

## CEDIOPSYLLA Jordan

- C. simplex** Baker. Rabbit Flea. Recorded from Wake county west to Wilkes, Caldwell and Transylvania, also at Wilmington, on rabbits, dogs and gray fox.

## HOPLOPSYLLUS Baker

- H. sp.** A number found on an opossum January 10, 1931, from Raleigh, determined with a doubt as belonging to this genus by W. B. Mabee and C. S. Brimley. I would be inclined to drop them from the list except that my recollection of them does not fit any flea I have since seen. C. S. Brimley.

## Family DOLICHOPSYLLIDAE

## ODONTOPSYLLUS Baker

- O. multispinosus** Baker. Wake, Guilford, and Yadkin counties on rabbit. Type locality Raleigh.

## CTENOPHTHALMUS Kolenati

- C. pseudagyrtis** Baker. Raleigh and Granville county on moles; Swain county on meadow mouse.

## NOSOPSYLLUS Jordan

- N. fasciatus** Bosc. European Rat Flea. Raleigh, Greensboro, Winston-Salem on wharf rats.

## ORCHOPEAS Jordan

- O. wickhami** Baker. Squirrel Flea. Onslow to Wilkes county on gray squirrel and flying squirrel; also once on screech owl.  
**O. leucopus** Baker. Swain county taken in 1931 by R. L. Boke.

## Family HYSTRICHOPSYLLIDAE

## CTENOPSYLLUS Kolenati

- C. segnis** Sch. Raleigh on cotton rat and wharf rat.

## Order HYMENOPTERA, The Wasp-like Insects

One of the large orders including such familiar forms as ants, bees and wasps, also the saw-flies, ichneumon flies, gall wasps and many small forms which are parasitic on other insects.

## Sub-order CHALASTOGASTRA, The Saw Flies

## Family XYELIDAE

## XYELA Dalman

- X. errans** Roh. North Carolina, type locality.  
**X. minor** Norton. Aberdeen, Southern Pines, Raleigh, March.

## MACROXYELA Kirby

*M. ferruginea* Say. Raleigh, April.

## Family MEGALODONTIDAE (PAMPILIIDAE)

## ACANTHOLYDA Costa

*A. atripes* Cr. North Carolina (Cresson).  
*A. pini* Roh. Raleigh, September.  
*A. poppigi* B. and Z. North Carolina (Cresson).

## PAMPILIUS Latreille

*P. ocreatus* Say. Raleigh, May.

## ANOPLOLYDA Costa

*A. perplexa* Cr. Linville Falls, June.  
*A. plagiata* Klug. Raleigh, May; Willard, April.  
*A. scripta* Say. Sunburst, Nellie, June.  
*A. sp.* Havelock, April.

## ITYCORSIA Konow

*I. albomarginata* Cr. Raleigh, September.  
*I. luteomaculata* Cr. Greensboro, April; Black Mountain, March.

## Family CEPHIDAE

## ADIRUS Konow

*A. trimaculatus* Say. May-July.

## Family XIPHYDRIDAE

## XIPHYDRIA Latreille

*X. canadensis* Prov. Watauga county, Linville Falls, June, July.  
*X. rufiventris* Cr. Raleigh, September.

## Family SIRICIDAE, The Horn-tails

## UROCERUS Latreille

*U. albicornis* Fab. Blowing Rock, Mt. Mitchell, August.  
*U. taxodii* Ashm. Raleigh, September; Tryon.

## SIREX Linnaeus

*S. edwardsi* Brulle. Raleigh, October, November.  
*S. nigricornis* Fab. Raleigh, October.

## TREMEX Jurine

- T. columba* Linn. Vance and Columbus counties west, June-October.  
*T. columba sericeus* Say. Raleigh, Greensboro, Kittrell, Winston-Salem.

## Family CIMBICIDAE

## CIMBEX Olivier

- C. americana* Leach. Swannanoa, Sunburst, June; Jacksonville, Havelock, Raleigh, May.

## TRICHIOSOMA Leach

- T. confusum* MacG. Blowing Rock, Mt. Pisgah, June.  
*T. spicatum* MacG. Raleigh, May.

## Family ARGIDAE

## ARGE Schrank

- A. abdominalis* Leach. Wharton, April.  
*A. dulciaria* Say. Raleigh, May-July.  
*A. humeralis* Norton. Raleigh, Greensboro, Southern Pines, May-September.  
*A. macleayi* Leach. Raleigh, Kittrell, June-August; Black Mountain, Grandfather Mountain, Swannanoa, May, July.  
*A. rubiginosa* Beauv. Raleigh, Southern Pines, August.  
*A. scapularis* Klug. Raleigh, Fayetteville, Laurel Hill, June; Highlands, July.  
*A. virescens* Klug. Blowing Rock, July; Castle Hayne, July.

## ATOMACERA Say

- A. debilis* Say. Raleigh, July.  
*A. ruficollis* Norton. Raleigh, May, August.

## BRACHYPHANTUS Konow

- B. sp.* Aberdeen, May (determined to genus by S. A. Rohwer).

## STERICTIPHORA Billberg (SCHIZOCERA Lep.)

- S. ebenus* Norton. Raleigh, August.  
*S. johnsoni* MacG. Raleigh, August.  
*S. plumiger* Klug. Raleigh, Aberdeen, Wilmington, April, May.  
*S. privatus* Ashm. Aydlett, Camden, July.  
*S. zabriskei* Ashm. Raleigh, Terra Ceia, Fayetteville, July-September; Blowing Rock, Swannanoa, Bryson City, June-August.

## Family DIPRIONIDAE

## NEODIPRION Rohwer

- N. abbotti* Leach. Raleigh, April, Barnesville, November.  
*N. abdominalis* Say. Raleigh, March.  
*N. fabricii* Leach. Raleigh, May; Washington, December.

**N. lecontei** Fitch. Pender and Beaufort counties west to Rutherford, adults in March, May, June, August, September and November. Larvae sometimes a pest on pines, and occasionally found on spruce and arbor-vitae.

Family **TENTHREDINIDAE**

Sub-family **ALLANTINAE (EMPHYTINAE)**

**STRONGYLOGASTROIDEA** Ashmead

- S. apicalis** Say. Mountains, May-July; Raleigh, May, June.  
**S. mellosus** Norton. Raleigh, May; Black Mountain, May; Bryson City, August.  
**S. pallidicornis** Norton. Raleigh, June; Sunburst, June.  
**S. pallipes** Say. Raleigh, May.  
**S. proxima** Prov. Raleigh, May.  
**S. rufocinctus** Norton. Sunburst, May.  
**S. shermani** MacG. Hendersonville (type locality), June.  
**S. spiculata** MacG. Linville, August.  
**S. terminalis** Say. Raleigh, Dunn, Tarboro, May, June, September; Black Mountain, Linville Falls, May.

**DIMORPHOPTERYX** Ashmead

- D. desidiosus** MacG. Black Mountain, north fork of Swannanoa River (type locality), May.

**MACREMPHYTUS** MacGillivray

- M. varians** Norton. Raleigh, June.

**PSEUDOSIOBLA** Ashmead

- P. floridana** Prov. Raleigh, Wilmington, May, June.

**PARATAXONUS** MacGillivray

- P. multicolor erythrogastra** Roh. Black Mountain, May.

**ALLANTUS** Panzer (EMPHYTUS Klug)

- A. mellipes** Norton. Linville Falls, June.  
**A. inornatus** Say. Raleigh, Kingsboro, McCullers, April, May, July-September; Swannanoa, June.

Sub-family **TENTHREDININAE**

**LEUCOPELMONUS** MacGillivray

- L. confusus** Nort. Black Mountain, May.

**BIVENA** MacGillivray

- B. delta** Prov. Smokemont, June.  
**B. quattuordecimpunctata** Norton. Sunburst, Linville Falls, May.

## LAGIUM Konow

- L. atrovioleaceum* Norton. Raleigh, May, June; Swannanoa, June.  
*L. cinctulum* Norton. Raleigh, Southern Pines, Oriental, Carolina Beach, Marston, May, June; Marion, July.  
*L. tardum* Norton. Raleigh, May, June; Avery county, June.

