A new species of *Anomognathus* and new Canadian and provincial records of aleocharine rove beetles from Alberta, Canada (Coleoptera, Staphylinidae, Aleocharinae)

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Abstract

A new species, *Anomognathus athabascensis* Klimaszewski, Hammond & Langor, sp. n., and nine new provincial records including one new country record of aleocharine beetles are presented for the province of Alberta. Diagnostics, images of habitus and genital structures, distribution, natural history information and new locality data are provided for the newly recorded species. A checklist for all recorded aleocharines from Alberta is updated.

Keywords

Coleoptera, rove beetles, Staphylinidae, Aleocharinae, new provincial records, new species, Canada, Alberta

Introduction

A survey of beetles from several localities, mainly in the Athabasca region of Alberta, was conducted in 1997 by J. Hammond and D. Langor of the Canadian Forest Service, Northern Forestry Centre. As a result, 33 species of rove beetles were identified. Of these, 29 belong to aleocharines and 5 to other families of Staphylinidae (*Anotylus* sp., *Carpelimus* sp., *Heterothops minor* Smetana, *Phloeonoma laesicollis* Mäklin and *Phloeostiba lapponica*)
Zetterstedt). Among the aleocharines, we discovered one species new to science, *Anomognathus athabascensis*, the second known species of this genus from North America, as well as one new country and eight new provincial distribution records for species known in other parts of Canada (Table 1).

These findings are reported together with an updated checklist of all species from the province (Table 1). The previous lists were published by Bousquet et al. (2013), Gouix and Klimaszewski (2007), and Klimaszewski et al. (2015).

**Materials and methods**

All specimens in this study were dissected to examine the genital structures. Extracted genital structures were dehydrated in absolute alcohol, mounted in Canada balsam on celluloid micro-slides, and pinned with the specimens from where they originated. Images of the entire body and the genital structures were taken using an image processing system (Nikon SMZ 1500 stereoscopic microscope; Nikon Digital Camera DXM 1200F, and Adobe Photoshop software).

Morphological terminology mainly follows that used by Seevers (1978) and Klimaszewski et al. (2011). The ventral side of the median lobe of the aedeagus is considered to be the side of the bulb containing the foramen mediale, the entrance of the ductus ejaculatorius, and the adjacent ventral side of the tubus of the median lobe with the internal sac and its structures (this part is referred to as the parameral side in some recent publications); the opposite side is referred to as the dorsal part. In the species descriptions, microsculpture refers to the surface of the upper forebody (head, pronotum and elytra).

**Depository/institutional abbreviations**

- **LFC** Natural Resources Canada, Canadian Forest Service, Laurentian Forestry Centre, R. Martineau Insectarium, Québec, Canada.
- **NoFC** Natural Resources Canada, Canadian Forest Service, Northern Forestry Centre, Arthropod Museum, Edmonton, Alberta, Canada.

**Abbreviations of Canadian provinces and territories**

- AB – Alberta
- NF – Newfoundland
- BC – British Columbia
- LB – Labrador
- MB – Manitoba
- NB – New Brunswick
- PE – Prince Edward Island
- NS – Nova Scotia
- NT – Northwest Territories
- NU – Nunavut
- ON – Ontario
- QC – Quebec
- SK – Saskatchewan
- YT – Yukon Territory
- USA state abbreviations follow those of the US Postal Service.
Table 1. Species of Aleocharinae recorded from Alberta, and their provincial and territorial distribution within Canada. Provinces and territories in bold denote new records given in the present publication. Species marked with (†) indicate adventive species and species marked with (*) are Holarctic.

| AEOCHARINI | Species | Provinces and Territories |
|------------|---------|---------------------------|
| Aleochara bilineata Gyllenhal† | AB, BC, MB, NF, NS, ON, PE, QC, SK |
| Aleochara bimaculata Gravenhorst | AB, BC, MB, NF, NS, ON, QC, SK, NT |
| Aleochara castaneipennis Mannerheim | AB, BC, LB, MB, NF, NS, NT, ON, QC, YT; USA: AK |
| Aleochara fumata Mannerheim | AB, BC, LB, MB, NF, NS, NT, ON, QC, YT; USA: AK |
| Aleochara lacertina Sharp | AB, BC, MB, NF, NS, ON, QC, SK |
| Aleochara lanuginosa Gravenhorst† | AB, BC, MB, NF, NS, ON, QC, SK |
| Aleochara sekunai Klimaszewski | AB, LB, MB, NF, NS, ON, QC, SK; USA: AK |
| Aleochara suffusa (Casey) | AB, BC, MB, QC; USA: AK |
| Aleochara tahoensis Casey | AB, BC, LB, MB, NF, NS, NT, ON, QC, YT |
| Aleochara verna Say | AB, BC, LB, MB, NF, NS, ON, PE, QC, SK, YT; USA: AK |
| Aleochara villosa Mannerheim† | AB, BC, NB, QC |
| Tinotus morion (Gravenhorst)† | AB, BC, NB, NF, NS, ON, QC, SK; USA: CT, NV |

