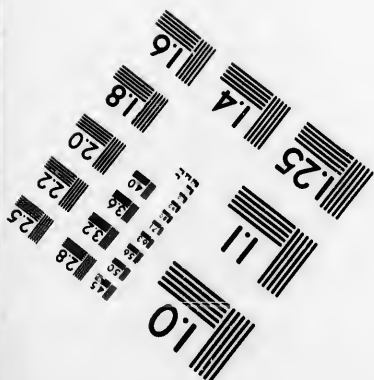
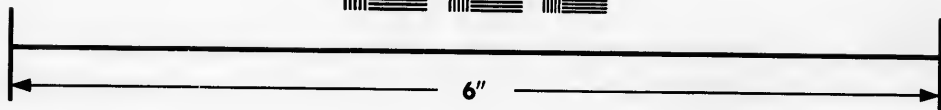
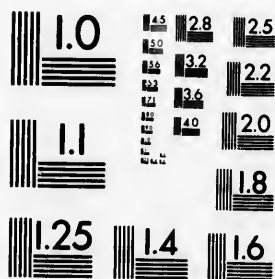


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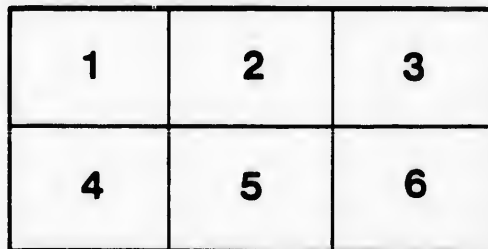
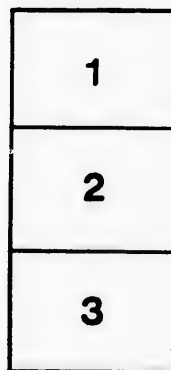
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(Reprinted from the Canadian Naturalist.)

ON THE  
COLEOPTERA  
OF THE  
ISLAND OF MONTREAL.

By A. S. RITCHIE.

The list of Coleoptera appended to this paper, has involved considerable labour, mostly on account of the bulkiness of the nomenclature, a prevailing fault in this as in most other branches of Natural History. Calling the same species by many names leads to great confusion; some of these insects have as many as six or seven synonyms.

I am indebted to Dr. Leconte, and to Dr. Horn, of Philadelphia, for their very kind assistance in the preparation of this list. Leconte's classification of the beetles of North America is the most authentic known to me for the simple reason that all his species are named from some special characteristic, as, structure, habits, or food, and not on tradition. His classification has therefore been adopted. The few remarks I propose to make on the Coleoptera of Montreal may be set forth under the heads of Nomenclature, Classification, and general remarks on the several families.

NOMENCLATURE.—Insects are named from specific or generic characteristics of structure, or colour, from the particular food they live on, or from some other material characters—so that they may be readily identified. The confusion which often arises from so many names, may be illustrated by an example. Olivier finds an insect about the year 1789, and after describing it, calls it *Leptura Vittata*; Kirby finds the same species about 1828, and

he calls it *Leptura semivittata*; finally, Germar about 1834 has another *alias* for the same species, *Leptura Abbreviata*. These names are all very good in their way, the creature may be known by any one of them,—but why change the original? The name given by the person who first described the species, certainly has the preference, provided the insect can be identified by it, and should be the only one retained. Nor does the trouble end here; you may look over the drawers of fifty cabinets of insects without finding any two of them to agree, as to what is the correct name for a particular species.

It would be a great matter if something could be done towards having an uniform nomenclature for Canadian insects.

The list contains twenty-seven families, one hundred and thirty-three genera and two-hundred and seventeen species, collected on the Island of Montreal; all not collected here, are in the following list.

CLASSIFICATION.—Entomologists and systematists have insisted on one or two peculiar characters, which they consider to be of primary importance and value, as the basis of classification. Swammerdam contended, that in the early, or preparatory states of an insect was to be discovered the solution of its natural position. His system was called the "Metamorphotic." Linneus considered that in the structure of the wings, lay the basis of classification. His system was called the "Alary." Fabricius accepted neither of these views; and on the structure of the organs of the mouth created his system. His system was called the "Maxillary." Latreille, not knowing which to prefer, formed a fourth, combining the three, which he called the "Eclectic." The "Septenary system" is one which is followed by some to a great extent. According to this theory, "in every group of seven, whether the group be large or small, one of the seven is central, and the other six surround it and are each connected with it." All entomologists at the present day agree with these various systems to a certain extent as invaluable guides to classification. Leconte's classification comprises ten orders; this appears to be the most natural division. These orders are again divided into tribes, stirps, families, genera, and species.

The order Coleoptera (or beetles) contains, according to Latreille, not less than 25,000 species; the estimate was made about the year 1800, and included beetles from all parts of the world, as then

known and described in European cabinets. Since then, according to the best modern authorities, the number has been more than doubled, and is now set down at 90,000 species. When we imagine each of these species differing in appearance and to a great extent in habits, the question naturally arises, what is the use of so many beetles?

We may divide the whole order into two principal groups; the Carnivorous and the Herbivorous species, with certain modifications.

It would seem that a portion of almost every substance in the animal and in the vegetable kingdom is assigned as food for beetles.

Among the carnivorous species we have cannibals, which prey on their fellows; others enjoy a repast on the remains of some unfortunate field mouse, or small bird, that death has overtaken; some, as for instance the *Dermestes*, feed in our kitchens, on lard and bacon, and destroy preserved specimens of Natural History. The last trace of the carnivorous habits may be seen in the ravages of the little beetles which infest the leather binding of books.