## PACHYPROTASIS Hartig

- P. omega* Norton. Black Mountain, Mt. Mitchell, June.

## MACROPHYA Dahlbom

- M. alba* MacG. Bryson City, May.  
*M. bilineata* MacG. Raleigh, May; Linville Falls, Swannanoa, Nellie, May, June.  
*M. contaminata* Prov. Linville, August.  
*M. epinota* Say. Linville Falls, May.  
*M. externa* Say. Black Mountain, May.  
*M. flavicoxa* Norton. Raleigh, May; Linville Falls, Franklin, May, June.  
*M. formosa* Klug. Sunburst, Black Mountain, May, June.  
*M. fulginea* Norton. Raleigh, June.  
*M. fuscoterminata* Roh. Canton, June (Rohwer).  
*M. goniphora* Say. Raleigh, May, June; Black Mountain, May.  
*M. incerta* Norton. Black Mountain, Linville Falls, May.  
*M. intermedia* Norton. Raleigh, May, June; Linville Falls, Sunburst, June.  
*M. nigra* Norton. Black Mountain, May.  
*M. pulchella* Klug. Franklin, May.  
*M. punctata* MacG. Linville Falls, June.  
*M. tibiator* Norton. Linville Falls, June.  
*M. trisyllaba* Say. Raleigh, June; Sunburst, Black Mountain, Mt. Mitchell, Linville Falls, Smokemont, May, June.  
*M. trosula* Say. Raleigh, May, June; Swannanoa, May.  
*M. varia* Norton. Smokemont, June.  
*M. zabriskei* Roh. Lake Waccamaw, April.

## TENTHREDO Linnaeus

- T. inversus* MacG. Highlands (type locality), September.

## TENTHREDELLA Rohwer

- T. angulifera* Norton. Nellie, June.  
*T. carolina* Roh. Biltmore (type locality), July.  
*T. ferruginipes* Cr. Sunburst, Linville Falls, May, June.  
*T. grandis* Norton. Linville Falls, Black Mountain, Mt. Mitchell, May, June.  
*T. mellina* Norton. Linville Falls, June.  
*T. nigricollis* Kirby? Linville Falls, June.  
*T. ruficolor* Norton. Linville Falls, June.  
*T. rufipes* Say. Black Mountain, May.  
*T. rufopecta* Norton. Sunburst, May.  
*T. rusticana* MacG. Black Mountain (type locality), June.  
*T. secunda* MacG. Mt. Pisgah, Mt. Mitchell, June.  
*T. signata* Norton. Linville Falls, June.  
*T. verticalis* Say. Sunburst, Black Mountain, May, June.

**Sub-family MESSINAE**

## CALIROA Costa

*C. aethiops* Fab. Rose Slug. Bryson City, April; Andrews, June.

## ERIOCAMPOIDES Konow

*E. limacina* Retz. Pear Slug. Saluda, Concord, Sylva, Snow Camp, July-August.

*E. quercus-alba* Norton. Judson, July.

## METALLUS Forbes

*M. rubi* Forbes. Raleigh, September.

**Sub-family EMPRIINAE**

## EMPRIA Lepeletier

*E. maculata* Norton. Black Mountain, May.

## ERYTHRASPIDES Ashmead

*E. pygmaea* Say. Raleigh, June; Waynesville, August.

## HYPARGYRICUS MacGillivray

*H. fumipennis* Norton. Sunburst, June; Raleigh, June.

## NEOPAREOPHORA MacGillivray

*N. scelestus* MacG. Black Mountain (type locality), June.

## PERICLISTA Konow

*P. chionanthi* Dyar. Raleigh, Havelock, April, May.

**Sub-family PHYMATOCERINAE**

## TOMOSTETHUS Konow

*T. bardus* Say. Raleigh, April, May; Linville Falls, May.

**Sub-family SELANDRIINAE**

## POLYSELANDRIA MacGillivray

*P. flavipes* Norton. Raleigh, Havelock, Wenona, Pungo Lake, April-June; Franklin, Asheville, April, May; larvae feed on the leaves of bracken.

## HEMITAXONUS Ashmead

*H. dubitatus* Norton. Raleigh, May.

## STRONGYLOGASTER Dahlbom

**S. annulosus** Norton. Havelock, May.

**S. tacitus** Norton. Raleigh, Wendell, April, May; Black Mountain, May, Cruso, June.

## Sub-family CLADIINAE

## CLADIUS Illiger

**C. isomerus** Norton. Bristly Rose Slug. Raleigh, July; Bryson City, April.

## Sub-family NEMATINAE

## CERATEROCERCUS Rohwer

**C. phytophagicus** Dyar. Marion, April.

## HEMICHROA Stephens

**H. fraternalis** Norton. Raleigh, April.

## HOPLOCAMPA Hartig

**H. xantha** Roh. Raleigh, Lake Waccamaw, Burgaw, Wendell, March, April.

## PTERONIDEA Rohwer

**P. dyari** Marlatt. Raleigh, July.

**P. erythrogaster** Norton. Raleigh, June.

**P. ribesii** Scop. Currant Saw-Fly. Infesting currants and gooseberry plants, Guilford county west to Watauga, Buncombe and Henderson. The eradication of its food plants to control the white pine blister rust may exterminate it also.

**P. stigmata** Norton. Raleigh, Aberdeen, April, May.

**P. trilineata** Norton. Linville Falls, June.

## AMAURONEMATUS Konow

**A. n. sp.** Raleigh. August; so determined by Dr. S. A. Rohwer.

## PACHYNEMATUS Konow

**P. carolinensis** Marlatt. North Carolina (type locality).

## PRISTIPHORA Latreille

**P. carolinensis** Marlatt. North Carolina (type locality).

## Family PTERYGOPHORIDAE

## ACORDULECERA Say

**A. nigrata** Roh. Black Mountain, north fork of Swannanoa River (Banks).

**Sub-order CLISTOGASTRA****Super-family ICHNEUMONOIDEA****Family BRACONIDAE****Sub-family COENOCOELIINAE**

## COENOCOELIUS Provancher (CAPITONIUS Brulle)

- C. caryae* Roh. Tryon (type locality).  
*C. erythrogastra* Roh. Tryon (female paratype).  
*C. leptostyli* Roh. Tryon (type locality).  
*C. nigrisoma* Roh. Tryon (type locality).  
*C. provancheri* Roh. Tryon, reared from pupal cells of *Liopus* alpha.

**Sub-family VIPIINAE**

## ATANYCOLIDEA Viereck

- A. apicalis* Roh. Tryon, male and female, W. F. Fiske.

## ATANYCOLUS Foerster

- A. charus* Riley. Raleigh, October.  
*A. epicus* Cr. Raleigh, April, June.  
*A. simplex* Cr. Raleigh, August.

## IPHIAULAX Foerster

- I. agrili* Ashm. Wilmington, Willard, May, August.  
*I. augustus* Vier. Raleigh, May.  
*I. eurygaster* Brulle. Raleigh, May.

## MICROBRACON Ashmead

- M. brevicornis* Wilson. Coleridge, bred from flour moth in June.  
*M. caulicola* Gahan. Tin City, October, F. S. Blanton.  
*M. cushmani* Muesb. Elizabeth City, June.  
*M. furtivus* Fyles. North Carolina, reared by Dr. Leiby from galls of *Gnorimoschaema solidaginis* at Raleigh.  
*M. hebetor* Say. Coleridge, June.  
*M. mellitor* Say. Aberdeen, Wadesboro, Rockingham, Laurinburg, Lumberton, Whiteville, July-September, a parasite of the boll-weevil.  
*M. punctatus* Muesb. Edgecombe county.  
*M. sanninoideae* Gahan. Raleigh, August; Andrews, June; bred from cocoons of the peach tree borer.  
*M. xanthostigma* Cr. Bred from galls of *Agrilus ruficollis* on blackberry.

