Species 1" near *L. sericea*

Falls into the *L. aktis* species complex with *L. sericea* and *L. aktis*. The shelf of the hypandrium is elongated and concave. Females of this species complex are here treated as indistinguishable.

Bullington (1986) named and described this species in his unpublished thesis. The name given by Bulllington (1986) remains a manuscript name, therefore this species currently has no valid name.

Diagnosis: Length 16–23.2 mm (Bullington, 1986). Otherwise apparently identical to *L. sericea*, except for the structure of male genitalia.

Habitat: Unknown.

Flight period (entire distribution): May 16th to August 9th (Bullington, 1986).

Distribution: An infrequently collected species in southern Ontario. Ranges from Michigan to Quebec, south to Georgia (Bullington, 1986).

MAP

Photos on this page courtesy of Ben Coulter.

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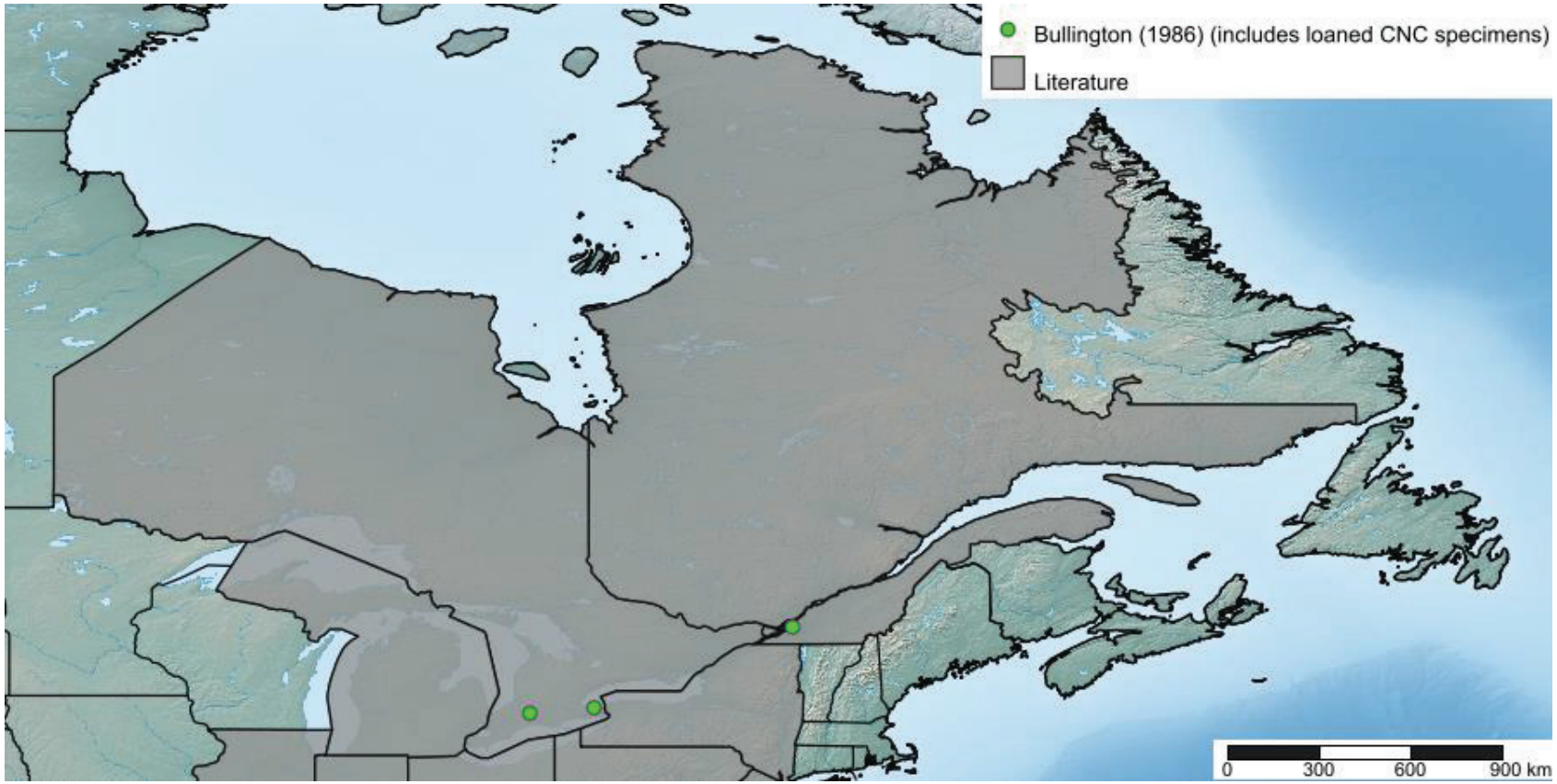


Known distribution of "Undescribed Species 1" in northeastern North America, based on state and province records from literature and Bullington (1986).

"Undescribed Species 2" near *L. canis*

Falls into the *L. canis* species complex with *L. canis*, *L. sicula*, and *L. winnemana*. Male tergite 6 has two thin, closely apposed processes and tergite 7 has a bilobed process. Female tergite 9 is dorsally smooth and apically rounded.