The Herbivorous division comprises those species which feed on leaves, flowers, fruit, and vegetables. Members of the large family of the *Capricornes*, feed on the solid wood of our forest trees. The last trace of the herbivorous habit may be seen in certain *Searabæidæ* which feed on the excrement of herbivorous animals.

I shall now briefly notice the several families represented in the list. The first in order are the *Cicindelidæ* (or tiger beetles) and very tigers they are, both in their larval and perfect states. They live by stratagem, and as they run and fly well, are more than a match for most insects of their size. They are found in sandy situations, especially when the sun shines.

The next family *Carabidæ*, is one of the largest in the order; beetles of this group are principally carnivorous, some, however, prefer vegetable diet. *Calosoma Calidum* (commonly known as the "copper spot") is a good example of this family; it feeds on caterpillars, which it hunts with great avidity. Beetles of the genus *Harpalus* and *Amara* feed on vegetables. The distribution of species is very wonderful; for instance along the stone wall at the quarries, under stones, individuals of the genus *Harpalus* prevail in great numbers. The genus *Brachinus* is rare near



Montreal; to this genus belongs those beetles called "Bombar-  
diers." They have the faculty of emitting volatile discharges,  
having a very pungent odour, accompanied with a slight noise and  
with a bluish smoke. They are to be found plentifully at the  
Back River under stones and decaying trees; as many as six or  
seven specimens may be taken under one stone. Four or five  
discharges are the greatest number I have seen them emit; after  
this process the insect appears quite exhausted.

Examples of the genus *Chlaenius* are also very plentiful along  
the banks of the St. Lawrence; at the Victoria Bridge, I have  
secured twenty specimens under one stone, comprising three  
species. They have a very pungent odour which remains on the  
hands for some time after washing.

The next three families are aquatic, viz., the Dytiscidae (or  
diving beetles), the Gyrinidae (or whirligigs), and the Hydrophilidae.  
Their food is aquatic larvae and plants; some of the larger  
species attack even frogs, and small fish. The foot of the male  
Dytiscus has long been admired as a microscopic object. The  
Gyrinidae have two pairs of eyes, which is one pair more than  
their congeners possess; they are largely represented in the ponds  
and streams near the city.

The Silphidae (or carrion beetles) may be found feeding in  
the bodies of dead animals; they are flat bodied insects and are  
very useful in removing putrid carcases.

The next family Staphylinidae (or rove beetles) contains a  
great variety of species; some are microscopic in their dimensions,  
and none exceed an inch or so in length. These beetles are  
omnivorous; some feed on decomposing animal and vegetable  
matter, some on fungi, and others on flowers. The small insects  
which annoy us by getting into our eyes belong to this family.

The *Histeridae*, or "mimic beetles," are the next in order, they  
are found in excrements, in carcases, and under bark. They  
have the power of folding their legs close to the body on being  
disturbed, so as to counterfeit death.

Examples of the family *Cuenjidae* are apparently rare on the  
Island of Montreal. They are usually found under bark, and  
some are of a bright scarlet colour. The two specimens I have  
of *Cucujus clavipes* were captured on the board walk in St.  
Urban St.

The *Dermestidae*, or skin beetles, are a group of insects of small  
size, generally about three quarters of an inch long. They are very

destructive to furs, and to preserved specimens of natural history.

The *Eyrhidae*, or pill beetles, are of an oval shape, and are found in excrement, also under stones and bark. They possess the faculty of drawing up the legs close to the body as in His-tridae, and they remain in this way perfectly quiet as if dead.

The *Lucanidae*, or stag beetles, come next. They are entirely vegetable feeders; the large species feed mostly on leaves, the smaller on leaves and sap. Some of our largest Canadian beetles belong to this family, as for instance, *Passalus cornutus*, *Lucanus duma*, and *Lucanus placidus*. Neither of these species are found on the Island of Montreal. They are plentiful in Ontario, flying about oak trees. The smaller species, *Platycerus quercus* and *P. depressus*, are found near the city.

Next come the *Scarabacidae*, a very large group, which feed on almost every thing. Some authors divide this family into, 1st, the ground or true *Scarabs*, which feed on excrement, 2ndly, the chafers and rose beetles, which live on leaves, flowers and sap. The Hermit Beetle, *Osmoderma*, belongs to this group.

The two following families, *Buprestidae* and *Elateridae*, are well represented on the Island. Some of the exotic species are adorned with splendid metallic tints. The Brazilian Buprestidae are gorgeous insects, their wing cases or elytra being very hard. A great many are mounted and sold for breast pins and for other articles of jewellery. A little black insect, about three quarters of an inch long (*Melanophila Longipes*), belongs to this family. In the warm days of summer it runs about the side-walk, and flies at intervals, alighting generally on the neck, where it bites very keenly, the bite leaving a feeling as if the flesh was burnt with hot sealing wax. The large Elater, *Alaus oculatus*, has rarely been found here; one I picked up on the side-walk on St. Paul St.;—the other was captured on a tree on St. Helen's Island last summer, on the occasion of the field meeting of the Natural History Society.

The family *Lampyridae* includes the fire flies, a group well represented in the district in question. They occur in great numbers in the early summer, and feed on the mucus of the birch trees on the mountain.

*Cloridae* is the next family; it is composed of insects of small size, which are parasitic in their larval state on bees, and in bees and ants' nests. In their imago or perfect state they are found on flowers.

The family *Tenebrionidae* contains a number of species that live upon vegetable matter in various conditions. A very common insect, *Tenebrio Molitor*, called in its larval state the meal worm, belongs to this family.