**Sub-family SPATHIINAE**

## SPATHIUS Nees

- S. sp.* Raleigh, April, May.



**Sub-family DORYCTINAE**

## ODONTOBRACON Cameron

**O. elaphidivorus** Roh. Raleigh, Marston, May, June.

**Sub-family HORMIINAE**

## ECPHYLUS Foerster

**E. lepturgi** Roh. Tryon, Fiske.

**E. schwarzi** Ashm. Asheville, reared from *Dendroctonus frontalis* and *Pityophthorus* sp. by C. F. W. Muesebeck.

## HORMIUS Nees

**H. vulgaris** Ashm. (near). Hendersonville, June.

## HETEROSPILUS Haliday

**H. bruchi** Vier. Raleigh, bred from seeds of honey locust infested by *Spermophagus hoffmanseggi*.

**H. leptostyli** Roh. Tryon, parasitic on larvae of *Leptostylus collaris* in chestnut.

**Sub-family ALEIODINAE**

## ALEIODES Wesmael

**A. acicularis** Cr. Raleigh, July.

**A. burrus** Cr. Raleigh, July.

**A. melleus** Cr. Moncure, May.

**A. parasiticus** Nort. Sunburst, June; Jefferson, September.

**A. politiceps** Gahan. Raleigh, Bogue, Lake Waccamaw, May, August, September; bred from larvae of *Cirphis unipuncta* and *Peridroma incivis*.

**A. rileyi** Cr. Raleigh, October.

**A. terminalis** Cr. Raleigh, April, October; Hendersonville, July.

**Sub-family SIGALPHINAE**

## TRIASPIS Haliday

**T. curculionis** Fitch. Raleigh, Aberdeen, July, August; bred from plum curculio and boll weevil.

**T. curculionis rufa** Riley. Raleigh, Aberdeen, May, June; bred from plum curculio.

**T. fiskei** Ashm. Tryon, type locality.

## UROSIGALPHUS Ashmead

**U. n. sp.** Blowing Rock, September, determined as a new species by J. C. Crawford.

## ASCOGASTER Wesmael

**A. carpocapsae** Vier. Raleigh, May.

## CHELONUS Panzer

- C. basicinctus* Prov. Raleigh, July.  
*C. fissus* Prov. Raleigh, September, October; Jefferson, September.  
*C. konkaputus* Vier. Raleigh, October.  
*C. mysticorum* Vier. Raleigh, October.  
*C. parvus* Say. Raleigh, July, September.  
*C. sericeus* Say. Raleigh, Sanford and Harnett county. September, October, rather common; Bryson City, Cane River, September.

## SIGALPHUS Latreille

- S. bicolor* Cr. Raleigh. April.

## PHANEROTOMA Wesmael

- P. fasciata* Prov. Rockingham, August.  
*P. tibialis* Hald. Raleigh, July, reared from peach twig infested by the larvae of the Oriental Fruit Moth.

## Sub-family MICROGASTERINAE

## MICROGASTER Latreille

- M. caliptera* Say. Raleigh, Terra Ceia, Havelock, May-September; Wilkes county, September.  
*M. gelechia* Riley. Raleigh, bred from gall of *gnorimoschaema solidaginis*.

## MICROPLITIS Foerster

- M. feltiae* Ash. Robeson county, bred from cotton squares, C. F. Rainwater.  
*M. quadridentatus* Prov. Raleigh, August, bred cotton boll-worm.

## APANTELES Foerster

- A. congregatus* Say. Raleigh, Reidsville, Toecane, Oxford, Kenly, July-October, common parasite of most sphinx caterpillars and the main check on the tobacco horn-worms. Bred from caterpillars of *Ampeloea myron*, *Dolba hylaeus*, *Herse cingulata*, *Pholus pandorus*, *Protoparce sexta*, *P. quinquemaculata*, *P. rustica*, and *Sphex abboti*.  
*A. diacrisiae* Gahan. Raleigh, November, bred caterpillar of *Diacrisia virginica*.  
*A. diacrisiae* Gahan (near). Southern Pines, October.  
*A. ensiger* Say. Raleigh, August; Hendersonville, June.  
*A. forbesi* Vier. Jefferson, September; Hendersonville, June.  
*A. glomeratus* Linn. Raleigh, May; parasite of the caterpillar of the cabbage butterfly.  
*A. griffini* Vier. Raleigh, Millbrook, Swannanoa, May.  
*A. luteipennis* Muesb. Raleigh, April.  
*A. marginatus* Cr. Tin City, October.  
*A. militaris* Walsh. Hendersonville.  
*A. orobenae* Forbes. Raleigh, October, parasite of *Evergestis rimosalis*.  
*A. polychrosidis* Vier. Tin City, October.  
*A. websteri* Muesb. Washington, November.

Sub-family **BRACONINAE**

## BRACON Jurine

- B. comstocki** Morr. Laurel Hill, June.  
**B. haematodes** Brulle. Raleigh, Bogue and Harnett county, Kernersville, May-September.  
**B. nigrosternum** Morr. Raleigh, Southern Pines, April, May.  
**B. szeplegeti** Morr. Mt. Mitchell, August.  
**B. virginiensis** Morr. Raleigh, June; Tarboro, July; Bryson City, July.

## BASSUS Fabricius

- B. annulipes** Cr. Swannanoa, July.  
**B. earinoides** Cr. Blowing Rock, July.  
**B. difficilis** Muesb. Raleigh, June.  
**B. marginatifrons** Muesb. McCullers, September.  
**B. sanctus** Say. Raleigh, June, July, September.  
**B. spiracularis** Muesb. Raleigh, Wilmington, Laurel Hill, Kingsboro, May-August, October; Highlands, September.  
**B. texanus** Cr. Raleigh, Wilmington, Beaufort, Trenton, May-July, September, October; Swannanoa, June.

## AENIGMOSTOMUS Ashmead

- A. longipalpis** Cr. Raleigh, September.

## CRASSOMICRODUS Ashmead

- C. divisus** Cr. Laurel Hill, June.

Sub-family **ICHNEUTINAE**

## ICHNEUTIDEA Ashmead

- I. secunda** Roh. Bryson City, August.

Sub-family **CARDIOCHILINAE**

## CARDIOCHILES Nees

- C. populator** Say. Raleigh, April.  
**C. seminigrum** Cr. Raleigh, Aberdeen, Tarboro, Overhills, Graham, Fairmont, Lakeview and Harnett county, May-July, September.  
**C. tibiator** Say. Raleigh, Southern Pines, Pungo Lake, Carolina Beach, May-August; Bryson City, July.  
**C. viator** Say. Raleigh, Anson county, Burgaw, August, September.

Sub-family **MACROCENTRINAE**

## MACROCENTRUS Curtis

- M. ancylivorus** Roh. Colonies have been liberated at Raleigh, West End and Sanford, in 1930, and recoveries made since at the first two places. This is a parasite of the oriental fruit moth.

- M. aegeriae** Roh. North Carolina (Muesebeck).  
**M. cerasivoranae** Vier. North Carolina (Muesebeck).  
**M. delicatus** Cr. Raleigh, Burgaw, Roper, May, June.  
**M. instabilis** Muesb. Candor, July, bred from twigs infested by Oriental Moth.  
**M. pallisteri** De Gant. Aurora, June.  
**M. texanus** Muesb. Raleigh, June.  
**M. uniformis** Prov. Raleigh, May-August, common.

**Sub-family ZELINAE**

ZELE Haliday

- Z. crassicalcarata** Vier. Raleigh, June.  
**Z. melleus** Cr. Raleigh, Greensboro, July, September, October; Swannanoa, July.

**Sub-family HELCONINAE**

HELCON Nees

- H. castaneae** Vier. Tryon (type locality).

HELCONIDEA Viereck

- H. dentipes** Brulle (near). Springhope, May.

**Sub-family OPIINAE**

OPIUS Wesmael

- O. americanus** Gahan. Raleigh, August.  
**O. dimidiatus** Ashm. Hendersonville, June.  
**O. mandibularis** Gahan. Raleigh, June.  
**O. provancheri** D. T. Raleigh, July.  
**O. tihialis** Ashm. Hendersonville, June.

