PAPER V.—LIST OF COLEOPTERA AND DIPTERA TAKEN AT QUEBEC, AND OTHER PARTS OF LOWER CANADA.

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COLEOPTERA.

THE species with an * occur also in the vicinity of Toronto, Upper Canada. Those described under genera, without specific names, do not appear in Melsheimer's or LeConte's catalogues, and are, therefore, supposed to be either obscure forms described by old authors or at present unknown to American entomologis's. The species to which n.s. is attached are new.

CICINDELA Linn.

longilabris Say. albilabris Kirby. Taken at Lorette. June.

*sexguttata Fabr. violacea Fabr. In the woods. July.

*vulgaris Say. obliquata Dej. tranquebarica Herbst. Common.

*duodecimguttata Dej. proteus Kirby. Quebec. August. Sandy roads.

hirticollis Say. albohirta Dej. unita Kollar. gravida Lec.
Common on sandy roads in August.

LORICERA Latr.

*pilicornis Latr. Carab. pilicornis Fubr. In woods. July. Rare.

NEBRIA Latr.

castenipes Lec. Helobia cast. Kirby. Under stones near wood-land brooks. June and July.

CALOSOMA Fabr.

*calidum Fabr. In fields. July and August. Common.

*frigidum Lec. St. Louis road. Very rare. I have taken numerous specimens of this insect on the island opposite Toronto.

CARABUS Linn.

serratus Say. lineatopunctatus Dej. In fields, under stones.

July. Common.

Lapilayi Laporte. Under stones, &c. June and July. Uncommon.

BRACHINUS Weber.

fumans Fabr. librator. Dej. Quebec. Attracted by candle light. July. Very rare.

LEBIA Latr.

*viridis Say.; Dej. Taken on flowers. July. pumila Dej. floricola Harris. On flowers. Uncommon.

CYMINDIS Latr.

reflexa Lec. Uncommon.

CALATHUS Bon.

gregarius Dej. Feronia greg. Say. Rare.

PLATYNUS Bon.

picipennis Lec. Agonum pic. Kirby. Rare.

pusillus Lec. Anchus pusillus Lec. Rare.

sinuatus Lec. Anchomenus sin. Dej. Under bark of trees during summer.

chalceus Lec. Agonum chalceus Dej. Under stones. Uncommon. *cupripennis Lec. Agon. cupr. Dej. Feronia cupr. Say. Com.

*octopunctatus Lec. Carabus oct. Fabr. Feronia oct. Say. Agonum oct. Dej. In fields. Uncommon.

placidus Lec. Feronia pl. Say. Ag. morosum Dej. Common.

PTEROSTICHUS Bon.

- *lucublandus Lec. Pœc. lucublandus Kirby. (See LeConte's Catalogue for synonyms.) Common. It forms the second section Pœcilus Bon. under this family.
- stygicus *Lec.* Feronia styg. Say. Fem: bisigillata Harris.
 Omeseus rugicollis Hald. Under leaves in woods.
 Common.
- *luczotii Lec. Fer. lucz. Dej. Fer. oblongonotata Say. Race a sexpunctatus (Mann.) Pl. objusangula Motsch.
- I have given the synonyms of this species, together with the form sexpunctatus (Mann.) which is considered as a race. It occurs rather common in fields near Quebec, and also at Owen Sound, U. C. I have not met with it at Toronto. It is placed by LeConte under Platysma Bon., the eighth section of the family.

AMARA Bon. 1.

impuncticollis Say. Am. anthracina Hold. Am. difficillis Lec.
Am. brunnipes Motsch. Uncommon. July.

The following species is an addition to our fauna:-

Black, glossy, without dorsal punctures. Three first joints of antennæ rufous, the remaining eight black: Elytra with eight striæ on each, and an abbreviated one on each side the scutellum: tibiæ tinged with rufous.

Length 5/13 inch. Quebec. Uncommon.

CHLÆNIUS Bon.

*sericeus Say. Car. ser. Forster. var. Chl. perviridis Lec. Com. *trieolor Dej. Common during summer.

ANISODACTYLUS Dg.

ellipticus Lec. Common. This insect is placed under the second section Triplectrus Lec.

