

HYMENOPTERA-ACULEATA.

The following list of *Hymenoptera-Aculeata* of the Oxford District has been compiled from the records of captures made by R. C. L. Perkins, B.A., of Jesus College (1887), L. Young, B.A., of Exeter College (1896), and A. H. Hamm, of the Hope Department, University Museum (1898-1900). The list has been prepared by these three naturalists in consultation or correspondence with one another. The parts of the district principally worked by them have been the neighbourhood of Shotover and Bagley Wood, or within the boundaries of the City. The name "Shotover" or "Bagley" appended to a specimen implies that it was captured at one of these localities or in its immediate vicinity; while "Oxford" implies capture in the various gardens and grounds of the City itself. The species which have been found "generally distributed" are so described.

Since the above paragraph was written, Mr. Hamm paid two visits to the Tubney District (in July, 1900), when many new species were added to the list. Several new species have also been added by W. Holland, of the Hope Department, University Museum (1900), and C. W. Crawley, of Worcester College (1900).

The nomenclature and arrangement are strictly in accordance with Ed. Saunders' Work on *British Hymenoptera-Aculeata*, published by Lovell, Reeve & Co., 1896.

HETEROGYNA.

Formicidæ.

FORMICA rufa, <i>Linn.</i> ...	Tubney.	...W.H., A.H.H.
fusca, <i>Smt.</i> Generally distributed.		R.C.L.P., L.Y., A.H.H.
LASIVUS fuliginosus, <i>Ltr.</i>	Shotover & Boar's Hill.	R.C.L.P., [A.H.H.]
flavus, <i>De Geer.</i> Generally distributed.		R.C.L.P., L.Y., [A.H.H.]
umbratus, <i>Nyl.</i> ...	Shotover.	... R.C.L.P.
niger, <i>Linn.</i> Very common in gardens, &c.		R.C.L.P., L.Y., [A.H.H.]

Myrmicidæ.

MYRMECINA latreillei, <i>Curt.</i>	Bagley Wood.	L.Y.
LEPTOTHORAX acervorum, <i>Fab.</i>	Bagley. ...	R.C.L.P.
MYRMICA rubra, <i>Linn.</i>	Shotover & Bagley.	A.H.H.
MONOMORIUM pharaonis, <i>Linn.</i>	Very abundant in the Orchid and Palm Houses at the Botanical Gardens	A.H.H.

FOSSORES.

Mutillidæ.

MUTILLA rufipes, <i>Ltr.</i>	Tubney	A.H.H.
MYRMOSA melanocephala, <i>Fab.</i>	Shotover & Tubney.	A.H.H.

Tiphiidæ.

TIPHIA minuta, <i>V. de Lind.</i>	Shotover and Bagley.	R.C.L.P.
-----------------------------------	----------------------	----------

Sapygidæ.

SAPYGA quinque-punctata, <i>Fab.</i>	Shotover.	A.H.H.
--------------------------------------	-----------	--------

Pompilidæ.

POMPILUS plumbeus, <i>Fab.</i>	Boar's Hill & Tubney.	A.H.H.
viaticus, <i>Linn.</i> ...	Bagley. ...	A.H.H.
minutulus, <i>Dahlb.</i> ...	Bagley Wood ...	L.Y.
spissus, <i>Schiodte</i> ...	Do. ...	L.Y.
gibbus, <i>Fab.</i> ...	Shotover. ...	A.H.H.
unguicularis, <i>Thoms</i> ...	Do. ...	A.H.H.
pectinipes, <i>V. de Lind.</i>	Shotover and Bagley.	L.Y., A.H.H.
SALIUS fuscus, <i>Linn.</i> Generally distributed.		R.C.L.P., A.H.H.
exaltatus, <i>Fab.</i>	Shotover and Bagley. ...	L.Y., A.H.H.
notatulus, <i>Saund.</i> ...	Bagley. ...	R.C.L.P.
parvulus, <i>Dahlb.</i> ...	Shotover. ...	A.H.H.
obtusiventris, <i>Schiodte.</i>	Do. ...	A.H.H.

Sphegidæ.