**Sub-family EUPHORINAE**

PERILITUS Nees

- P. mellinus** Prov? North Carolina.

DINOCAMPUS Foerster

- D. coccinellae** Schr. Raleigh, June, July, bred from the lady beetles, *Ceratomygilla fuscilabris* and *Hippodamia convergens*.

**Sub-family METEORINAE**

METEORUS Haliday

- M. communis** Cr. North Carolina (Muesebeck).  
**M. dimidiatus** Cr. Waynesville, September.  
**M. hyphantriae** Riley. North Carolina (Muesebeck).

- M. indagator** Riley. North Carolina (Muesebeck).  
**M. pallitarsis** Cr. Raleigh, May.  
**M. vulgaris** Cr. Hendersonville, June.

## Sub-family APHIDIINAE

## APHIDIUS Nees

- A. nigripes** Ashm. Raleigh, May, June; Hendersonville, June.  
**A. (Diaeretus) rapae** Curtis. Raleigh, February.  
**A. (Lysiphlebus) minutus** Ashm. Fremont, July.  
**A. (Lysiphlebus) tritici** Ashm. Mebane, February, bred from *Toxoptera gramineum*.  
**A. (Lysiphlebus) testaceipes** Cr. Raleigh, Fremont, June, July; bred from *Aphis gossypii*.

## Sub-family ALYSIINAE

## OENOGASTRA Ashmead

- O. microrhopalae** Ashm. Raleigh, August.

## CRATOSPILA Foerster

- C. ridibunda** Say. State-wide, May to October in east, common; mountains, June, September; a common parasite of blow-fly larvae.

## ASPILOTA Foerster

- A. sp.** Raleigh, May, bred from galls, *Eurosta solidaginis*.

## Family ICHNEUMONIDAE

## Sub-family JOPPINAE (or ICHNEUMONINAE)

## PSILOMASTIX Tischbein

- P. vulpinus** Grav. Raleigh, Statesville. Andrews, Highlands, May, June, July, September.

## TROGUS panzer

- T. austrinus** Cr. Wendell, May.  
**T. copei** Cr. Marion, August.  
**T. obsidianator** Brulle. Raleigh, Lake Ellis, Swannanoa, May, June.  
**T. buccatus** Cr. Bryson City, June; Blowing Rock, July.

## TROGOMORPHA Ashmead

- T. ferrugator** Fab. (*trogiformis* Cr.). Greensboro eastward, April-September.

## AMBLYTELES Wesmæl (ICHNEUMON Linn.)

- A. atrifrons** Cr. Raleigh, April-June, September; Montreat, September.  
**A. agnitus** Cr. (near). Raleigh, May.  
**A. annulipes** Cr. (near). Raleigh, September.  
**A. azotus** Cr. Raleigh, April; Benson, May.  
**A. bimbriis** Prov. Linville Falls, June.  
**A. blandii** Cr. Raleigh, June, July.  
**A. brevicinctus** Say (*extrematidis* Cr.). Raleigh, March, May-July, October.  
**A. brevipennis** Cr. Raleigh, June.  
**A. bronteus** Cr. Blowing Rock, July.  
**A. caeruleus** Cr. Raleigh, April, May.  
**A. centrator** Say. North Carolina.  
**A. cincticornis** Cr. (*galenus* Cr.). Raleigh, April.  
**A. cinctitarsis** Prov. Raleigh, July.  
**A. comes** Cr. Hendersonville, Nellie, June; Raleigh, May.  
**A. comptus** Say. Raleigh, May, June.  
**A. concinnus** Say. North Carolina (Cresson).  
**A. facetus** Cr. Marion, September.  
**A. feralis** Cr. Smokemont, June.  
**A. funestus** Cr. Pineola, August.  
**A. grotei** Cr. (near). Southern Pines, Havelock, April, May.  
**A. grandis** Br. Raleigh, May, August-November.  
**A. heiligbrodti** Cr. Raleigh, May, June.  
**A. heiligbrodti** Cr. (near). Raleigh, May, June.  
**A. histricus** Cr. (near). Raleigh, October; Swannanoa, June.  
**A. honestus** Cr. Raleigh, May.  
**A. illaetabilis** Cr. Aberdeen, March.  
**A. infidelis** Cr. January, hibernating under bark.  
**A. instabilis** Cr. Andrews Bald, July.  
**A. inurbanus** Cr. Sunburst, May.  
**A. jucundus** Brulle. Winston-Salem, August.  
**A. laetus** Cr. Mt. Mitchell, Blowing Rock, August; Swannanoa, October; Pineola, June.  
**A. leucaniae** Fitch (*seminiger* Cr.). Linville Falls, June.  
**A. leviculus** Cr. Linville Falls, June.  
**A. lewisi** Cr. Raleigh, May.  
**A. longulus** Cr. Havelock, May.  
**A. maius** Cr. North Carolina (Cresson).  
**A. malacus** Say. Raleigh, November.  
**A. maurator** Br. (*insolens* Cr.). State-wide, whole season.  
**A. maurus** Cr. Lake Waccamaw, April.  
**A. mendax** Cr. Raleigh, December, hibernating under bark. Also March, August.  
**A. montanus** Cr. Highlands, September; Cruso, June.  
**A. mucronatus** Prov. Raleigh, November; Hendersonville, June.  
**A. nanus** Cr. North Carolina (Cresson).  
**A. navus** Say. Raleigh, March, July.  
**A. otiosus** Say. Raleigh, Henrietta, June, November-January; hibernates under bark.

- A. paratus** Cr. Pineola, August.  
**A. parvus** Cr. Yonahlossee Road, September.  
**A. pepticus** Cr. (near). Blowing Rock, September.  
**A. propitius** Cr. Aberdeen, April.  
**A. pulcher** Br. Highlands, July.  
**A. pullatus** Cr. (*subcyaneus* Cr.). North Carolina (Insect Life, III, 151).  
**A. quebecensis** Prov. Grandfather Mountain, July; Smokemont, June.  
**A. rubicundus** Cr. Raleigh, May, September; Beaufort, July; Jefferson, September; Mt. Mitchell, August; Newton, June.  
**A. rufiventris** Br. Bryson City, May.  
**A. sagus** Cr. Linville Falls, June.  
**A. saucius** Cr. North Carolina (Cresson).  
**A. scitulus** Cr. Linville Falls, June.  
**A. signatipes** Cr. Raleigh, April, June.  
**A. semicacruleus** Cr. Raleigh, Aberdeen, April.  
**A. soror** Cr. Raleigh, September.  
**A. soror** Cr. (near). Raleigh, June and July (two species).  
**A. stadaconensis** Prov. Jefferson, September; Southport, April.  
**A. subdolosus** Cr. Highlands, September.  
**A. subfulvus** Cr. Aberdeen, April.  
**A. sublatus** Cr. Raleigh, August.  
**A. succinctus** Br. Bryson City, May.  
**A. terminalis** Cr. Raleigh, May.  
**A. trizonatus** Prov. Andrews Bald, July.  
**A. unifasciatus** Say. Raleigh, Elizabeth City, October, November, January; Jefferson, Highlands, September; hibernates under bark or in dead logs.  
**A. vicinus** Cr. Black Mountain, March.  
**A. vinnulus** Cr. Raleigh, September.  
**A. viola** Cr. Raleigh, May.  
**A. vitalis** Cr. Raleigh, (Ashmead); Sunburst, June.  
**A. volens** Cr. Raleigh, November.  
**A. w-album** Cr. Raleigh, Grimesland, Pembroke, April-June, October-January; hibernates in prostrate logs.  
**A. wilsoni** Cr? Grandfather Mountain, August.  
**A. zebratus** Cr. Raleigh, May, Hendersonville, June.  
**A. albomarginatus** Cr. (near). Raleigh, May-July, males. Has white annulus on antennae.  
**A. sp.** Raleigh, October.  
**A. (Probolus) sp.** Aberdeen, March.