HARPALUS Latr.

herbivagus Say. Ophonus mutabilis Hald. var. H. proximus Leo.

The two varieties are common at Quebec.

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viridiseneus Beauv. viridis Say. assimilis Dej. Two varieties of this insect occurs commonly at Quebec.

STENOLOPHUS Dej.

humilis Dej. This species is placed by Le Conte under the second section Acupalpus Dej.

HALIPLUS Latr.

- immaculicollis *Harris*. Americanus *Aubé*. Common in ponds in the neighborhood of Quebec.
- Of this genus I have also two species taken in company with the above. Both are twice the size of "immaculicollis."

 The largest has the thorax yellow with a transverse oval black spot on the anterior margin behind the eyes.—

 The elytra are closely punctured, and possess the characteristic markings of the genus. The thorax of the other is yellow, but with a central black circular punctured spot on each side of the posterior margin, and the latter within the spots is also black. In this species the elytra are more coarsely, but less densely punctured.

LACCOPHILUS Leach.

maculosus Say. Dytiscus mac. Germ. Common in ponds during the summer.

ANISOMERA Aubé.

- Two species from the neighborhood of Quebec are new to our insect fauna. I describe them in detail.
- Body depressed, black, glossy, with minute scattered punctures: scattellum small triangular: antennæ, palpi legs and front of head of a dark chestnut color: anterior tibiæ spined: tarsi with ungues. Length § inch. Quebec, in ponds. Uncommon.
- 2. Depressed, black, but not so polished as the former: Antennæ palpi, legs and anterior margin of elytra dark chestnut. The tibiæ are spined, and the anterior tarsi provided with ungues. Length ‡ inch. Quebec, in ponds. Uncommon.

COLYMBETES Clairy.

*biguttulus Lec. Dytiscus big. Germ. Ilybius fenestralis Aubé
var. Il. pleuriticus Lec. Common in ponds during
summer.

quadrimaculatus (Aubé). In ponds, but not frequent.

ACILIUS Leach.

fraternus Lec. Dytiscus frat. Hairis. Ac. semisulcatus Auls.
In ponds. Uncommon. August.

The q has four finely granulated grooves occupying longitudinally the third part of elytra. Each groove shortens anteriorly towards the suture.

HYDROCHARIS Latr.

obtusatus Lec. Hydrophilus ob. Say. Ponds. Uncommon.

NECROPHORUS Fabr.

Melsheimeri Kirby. Very rare.

mortuorum Fabr. pygmæus Kirby. crispetus Motsch. Occasional during summer.

*velutinus Fabr. tomentosus Weber. This is also an occasional species.

NECRODES Wilkin.

*surinamensis Fabr. Common.

THANATOPHILUS Leach.

*lapponica Herbst. caudata Say. tuberculata Germ. granigera Chev. Common.

*marginalis Fabr. noveboracensis Forster. Common.

NECROPHILA Kirby.

*peltata Lec. scarabaeus pelt. Catesby. Silpha americana Linn.

var. Oiceoptoma terminatum Kirby.

var. O. affine Kirby.

var. O. Canadense Kirby.

CREOPHILUS Stephens.

*villosus Kirby. Staphylinus vill. Grav. Uncommon.

LEISTOTROPHUS Perty.

*cingulatus Kraatz. Staphylinus cing. Grav. S. chrysurus Kirby. S. speciosus Mann. Rare.

Three species taken during last summer are still undetermined.

The following descriptions may, in the meantime, serve to rank them as additions to our insect fauna:—

Maxillary palpi composed of three joints, the third moderately elongate: antennæ inserted at the anterior margin in front inside the mandibles, not strongly geniculate, 11-jointed: head as wide as thorax, flattened, densely punctured: eyes not elevated: thorax densely punctured.

They evidently belong to LeConte's Third sub-tribe XANTHO-LINUS.

- 1. Black; antennæ ferruginous; femora, tibia and tarsi rufous.