TACHYTES pectinipes, <i>Linn.</i>	Shotover & Tubney.	A.H.H.
unicolor, <i>Pans.</i> ...	Tubney. ...	A.H.H.
TRYPOXYLON figulus, <i>Linn.</i>	Shotover. ...	A.H.H.
clavicerum, <i>Lep.</i>	Shotover and Bagley.	R.C.L.P., A.H.H.
AMMOPHILA sabulosa, <i>Linn.</i>	Tubney. ...	A.H.H.
SPILOMENA troglodytes, <i>V. de Lind.</i>	Shotover.	R.C.L.P.
STIGMUS solskyi, <i>Moraw.</i>	Shotover	... A.H.H.

PEMPHREDON lugubris, *Latr.* Shotover & Bagley. R.C.L.P., [A.H.H.]
lethifer, *Shuck.* ... Shotover. R.C.L.P., A.H.H.

DIODONTUS minutus, *Fab.* Shotover. ... A.H.H.
tristus, *V. de Lind.* ... Parks, Oxford. ... A.H.H.

PASSALÆCUS corniger, *Shuck.* Shotover. ... A.H.H.

MIMESA bicolor, *Fab.* Bagley and Tubney. A.H.H.
equestris, *Fab.* ... Shotover. ... A.H.H.

PSEN pallipes, *Panz.* ... Tubney. ... A.H.H.

GORYTES tumidus, *Panz.* Shotover and Tubney. A.H.H.
mystaceus, *Linn.* Shotover and Bagley. R.C.L.P., [L.Y., A.H.H.]

campestris, *Linn.* ... Cowley Marsh. ... A.H.H.
quadrifasciatus, *Fab.* ... Bagley. ... A.H.H.

NYSSON spinosus, *Fab.* Shotover & Bagley. R.C.L.P., L.Y.
dimidiatus, *Jur.* Shotover and Tubney. A.H.H.

MELLINUS arvensis *Linn.* Shotover and Bagley. A.H.H.
sabulosus, *Fab.* Cowley Marsh and Bagley. A.H.H.

CERCERIS ornata, *Schaeff.* Tubney. A.H.H.
interrupta, *Panz.* ... Tubney. ... A.H.H.

OXYBELUS uniglumis *Linn.* Shotover & Bagley. R.C.L.P., [A.H.H.]

CRABRO tibialis, *Fab.* ... In Oxford. ... R.C.L.P.
leucostomus, *Linn.* Shotover and Bagley. L.Y., A.H.H.
capitosus, *Shuck.* ... Shotover. ... R.C.L.P.
podagricus, *V. de Lind.* Shotover and Bagley. A.H.H.
palmipes, *Linn.* Generally distributed. R.C.L.P., A.H.H.
anxius, *Wesm.* ... Bagley. ... R.C.L.P.
wesmaeli, *V. de Lind.* Parks, Oxford. A.H.H.
elongatulus, *V. de Lind.* Generally distributed. R.C.L.P., [A.H.H.]

quadri-maculatus, *Dhlb.* Bagley & Tubney. A.H.H.
saundersi, *Perk.* ... Oxford. ... A.H.H.
cephalotes, *Pz.* ... Bagley. ... A.H.H.
chrysostomus, *Lep.* ... Bagley. ... A.H.H.
vagus, *Linn.* ... Bagley. ... A.H.H.
cribrarius, *Linn.* Shotover and Bagley. R.C.L.P., A.H.H.
peltarius, *Scherb.* Ditto. R.C.L.P., A.H.H.
scutellatus, *Schev.* ... Shotover. ... A.H.H.
interruptus, *De Geer.* ... in Oxford. ... A.H.H.
lituratus, *Panz.* 1♂, near Bagley Wood. A.H.H.
albilabris, *Fab.* ... Shotover. R.C.L.P., A.H.H.

ENTOMOGNATHUS brevis, *V. de Lind.* Generally distributed. [R.C.L.P., A.H.H.]

DIPLOPTERA.

Vespidæ.

VESPA crabro, *Linn.* 1♂ St. Giles' Brickworks, Summertown, 10/10/99, by Ed. Webb.
vulgaris, *Linn.* Very common. R.C.L.P., L.Y., [A.H.H.]

germanica, *Fab.* Very common. R.C.L.P., L.Y., A.H.H.
rufa, *Linn.* Common. R.C.L.P., L.Y., A.H.H.
austriaca, *Panz.* ... Botanical Gardens. ... L.Y.
sylvestris, *Scop.* Shotover and Bagley. R.C.L.P., L.Y., [A.H.H.]

Eumenidæ.