## HOPLISMENUS Gravenhorst

- H. rutilis** Cr. Raleigh, June.

## PHAEOGENES Wesmael

- P. fungor** Norton. Mebane, May.

## PLATYLABUS Wesmael

- P. sp.** Black Mountain, May.

## Sub-family CRYPTINAE

## STYLOCRYPTUS Thomson

- S. subclavatus** Say. Raleigh, April, May; Linville Falls, Hendersonville, June.  
**S. vulgaris** Green. Raleigh, February.

## STILPNUS Gravenhorst

- S. americanus** Cr. Swannanoa, October.

## MYERSIA Viereck

- M. laminata** Vier. Raleigh, June.

## JOPPIDIUM Cresson

- J. rubriceps** Cr. Raleigh, June.  
**J. ruficeps** Walsh. Raleigh, Aberdeen, Cary, April, May, July.

## POLYTRIBAX Foerster

- P. pallescens** Vier. Canton, Balsam, June, September.

## ACROLYTA Foerster

- A. aletiae** Ashm. Raleigh, June.

## HEMITELES Gravenhorst

- H. mellicornis** Ash. Pitt county.  
**H. tenellus** Say. Aberdeen, April.  
**H. thyridopterygis** Riley. Raleigh, Gastonia, Leland, April, September, October, bred from Evergreen Bagworm.

## CHRYSOPOCTONUS Cushman

- C. chrysopae** Cush. Pitt county.

## GELIS Thunberg

- G. sp.** Raleigh, July, September.

## ACRORICNUS Ratzeburg

- A. junceus** Cr. Blowing Rock, August.

## SPILOCRYPTUS Thomson

- S. extrematis** Cr. Raleigh, May.  
**S. nunciatus** Say. Raleigh, May, bred from cocoons Polyphemus moth.



## CRYPTUS Fabricius

- C. hyslopi** Vier. Raleigh, September.  
**C. persimilis** Cr. Raleigh, April, May.  
**C. retentor** Brulle. Raleigh, September.  
**C. rufus** Cr. Waynesville, September.  
**C. vincetus** Say. Raleigh, Aberdeen, Winnabow, April-July; Franklin, Swannanoa, Pineola, May, June, August.

## TRYCHOSIS Foerster

- T. rufoannulatus** Cr. Raleigh, May, June.

## HOPLOCRYPTUS Thomson

- H. incertulus** Vier. Raleigh, May, October.

## CRYPTOHELICOSTIZUS Cushman

- C. dichrous** Vier. Southern Pines (type locality), February, November.  
**C. sp.** Conover, October. Apparently not the same as preceding.

## CHAERETYMNA Foerster

- C. sp.** Jefferson, September. Determined R. A. Cushman.

## AGONOCRYPTUS Cushman

- A. discoidaloides** Vier. Raleigh, October.

## MESSATOPORUS Cushman

- M. discoidalis** Cr. Raleigh, May, July.

## MALLOCHIA Viereck

- M. agenoides** Vier. Raleigh, August.

## LISTROGNATHUS Tschek

- L. albomaculatus** Cr. Raleigh, July, August.

## CRYPTUOPSIS Ashmead

- C. abdominalis** Cushm. Raleigh, Carolina Beach, April, May.  
**C. candidus** Cr. Raleigh, Tarboro, September, October.  
**C. texanus** Ashm. Raleigh, August.

## DIAPETIMORPHA Viereck

- D. acadia** Cushm. Raleigh, April-June; Swannanoa, September.  
**D. alabama** Cushm. Raleigh, June.  
**D. orba** Say. Raleigh, Edgecombe county, Lake Waccamaw, May, June, August-October.

## POLYAENUS Cresson

**P. spinarius** Br. Raleigh, May, June.

## MESOSTENUS Gravenhorst

**M. gracilis** Cr. Raleigh, May, September.

**M. leucopus** Ashm. Raleigh, May, June.

**M. thoracicus** Cr. Raleigh, April-October; Black Mountain, July.

## DEROCENTRUS Cushman

**D. macilentus** Cr. Raleigh, July.

## POLYCYRTUS Spinola

**P. neglectus** Cush. Raleigh, May-August; Marion, September.

## POLISTIPHAGA Cushman

**P. fulva** Cr. Raleigh, June; Southern Pines, October.

## Sub-family ICHNEUMONINAE (or PIMPLINAE)

## EXETASTES Gravenhorst

**E. angustoralis** Cush. Raleigh, July, October, November; Black Mountain.

**E. bituminosus** Cush. Raleigh, December.

**E. fascipennis** Cr. Raleigh, November.

**E. geminus** Cush. Raleigh, September; Swannanoa, September.

**E. nervulus** Say. Pineola, June.

**E. propinquus** Cush. Raleigh, September, October.

**E. suaveolens** Walsh. Marion, Swannanoa, September.

## MENISCUS Schiodte

**M. bethunei** Cr. Raleigh, Benson, May, June, August.

## LISSONOTA Gravenhorst

**L. cressoni** Vier. Swannanoa, July.

**L. frigida** Cr. Raleigh, November; Blowing Rock, September.

**L. mirabilis** Prov. Raleigh, May.

**L. pallorana** Davis. Raleigh, September.

**L. pallorana** Ds. (near). Raleigh, August.

**L. pleuralis** Cr. Raleigh, June.

**L. punctata** Cr. Blowing Rock, Grandfather Mountain, September.

**L. rufipes** Prov. Jefferson, September.

**L. varia** Cr. Blowing Rock, Grandfather Mountain, September.

## CYLLOCERIA Schiodte

**C. occidentalis** Cr. Raleigh, Havelock, Wilmington, May, June, November;  
Swannanoa, June.

**C. sexlineata** Say. Raleigh, July.

## CHLOROLYCORINA Cushman

*C. albomarginata* Cr. Aberdeen, April.

## GLYPTA Gravenhorst

*G. animosa* Cr. Raleigh, May.

*G. erratica* Cr. Swannanoa, July.

*G. monita* Cr. Raleigh, Edgecombe Test Farm, May-July, September; Swannanoa, Mt. Mitchell, May, August.

*G. muticus* Cush. Raleigh, July.

*G. phoxopteridis* Weed. Raleigh, June.

*G. rufiscutellaris* Cr. Jefferson, September.

*G. rubripes* Cr. Balsam, Jefferson, September.

## PHYTODIETUS Gravenhorst

*P. spp.* Raleigh, May, June; Swannanoa, May.

## THERONIA Holmgren

*T. fulvescens* Cr. Raleigh, Lake Waccamaw, March, April, July, September.

*T. melanocephala* Brulle. Raleigh, August; Swannanoa, Pineola, Grandfather Mountain, Waynesville, May, June, September.

## NEOTHERONIA Krieger

*N. septentrionalis* Kr. North Carolina, type locality.

*N. winnamanac* Vier. Raleigh, Havelock, May-August; Marion, September.

## EPHIALTES Schranck (PIMPLA Fab.)

*E. aequalis* Prov. Raleigh, Willard, Edgecombe Test Farm, New Bern, Wendell, March-November; Blowing Rock, July.

*E. conquisitor* Say. Raleigh, Barnesville, Elizabeth City, April-June, August-December; Sunburst, June.

*E. maurus* Cr. Lake Waccamaw, April.

*E. rufusculus* Davis. Raleigh, May.

*E. tenuicornis* Cr. Sunburst, May.

## COLPOMERIA Holmgren

*C. mellithorax* Cush. Raleigh, September.

## CLISTOPYGA Gravenhorst

*C. recurva* Say. Raleigh, April.

## LABENA Cresson

*L. apicalis* Cr. Raleigh, April, September.

*L. confusa* Roh. Raleigh, October, June.

*L. grallator* Say. Raleigh, Lake Waccamaw, Tarboro, Aberdeen, Cary, April-October; Andrews, August.

## HELCOSTIZUS Foerster

*H. fiskei* Vier. Tryon (type locality).

## RHYSSA Gravenhorst

*R. persuasoria* Linn. Pisgah Ridge (Rohwer); Raleigh, June.