In an unpublished thesis, Bullington (1986) named and described a northeastern species similar to the northwestern species *Laphria franciscana.* The name given to this new species by Bullington (1986) remains a manuscript name, therefore this species currently has no valid name.

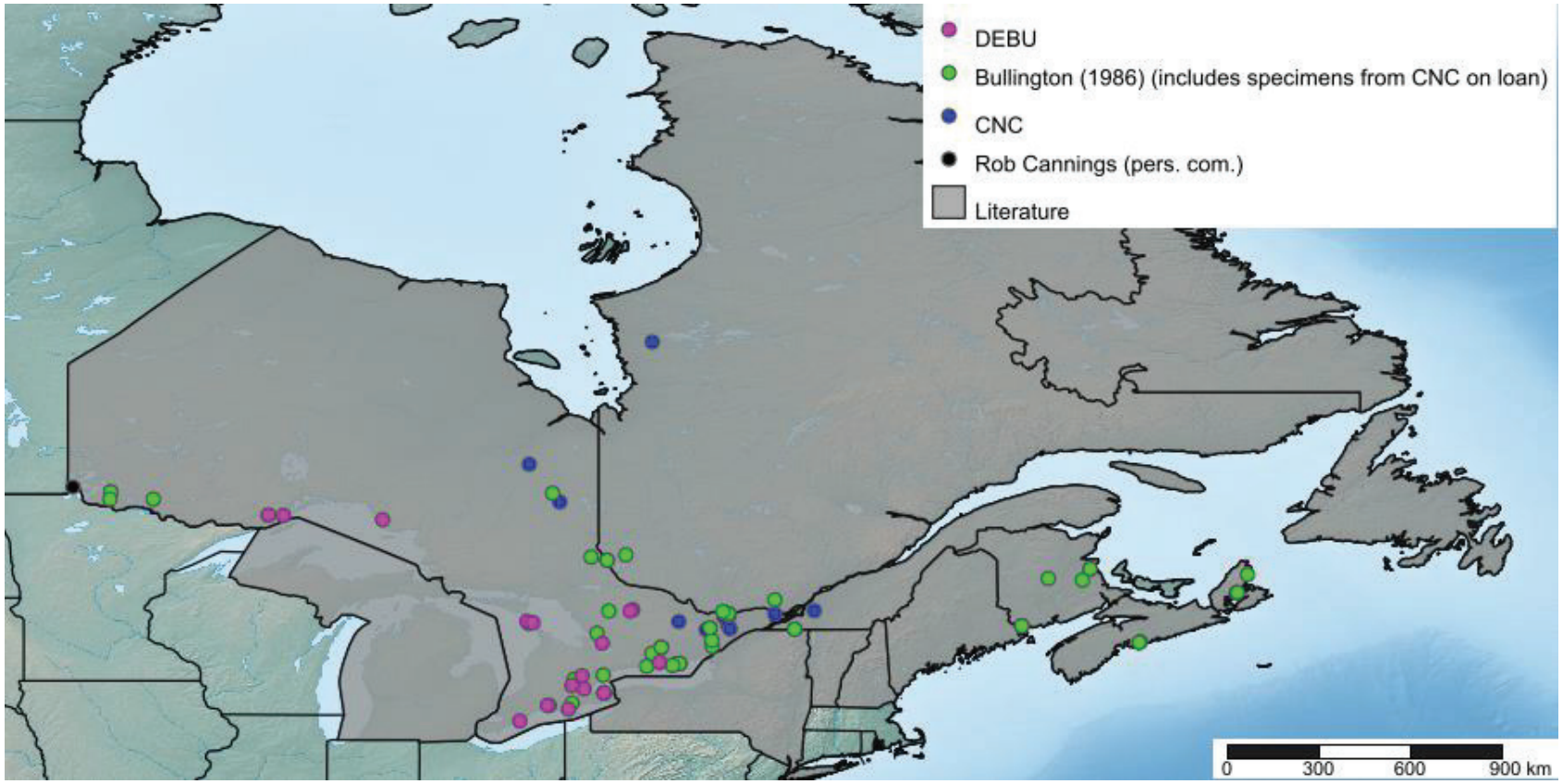
Diagnosis: Length 9–12.5 mm (Bullington, 1986). Otherwise apparently identical to *L. canis canis*, except for genitalia.

Habitat: This species has been collected in a hemlock-beech-maple forest and on southern bayberry (Bullington, 1986).

Flight period (Ontario): June 13th to August 22nd, predominantly in mid-July.

Distribution: Found in southern Ontario, northwest to Lake of the Woods area. Ranges from Michigan and Ontario east to Nova Scotia and Labrador (Bullington, 1986; Rob Cannings (pers. com.).

MAP



Known distribution of *"*Undescribed Species 2*"* in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU) and the Canadian National Collection (CNC) and Robb Cannings (pers. com.).