| ATHETINII | Species | Provinces and Territories |
|-----------|---------|---------------------------|
| Atheta borealis Klimaszewski & Langor | AB, NF |
| Atheta dadoxonia C.G. Thomson* | AB, BC, LB, MB, NF, NS, ON, PE, SK, YT; USA: AK, NY, PA, RI |
| Atheta distrita Casey | AB, BC, LB, MB, NF, NS, ON, QC |
| Atheta fanatctica Casey | AB, BC, LB, MB, NF, NS, QC, SK, YT; USA: AK, NV |
| Atheta graminicola (Gravenhorst)* | AB, BC, LB, MB, NF, NT, ON, QC, SK, YT; USA: AK, OR |
| Atheta hampshirensis Bernhauer | AB, BC, MB, NF, NS, ON, QC; USA: AK, CA, NC, NH, NY, OR, PA, RI, WA |
| Atheta klagesi Bernhauer | AB, NB; USA: ME, PA [all other previously published records of this species need to be revised] |
| Atheta modesta (Melsheimer) | AB, BC, LB, MB, NF, NS, ON, QC; USA: CT, DC, MI, NY, PA, RI, VA, VT |
| Atheta platonoffi Brundin* | AB, BC, LB, MB, NF, NS, ON, QC, YT; USA: AK |
| Atheta pseudoklagesi Klimaszewski & Webster | AB, NB [all published records of A. klagesi need to be revised because they may contain mixed series with A. pseudoklagesi] |
| Atheta pseudosubtilis Klimaszewski & Langor | AB, BC, LB, NF, QC |
| Atheta remulata Casey | AB, BC, LB, MB, NF, NS, ON, QC, SK, YT; USA: AK, DC, NC, NJ, NY, PA, VA, VT |
| Atheta ventricosa Bernhauer | AB, BC, LB, MB, NF, NS, ON, QC, SK, YT; USA: AK, DC, NC, NJ, NY, PA, VA, VT |
| Boreophila davigdei Klimaszewski & Godin | AB, YT |
| Boreophila hyalinovolis (Kraatz)* | AB, NF, NT, NU, YT; USA: AK |
| Boreosila parvippennis (Bernhauer) | AB, LB, NF, NT, QC, YT; USA: AK, NH |
| Dalotia coriaria (Kraatz)† | AB, BC, LB, MB, NS, ON; USA: LA, NY |
| Dinaria angustula (Gyllenhal)† | AB, LB, MB, NF, NS, ON, PE, QC, YT; USA: CA, NY |
| Dinaria paci Klimaszewski & Langor | AB, BC, LB, MB, QC, YT; USA: AK |
| Dinariae worki Klimaszewski & Jacobs | AB, QC |
| Earota dentata (Bernhauer) | AB, BC, MB, NF, NS, ON, QC, YT; USA: AK |
| Liognista aloconoides Lohse | AB, LB, NF, NS, YT |
| Lypoglossa francemonti Hoebeke | AB, MB, NB, NF, NS, NT, ON, QC, SK, YT; USA: NY, VT |
| Mocyta breviscula (Mäklin) | AB, BC, LB, MB, NF, NS, ON, QC, YT; USA: AK, OR |
| Mocyta fungi (Gravenhorst)† | AB, BC, LB, MB, NF, NS, NU, ON, PE, QC, SK, YT; USA: AK |
| Genus | Species | Distribution |
|-------|---------|--------------|
| *Paragonius* | *myrmicae* | Maruyama & Klimaszewski | AB, BC, LB |
| *Philhygra* | *botanicarum* (Muona)* | | BC, LB, NB, NF, NS, ON, SK, YT |
| *Philhygra* | *satanas* (Bernhauer) | | AB; USA: CA |
| *Philhygra* | *simipennis* | Klimaszewski & Langor | NB, LB, NF, SK, YT |
| *Philhygra subpolaris* (Fenyes) | | AB; USA: AZ. |
| *Schistoglossa campbelli* | Klimaszewski | | AB, BC |
| *Schistoglossa hampshirensis* | Klimaszewski | | AB, NB, QC; USA: NH |
| *Seeversiella globicollis* (Bernhauer) | | | AB, BC, NB, NF, NS, ON, QC, SK; USA: AZ, CO, ID, MN, MT, NH, SD, WI; Mexico; Guatemala |
| *Strophogastra pencillata* | Fenyes | | AB, MB, NB, NS, ON, QC |
| *Trichiusa pilosa* | Casey | | AB, BC, NS, ON; USA: ID, IN, KS, OH, RI |
| **AUTALINI** | | |
| *Autalia rivularis* (Gravenhorst)† | | | AB, BC, LB, NB, NE, NS, ON, QC |
| **FALAGRINI** | | |
| *Falagria cates* Erichson† | | | AB, NB, ON, QC |
| *Falagria dissecta* | Erichson | | AB, BC, MB, NB, NS, ON, QC; across USA |
| **GYMNUSINI** | | |
| *Gymnusa atra* | Casey* | | AB, BC, LB, MB, NB, NF, NS, NT, NU, ON, QC, YT; USA: AK |
| *Gymnusa pseudovariegata* | Klimaszewski | | AB, BC, LB, MB, NB, NF, NS, NT, ON, QC, YT; USA: AK |
| **HOMALOTINI** | | |
| *Agaricomorpha vincenti* | Klimaszewski & Webster | | AB, MB, NB, ON, QC |
| *Anomognathus abalascensis* | Klimaszewski, Hammond & Langor, sp. n. | | AB |
| *Gyrophaena keeni* | Casey | | AB, BC, LB, NB, NF, ON, QC, YT; USA: FL, MA, MT, NH, NY, TN, WA, WI |
| *Gyrophaena modesta* | Casey | | AB, NB, NF, NS, ON; USA: IL, IN, MI, MN, NH |
| *Gyrophaena nana* (Parkkull)* | | | AB, BC, MB, NB, NF, NS, ON; USA: MA, ME, MT, WI, WY |
| *Gyrophaena sculpripennis* | Casey | | AB, NB, NS, ON, QC; USA : MA, NH, NY, WI |
| *Gyrophaena uetana* | Casey | | AB, BC, NB, ON, QC, SK; USA: CA, CO, UT |
| *Gyrophaena wisconsinica* | Seevers | | AB, NB, QC; USA: WI |
| *Homalota plana* (Gyllenhal)† | | | AB, NB, NF, NS; USA: AK; Palaearctic: Europe, Asia |
| *Leptusa gatineauensis* | Klimaszewski & Pelletier | | AB, BC, NB, NF, NS, ON, QC |
| *Neotobia albertae* | Ashe | | AB, MB, NB, ON, QC |
| *Phydratutta blanchardi* (Casey) | | | AB, NB, ON |
| *Silusa californica* | Bernhauer | | AB, BC, LB, NB, NF, NS, ON, PE, QC, YT; USA: AK, CA, MN |
| *Silusa densa* | Fenyes | | AB, LB, NB, NF; USA: CA |
| *Silusa langori* | Klimaszewski | | AB, NB |
| **LOMECHUSINI** | | |
| *Pella criddeli* (Casey) | | | AB, MB, QC |
| *Pella gesneri* | Klimaszewski | | AB, MB, NB, ON |
| *Xenodusa reflexa* (Walker) | | | AB, BC, MB, NB, NS, QC, ON, SK |
| **MYLLAENINI** | | |
| *Myllaena arcana* | Casey | | AB, LB, NB, NF, NS, ON, QC, SK; USA: AL, FL, IA, IL, MA, NH, NJ; Mexico |
A new study of aleocharine rove beetles from Alberta revealed one subcortical species new to science, and eight other species representing new provincial records, including one new to Canada. A checklist of aleocharine species from Alberta, including present data, indicates 96 species classified in nine tribes. Of these, 78 are considered to be native species, six Holarctic and 12 adventive (Table 1). The total number of 96 species is very low in comparison with the eastern provinces and reflects poor knowledge of this group in Alberta. The true number of aleocharines in Alberta remains unknown but it is anticipated to be comparable to or surpass that of Newfoundland and Labrador, currently estimated at 189 species (Klimaszewski et al. 2011, and unpublished data). New taxonomic inventories are badly needed to provide baseline taxonomic data by which to assess change due to anthropogenic and natural disturbances and climate change.
**Taxonomic review**