## RHYSELLA Rohwer

*R. humida* Say. Raleigh, June, August.

*R. nitida* Cr. Grandfather Mountain, September.

## MEGARHYSSA Ashmead

*M. atrata* Fab. Blantyre, Linville Falls, May, June; Lawndale, May; Chat-ham county, July; Raleigh.

*M. greenei* Vier. Tryon (Rohwer); Lake Waccamaw, April.

*M. lunator* Fab. Halifax and Columbus counties west to Burke, April-October.

*M. nortoni* Cr. Pisgah Mountain, 5,600 feet (Rohwer); Old Fort, May.

## AROTES Gravenhorst

*A. amoenus* Cr. Black Mountain, Linville Falls, Spruce, May, June.

*A. occipitalis* Cr. Raleigh, June.

## COLEOCENTRUS Gravenhorst

*C. mellipes* Prov? Wilmington, May.

*C. minor* Cushm. Pisgah Ridge (type locality).

*C. pettitii* Cr. Linville Falls, June.

*C. similis* Cr. Spruce, May; Raleigh, May.

## XORIDES Latreille

*X. albopictus* Cr. Tryon (Rohwer).

*X. calidus* Prov. Tryon (Rohwer).

*X. humeralis* Say. Mt. Graybeard (Rohwer).

*X. rileyi* Ashm. Tryon (Rohwer).

*X. stigmapterus* Say. Raleigh, May, June; Bryson City, April.

## DEUTEROXORIDES Viereck

*D. borealis* Cr. Tryon (Rohwer).

*D. caryae* Harr. Pink Beds (Rohwer).

*D. vittifrons* Cr. Raleigh, September; Tryon.

## ODONTOMERUS Gravenhorst

*O. bicolor* Cr. Raleigh, Cary, April.

*O. canadensis* Prov. Raleigh, June, September; Sunburst, May.

*O. mellipes* Say. North Carolina, (Cushman).

*O. tibialis* Cushm. Pisgah Ridge (allotype).

## HYMENOEPIMECES Viereck

*H. wilti* Cr. Raleigh, May, June.

## ICHNEUMON Linnaeus (EPHIALTES Schr.)

- I. comstocki* Cr. Raleigh, Fayetteville, June, August.  
*I. dolichosoma* Vier. Tryon (type locality).  
*I. irritator* Fab. Raleigh, Southern Pines, Tarboro, April, June, November; Swannanoa, Linville Falls, Yonahlossee Road, June, September.  
*I. macer* Cr. Raleigh, March; Grandfather Mountain, Highlands, September.  
*I. grapholithae* Cr. Roper, Elizabeth City, bred *Acrobasis palliolella*.  
*I. notanda* Cr. Raleigh, April-June, October, bred *Gnorimoschaema gallae-solidaginis*.

## SCAMBUS Hartig

- S. coelebs* Walsh. Raleigh, Kingsboro, March-May, August.  
*S. inquisitoriellus* D. T. Raleigh, May, June, October; Grandfather Mountain, September.  
*S. tecumseh* Vier. Charlotte, April.

## TROMATOBIA Foerster

- T. rufopecta* Cr. Raleigh, November, bred from egg-sac of spider.

## ZAGLYPTUS Foerster

- Z. incompletus* Cr. Raleigh, April.  
*Z. incompletus spinosus* Davis. Raleigh, May.

## Sub-family TRYPHONINAE

## PRIONOPODA Holmgren

- P. sp.* Raleigh, May.

## EUCEROS Gravenhorst

- E. medialis* Cr. Cowee Mountains, May.  
*E. sp.* Raleigh, April.

## ZAGRYPHUS Cushman

- Z. nasutus* Cr. Raleigh, September.

## OXYTORUS Foerster

- O. sp.* Waynesville, September.

## PROVANCHERELLA Dalla Torre

- P. rhopaloceros* Prov. Raleigh, May.

## CTENOPELMA Holmgren

- C. sp.* Raleigh, June.

## HOMASPIS Foerster

**H. sp.** Grandfather Mountain, July.

## PROSMOSUS Foerster

**P. elongatus** Davis. Raleigh, September.

## STIPHROSOMUS Foerster

**S. sp.** Raleigh, May.

## ATOPOGNATHUS Cushman

**A. collaris** Cush. Blowing Rock, September.

## MESOLEPTIDEA Viereck

**M. sp.** Raleigh, May; Mt. Mitchell, July.

## HADRODACTYLUS Foerster

**H. elongatus femoratus** Davis. Raleigh, May.

## ABSYRTUS Holmgren

**A. paniscoides** Ash. Raleigh, Kingsboro, May, June; Fairview, July.

## ALEXETER Foerster

**A. sp.** Raleigh, June.

## LAGAROTIS Foerster

**L. virginiana** Roh. Raleigh, June, bred from Lophyrus.

## HOLMGRENIA Foerster

**H. tarsalis** Cr. Raleigh, May.

## MESOLEIUS Holmgren

**M. submarginatus** Cr. Raleigh, April; Linville Falls, Craggy Mountains, Blowing Rock, June, September.

## MONOBLASTUS Hartig

**M. sp.** Havelock, May.

## LATHROLESTES Foerster

**L. sp.** Raleigh, April.

## EXENTERUS Hartig

**E. diprioni** Roh. Concord, October, bred sawfly larvae on deodar.

## EXCAVARUS Davis

*E. annulipes* Cr. Raleigh, July.

## ANECPHYSIS Foerster

*A. curvineura* Davis. Yonahlossee Road, September.

## PANISCUS Schranck

*P. brevicornis* Cush. Raleigh, May.

*P. clypeatus* Cush. Raleigh, September.

*P. geminatus* Say. Raleigh, April, June, August, September.

*P. leo* Cush. Raleigh, April-June.

*P. pallens* Cush. Raleigh, Aberdeen, Southern Pines, Hoffman, March-June.

*P. pallens barberi* Cush. Raleigh, June; Swannanoa, May.

*P. sayi* Cush. Raleigh, Salisbury, Lincolnton, Bryson City, Hendersonville, June, September.

*P. spinipes* Cush. Raleigh, May.

*P. unguicularis* Cush. Raleigh, June, July.

Besides these we have four species on our cards which have been described by Mr. Townes but as the names are not yet published, they are omitted.

## PARABATES Foerster

*P. smithii* Walsh. North Carolina, Cushman.

## DIPLAZON Nees

*D. bicapillaris* Walsh. Raleigh, May.

*D. lactatorius* Fab. Raleigh, Aberdeen, Wilmington. February-June, August-November; Bryson City, August. A common species.

*D. orbitalis* Cr. Raleigh, April.

*D. scutellaris* Cr. Raleigh, May.

## ENIZEMUM Foerster

*E. tibiale* Cr. Raleigh, April.

## HOMOTROPUS Foerster

*H. sp.* Raleigh, April.

## PROMETHES Foerster

*P. sp.* Lake Waccamaw, Aberdeen, April, September; Hendersonville, June.

## SYRPHOCTONUS Foerster

*S. agilis* Cr. Raleigh, March.

## CHORINAEUS Holmgren

*C. sp.* Raleigh, June.