*Melocidae*: to this group belongs the *Cantharis Vesicatoria*, or Spanish fly. Examples of the genus *Meloe* are called oil beetles, on account of a yellow oily substance exuding from their joints on their being handled.

The different species of weevils or snout beetles, belong to the *Curculionidae*. They feed upon plants, fruits, nuts and seeds, and are peculiar for their having the wing-cases, in many instances, covered with beautiful scales. This family requires careful study, as but little is as yet known of the species belonging to this interesting section.

The *Longicorues* belong to the family *Cerambycidae*; this is a very extensive group. They are principally lignivorous, and in their larval and perfect states feed on solid and decayed wood.

Members of the genus *Leptura* are mostly floral species, feeding in their grub state on wood, and in their perfect state on flowers.

The leaf-eaters come next; they include the two families *Chrysomelidae* and *Cassididae*. These insects feed entirely on the leaves of plants, and are very destructive in gardens.

The last family we will mention is the *Coccinellidae* (or lady birds); they are carnivorous and are very useful in gardens, ridding plants of the small green insects called *Aphidae* or plant lice.

I have cursorily glanced at some of the leading characters represented in the families contained in the list, as regards their habits and their food. In concluding these remarks, I would state that looking at the insect world from an economic point of view, they are worthy the attention of mankind. Insignificant though insects appear, the wondrous results they bring about, are well known; the number of hands they keep busy are exemplified by the productions of the silk worm. We are indebted to them for ink, dyes, and lac; to the bee for honey and wax. Who knows but that an insect may yet be found in Canada that will be the means of developing some sphere of industry? In medicine we have the blister beetle or *Spanish fly*; that our Canadian *Meloe* and *Epicauta* may secrete Cantharadine I have no doubt; as it is an ally of the blister beetle of commerce. The oily matter exuding from the joints of *Meloe* warms the tongue considerably on applying it to that member. Then look how nature

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apportions her work; how she uses her handmaids. Look at those dead trees that lie decaying in our forests, and see how the agency of these little creatures is called in. They bore into and channel their decaying trunks, and thus allow the action of the atmosphere to hasten their decay, animal matter of all kinds has also many busy little hands and mouths ready to act as scavengers in clearing it away. Lift that dead quadruped or bird that has lain in the sun for a day or two in our streets or fields, the little insects are our friends, for above it, below it, and within it, they are at work and it will soon be gone, thus preventing the spread of gases noxious to the health of man. Every creature has its use, and to know their use is man's province.

LIST OF COLEOPTERA TAKEN ON THE ISLAND OF MONTREAL.

By ALEX. S. RITCHIE.

The list comprises twenty-seven families, one hundred and thirty-three genera, and two hundred and seventeen species. Synonyms are also appended, taken from LeConte. I am indebted to Dr. LeConte, of Philadelphia, and through him to Dr. Horn, for his kindness in comparing species, and naming them, and otherwise assisting me in the compilation of this list.

<p><b>CICINDELIDAE.</b> <b>CINCINDELA</b>, Linn. <i>patruela</i> Dej. (=consuetanea Dej.) <i>sexguttata</i> Fabr. (=violacea Fabr.) <i>splendida</i> Hentz. (=limbata var. Lec.) (=marginalis var. Dej.) <i>purpurea</i> Oliv. (=marginalis Fabr.) var. <i>andubonii</i> Lec.) <i>vulgata</i> Say, (=obliquata Dej.) <i>tranquebarica</i> Herbst.)</p> <p><b>CARABIDAE.</b> <b>NEBBIA</b> Latr. <i>pallipes</i> Say.</p> <p><b>CALOSOMA</b> Fabr. <i>calidum</i> Fabr. (=var. <i>leplatum</i> Lec.)</p> <p><b>CYCHRUS</b> Fabr. <b>SPHAERODERUS</b> Dej. <i>canadensis</i> Chand.</p> <p><b>HARPALEDIDAE.</b> <b>BRACHINUS</b> Weber. <i>fumans</i> Fabr. (=illuror Dej.) <i>conformis</i> Dej. (=patruelis Lec.)</p> <p><b>LEBIA</b> Latr. <i>fusca</i> Dej.</p>	<p><b>CYMINIDAE</b> Latr. <i>pilosa</i> Say. (=pubescens Dej.)</p> <p><b>PLATYNUS</b> Bon. <i>sinuatus</i> Lec. (=anchomenus slm. Dej.) <i>extensicollis</i> Lec. (=feronia exten. Say, anch. exten. Dej.) <i>melanarius</i> Lec. (=agonum melan. Dej.) agonum <i>quarum</i> Halld.) <i>frater</i> Lec. <i>cupripennis</i> Lec. (=feronia cupr. Say, agonum cupr. Dej.) <i>subcordatus</i> Lec. <i>lutulentus</i> Lec. <i>chalcus</i> Lec. (=agonum chalcus Lec.)</p> <p><b>PTEROSTICHUS</b> Bon. <b>POECILUS</b> Bon. <i>chalcites</i> Lec. (=feronia chalcites Say, =poec. sayi Brulle, =poec. chalcites Kirby, =poec. means Chand.) <i>lucublandus</i> Lec. (=feronia luc. Say, =poec. luc. Kirby.) Quasius <i>Zest.</i> <i>caudiculis</i> Lec. (=feronia caudiculis Say, =stereocerus caud. Lec.) Argutor <i>Meg.</i></p>	<p><i>patruelis</i> Lec. (=feronia patruelis Dej.) <i>Pterostichus</i> Bon. <i>stygius</i> Lec. (=feronia stygius Say, =fer. bisidillata Harris, =oniscus rugicollis Halld.)</p> <p><b>AMARA</b> Bon. <i>fallax</i> Lec. <b>CKLIA</b>, Zimm. <i>obesa</i> Say. (=percosia obesa Halld.)</p> <p><b>DIPLOCHILA</b> Brulle. <i>laticollis</i> Lec. (=rembus laticollis Lec. =r. assimilis Lec.)</p> <p><b>ANOMOGLOSSUS</b> Ch. <i>emarginatus</i> Chand. (=chalcus emarg. Say.)</p> <p><b>CHLAENIUS</b> Bon. <i>sericus</i> Say. (=carabus sericus Forster) <i>chlorophatus</i> Dej. <i>tricolor</i> Dej.</p> <p><b>AGONODERUS</b> Dej. <i>pallipes</i> Dej. (=carabus pallipes Fabr.)</p> <p><b>ANISODACTYLUS</b> Dej. <i>discoideus</i> Dej. <i>baltimorensis</i> Dej. (=i. baltimorensis Say.)</p>
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**BRADYCELLUS** *Er.*  
*rupestris Lec.*  
 (= *trechus rupestris Say.*)  
 = *acup, elongatulus Dej.*  
 = *trechus flavipes Kirby.*