**ATHETINI Casey**

_Atheta (s. str.) borealis_ Klimaszewski & Langor  
Figs 1–4

_Atheta (s. str.) borealis_ Klimaszewski & Langor, in Klimaszewski et al. 2011: 116.

**Diagnosis.** This species may be distinguished from other Nearctic _Atheta_ (s. str.) by its uniformly black and glossy body, sparse pubescence of forebody, antennal articles elongate, and the shape of its genital structures (Figs 2–4). For a detailed description, see Klimaszewski et al. (2011).

**Distribution.**

| Origin      | Nearctic |
|-------------|----------|
| Distribution | Canada: NF, AB |
| New records | New provincial record: **Canada, Alberta:** Slave Lake, 4 km SW Mitsue Lake, 55.208°N, 114.678°W, Hammond window-trap, H-68-3-6 (SL), 1997.08.11 (NoFC) 1 female |
| Reference   | Klimaszewski et al. 2011 |

**Natural history.** Very little is known about the life history of this species. Adults in Newfoundland were captured in pitfall traps on a coastal limestone barren and in riparian forest (Klimaszewski et al. 2011). The Alberta specimen was captured in a window-trap attached to aspen snag in boreal aspen forest harvested 29 years previously. Adults were collected in August in Alberta and Newfoundland.