ODYNERUS spinipes, *Linn.* Shotover and Bagley. A.H.H.
laevipes, *Shuck.* Shotover and Tubney. A.H.H.
callosus, *Thoms.* Shotover and Bagley. L.Y., A.H.H.
parietum, *Linn.* Generally distributed. R.C.L.P., A.H.H.
pictus, *Curt.* Shotover and Bagley. L.Y., A.H.H.
trifasciatus, *Oliv.* Ditto. ... A.H.H.
parietinus, *Linn.* Ditto. ... A.H.H.
antilope, *Panz.* ... Oxford. ... A.H.H.
gracilis, *Brullé.* ... Shotover. R.C.L.P., A.H.H.

ANTHOPHILA.

Colletidæ.

COLLETES succincta, *Linn.* Boar's Hill. ... A.H.H.
fodiens, *Kirb.* ... Bagley. ... A.H.H.
daviesana, *Smith.* ... Bagley. ... A.H.H.

PROSOPIS cornuta, *Sm.* Shotover & Tubney. A.H.H.
communis, *Nyl.* ... Bagley. ... A.H.H.
signata, *Panz.* ... Parks, Oxford. ... A.H.H.
hyalinata, *Smith.* Shotover and Bagley. R.C.L.P., A.H.H.
confusa, *Nyl.* ... Tubney. ... A.H.H.
brevicornis, *Nyl.* Shotover & Tubney. R.C.L.P., A.H.H.

Andrenidæ.

SPHECODES gibbus, *Linn.* Generally distributed. R.C.L.P., [L.Y., A.H.H.]
subquadratus, *Smith.* Generally distributed. R.C.L.P., L.Y., [A.H.H.]

pilifrons, *Thoms.* Shotover and Bagley. ... A.H.H.
similis, *Wesm.* Generally distributed. R.C.L.P., L.Y., [A.H.H.]

ferruginatus, *Schenck.* ... Shotover. R.C.L.P., A.H.H.

SPHECODES.—Continued.

<i>hyalinatus</i> , Schenck.	Shotover and Bagley.	R.C.L.P., A.H.H.
<i>dimidiatus</i> , v. Hag.	... Ditto.	R.C.L.P., A.H.H.
<i>affinis</i> , v. Hag.	... Ditto.	R.C.L.P., A.H.H.
HALICTUS rubicundus , Christ.	Very common.	R.C.L.P.,
		[L.Y., A.H.H.]
<i>leucozonius</i> , Schenck.	Generally distributed.	R.C.L.P.,
		[L.Y., A.H.H.]
<i>zonulus</i> , Smith.	... Bagley.	... L.Y.
<i>quadrinotatus</i> , Kirb.	Shotover and Bagley.	R.C.L.P.,
<i>la</i>		[A.H.H.]
<i>prvigatus</i> , Kirb.	... Boar's Hill.	... A.H.H.
<i>prasinus</i> , Sm.	... Tubney.	... A.H.H.
<i>cylindricus</i> , Fab.	Generally distributed.	R.C.L.P.,
		[A.H.H.]
<i>albipes</i> , Kirb.	... Ditto.	... R.C.L.P.,
		[A.H.H.]
<i>subfasciatus</i> , Nyl.	... 1♀, Shotover.	... A.H.H.
<i>villosulus</i> , Kirb.	Shotover and Bagley.	R.C.L.P., A.H.H.
<i>punctatissimus</i> , Schenck.	Shotover.	... A.H.H.
<i>nitidiusculus</i> , Kirb.	Very common.	R.C.L.P., A.H.H.
<i>minutus</i> , Kirb.	... Oxford.	... L.Y.
<i>minutissimus</i> , Kirb.	Shotover and Bagley.	R.C.L.P., L.Y.,
		[A.H.H.]
<i>tumulorum</i> , Linn.	... Ditto.	R.C.L.P., L.Y.,
		[A.H.H.]
<i>smeathmanellus</i> , Kirb.	Generally distributed.	L.Y., A.H.H.
<i>morio</i> , Fab.	Oxford and Shotover.	R.C.L.P., A.H.H.
<i>leucopus</i> , Kirb.	Shotover and Bagley.	R.C.L.P., A.H.H.
ANDRENA albicans , Kirb.	Generally distributed.	R.C.L.P.,
		[L.Y., A.H.H.]
<i>pilipes</i> , Fab.	Shotover and Tubney.	R.C.L.P., A.H.H.
<i>tibialis</i> , Kirb.	Generally distributed.	R.C.L.P., L.Y.,
		[A.H.H.]
<i>bimaculata</i> , Kirb.	... Near Bagley Wood.	... A.H.H.
<i>rosæ</i> , Pans.	Generally distributed.	A.H.H.
<i>var. trimmerana</i> .	Ditto.	R.C.L.P., L.Y.,
		[A.H.H.]
<i>var. spinigera</i> ♂	... Summertown	... L.Y.
<i>thoracica</i> , Fab. (1st brood).	Shotover.	... R.C.L.P.
<i>nitida</i> , Fourc.	Generally distributed.	R.C.L.P., L.Y.,
		[A.H.H.]
<i>fulva</i> , Schr.	... Ditto.	R.C.L.P., L.Y.,
		[A.H.H.]
<i>clarkella</i> , Kirb.	Oxford and Bagley.	R.C.L.P., A.H.H.
<i>nigroænea</i> , Kirb.	Very common.	R.C.L.P., L.Y., A.H.H.