 A smooth line from the anterior centre of the head, widening and clevated at the end of thorax, the latter with three large punctures on the margin: scutellum concave, margin smooth: abdomen margined, composed of six rings. Length ½ inch. Quebec. Uncommon.
- 2. Head steel-blue, polished; thorax purple, polished, with a longitudinal central smooth line: scutellum as in the former; Elytra same color as thorax, but the sutural margins are smooth, having a stria on each: anterior rings of abdomen pubescent at margins; apex steel-blue, beneath punctured. Length ⁹/₁₀ inch. Quebec. Very rare.
- 3. Maxillary palpi rufous: antennæ, head and thorax dark rufous, the latter with a smooth longitudinal central line: scutellum black, margined and of same form as that last described: Elytra bright rufous, the sutural margins smooth and narrow: posterior margin of abdominal rings and the apex entirely rufous: tibiæ and tarsi rufous Length ⁹/₁₆ inch. Quebec. Very rare.

LATHROBIUM Grav.

puncticolle Kirby. July and August. Rare.

CRYPTOBIUM Main.

*bicolor Er. Lathrobium bic. Grav. August.

PÆDERUS Grav.

*riparius Fabr. Sometimes common. In U. Canada this species congregate at the roots of trees in the fall, when they enter cavities under the bark, &c., and remain during winter.

OXYPORUS Fabr.

rufipennis Lec. In fungi. This is a new species lately described by Mr. LeConte. His insect came from the Western States.

PLATYSOMA Leach.

*Lecontei (Mars.) This genus forms the fourth section under the family HISTRINI. It is found beneath bark of decayed trees.

IPS Fabr.

*Dejeanii Kirby. sepulcharlis Randall. Very common.

CUCUJUS Fabr.

*clavipes Fabr. Under bark of trees. Rare

PEDIACUS Shuckard.

planus Lec. Sylvanus planus Lec. Under bark. Rare.

DERMESTES Linn.

*lardarius Linn. Extremely common.

CYTILUS Er.

*varius Er. Byrrhus varius Fabr. B. trivitattus Mels. var. B. alternatus Say. Common north of Beauport.

BYRRHUS Linn.

Kirbyi Lec. Occurs at Cape Diamond behind the Citadel. Not common.

Two additional species occur in the vicinity of the city, which are not yet determined.

PLATYCERUS Geoffr,

*quercus Sch. Lucanus qu. Weber. Pl. securidans Say. Found at Lake St. Charles. August.

ONTHOPHAGUS Latr.

*latebrosus Strum. Scarab. hecate Panzer. Uncommon.

TEUCHESTES Muls.

fossor Fabr. Scarabaeus foss. Linn. Common.

*fimitarius Ill. Very common.

GEOTRUPES Latr.

egerici Germ. Found in Agaries in woods. July. Rare.

*excrementi Say. Rare.

HOPLIA III.

*trifasciata Say. primaria Burm, helvola Mels. Q tristis Mels.
Uncommon.

DICHELONYCHA Kirby.

*elongata Fitch. Melolontha elong. Schonh. Common in August.

PHYLLOPHAGA Harris.

*quercina Kn. Harris Ins. Very common.

SERICA McLeay.

*vespertina Lec. Melolontha vesp. Schönh. Omaloplia vesp.

Harris. C. atricapilla Kirby. Very abundant in the woods in June and July.

OSMODERMA Lep.

*scabra Dej. Trichius sc. Beauv. & Gymnodus foveatus Kirby.

Q Gymnod. rugosus Kirby.

TRICHIUS Fabr.

*piger Fabr. Drummond Gory. rotundicollis Kirby. Common on flowers during midsummer.

DICERCA Esch.

*divaricata Lec. Buprestis div. Say. August. Rare.

ANCYLOCHIRA Esch.

maculiventris Lec. Buprestis mac. Say. Bup. sexnotata Lap. August. Rare.

MELANOPHILA Esch.

*longipes Gory. Buprestis long. Say. Ap. appendiculata Lap.
Mel. immaculata Gory.

This species is very common during the latter part of July. It elevates the elytra somewhat similarly to Chrysobothris, and it is also difficult to capture. Some years ago, when the cabinet factory of Messrs Jacques & Hay of Toronto was being consumed by fire, which happened just as this insect was appearing in its perfect state, the heat from the flames, in addition to the warmth of the day, irritated them to an extraordinary degree. Their bite became so troublesome to the spectators that many had to leave the immediate vicinity. The bite of this insect, under such circumstances, is like dropping hot sealing wax on the skin.