**Comments.** This species is likely continuously distributed in northern boreal forest of Canada.

_Atheta (Dimetrota) hampshirensis_ Bernhauer  
Figs 5–12

_Atheta (Dimetrota) hampshirensis_ Bernhauer 1909: 525, Gusarov 2003: 43, Klimaszewski et al. 2011: 139.

**Diagnosis.** This species may be distinguished from other Nearctic _Atheta (Dimetrota)_ by its small size (length 2.2–2.6 mm), uniformly black body, dense and asperate punctation of forebody, antennal articles slightly to strongly transverse (Fig. 5), and the shape of its genital structures (Figs 6–12). For a detailed description, see Klimaszewski et al. (2011).

This species may be confused with _A. dadopora_ Thomson and _Strophogastra pencil-lata_ Fenyes. _Strophogastra pencil-lata_ differs from _A. hampshirensis_ by having numerous
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Figures 1–4. Atheta (s. str.) borealis Klimaszewski & Langor (female): 1 habitus in dorsal view 2 tergite VIII 3 sternite VIII 4 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.
Figures 5–12. *Atheta (Dimetrota) hampshirensis* Bernhauer: 5 habitus in dorsal view 6 median lobe of aedeagus in lateral view 7 median lobe of aedeagus in dorsal view 8 male tergite VIII 9 male sternite VIII 10 female tergite VIII 11 female sternite VIII 12 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.
strong ventral setae near the apical part of the abdomen and *A. dadopora* is more elongate and has different body proportions. All three species differ in the shape of male tergite VIII, median lobe of aedeagus and spermatheca.

**Distribution.**

| Origin | Nearctic |
|--------|----------|
| Distribution | Canada: NF, NS, NB, QC, ON, AB, BC. USA: AK, CA, NC, NH, NY, OR, PA, RI, WA |
| New records | New provincial record: Canada, Alberta: Smith, 10 km N Lawrence Lake, 55.0432°N, 113.6650°W, Hammond window-trap, H-95-3-1 (LL), 1997.07.16 (NoFC) 1 female |
| References | Bernhauer 1909, Lohse and Smetana 1985, Klimaszewski and Winchester 2002, Gusarov 2003, Klimaszewski et al. 2005, Webster et al. 2009, Majka and Klimaszewski 2008, 2010, Klimaszewski et al. 2011 |

**Natural history.** In Newfoundland, adults were collected from June to August using carrion-baited pitfall traps and flight intercept traps in mixedwood and coniferous forest types and on coastal barrens (Klimaszewski et al. 2011). In British Columbia, adults were taken from Sitka spruce forest, June through September, with peak abundance in August/September (Klimaszewski and Winchester 2002). In New Brunswick, adults were found in red spruce forest from July to September (Klimaszewski et al. 2005), and in Nova Scotia in coniferous and deciduous forests, open habitats, on mushrooms, in compost and on carrion (Majka and Klimaszewski 2008).

The Alberta female was captured in July in a window-trap attached to the trunk of an aspen snag in a two-year-old harvested boreal aspen stand.

**Comments.** This species is broadly distributed in Canada and the USA.

*Atheta (Pseudota) pseudoklagesi* Klimaszewski & Webster

Figs 13–20

*Atheta (Pseudota) pseudoklagesi* Klimaszewski & Webster (in Webster et al. 2016: 132)

**Diagnosis.** This is a sibling species of *A. klagesi* Bernhauer and was frequently confused with the latter in collections. It may be distinguished from *A. klagesi* by its slightly larger size, less glossy body, less intense yellowish colouration of spots on elytra, less intense yellowish colouration of legs, bases of antennae and maxillary palps and overall less contrasting body colour (Fig. 13); median lobe of aedeagus has longer tubus and slightly different shape of apex in lateral view (Fig. 14); spermatheca is very similarly shaped in the two species (Fig. 20), and females may be difficult to identify without accompanying males.
Figures 13–20. *Atheta* (*Pseudota*) *pseudoklagesi* Klimaszewski & Webster: 13 habitus in dorsal view 14 median lobe of aedeagus in lateral view 15 median lobe of aedeagus in dorsal view 16 male tergite VIII 17 male sternite VIII 18 female tergite VIII 19 female sternite VIII 20 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.
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**Natural history.** In New Brunswick, adults of this species were found in mature mixed forest, old-growth and old white spruce and balsam fir forests, a mature red spruce forest, and in a wet alder swamp (Webster et al. 2016). Specimens were collected from coral fungi on *Populus* log, fleshy polypore fungi at base of a dead standing *Populus*, in decaying gilled mushrooms, in gilled mushrooms, and under bark of red spruce (Webster et al. 2016). Adults were collected from May to September. The Alberta specimens were captured in July in a window-trap.