ANDRENA.—Continued.

<i>gwynana</i> , Kirb. (both broods).	R.C.L.P., L.Y., A.H.H.
<i>angustior</i> , Kirb.	Generally distributed. ... R.C.L.P.
<i>præcox</i> , Scop.	... Ditto. ... R.C.L.P.
<i>varians</i> , Rossi.	... Ditto. R.C.L.P., L.Y.,
	[A.H.H.]
<i>helvola</i> , Linn.	... Shotover. ... R.C.L.P.
<i>fucata</i> , Smith.	Widely distributed, not common. R.C.L.P.,
	[A.H.H.]
<i>nigriceps</i> , Kirb.	... Tubney. ... A.H.H.
<i>fuscipes</i> , Kirb.	... Boar's Hill. ... A.H.H.
<i>denticulata</i> , Kirb.	Shotover and Tubney. A.H.H.
<i>hattorfiana</i> , Fab., and red var.	Tubney. A.H.H.
<i>cingulata</i> , Fab.	Oddington, near Islip. C.W.C.
<i>albicrus</i> , Kirb.	Generally distributed. R.C.L.P., A.H.H.
<i>chrysoceles</i> , Kirb.	... Shotover. R.C.L.P., A.H.H.
<i>coitana</i> , Kirb.	Shotover and Tubney. A.H.H.
<i>humilis</i> , Imhoff.	Shotover and Bagley. R.C.L.P., L.Y.,
	[A.H.H.]
<i>labialis</i> , Kirb.	Shotover and Bagley. ... L.Y., A.H.H.
<i>minutula</i> , Kirb. (both broods).	R.C.L.P., L.Y., A.H.H.
<i>niveata</i> , Saund.	... Shotover. R.C.L.P., A.H.H.
<i>nana</i> , Kirb.	Generally distributed. R.C.L.P., L.Y., A.H.H.
<i>similis</i> , Smith.	Bagley. R.C.L.P., L.Y., A.H.H.
<i>wilkella</i> , Kirb.	Generally distributed. R.C.L.P., L.Y.,
	[A.H.H.]
<i>afzeiella</i> , Kirb.	... Oxford. L.Y., A.H.H.
DASYPODA hirtipes , Latr.	Tubney. ... A.H.H.
CILISSA leporina , Pans.	Tubney. ... A.H.H.
NOMADA obtusifrons , Nyl.	Tubney. ... A.H.H.
<i>solidaginis</i> , Pans.	Bagley and Tubney. A.H.H.
<i>succincta</i> , Pans.	Generally distributed. R.C.L.P., L.Y.,
	[A.H.H.]
<i>lineola</i> , Pans.	Bagley and Tubney. A.H.H.
<i>alternata</i> , Kirb.	... Bagley. R.C.L.P., L.Y., A.H.H.
<i>ruficornis</i> , Linn.	... Bagley. R.C.L.P., L.Y., A.H.H.
<i>bifida</i> , Thoms.	Oddington, near Islip. C.W.C.
<i>borealis</i> , Zett.	... 1♀, Shotover. ... A.H.H.
<i>ochrostoma</i> , Kirb.	Shotover & Boar's Hill. R.C.L.P., A.H.H.
<i>armata</i> , H.-Schff.	... Tubney. W.H., A.H.H.
<i>ferruginata</i> , Kirb.	... Shotover. ... R.C.L.P.
<i>fabriciana</i> , Linn.	Shotover and Bagley. R.C.L.P., L.Y.,
	[A.H.H.]
<i>flavoguttata</i> , Kirb.	... Ditto. ... R.C.L.P., L.Y.
<i>furva</i> , Pans.	... Ditto. R.C.L.P., A.H.H.