CHRYSOBOTHRIS Esch.

quadreimpressa Lap. Taken on fences. August.

CRYPTOHYPNUS Esch.

abbreviatus Lec. El. silaceipes Germ.

ELATER Linn.

pedalis Cand. Ampedus ped. Germ. El. ursulus Mels. Common under bark of trees.

miniipennis Lec. Common.

rubricus Say. Ampedus conc. Germ. Rare.

AGRIOTES Esch.

mancus Lec. Elater manc. Say. El. (Agr.) obesus Harris.

Agr. truncatus Mels. Agr. striatulus Mels. August.

Common.

fucosus Lec. var. collaris Lec. Very rare.

DOLOPIUS Esch.

pauper Lec. Uncommon.

MELANOTUS Esch.

decumanus Er. Uncommon.

sagittarius Lec. "

LIMONIUS Esch.

griseus Cand. Elater st. Herbst. El. armus Say. Gambrinus arm. Lec. Very common.

CORYMBITES Latr.

cylindriformis Germ. Elater cylind Herbst. El. appressifrons. Say.

Q El. brevicornis Say. C. parallelopipedus Germ.
Common.

wripennis Lec. El. (Aphotistus) aer. Kirby. El. appropinquans Rand. Under bark of dead trees.

pulcher Lec. Very rare.

tarsalis Lec. Athous tars. Mels. Uncommon.

pyrrhos Lec. Elater pyrrh. Herbst. Q Athous pyrrhicus Hald.
Ath. vagrans. Mels. Ath. æqualis Mels. Rare.

ASAPHES Kirby.

decoloratus Lec. Elater dec. Say. Rare.

DICTYOPTERA Latr.

perfaceta Say. substriata Lec. Rare.

EROS Newm.

*coccinatus Say. Very rare. Found in pine swamps.

TELEPHORUS Geoff.

carolinus Fabr. Common. July.

HYDNOCERA Newm.

curtipennis Newm. brachypterus Kl. lineaticollis Spin. Gomin woods. Rare.

NECROBIA Latr.

*violaceus Fabr. Found in dried bones, &c., during summer.

CURCULIO Fabr.

pinicola n. s.

Dusky; completely punctured and covered with golden decumbent hairs, some of which are transverse on the thorax. Occurs on pines near Quebec.

Body underneath black; the posterior section composed of three rings, the anterior one as wide as the two following. Eyes black, oval, transverse, a tuft of hair over each; in some specimens the space behind and beneath the eyes is without many hairs, and presents only a ferruginous glossy punctured appearance: rostrum of equal width throughout, punctured, ferruginous, the lateral groove oblique: antennæ composed of eight joints, (visible with the lens) the outer ones largely capitate; the first clavate, and almost as long as the other eight; the second joint is longer than the third, and the latter longer than the succeeding four which are equal; but the basal capitate joint is distinct: Thorax much narrower than anterior part of body, slightly swelled at the sides, having short longitudinal and lateral polished elevated spaces, and densely covered with golden hairs: scutellum black and slightly elevated: Elytra covers the abdomen, each with nine rows of long deep impressions, and covered with distinct patches of golden hairs: femora clubbed, indented underneath: tibiæ armed with a strong tooth at base: tarsi cushioned, and provided with ungues. Rare. Length & inch.

I have named this weevil in accordance with the only habitat in which it is found. Another species of the same size occurs in Western Canada but with marked differences of clytral characters.

CRYOCEPHALUS Muls.

*rusticus Linn. obsoletum Rand. Common. July. Pine-borer. agrestis Kirby. Common. Pine-borer.

CALLIDIUM Fabr.

*violaceum Linn. Common. Destructive to pines.

CLYTUS Fabr.

hamatus Say. Rare.

*undulatus Say. undatus Kirby. Sayi Lap. Common. Very destructive to fallen pines when the bark is allowed to remain on the tree.

longipes Kirby. Rare.

CYRTOPHORUS Lec.

verrucosus Oliver. July. Rare.

MONOHAMMUS Latr.

confusor Kirby. maculosus Hald. Common.

ANÆREA Muls.

calcarata Say. Very rare,

COMPSIDEA Muls.

*tridentata Oliv. Rare.