**Comments.** This species is very likely broadly distributed in Canada and the northern USA, but the existing records for *A. klagesi* (except for type series) need to be revised because they may contain mixed series of *A. klagesi* and *A. pseudoklagesi*.

**Philhygra subpolaris** (Fenyes)
Figs 21–26

**Brundinia subpolaris** Fenyes 1909: 423.

**Diagnosis.** This species may be distinguished from other Canadian *Philhygra* by its small subparallel body (length 2.8-3.2 mm), colour dark brown with reddish or yellowish elytra and darker scutellar section, subquadrate pronotum, elytra slightly longer than pronotum, antennal articles V-X subquadrate to slightly elongate (Fig. 21), and distinctive genital structures and terminalia (Figs 22–26).

**Distribution.**

| Origin | Nearctic |
|--------|----------|
| **Distribution** | Canada: AB, USA: AZ |
| New records | New country and provincial record: **Canada, Alberta**: Athabasca, 19 km N Calling Lake, 55.3046°N, 113.4848W, Hammond window-trap, H-95-2-2, 1997.07.24 (NoFC) 1 male; Lacombe, La17-2002 pitfall, 52.28°N, 113.44°W, 11–18.07.2003, plot#108 back (LFC) 1 male, same data except 27.06–4.07.2003, plot#306 front (LFC) 1 male; La52-2003 pitfall, 3-10.07.2003, plot#106 (LFC) 1 male; La17-2005, 7-14.07.2005, J. Broatch (LFC) 1 male, 1 sex undetermined. |
| Reference | Fenyes 1909 |
**Figures 21–26.** *Philhygra subpolaris* (Fenyes): 21 habitus in dorsal view 22 median lobe of aedeagus in lateral view 23 male tergite VIII 24 male sternite VIII 25 female tergite VIII 26 female sternite VIII. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.
Natural history. In Alberta, adults were caught in window traps attached to aspen snags in a boreal aspen stand harvested two years previously, and in pitfall traps deployed in canola fields. Adults were collected in July.

Comments. It is the first record of this species in Canada, and its broader distribution in Canada is unknown. It is probably continuously distributed in the Rocky Mountains, from Arizona in the south to Canada in the north.

HOMALOTINI Heer

Agaricomorpha vincenti Klimaszewski & Webster
Figs 27–33

Agaricomorpha vincenti Klimaszewski & Webster (2016).

Diagnosis. This species is distinguishable by its small body that is compact and narrowly oval in outline (Fig. 27); length 1.7–1.9 mm; uniformly black; forebody with strong microsculpture, that on elytra and abdomen forming scale-like structures, punctuation coarse, sparse and flatly impressed, pubescence sparse and approximately evenly distributed on forebody (Fig. 27).

Agaricomorpha vincenti may be readily distinguished from A. websteri Klimaszewski & Brunke by the differently shaped pronotum, which is much broader than the elytra (Fig. 27), by its uniformly black body, and by the shape of median lobe of aedeagus (Fig. 28), male tergite VIII (Fig. 29), and spermatheca (Fig. 33).

Distribution.

| Origin          | Nearctic          |
|-----------------|-------------------|
| Distribution    | Canada: NB, AB    |
| New records     | New provincial record: Canada, Alberta: Athabasca, 19 km N Calling Lake, 553046°N, 113.4848°W, Hammond window-trap, H-95-2-1, 1996.08.29, H-95-2-4, 1996.2.4, H-95-2-3, 1997.05.28 (NoFC) 1 male, 2 females; Smith, 10 km N Lawrence Lake, 55.0432°N, 113.6650°W, Hammond window-trap, H-95-3-1, 1997.08.11, H-95-3-6, 1996.09.24 (NoFC) 2 females. |
| Reference       | Webster et al. (2016) |

Natural history. In New Brunswick, specimens of A. vincenti were captured in Lindgren funnel traps in a rich Appalachian hardwood forest, a Populus tremuloides stand with a few conifers, an old-growth northern hardwood forest, and a hardwood forest on an island in a river. In Alberta, adults were captured in window traps attached to aspen snags in a boreal aspen stand harvested two years previously. Adults were
Figures 27–33. *Agaricomorpha vincenti* Klimaszewski & Webster: 27 habitus in dorsal view 28 median lobe of aedeagus in lateral view 29 male tergite VIII 30 male sternite VIII 31 female tergite VIII 32 female sternite VIII 33 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.

Collected during May, June, and July in New Brunswick, and in May, August and September in Alberta.