**HARPALUS** *Latr.*  
*virgineus Peavou.*  
 (= *h. viridis Say.*)  
 = *h. assimilis Dej.*  
*pennsylvanicus Lec.*  
 (= *o. pennsylvanicus Degeer*)  
 = *c. bicolor Fabr.*  
 = *stap. bicolor Say*)  
*compar Lec.*  
*horvigiugus Say.*  
 (= *ophonus mutabilis Hald.*)  
 = *var. h. proximus Lec.*)

**STENOLOPHUS** *Dej.*  
*ochropopus Dej.*  
 (= *ronia ochropopus Say.*)  
 = *var. s. convexicollis Lec.*)

**MEMBIDIUM** *Latr.*  
*nigrum Say.*

**PERYPHUS** *Meg.*  
*striola Lec.*  
 (= *ochthodromus stri. Lec.*)  
*lucidum Lec.*  
 (= *ochthodromus luc. Lec.*)  
 = *var. o. substrictus Lec.*)  
*rupestre Dej.*  
 (= *carabus rupestre Latr.*)  
 = *ben. tetracolum Say.*  
 = *var. ruficollis Kirby.*)

**NOTAPHUS** *Meg.*  
*patruelo Dej.*

**LOPHA** *Meg.*  
*quadrinaculatum Mll.*  
 (= *cicindela quadri. Linn.*)  
 = *benb. oppositum Say.*)  
*pedicellatum Lec.*

**DYTISCIDAE.**  
**HALIPLUS** *Latr.*  
*immaculicollis Harris.*  
 (= *h. americanus Aube.*)

**CNEMIDOTUS** *Ill.*  
*edentulus Lec.*

**HYDROPHUS** *Clairv.*  
*lacustris Say.*  
 (= *h. pulicarius Aube.*)  
*modestus Aube.*  
 (= *h. rubiceps Aube.*)

**LACOPHILUS** *Leach.*  
*maculosus Say.*  
 (= *lytiscus macu. Germ.*)  
*proximus Say.*  
 (= *lac. americanus Aube.*)

**COLYMBETES** *Clairv.*  
*CYMATOPHRAUS* *Bech.*  
*seminiger Lec.*  
*exaratus Lec.*  
*binotatus Harris.*  
 (= *maculicollis Aube.*)

**ACILIUS** *Leach.*  
*paternus Lec.*  
 (= *lytiscus frater., Harris.*)  
 = *ac. semisulcatus, Aube.*)

**DYTISCUS** *Linn.*  
*anxius Mann.*  
*fasciventris Say.*  
 (= *carolinus Aube.*)

*harrisi Kirby.*  
*verticalis Say.*

## GYRINIDAE.

**GYRINUS** *Linn.*  
 = *not determined.*

**DINECTES** *McLeay.*  
 = *not determined.*

**HYDROPHILIDAE.**  
**HYDROPHILUS** *Geoffr.*  
**TROPISTERNUS** *Sol.*  
*glaber Herbst.*

**HYDROCHARIS** *Latr.*  
*obtusatus Lec.*  
 (= *hydrophilis obtu. Say.*)

**BERORUS** *Leach.*  
*striatus Say.*

**CEROYON** *Leach.*  
*flavipes, Er.*

**CRYPTOPLEURUM** *Muls.*  
*vagans Lec.*

**SILPHIDAE.**  
**NECROPHERUS** *Fabr.*  
*orbicollis, Say.*  
 (= *balli Kirby.*)  
 = *var. tibialis Lec.*)  
*velutinus Fabr.*  
 = *toxicostus Weber.*

**SILPHA** *Linn.*  
**NECRODES** *Wilkin.*  
*surinamensis Fabr.*

**THANATOPHILUS** *Leach.*  
*laponica Herbst.*  
 (= *caudata Say.*)  
 = *tuberculata Lec.*  
 = *signifera Chev.*)

**AARGINIS** *Fabr.*  
 (= *nove boracensis Forster.*)  
*inequalis Fabr.*

**NECROPHILA** *Kirby.*  
*pilata Lec.*  
 = *scarabens pelt. Catesby.*  
 = *silpha americana, Linn.*  
 = *var. o. terminal. Kirby.*  
 = *var. o. adline Kirby.*  
 = *var. o. canadense Kirby*