Apidæ.

EPEOLUS productus , <i>Thoms.</i>	Tubney.	...	A.H.H.
CHELOSTOMA florissomne , <i>Linn.</i>	Bagley.	R.C.L.P., L.Y.	A.H.H.
<i>campanularum</i> , <i>Kirb.</i>	Parks, Oxford.	A.H.H.	
CÆLIOXYS elongata , <i>Lep.</i>	Shotover.	...	A.H.H.
<i>acuminata</i> , <i>Nyl.</i>	...	Parks, Oxford.	A.H.H.
MEGACHILE willughbiella , <i>Kirb.</i>	Parks and Shotover.		
		R.C.L.P., A.H.H.	
<i>circumcincta</i> , <i>Lep.</i>	Bagley and Shotover.	...	L.Y., A.H.H.
<i>ligniseca</i> , <i>Kirb.</i>	...	In Oxford.	A.H.H.
<i>centuncularis</i> , <i>Linn.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]
OSMIA rufa , <i>Linn.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]
<i>pilicornis</i> , <i>Smith.</i>	Shotover and Bagley.	R.C.L.P., A.H.H.	
<i>cærulescens</i> , <i>Linn.</i>	Shotover & Bagley.	R.C.L.P., A.H.H.	
<i>fulviventris</i> , <i>Panz.</i>	Generally distributed.	R.C.L.P.,	[A.H.H.]
<i>bicolor</i> , <i>Schrank.</i>	...	Boar's Hill.	...
<i>aurulenta</i> , <i>Panz.</i>	...	Bagley.	...
<i>spinulosa</i> , <i>Kirb.</i>	...	Shotover.	...
STELIS aterrima , <i>Panz.</i>	Parks and Shotover.	R.C.L.P., A.H.H.	
ANTHIDIUM manicatum , <i>Linn.</i>	Shotover & Cowley.	A.H.H.	
EUCERA longicornis , <i>Linn.</i>	Shotover.	...	R.C.L.P.
MELECTA armata , <i>Panz.</i>	Generally distributed.	R.C.L.P.,	[L.Y., A.H.H.]
ANTHOPHORA retusa , <i>Linn.</i>	1 ♀, Bagley.	...	L.Y.
<i>pilipes</i> , <i>Fab.</i>	Very common.	R.C.L.P., L.Y., A.H.H.	
<i>furcata</i> , <i>Panz.</i>	...	Shotover.	...
PSITHYRUS rupestris , <i>Fab.</i>	Generally distributed.	R.C.L.P.,	[L.Y., A.H.H.]
<i>vestalis</i> , <i>Fourc.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]
<i>barbutellus</i> , <i>Kirb.</i>	Ditto.	R.C.L.P., A.H.H.	
<i>campestris</i> , <i>Panz.</i>	Ditto.	R.C.L.P., A.H.H.	
<i>quadricolor</i> , <i>Lep.</i>	Ditto.	R.C.L.P., A.H.H.	

BOMBUS venustus , <i>Smith.</i>	Generally distributed.	R.C.L.P.,	[L.Y., A.H.H.]
<i>agrorum</i> , <i>Fab.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]
<i>hortorum</i> <i>Linn.</i> (all vars.)	Generally distributed.	R.C.L.P.,	[L.Y., A.H.H.]
<i>latreilliellus</i> , <i>Kirb.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]
var. <i>distinguendus</i> .		R.C.L.P., A.H.H.	
<i>sylvarum</i> , <i>Linn.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]
<i>derhamellus</i> , <i>Kirb.</i>	Ditto.	R.C.L.P., L.Y.,	[A.H.H.]
<i>lapidarius</i> , <i>Linn.</i>	Ditto.	R.C.L.P., L.Y.,	[A.H.H.]
<i>pratorum</i> , <i>Linn.</i>	Ditto.	R.C.L.P., L.Y.,	[A.H.H.]
<i>terrestris</i> , <i>Linn.</i> (all vars.)	Ditto.	R.C.L.P., L.Y.,	[A.H.H.]
APIS mellifica , <i>Linn.</i>	Generally distributed.	R.C.L.P., L.Y.,	[A.H.H.]