Comments. This species is probably continuously distributed from New Brunswick to Alberta and likely extends further to Alaska.
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*Anomognathus athabascensis* Klimaszewski, Hammond & Langor, sp. n.
http://zoobank.org/F7A228CE-1A0B-463F-A85E-79D846E8B3F9
Figs 34–40

**Holotype** (male). **Canada, Alberta**, Athabasca, 19 km N Calling Lake, 55.3046°N, 113.4848°W, Hammond window-trap, H-95-2-6 (CL), 1997.06.23 (NoFC). **Paratypes.** **Canada, Alberta**, Athabasca, 19 km N Calling Lake, 55.3046°N, 113.4848°W, Hammond window-trap, H-95-2-3 (CL), 1997.06.23 (LFC, NoFC) 1 female; **Canada, Alberta**, Athabasca, 19 km N Calling Lake, 55.3046°N, 113.4848°W, Hammond window-trap, H-95-2-3 (CL), 1997.07.09 (NoFC) 1 female.

**Etymology.** *Athabascensis* is a Latin adjective derived from the name of the Athabasca region in Alberta, where the type series was discovered.

**Diagnosis.** Body length 2.5–2.7 mm; narrow and fl at (Fig. 34); more or less uniformly dark brown or reddish-brown with darker head and abdomen, with legs reddish-brown, moderately densely punctate and pubescent, pubescence short and adhering to the body, integument with dense meshed microsculpture, denser on forebody, sculpticells hexagonal, and punctuation asperate on forebody; head large, rounded posteriorly and with postocular area strongly converging basally (Fig. 34), slightly wider and longer than pronotum, with small eyes shorter than postocul ar area; antennae with articles I-III elongate and IV-X subquadrate to slightly transverse (Fig. 34); pronotum about trapezoidal in shape, narrowest at base, widening apically to about apical third and then narrowed apically, slightly transverse, much narrower at base than elytra (Fig. 34); elytra flattened, longer than pronotum, with strong angular shoulders (Fig. 34); abdomen narrow and subparallel, paratergites well developed (Fig. 34). MALE. Median lobe of aedeagus with tubus strongly produced ventrally in lateral view (Fig. 35); internal sac without distinct sclerites (Fig. 35); tergite VIII truncate apically with three pairs of dorsal teeth and narrow median lobe (Fig. 36); sternite VIII wide, broadly rounded apically (Fig. 37). FEMALE. Tergite VIII truncate apically, with two large and hooked apically lateral teeth and some crenulation on apical margin (Fig. 38); sternite VIII rounded apically and with broad space between base of the disc and antecostal suture (Fig. 39); spermatheca with small spherical capsule and narrow and short stem (Fig. 40).

This species is readily distinguishable from *A. americanus* Casey, the only other representative of this genus in North America (Figs 41–44), by the different body proportions (Fig. 34), head large, longer and wider than pronotum (Fig. 34), and differently shaped tergite VIII of female (male of *A. americanus* is unknown), with two large and hooked apically lateral teeth (Fig. 38), while in *A. americanus* tergite VIII has two lateral teeth and one long median spine (Fig. 42).

**Distribution.** Known only from Alberta, Canada.

**Natural history.** This species was captured in June and July in Alberta. This is a subcortical species whose life history remains unknown. It is most likely associated with galleries of wood boring insects.
**Figures 34–40.** *Anomognathus athabascensis* Klimaszewski, Hammond & Langor: 34 habitus in dorsal view 35 median lobe of aedeagus in lateral view 36 male tergite VIII 37 male sternite VIII 38 female tergite VIII 39 female sternite VIII 40 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.
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Figures 41–44. *Anomognathus americanus* (Casey): 41 habitus in dorsal view 42 female tergite VIII 43 female sternite VIII 44 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.

*Anomognathus americanus*
**Gyrophaena sculptipennis** Casey
Figs 45–51

*Gyrophaena sculptipennis* Casey 1906: 298; Seevers 1951: 689.

**Diagnosis.** This species is easily distinguishable from other *Gyrophaena* by body shape and colouration (Fig. 45), and the shape of the male and female genital structures (Figs 46-51). For a detailed description, see Seevers (1951).

**Distribution.**

| Origin | Nearctic |
| --- | --- |
| Distribution | Canada: NB, NS, QC, ON, AB. USA: MA, NH, NY, WI |
| New records | New provincial record: **Canada, Alberta:** Ft. McMurray, 35 km N Mariana Lake, 56.2821°N, 111.8337°W, Hammond window-trap, F-82-3-5 (FM), 1996.08.29 (NoFC) 1 male. |
| References | Casey 1906, Seevers 1951, Bousquet et al. 2013 |

**Natural history.** Very little is known about the life history of this species. The Alberta specimen was captured in a window trap attached to aspen snag in a forest that burned 15 years previously. Adults were collected in Alberta in August and elsewhere in June and August (Seevers 1951).

**Comments.** This species is probably continuously distributed from Nova Scotia and New Brunswick to the eastern Rocky Mountains.