## COLPOTRICHIA Holmgren

**C. trifasciatus** Cr. Raleigh, Busick, May-July, September.

## EXOCHOIDES Cresson

**E. texanus** Cr. Elizabeth City, August.

## EXOCHUS Gravenhorst

**E. caeruliventris** Cr. Raleigh, May, June, August; Wendell, May.

**E. pallipes** Cr. North Carolina (Davis).

## TRICLISTUS Foerster

**T. pygmaeus** Cr. Raleigh, June, Willard, October.

**T. thoracicus** Ash. Raleigh, May.

## METOPIUS Panzer

**M. pollinatorius** Say. Raleigh, Fayetteville, May, June, October.

**M. robustus** Cr. (near). Raleigh, October, determined by Cushman.

**M. ultimus** Davis. Raleigh, May.

**M. xanthostigma** Ashm. Raleigh, September, October; Tarboro, October.

## Sub-family OPHIONINAE

## ENICOSPILUS Stephens

**E. arcuatus** Felt. Raleigh, May, September, October.

**E. flavus** Fab. Raleigh, September.

**E. purgatus** Say. Wilkes and Catawba counties east, May-September, November.

## EREMOTYLUS Foerster

**E. arctiae** Ashm. Raleigh, August, September.

**E. macrourus** Linn. Raleigh, Hickory, common parasite of the large Saturniid moths, May-October.

## OPHION Fabricius

**O. bifoveolatum** Brulle. Raleigh, April.

**O. bilineatum** Say. Raleigh and Wilmington west, January-October, in east, March, May, September, in mountains.

**O. slossonae** Davis. Warrenton, May, bred cocoon *Acronycta americana*; Marion, August.

## THYREODON Brulle

**T. atricolor** Oliv. Apparently state-wide (McDowell and Mitchell counties east), June-November.

## ANOMALON Jurine

**A. ejuncidum** Say. Raleigh, Kinston, June, July.



## PARANOMALON Viereck

- P. edemae** Davis. Raleigh, July.  
**P. exilis** Prov. Raleigh, November.  
**P. relictus** Fab? Raleigh, June, bred cocoons *Acronycta americana*.  
**P. semirufus** Norton? Raleigh, May.

## NEOGREENIA Viereck

- N. picticornis** Vier. Black Mountain, May; Raleigh, May.

## HETEROPELMA Wesmael

- H. datanae** Riley. Raleigh, July, August.  
**H. flavicorne** Brulle. Raleigh, September, October; Homestead, (Swain county), August.

## THERION Curtis

- T. fuscipenne** Norton. Blowing Rock, September.  
**T. hyaline** Nort. Blowing Rock, September.  
**T. morio** Fab. (*Exochilum mundum* Say). Raleigh, September, October; Blowing Rock, Cruso, June, July.  
**T. nigrum** Prov. Spruce, June; Mt. Mitchell, September.  
**T. tenuipes** Nort. Raleigh, September; Grandfather Mountain, September.  
**T. texanum** Cr. Raleigh, June, September, determined R. A. Cushman, in 1922.

## CASINARIA Holmgren

- C. infesta** Cr. Raleigh, April, July, August; Chadbourn.

## AMORPHOTA Foerster

- A. diaphaniae** Vier. Raleigh (type locality); bred from *Diaphania hyalinata*, the melon moth.

## VIERECKIANA Strand

- V. brachiator** Say. Raleigh, June.  
**V. egregia** Vier. Black Mountain, May (paratypes).  
**V. villosus** Nort. Andrews Bald, July; Raleigh, May-July, September.  
**V. vitticollis** Nort. Raleigh, May, June; Blowing Rock, September.

## HYPOSOTER Foerster

- H. fugitivus** Say. Altapass, June, bred from larvae of *Schizura concinna*.

## ANGITIA Holmgren

- A. hellulae** Vier. Rocky Mount, October, bred pupae *Plutella maculipennis*.

## SAGARITIS Holmgren

- S. provancheri** D. T. Tarboro, July, bred *Chloridea virescens*.

## OLESICAMPE Foerster

*O. sp.* Mt. Mitchell, August.

## CAMPOPLEX Gravenhorst

*C. nigricincta* Ashm. North Carolina (Insect Life).

## CAMPOTHREPTUS Foerster

*C. nasutus* Cr. North Carolina (Davis).

## EIPHOSOMA Cresson

*E. pyralidis* Ashm. Raleigh, June.

*E. septentrionalis* Boues. Raleigh, August-October.

*E. texanum* Cr. Raleigh, June.

## PHARSALIA Cresson

*P. sp.* Raleigh, June.

## PRISTOMERUS Curtis

*P. melleus* Cush. Raleigh, reared from larva of *Gelechia* on tobacco by G. McCarthy.

*P. ocellatus* Cush. Raleigh, May.

## CREMASTUS Gravenhorst

*C. ferrugineus* Davis. Raleigh, Chadbourn, Hickory, July, August; Jefferson, September.

*C. longiventris* Cush. Grandfather Mountain, August.

*C. tetralophae* Cush. Raleigh, Washington, Fayetteville, May, July, September.

## ZALEPTOPYGUS Viereck

*Z. cleridivorus* Cush. Tryon.

*Z. incompletus* Prov. Aberdeen, May.

*Z. similis* Cush, Swannanoa, September.

## NOTOMERIS Foerster

*N. sp.* Linville Falls, May; Mt. Mitchell, August.

## PROCLITUS Foerster

*P. sp.* Raleigh, November.

## DALLATORREA Cushman

*D. armata* Ashm. Raleigh, May 23, 1933 (determined H. K. Townes, Jr.).

## BANCHUS Fabricius

*B. cressoni* Vier. Raleigh, March.

## CERATOGASTRA Ashmead

*C. ornata* Say. State-wide, August, September.

## CIDAPHUS Foerster

*C. australis* Cush, Linville Falls, June.

## ASTIPHROMMA Foerster

*A. pectoralis* Ashm. Raleigh, May.

## MESOCHORUS Gravenhorst

*M. spp.* Raleigh, Kingsboro, May, June, September.

## Family TRIGONALIDAE

## TRIGONALYS Westwood

*T. pullatus* Shuckard. Raleigh, May; Bryson City, Mt. Mitchell, September.

## Family AULACIDAE

## PAMMEGISCHIA Provancher

*P. xiphidriae* Ashm. Black Mountain, Beutenmuller.

## PRISTAULACUS Kieffer

*P. flavicrurus* Bdly. Durham, September.

## Family GASTERUPTIONIDAE

## GASTERUPTION Latreille

*G. micrura* Kieffer. Raleigh, May; Bryson City, June, July.

*G. montanus incertus* Cr. Swannanoa, Sunburst, Cruso, Bryson City, June.

*G. tarsatorius* Say. Raleigh, Wenona, May, September; Bryson City, June.

## Super-family SERPHOIDEA (or PROCTOTRUPOIDEA)

## Family HELORIDAE

## HELORUS Latreille

*H. paradoxus* Prov. Southern Pines, September; Swannanoa, September.

## Family PROCTOTRUPIDAE or SERPHIDAE

## PROCTOTRUPES Latreille (SERPHUS Schranck)

*P. abruptus* Say. Raleigh, April, July.

*P. carolinensis* Ashm. North Carolina (Ashmead).

*P. caudatus* Say. Yonahlossee Road, September.

*P. obsoletus* Say. Raleigh, April.

*P. rufigaster* Prov. Bryson City, July.

Family **SCELIONIDAE**

## TELENOMUS Haliday

**T. nigriscapus** Ashm. Raleigh, Durham, New Bern, bred from eggs of *Datana integerrima*.

**T. sphingis** Ashm. Raleigh, August.

**T. sp.** Linville Falls, June, bred from eggs of Fall Canker Worm moth.

## MEGASPILUS Westwood

**M. fuscipennis** Ashm. Raleigh, August.

## SPARASION Latreille

**S. sp.** Raleigh, June, August.

Family **PLATYGASTRIDAE**

## PLATYGASTER Latreille

**P. henrici** Proctor. Winston-Salem, Salisbury, Charlotte, Greensboro, spring 1921, C. C. Hill. Parasite of Hessian fly.

**P. hiemalis** Forbes. Charlotte, Spring, 1921, C. C. Hill, parasite Hessian fly.

**P. solidaginis** Ashm. Raleigh, April, bred from galls on stem of Aster.

**P. variabilis** Fouts. Raleigh, bred from rosette galls on *Solidago canadensis* in August and September 1921. Galls were those of *Rhopalomyia capitata*.

Family **PELECINIDAE**

## PELECINUS Latreille

**P. polyturator** Drury. Wake and Pender counties west, July-September.

**P. polyturator brunneipes** Patton. Raleigh, Statesville, Black Mountain, Marion, Yonahlossee Road, June-September.

Family **CYNIPIDAE**Sub-family **IBALIAE**

## IBALIA Latreille

**I. ensiger** Nort. Raleigh, August.

**I. maculipennis** Hald. Linville Falls, June.

Sub-family **EUCOILINAE**

## SOLENASPIS Ashmead

**S. armata** Say. Raleigh, June, September.

## COTHONASPIS Hartig

**C. sp.** Laurinburg, bred from cotton squares, C. F. Rainwater.

## CHARIPS Haliday

*C. brassicae* Ashm. Raleigh, May; hyperparasite of cabbage aphid.