**STAPHYLINIDAE.**  
**ALROCHARA** *Grav.*  
 = *undetermined.*

**COPROPORUS** *Kraatz.*  
*ventriculus Kraatz.*  
 (= *tachinus ventriculus Er.*)  
 = *var. l. punctulatus Mels.*)

**TACHINUS** *Grav.*  
*fumipennis Er.*  
 (= *tachyporus famp. Say.*)  
 = *l. axillaris, Er.*

**TACHYPORUS** *Grav.*  
*jocosus Say.*  
 (= *ardius Er.*)

**CONOSOMA** *Kraatz.*  
*crassum Lec.*  
 (= *lac. b. crassum Grav.*)  
 = *conurus crassus Er.*)

**QUERBUS** *Stephens.*  
*molochinus Er.*  
 (= *staph. molochinus Grav.*)  
 = *s. laticollis Grav.*)

**CEROPHILUS** *Stephens.*  
 (= *staph. villosus Grav.*)  
*villosus Kirby.*

**LEISTOPHUS** *Perty.*  
*cingulatus Kraatz.*  
 (= *staph. cingulatus Grav.*)  
 = *s. chrysurus Kirby.*  
 = *s. speciosus Mann.*)

**STAPHYLINUS** *Linn.*  
*cingulatus Grav.*  
*badipes Lec.*

**PHILONTHUS** *Curtis.*  
*debilis Er.*  
 (= *staph. debilis Grav.*)

**LATHROBIUM** *Grav.*  
 = *undetermined.*  
 = *undetermined.*

**CRYPTORIUM** *Mann.*  
*bicolor Er.*  
 (= *lathrobium bic. Grav.*)

**PARDERUS** *Grav.*  
*littorarius Grav.*

**OXYTILUS** *Grav.*  
*sculptus Grav.*  
 (= *moerens Mels.*)

**HISTERIDAE.**  
**HISTER** *Linn.*  
*foedatus Lec.*

**PLATYSOMA** *Leach.*  
*lecontei Mara.*  
*coarctatus Lec.*

**NITIDULIDAE.**  
**NITIDULA** *Fabr.*  
*bipustulata Fabr.*

**OMOSITA** *Er.*  
*colon Er.*  
 (= *silpha colon Linn.*)  
 = *nitidula colon Fabr.*)

**IPS** *Fabr.*  
*fasciatus Say.*  
 (= *nitidula fasciata Oliv.*)  
*sanguinolentus Say.*  
 (= *nitidula sanguin. Oliv.*)

**CUCUJIDAE.**  
**CUCUJUS** *Fabr.*  
*clavipes Fabr.*

**DERMESTIDAE.**  
**DERMESTES** *Linn.*  
*lardarius Linn.*

**ATTAGENUS** *Latr.*  
*megatoma Er.*  
 (= *dermestes megat. Fabr.*)

**BYRRHIDAE.**  
**CYTHUS** *Er.*  
*varius Er.*  
 (= *byrrhus varius Fabr.*)  
 = *b. trivittatus Mels.*  
 = *var. b. alternatus, Say.*)

**BYRRHUS** *Linn.*  
*americanus Lec.*

s *Stephens*.  
*Er.*  
*maculatus Grav.*  
*(Linn. Grav.)*  
*Stephens*.  
*(Linnus Grav.)*  
*rbv.*  
*opus Pertv.*  
*Kraatz.*  
*inulatus Grav.*  
*urus Kirby.*  
*(Linnus Mann.)*  
*LINUS Linn.*  
*urus Grav.*  
*2.*  
*PHUS Curtis.*  
*ebillus Grav.)*  
*ORUM Grav.*  
*lineol.*  
*lined.*  
*BIUM Mann.*  
*um bic. Grav.)*  
*URUS Grav.*  
*Grav.*  
*LUS Grav.*  
*ut.*  
*(Mels.)*  
*ERIDAE.*  
*rus, Linn.*  
*2.*  
*OMA Leach.*  
*79.*  
*LEC.*  
*ULIDAE.*  
*ILA Fabr.*  
*Fabr.*  
*BITA Er.*  
*olon Linn.*  
*coloni Fabr.)*  
*Fabr.*  
*py.*  
*fasciata Oliv.)*  
*tatus Say.*  
*sanguin. Oliv.)*  
*IJJIDAE.*  
*rus Fabr.*  
*br.*  
*STIDAE.*  
*tatus Linn.*  
*2.*  
*ENUS Latr.*  
*Er.*  
*rus megat. Fabr.*  
*PHIDAE.*  
*rus Er.*  
*varius Fabr.*  
*tatus Mels.*  
*ternatus. Say.)*  
*US Linn.*  
*LEC.*

## LUCANIDAE.

PLATYCEPHUS Geoffr.  
 quereus Noh.  
 (=lucanus quereus Weller.  
 =fl. scutellatus Say.  
 depressus Lec.)

## SCARABAEIDAE.

ONTHOPHACUS Latr.  
 latebrosus Sturm.  
 (=copris latebrosus Fabr.  
 =scar. latebrosus Panzer.)

## APHODIUS Ill.

TEUCHESTES Muls.  
 fossor Fab.  
 (=scarabaeus fossor Linn.)  
 finetarius Ill.  
 (=scar. finetarius Linn.  
 =aph. nodulosus Roodall.)

## EUPARIA Lep.

—undetermined.

## GEOTRUPES Latr.

semitopacus.  
 sinillius.

## MELOGNATHIDAE.

## HOPLIA Ill.

trifasciata Say.  
 (=prima la Barn.  
 =helvola Mels.  
 =trivialis Mels.)