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**PLACUSINI** Mulsant & Rey

*Placusa vaga* Casey
Figs 52–59

*Placusa vaga* Casey 1911: 189, Klimaszewski et al. 2001: 27; Bousquet et al. 2013: 123.

**Diagnosis.** This species is easily distinguishable from other Nearctic *Placusa* by its uniformly black to rarely dark brown body, long elytra (Fig. 52), and the shape of the genital structures (Figs 53–59). For a detailed description, see Klimaszewski et al. (2001).

**Distribution.**

| Origin | Nearctic |
| --- | --- |
| Distribution | Canada: NS, NB, QC, ON, AB, YT, NT, BC. USA: CA |
| New records | New provincial record: **Canada, Alberta:** Ft. McMurray, 15 km N Mariana Lake, 56.1848°N, 111.9513°W, Hammond window-trap F-68-1-6 (SL), H-95-3-1 (LL) D.W. Langor (NoFC) 1 male, 2 females |
| References | Casey 1911, Klimaszewski et al. 2011, Bousquet et al. 2013 |
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Figures 45–51. Gyrophaena sculptipennis Casey: 45 habitus in dorsal view 46 median lobe of aedeagus in lateral view 47 male tergite VIII 48 male sternite VIII 49 female tergite VIII 50 female sternite VIII 51 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.

Gyrophaena sculptipennis
Natural history. Very little is known about the life history of this species. Adults in Quebec were captured in coniferous forests and mainly trapped in Lingren funnel traps (Klimaszewski et al. 2001). The Alberta specimens were captured in a window-
traps attached to aspen snag in boreal aspen stands burned two years previously. Adults were collected in Alberta in August and elsewhere in June and August (Seevers 1951).

**Comments.** This species is likely continuously distributed from Nova Scotia to British Columbia in northern boreal forest.

### OXYPODINI C.G. Thomson

**Hylota cryptica** Klimaszewski & Webster

Figs 60–66

*Hylota cryptica* Klimaszewski & Webster, in Webster et al. (2016)

**Diagnosis.** This species is distinguishable by length 3.2–3.4 mm, body narrowly oval, dark brown except for paler antennae, tarsi, and posterior part of elytra near suture (Fig. 60); forebody densely punctate and pubescent; head about one-third of maximum pronotal width; antennal articles IV-X from slightly elongate to subquadrate (Fig. 60); pronotum broadest at basal third and strongly narrowed apically, at base as wide as elytra (Fig. 60). *Hylota cryptica* may be separated from *H. ochracea* by its larger, broader and darker body, pronotum at least as wide as elytra at base (slightly narrower in *H. ochracea*), elongate antennal articles V-X (transverse in *H. ochracea*), less bent tubus of median lobe laterally (Fig. 61), apical margin of male tergite VIII with minute crenulation (Fig. 62) (with teeth in *H. ochracea*), and spermatheca with fewer coils (Fig. 66) (8–9 in *H. cryptica* and about 15–17 in *H. ochracea*).

**Distribution.**

| Origin   | Nearctic                  |
|----------|---------------------------|
| Distribution | Canada: NB, AB           |
| New records | New provincial record: **Canada, Alberta:** Ft. McMurray, 15 km N Mariana Lake, 56.1848°N, 111.9513W, Hammond window-trap, F-82-3-4, 1997.06.23, F-82-3-2, 1997.06.10 (NoFC) 2 females; Slave Lake, 11 km N town Slave Lake, 55.4045°N, 114.6431°W, Hammond window-trap, H-82-3-3, 1997.06.18 (NoFC) 1 female. |

**References**

Klimaszewski et al. 2006, Webster et al. (2016)

**Natural history.** All New Brunswick specimens of *H. cryptica* were captured in Lindgren funnel traps or flight intercept traps in various forest types (Webster et al. 2016). These included a red oak forest, an old mixed forest with red oak, mixed forests, a hardwood forest on an island in a river, an old-growth northern hardwood forest, an old-growth white spruce and balsam fir forest, an old jack pine forest, an old red pine forest, and an old white pine stand (Webster et al. 2016). The Alberta specimens were captured in June in window traps attached to aspen snag in boreal aspen stands harvested and burned 15 years previously.

**Comments.** This species is most likely continuously distributed from New Brunswick to Alberta.
Figures 60–66. *Hylota cryptica* Klimaszewski & Webster: 60 habitus in dorsal view 61 median lobe of aedeagus in lateral view 62 male tergite VIII 63 male sternite VIII 64 female tergite VIII 65 female sternite VIII 66 spermatheca. Scale bar of habitus = 1 mm; remaining scale bars = 0.2 mm.

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References

Bernhauer M (1909) Neue Aleocharini aus Nordamerika. (Col.) (4. Stück.). Deutsche Entomologische Zeitschrift 1909(4): 515–528.