SAPERDA Fabr.

candida Fabr. bivittata Say. Very destructive to apple and pear trees in the neighborhood of Quebec.

DESMOCERUS Serv.

*cyaneus Fabr. palliatus Forst. Not common.

RHAGIUM Fabr.

*lineatum Oliv. In July. Under the bark of pine trees. Com.

EVODINUS Lec.

*monticola Rand. Taken at Bay St. Catharines, mouth of River Saguenay.

ACMÆOPS Lec.

*proteus Kirby. Pachyta sublineata Hald. Common in lumber yards.

STRANGALIA Serv.

*zebrata Fabr. zebra Oliv. Very rare.

LEPTURA Linn.

- *canadensis Oliv. & tenuicornis Hald. Common.
- erythroptera Kirby. cinnamoptera Hald. Rare.
- *vittata Oliv. abbreviata Germ. semivittata Kirby. Uncommon.
- *vagans Oliv. brevis Kirhy. Common about lumber wharves. atrata Lec. Found at Laval. Rare.
- chrysocoma Kirby. Quebec. Common on flowers during midsummer.
- montivagans n.s. Black; head and thorax pubescent; antennæ black, slightly ferruginous; body beneath glossy.

 Taken at Bay St. Catharines, mouth of River Saguenay. July.

The specific characters appear in the elytral markings which are well developed in the Q and are as follows:—On a yellowish ground, black dentated marks occupy the shoulders, and a longitudinal oval spot on each side the suture behind the region of the scutellum,—the centre has a wide, black, irregular band, reaching (in the males) the suture, and the apex black, toothed anteriorly. The elytra are prolonged, exhibiting a large triangular space for the scutellum, which is not elevated. Length of 3 and 3 inch.

I have failed to discover the tree in which it goes through its stages, however, its name is applicable to its occurrence so far on the mountain regions of the Saguenay. quebecensis n.s. Black; head and thorax densely and minutely punctured, the latter has a smooth, narrow, longitudinal line on its disc; labial palpi yellow: elytra densely and minutely punctured; anterior femoræ yellow beneath, black above,—2nd and 3rd yellow at the joint attached to the coxe.

Quebec. Rare. Length of & 1 inch.

The Q of the above have the same characters excepting that the whole of the tibiæ and tarsi are yellow.

DONACIA Fabr.

juncina n. s. Head black, minutely punctured, with a short cavity between the eyes: thorax violet, punctured, with a longitudinal impressed centre, and the anterior angles tuberculate: Elytra violet, densely punctured in rows, having four central depressions: body and legs sparsely covered with white hairs. Length over inch. Lake St. Charles, common.

GALERUCA Geofir.

guttulata Lec. Common in July.

SYSTENA Chevr.

frontalis Fabr. Common.

CALLIGRAPHA Chevr.

Philadelphica Linn. Common.

*multipunctata Say. Common.

CHRYSOMELA Linn.

*elegans Rogers. Common.

EUMOLPUS Fabr.

*auratus Fabr. Gregarious on Dogbane.

GASTROPHYSA Chevr.

*caeruleipennis Say, polygoni Linn. Common during midsummer.

HIPPODAMIA Muls.

Lecontii Muls. On thorn hedges. July. Rare.

*13-punctata Linn. tibialis Say. Common.

*parenthesis Say. tridens Kirby. Common.

COCCINELLA Linn.

lacustris Lec. tricuspis Kirby. On thorn hedges. Rare.

*novemnotata Herbst. Common.

transversoguttata Falderm. 5-notata Kirby. Common.

*bipunctata Linn. bioculata Say. Common.

MYSIA Muls.

*15-punctata Oliv. mali Say. Uncommon.

CHILOCORUS Leach.

*bivulnerus Muls. Common.

HELODES Payk.

modesta Lec. var. rare.

PENTHES Fabr.

obliquata Fabr. Not common. It is found under the bark of dead trees.

TENEBRIO Linn.

*molitor Linn. Common.

UPIS Fabr.

*ceramboides Linn. reticulatus Say. Common under the bark of dead trees.

BOLITOPHAGUS Fabr-

*cornutus Pz. Found in boleti growing on trees.

PHELLOPSIS Lec.

obcordatus Kirby. Common in fungi.