## DICHOLONYCHA Kirby.

elongatula, Fitch.  
 (=mel. elongatula Schonh.  
 =mel. hexagona Germ.  
 =dich. elonga a Barn.)

## SERICA McLeay.

CAMPTOPHINA Kirby.  
 vespertina Lec.  
 (=melolontha v. sp. Schonh.  
 =onulopha vesp. Harris.  
 =c. atricapilla Kirby.  
 sericea Burm.)

## LACHNOSTERNA Hope.

fusca Lec.  
 (=melolontha fusca Frohl.  
 =mel. quercina Knoch.  
 =mel. lery. us Gyll.  
 =l. quercina Lec.)

## LIOXYRUS Burm.

relictus L. c.  
 (=scarabaeus relictus Say.  
 =heteronculus pol. Burm.  
 =liobrytus el. Lec.)

## XYLOXYCTES Hope.

satyrus Burm.  
 (=geotrupes satyrus Fabr.  
 =scarabaeus satyrus Ol.  
 =s. nasicornis ann. Beauv.)

## OSMODERMA Lep.

eremicola Dej.  
 (=cetonia eremicola Knoch.  
 =trichius eremicola Say.)  
 scabra Dej.  
 trichius scabra Beauv.  
 (=gymnodus fow. Kirby.  
 =gym. rugosus Kirby.)

## TRICHIUS Fabr.

affinis Gory.  
 (=s. inilis Kirby.  
 =histrice Neesman.  
 =var. viridans Kirby.)

## BUPRESTIDAE.

DICERCA Esch.  
 divaricata Lec.  
 (=bup. divaricata Say.  
 =dicerca divisa Mels.  
 =dl. aurichalca Mels.  
 =dl. parvina (ata Mels.)  
 tenobrosa Lec.  
 (=bup. tenobrosa Kirby.)

## ANCYLOGHIRA Esch.

fasciata Dej.  
 (=bup. fasciata Fabr.  
 =bup. s. maculata Herbol.  
 consularis Dej.  
 (=bup. consularis Gory.)  
 maculiventris Lec.  
 (=bup. maculiventris Say.  
 =bup. scriptata Lap.  
 rusticozum Lec.  
 (=bup. rusticozum Kirby.)

## MELANOPHILA Esch.

longipes Gory.  
 (=bup. long. pes Say.  
 =putina append. Lap.  
 =mel. immaculata Gory.)

## CHRYSOGRIBUS Esch.

dentipes Lec.  
 (=bup. dent. pes Germ.  
 =b. characteristica Harris.)

## ELATERIDAE.

ADLUCERA Latr.  
 marmorata Germ.  
 (=elater. marmorata Fabr.)  
 obtecta, Lec.  
 (=elater. obtectus Say.)

## ALAUUS Esch.

oculatus Esch.  
 (=elater. oculatus Linn.)

## ELATER Linn.

lineatus Say.  
 (=elater. lugubris Germ.)  
 vitiosus Lec.  
 carbonicolor Mann.

## DRASTERIUS Esch.

dorsalis Lec.  
 (=elater. dorsalis Say.  
 =monocrepidus s. dor. Lec.  
 =aeulus dorsalis Cand.)

## DOLOPUS Esch.

pauper Lec.  
 MELANOTUS Esch.  
 fissilis.  
 (=catantychus latellus Fr.  
 =cr. schraepelii Mels.  
 =cr. spheroidalis Mels.)

## ATHIUS Esch.

oculatus Cand.  
 (=el. oculatus Say.  
 =ath. hypoleucus Mels.  
 =ath. procerocollis Mels.  
 =ath. strigatus Mels.)

## CORYMBITES Latr.

aeripennis Lec.  
 (=el. aeripennis Kirby.  
 =el. apocryptus (Band)  
 cylindricornis Germ.  
 (=el. cylindricornis Herbol.  
 =el. impressifrons Say.  
 =el. brevicornis Say.  
 =cor. parallelus Germ.)  
 vernalis Germ.  
 (=Elater vernalis Heutz.)

## tarsalis Lec.

(=athous tarsalis Mels.)  
 spinosus Lec.  
 sagitticollis Lec.  
 (=pithophus sax. Esch.)

## ASAPES Kirby.

baridius Lec.  
 (=elater baridius Say.  
 =hemic. thomasi Germ.)

## LAMPYRIDAE.

PHOTINUS Lap.  
 ELLYTHINA Lec.  
 corruscus Lec.  
 (=lampyrus corruscus Linn.  
 =el. atipennis s. Motsch.)

## TELEPHORIDAE.

CHAULOGNATHUS Heutz.  
 pennsylvanicus Lec.  
 (=telephorus penn. DeGeer  
 =cauth. thm. Forster.  
 =cauth. bimaculata Fabr.  
 =ch. bimaculatus Heutz.)

## P. DABRUS Westw.

BRACHYNOTUS Kirby.  
 rugosulus Lec.

## TELEPHORUS Schaffer.

curtisii Kirby.

## RHAONYCHA Esch.

carolinus Lec.  
 (=antharis carolinus Fab.  
 =rha. carolinus Motsch.)

## CLERIDAE.

TRICHODES Herbol.  
 nuttalli Klug.  
 (=clerus nuttalli Kirby.)

## CLERUS Geoffr.

THANAXIMUS Spin.  
 nubilus Klug.

## TENEBRIONIDAE.

BLAPSTINUS Waterh.  
 metallicus, Lec.  
 (=blaps. metallicus Fabr.  
 =spatrum interrupt. Say.  
 =b. aeneus Mels.  
 =b. interruptus Lec.  
 =b. viridis Mels.)