Bousquet Y, Bouchard P, Davies AE, Sikes D (2013) Checklist of beetles (Coleoptera) of Canada and Alaska. Pensoft Publishers, Sofia-Moscow, 402 pp.

Casey TL (1906) Observations on the staphylinid groups Aleocharinae and Xantholinini, chiefly of America. Transactions of the Academy of Sciences of St. Louis 16: 125–434.

Casey TL (1911) New American species of Aleocharinae and Myllinaeinae. Memoirs on the Coleoptera 2. The New Era Printing Co., Lancaster, Pennsylvania, 245 pp.

Fenyes A (1909) New Aleocharinae of the United States. Entomological News 20: 418–425.

Gouix N, Klimaszewski J (2007) Catalogue of aleocharine rove beetles of Canada and Alaska. Pensoft, Sofia-Moscow, 165 pp.

Gusarov VI (2003) Revision of some types of North American aleocharines (Coleoptera: Staphylinidae: Aleocharinae), with synonymic notes. Zootaxa 353: 1–134.

Klimaszewski J, Winchester NN (2002) Aleocharine rove beetles (Coleoptera Staphylinidae) of the ancient Sitka spruce forest on Vancouver Island, British Columbia, Canada. Mémoires de la Société royale belge d’Entomologie 40: 3–126.

Klimaszewski J, Webster RP, Savard K (2009) First record of the genus Schistoglossa Kraatz from Canada with descriptions of seven new species (Coleoptera, Staphylinidae, Aleocharinae). ZooKeys 22: 45–79. doi: 10.3897/zookeys.22.153

Klimaszewski J, Sweeney J, Price J, Pelletier G (2005) Rove beetles (Coleoptera: Staphylinidae) in red spruce stands, eastern Canada: diversity, abundance, and descriptions of new species. The Canadian Entomologist 137: 1–48. doi: 10.4039/n03-123

Klimaszewski J, Langor D, Pelletier G, Bourdon C, Perdereau L (2011) Aleocharine beetles (Coleoptera, Staphylinidae) of the province of Newfoundland and Labrador, Canada. Pensoft Publishers, Sofia-Moscow, 313 pp.

Klimaszewski J, Pelletier G, Germain C, Work T, Hébert C (2006) Review of Oxypoda species in Canada and Alaska (Coleoptera, Staphylinidae, Aleocharinae): systematics, bionomics, and distribution. The Canadian Entomologist 138: 737–852. doi: 10.4039/n05-064

Klimaszewski J, Godin B, Langor D, Bourdon C, Lee S-I, Horwood D (2015) New distribution records for Canadian Aleocharinae (Coleoptera, Staphylinidae), and new synonymies for Trichiusa. ZooKeys 498: 51–91. doi: 10.3897/zookeys.498.9282

Klimaszewski J, Pelletier G, Germain C, Hébert C, Humble LM, Winchester NN (2001) Diversity of Placusa (Coleoptera: Staphylinidae, Aleocharinae) in Canada, with descriptions of two new species. The Canadian Entomologist 133: 1–47. doi: 10.4039/Ent1331-1

Lohse GA, Smetana A (1985) Revision of the types of species of Oxypodini and Athetini (sensu Seevers) described by Mannerheim and Måkin from North America (Coleoptera: Staphylinidae). The Coleopterists Bulletin 39: 281–300.

Majka CG, Klimaszewski J (2008) New records of Canadian Aleocharinae (Coleoptera: Staphylinidae). ZooKeys 2: 85–114. doi: 10.3897/zookeys.2.7

Majka CG, Klimaszewski J (2010) Contributions to the knowledge of the Aleocharinae (Coleoptera, Staphylinidae) in the Maritime Provinces of Canada. ZooKeys 46: 15–39. doi: 10.3897/zookeys.46.413
Seevers CH (1951) A revision of the North American and European staphylinid beetles of the subtribe Gyrophaenae (Aleocharinae, Bolitocharini). Fieldiana Zoology 32: 655–762. doi: 10.5962/bhl.title.2816

Seevers CH (1978) A generic and tribal revision of the North American Aleocharinae (Coleoptera: Staphylinidae). Fieldiana Zoology 71: i–vi, 1–289.

Webster RP, Klimaszewski J, Pelletier G, Savard K (2009) New Staphylinidae (Coleoptera) records with new collection data from New Brunswick, Canada. I. Aleocharinae. ZooKeys 22: 171–248. doi: 10.3897/zookeys.22.152

Webster RP, Klimaszewski J, Bourdon C, Sweeney JD, Hughes CC, Labrecque M (2016) Further contributions to the Aleocharinae (Coleoptera, Staphylinidae) fauna of New Brunswick and Canada including descriptions of 27 new species. ZooKeys 573: 85–216. doi: 10.3897/zookeys.573.7016