MELANDRYA Fabr.

striata Say. thoracica Mels. var. a. bicolor Mels. var. b

EMMESA Newm.

tonnectens Newm. Rare.

DIRCAEA Fabr.

4-maculatus Say. Very rare.

MELOE Linn.

angusticollis Say. Common on the potatoe vines.

EPICAUTA Redtenbacher.

*atrata Fabr. pensylvanica Geer. nigra Woodhouse. Very common.

LIST OF DIPTERA.

Last summer, I collected Dipterous insects for the purpose of forwarding duplicates to Baron R. Osten Sacken of the Russian Legation in Washington, the only authority regarding this class of insects on the continent, who has kindly named many of them for me. The species that could not be determined were sent to Dr. H. Leow, Meseritz, Prussia, the highest living authority in Europe. The Baron states that "American Dipterology is not advanced enough as yet to make it possible" to determine all the species taken in this latitude. He says: "The Muscidæ calypteræ especially are in very bad condition, and will probably remain so for a very long time." In his last letter he adds: "If you can collect diptera, or if you are in a position to encourage others to do so, you will render a service to science. We want materials, especially from your Northern regions."

The following is the first dipterological list published in this Province:

TIPULA Linn.

abdominalis Say. albilatus Walk.. Common on the Gomin road during midsummer.

GERANOMYIA O. Sacken.

rostrata Say. Taken in the sweep-net. Gomin Road.

RHYPHUS Latr.

penestralis Scop. Taken in woods Gomin road.

LEPTIS Fabr.

Boscii Macq. In the woods on St. Louis road. proxima Walker. Taken at Beauport]

TETANOCERA Dumer.

valida Lw.

combinata I.w.

plumosa Lw. In woods north of Quebec.

SARGUS Fabr.

viridis Say. Beauport. Common.

TABANUS Linn.

lasiopthalmus Macq.? Very common in July.

BOMBYLIUS Linn.

fratellus Wied. Common in sandy places in woods.

LAPHRIA Fabr.

posticata Say. In Gomin woods.

ANTHRAX Linn.

fulvianus Say. On flowers in the woods:

MERODON Latr.

curvipes Wied. Polydonta bicelor Macq. Lower St. Lawrence, SYRPHUS Linn.

quadratus Say. Near the Montmorenci river.

ERISTALIS Latr.

dimidiatus Wied. Common on flowers in July.

Bastardii Macq. (In flowers.

LAUXANIA Latr.

lupulina Fabr. Taken abundantly in the sweep-net. cylindricornis Fabr. dc. do.

TRYPETA Meig.

sparsa Weid. Taken commonly in the sweep net.

SCATOPHAGA Latr.

stercoraria Linn. Common everywhere.

DOLICHOPUS Latr.

cuprinus Wied. Very common.

TACHINA Fabr.

vivida Harris. (vid. T. hirta Drury.) Rare.

CONOPS Linn:

sagittarius Say.? On flowers. Rare.

CORDYLURA Fall.

bimaculata Lw. Not common. Found on flowers.

VOLUCELLA Geoffr.

basalis Say. (Harr. coll.) "It is very like the European Volucella plumata"—O. S. In August. Common.

SYRITTA St. Forgeau.

pipiens Linn. Common on flowers. July.

Although the list of diptera is small, I have still the hope of seeing a large addition made to it next summer, and I anxiously await the result of Dr. Leow's investigation of forms sent by me from this locality. The Canadian student of Diptera is strongly recommended to collect the following families, as it is probable that many of our species are new:—Tipulidæ; Tabanidæ; Dexidæ; Sarcophidæ; Myopidæ; Stratiomydæ; Adontomyina; Trypetidæ; Asilidæ; Tachinina.

Many Dipterous insects form galls or excrescences on various trees—the food of the larvæ being of vegetable character. It would therefore be conducive to natural science that such vegetable forms be collected for the purpose of discovering the insect architect. Two new galls were discovered in the vicinity of Quebec last summer—one a pretty leaf-gall of Spiræa salicifolia, the product of a cecidomyia, discovered by myself. The other an Aphis gall on White Spruce, discovered by the Rev. Mr. Brunett of Laval University. The writer would thankfully receive contributions of this nature.