## HAPLANDRUS Lec.

femoratus Lec.  
 (=troglita femo al. Fabr.  
 =leucobli femoral. Beauv.  
 =ups. fulvipes Herbol.)

## URIS Fabr.

ceramboides Fabr.  
 (=ten. ceramboides Linn.  
 =u. reticulata Say.)

## NYCTOBATES Lec.

pennsylvanicus Lec.  
 (=ten. pennsylv. DeGeer.  
 =ten. chrysops Herbol.  
 =ten. subaevus Beauv.)

## IPHITHMUS Truqui.

opacus Lec.

## TENEBRIO Lirr.

molitor Linn.

**BOLETOTHERUS** *Cand.*  
*cornutus Candèze.*  
 (= *boletophagus* *cor.* *Fabr.*  
 = *opatum* *cor.* *Fanzer.*)

**DIAPERIS** *Geoff.*  
*hydri Fabr.*  
 (= *maculata* *Oliv.*)

**MELANDRYIDAE.**  
**MELANDRYA** *Fabr.*  
*striata Say.*  
 (= *var. excavata* *Hald.*)

**MELOIDAE.**  
**MELOE** *Linn.*  
*rugipennis Lec.*  
*augusticollis, Say.*

**MACROBASIS** *Lec.*  
*fabricii Lec.*

**OEDEMERIDAE.**  
**NACERDES** *Schmidt.*  
*melanura Schmidt.*  
 (= *cantharis melanura* *Linn.*  
 = *lucyphalis notata* *Fabr.*  
 = *col. analis* *Oliv.*  
 = *ued. apicalis* *Say.*)

**CERAMBYCIDAE.**  
**CRIOCEPHALUS** *Muls.*  
*agrostis Kirby.*

**ARHOPALUS.**  
*speciosus Say.*  
*pictus Drury.*

**CALLIDIUM** *Fabr.*  
*janthinum Lec.*

**CLYTUS** *Fabr.*  
*undulatus Say.*  
*ruvicola Oliv.*  
*campestris Oliv.*  
*erythrocephalus Fabr.*  
*muricatus Kirby.*

**ENDERGES.**  
*picipes Fabr.*

**GRAPHISURUS.**  
*pusillus Kirby.*  
*fuscatus DeGeer.*

**MONOHAMMUS**, *Latr.*  
*scutellatus Say.*  
*confusor Kirby.*

**SAPERDA**, *Fabr.*  
*calcarata Say.*  
*lateralis Hald.*  
*vestita Say.*

**DESMOCERUS** *Serv.*  
*palliatu Forest.*

**ACHEOPS** *Lec.*  
*proteus Kirby.*

**TYPOCERUS.**  
*sinuatus Newman.*

**LEPTURA** *Linn.*  
*canadensis Fabr.*

**TRIOONARTHIS.**  
*proxima Say.*

**CHRYSOMELIDAE.**  
**DONACIA** *Fabr.*  
*subtilis Knaue.*

**LEMA.**  
*trilineata Oliv.*

**CHELYMORPHA.**  
*cribraria Fab.*

**CASSIDA** *Herbst.*  
*bicolor Fabr.*  
*guttata Fabr.*

**DIABROTICA** *Chev.*  
*vittata Fabr.*

**ODIONYCHIS** *Latr.*  
*thoracica Fabr.*

**DORYPHORA.**  
*trimaculata Say.*

**CHRYSOBELA** *Linn.*  
*scalaris Lec.*  
*labyrinthica Lec.*  
*bisbyana Kirby.*  
*trivittata Say.*  
*polygona Linn.*

**PARIA.**  
*4 notata Say.*

**CHRYSOCHUS.**  
*auratus Fabr.*

**CRYPTOCERPHALUS**, *Geoff.*  
*mucoreus Lec.*

**COCCINELLIDAE.**  
**HIPPODAMIA.**  
*13 punctata Linn.*  
*paucithesis Say.*

**COCCINELLA** *Linn.*  
*9 notata Herbst.*  
*lecontei (var.)*  
*bipunctata Linn.*

**MYSIA** *Muls.*  
*15 punctata Oliv.*

**CHILOCORUS** *Leach.*  
*bivulvurus Mels.*

**PSYLLODORA.**  
*20 maculata Say.*

**BRACHYCANTHA.**  
*ursina Fabr.*

**EROTYLIDAE.**  
**ENGIS.**  
*4 maculata Say.*

The following Canadian species were taken outside the Island of Montreal:—

**CARABIDAE.**  
**CALOSOMA** *Fabr.*  
*frigidum Lec.*  
 From Dr. Horn. Oc. In Ont.

**CARABUS**, *Linn.*  
*vinetus Weber.*  
 Lake Superior.  
 [= *interruptus*, *Say.*]  
*taedatus Fabr.*  
 Lake Superior.