Laphria winnemana McAtee

Falls into the *L. canis* species complex with *L. canis*, *L. sicula*, and "Undescribed Species 2". Male tergite 6 has two triangular, widely spaced processes and tergite 7 has a raised, v-shaped process. Female tergite 9 is short, wide and bilobed.

Diagnosis: Length 8–13 mm (Baker and Fischer, 1975). Otherwise apparently identical to *L. canis canis*, except for genitalia.

Habitat: Often found in damp, deciduous forests along walking paths or rivers. Bullington (1986) observed this species perching horizontally on sunlit leaves of *Verbesina spp*.

Flight period (Ontario): June 3rd to September 7th, predominantly in July to mid August.

Distribution: Found in southern Ontario, northwest to Rainy River District. Ranges from Manitoba and Michigan east to Quebec, New Hampshire and Maine (Fisher and Wilcox, 1997; Rob Cannings (pers. com.).

MAP

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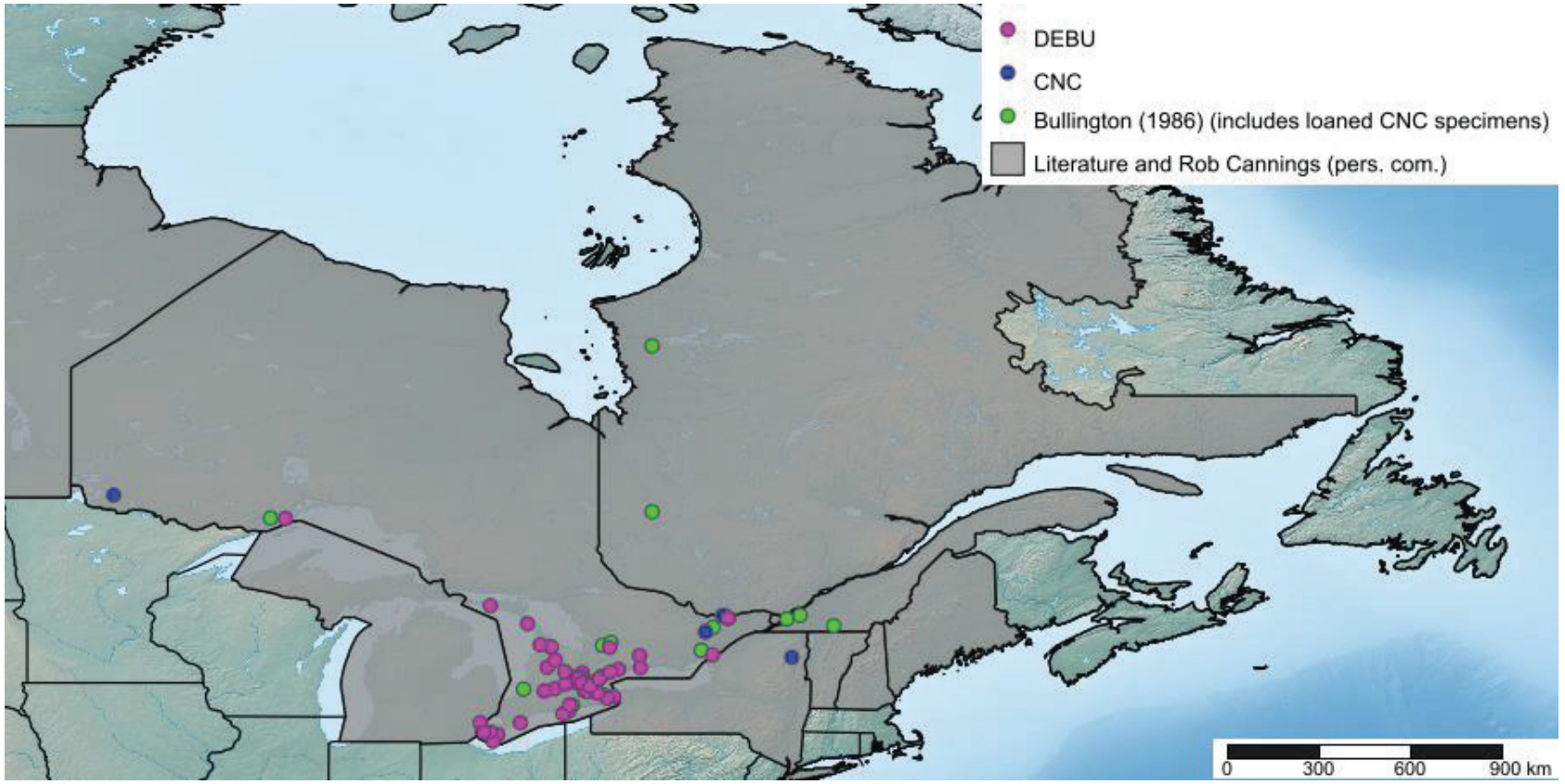

Known distribution of *Laphria winnemana* McAtee in northeastern North America, based on state and province records from literature and distributional records from the University of Guelph (DEBU), the Canadian National Collection (CNC), Bullington (1986) and Rob Cannings (pers. com.).

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