**IRICHOBA** *Newman.*  
*viduus Dej.*  
 West Farnham, Quebec.

**MYAS** *Dej.*  
*coracinus Brulle.*  
 Arnprior, Ont.  
 [= *fronta cora* *Inus* *Say.*  
 = *m. cyaneus* *Dej.*]

**HARPALUS**, *Latr.*  
*erraticus Say.*  
 Brantford, Ont.

**TROGOSITIDAE.**  
**NOSODES** *Lec.*  
*silphides Lec.*  
 [= *boletoph.* *Sil.* *Newman.*]  
 Arnprior, Ont.

**LUCANIDAE.**  
**LUCANUS** *Linn.*  
*dama Thunb.*  
 Brantford, Ont.  
 [= *capreolus* *Linn.*]  
*placidus Say.*  
 Brantford, Ont.  
 [= *lentus* *Lap.*]

**PASSALUS** *Fabr.*  
*cornutus Fabr.*  
 Ontario.  
 [= *distinctus* *Weber.*]

**SCARABAEIDAE.**  
**COPEIS** *Geoffr.*  
*anaglypticus Say.*  
 Brantford, Ont.

**BOLBOCERAS** *Kirby.*  
*lazarus Lap.*  
 Ontario.  
 [= *scarabaeus lazarus* *Fabr.*  
 = *geotropes melib.* *Fabr.*]

**MELOLONTHIDAE.**  
**PELIDNOTA** *McLeay.*  
*punctata McLeay.*  
 Brantford, Ont.  
 [= *scarabaeus punct.* *Linn.*  
 = *var. mel. lutea* *Oliv.*]

**COTALPA** *Burm.*  
*lanigera Burm.*  
 Brantford, Ont.  
 [= *scarabaeus lanig.* *Linn.*  
 = *melolontha lanig.* *Fabr.*]

ONYCHIS Latr.  
a Fabr.

ORYPHORA  
rita Say.

SOMELA Linn.  
Lec.

ica Lec.  
a Kirby.  
Linn.

PARIA  
Say.

RYSOCHUS  
Fabr.

EPHALUS, Geoff.  
Lec.

INELLIDAE.  
EPODAMIA  
ta Linn.  
is Say.

INELLA Linn.  
Harbal.  
var.  
a Linn.

IBIA Muls.  
ta Oliv.

GORUS Leach.  
s Mels.

ELLOBORA.  
ta Say.

HYCANTHA  
br.

TYLIDAE.  
ENOIS.  
a Say.

EURYOMIA Burm.  
ERIRHIPIS Burm.  
inda Lac. Brantford, Ont.  
[=scarabaeus Indus Linn.  
=ceton a Inda Oliv.  
=trichus Indus Fabr.  
=cot. marylandica Frohl.  
=cot. barbata Say.  
=cot. brunea Gory.]

BUPRESTIDAE.  
CHALCOPHORA Sol.  
virginiensis Lec. Arnprior, Ont.  
[=buprestis virgto. Drury.  
=bup. virginica Say.  
=bup. mariana Linn.  
=ch. novaeborac. Fitch.]  
liberta Fitch. Arnprior, Ont.  
[=bup. liberta Germ.  
=bup. borealis Lep.]

ELATERIDAE.  
CONVEXITES Latr.  
resplendens Esch. Keutrew, Ont.  
zendalli Germ. Toronto, Ont.  
(=clenocerus Kend. Kirby.)  
=cl. anchorago Blandini.)  
Pulcher Leo. Toronto, Ont.

CUPESIDAE.  
CULES Fabr.  
capitata Fabr. Toronto, Ont.

CERAMBYCIDAE.  
ORTHOSOMA.  
onicolor Drury. Ontario.

ELAPHIDIID.  
atomarium DeGeer. Toronto Ont.

viliosum Fab.  
victinum Hald.  
Hudson's Bay Territory.

ARHOPALUS.  
fulminans Fab. Ontario.

PHYSCENEMUM.  
proteus Kirby. Ontario.

TETRAOPES.  
5 maculatus Hald. Ontario.  
tetrophthalmus Forster.  
From Dr. Horn.

GOES.  
pulcher Hald. Ontario.

ARGALEUS, Lec.  
nitens Lec. Lake Superior.

The following species of British Lepidoptera I shall be happy to exchange for Canadian Coleoptera, other than are mentioned in the list.

A. S. R.

3 specimens	Pieris Napl.	8 specimens	Xylophostia Polyodon.
5 "	Satyrus Janira.	4 "	Triphaena Pronuba.
3 "	Erebba Blandini.	5 "	Taenioctampa Gothica.
7 "	Argynnis Euphrosyne.	5 "	" Rubricosa.
3 "	Melitaea Ariensis.	4 "	Pterophora Meticulosa.
7 "	Thecla Rubi.	4 "	" pisi.
3 "	Chrysothanes Puleas.	4 "	" Brassicae.
4 "	Polyommatus Athis.	4 "	Calocampa Vetusia.
4 "	" Arctolus.	5 "	" Exotica.
3 "	Smerinthus populi.	5 "	Philoptra Tragopogonus.
4 "	Notodonta Droguediaris.	3 "	Cucullia Umbracae.
4 "	" Camellina.	3 "	Pisula Inscripta.
5 "	Clostea Reclusa.	4 "	" Gamma.
5 "	Pygaera Bucephala.	3 "	Metrocampa Margaritata.
5 "	Polypteryx Lacertula.	19 "	Pisonia Atomaria.
3 "	Hydracula Nictans.	3 "	Coremia Fluctuaria.
4 "	" Nitica.	3 "	" Mundaria.
4 "	Euthemionia Russula.	8 "	Harpalyce Russaria.
4 "	Euchelca Jacobaei.		

le the Island

ABAEIDAE.  
is Geoffr.  
us Say.  
Brantford, Ont.

CERAS Kirby.  
p. Ontario.  
neus lazarus Fabr.  
pes melib. Fabr.]

ONTHIDAE.  
OTA McLeay.  
McLeay.  
Brantford, Ont.  
neus punct. Linn.  
el. lutea Oliv.]

LEPA Burm.  
Burm.  
Brantford, Ont.  
neus lanig. Linn.  
(the lanig. Fabr.)