## Sub-family CYNIPINAE, The Gall Wasps

## NEUROTERUS Hartig

*N. minutissimus* Ashm. Pantego, May.

## DIPLOLEPIS Geoffroy

*D. carolina* Ashm. Asheville, October.

## DISHOLCASPIS Dalla Torre

*D. globulus* Fitch. Raleigh, Swannanoa, galls on oak.

## XANTHOTERAS Ashmead

*X. forticornis* Walsh. North Carolina (Beutenmuller).

## ZOPHEROTERAS Osborn

*Z. vaccinii* Ashm. Asheville (Ashmead).

## ACRASPIS Mayr

*A. erinacei* Walsh. North Carolina (Beutenmuller).

*A. pezomachoides* O. S. North Carolina (Beutenmuller).

## ANDRICUS Hartig

*A. cornigerus* O. S. Raleigh, July; Kinston, May; galls on oak.

*A. coronus* Beut. Cornelius, April, galls on water oak.

*A. decidua* Beut. Black Mountain, galls on midribs of black and red oaks.

*A. difficilis* Ashm. North Carolina (Cresson).

*A. peltatus* Wells and Metc. Raleigh, June, from galls on water oak.

*A. tubicola* O. S. Wilmington, December, galls on oak leaf.

## CALLIRHYTIS Foerster

*C. difficilis* Ashm. Wilmington, on oak twigs.

*C. punctatus* Bass. Raleigh, April, May, from galls on oak.

*C. seminator* Harr. Raleigh, May, galls on white oak.

## AMPHIBOLIPS Reinhart

*A. carolinensis* Bass. Statesville (Bassett).

*A. confluentus* Harr. Raleigh, April (Wells).

*A. cooki* Gill. North Carolina (Beutenmuller).

*A. inanis* O. S. Raleigh, July.

*A. montana* Beut. Mt. Graybeard, May.

## DIASTROPHUS Hartig

- D. bassetti** Beut. Black Mountain (Beutenmuller).  
**D. nebulosus** O. S. Raleigh, March, April, galls on blackberry vines.  
**D. radicum** Bass. North Carolina (Beutenmuller).

## AULAX Mayr

- A. leavenworthii** Bass. Raleigh, May, July; bred from stem gall on Silphium.

## AULACIDEA Ashmead

- A. bicolor** Gill. North Carolina (Beutenmuller).  
**A. tumida** Bass. Raleigh, gall on wild lettuce (*Lactuca*).

## RHODITES Hartig

- R. bicolor** Harr. Swannanoa, July.  
**R. dichlocerus** Harr. Raleigh, March, gall on wild rose.  
**R. globuloides** Beut. Swannanoa, July.  
**R. ignotus** O. S. Black Mountain, Asheville (Beutenmuller).  
**R. radicum** O. S. North Carolina (Beutenmuller).  
**R. rosae** Linn. Swannanoa, July.

## Super-family CHALCIDOIDEA

## Family CALLIMOMIDAE

## CALLIMOME Spinola

- C. solidaginis** Hbm. Tin City, October, F. S. Blanton.

## PODAGRION Spinola

- P. mantis** Ashm. Aberdeen, May, bred egg mass of *Stagmomantis carolina*.

## DITROPINOTUS Crawford

- D. aureoviridis** Cwfd. Raleigh, bred from wheat joint worm; Biscoe, July, bred from wheat straw.

## SYNTOMASPIS Foerster

- S. sp.** Raleigh, bred from galls on Aster.

## MONODONTOMERUS Westwood

- M. sp.** Barnesville, March, bred from cell of *Eumenes* wasp, found among Spanish moss.

## Family PERILAMPIDAE

## EUPERILAMPUS Walker

- E. triangularis** Say. Raleigh, August; Bryson City, June, September.

## PERILAMPUS Latreille

- P. anomocerus** Cwfd. Mt. Mitchell, Bryson City, July.  
**P. carolinensis** Smulyan. Raleigh, Southern Pines, September; Black Mountain, August, September.  
**P. chrysopae** Cwfd. Laurinburg, Fayetteville, bred from cotton squares, C. F. Rainwater.  
**P. fulvicornis** Ashm. Bryson City, J. C. Crawford.  
**P. granulatus** Cwfd. North Carolina, November (Smulyan).  
**P. hyalinus** Say. Raleigh, Swannanoa, Pineola, Yonahlossee Road, June, July, September.  
**P. platygaster** Say. Bryson City, August.  
**P. regalis** Smulyan. Swannanoa valley, June, female paratype.

## Family EUCHARIDAE

## ORASEMA Cameron

- O. violacea** Ashm. Bryson City, June.

## Family CHALCIDIDAE

## BRACHYMERIA Westwood (CHALCIS Auctt.)

- B. coloradensis** Cr. Raleigh, August.  
**B. ovata** Say. Raleigh, Rocky Mount, Aberdeen, Raeford, Barnesville, Tarboro, Wilmington, April-November; Linville Falls, Bryson City, May, August. Has been bred from early stages Oriental peach moth, cotton caterpillar, and Arctiid moth.

## LEUCOSPIS Fabricius

- L. affinis** Say. Raleigh, Greensboro, Beaufort, May-October; Bryson City, Marion, Blowing Rock, August.  
**L. texana** Cr. Bogue, Morehead, August.

## PHASGONOPHORA Westwood

- P. sulcata** Westw. Havelock, Southern Pines, May.

## SPILOCHALCIS Ashmead

- S. bradata** Sanb. Raleigh, Cary, Merry Oaks, May, August, September; Bryson City, June, September.  
**S. carolina** Ashm. Raleigh, Carolina Beach, June, September; Asheville, October.  
**S. coxalis** Cr. Raleigh, July-September.  
**S. debilis** Say. Raleigh, April.  
**S. delira** Cr. Raleigh, August; Southern Pines, March.  
**S. flavopicta** Cr. Tin City, October, F. S. Blanton.  
**S. hirtifemora** Ashm. Raleigh, September.  
**S. mariae** Riley. Raleigh, Wilmington, Tarboro, April-June, September, October; has been bred from cocoons of polyphemus moth and from bag of evergreen bagworm.  
**S. microgaster** Say. Raleigh, May.

- S. montana** Ashm. Raleigh, Lakeview, May, June, September; Asheville (type locality), October.  
**S. nortoni** Cr. Southern Pines, August (Manee).  
**S. sanguiniventris** Cr. Raleigh, June.  
**S. torvina** Cr. Raleigh, September.

**Family EURYTOMIDAE**

**HARMOLITA** Motschulsky

- H. tritici** Riley. Wheat Joint Worm. Alamance, Chatham, Lee, Forsyth, Davidson, Iredell, Mecklenburg and Ashe counties and probably all the wheat growing sections of the state.

**EVOXYSOMA** Ashmead

- E. vitis** Sanders. Grape-Seed Chalcid. Reidsville, August, bred from grape seeds.

**EURYTOMA** Illiger

- E. albipes** Ashm. Willard, October, F. S. Blanton.  
**E. bolteri** Riley. Raleigh, bred from galls of *Gnorimoschaema gallaesolidaginis*.  
**E. obtusiventris** Gahan. Raleigh, May, bred *Eurosta solidaginis*.  
**E. orchidearum** Westw. Cattleya Fly. Asheville, injuring orchids, June, 1925.  
**E. tylodermatis** Ashm. Moore county, bred from boll weevil; Lilesville, from cotton squares, C. F. Rainwater.

**Family ENCYRTIDAE**

**APHYCUS** Mayr

- A. pulvinariae** How. Raleigh, April, bred from *Pulvinaria* scales.

**BRUCHOBIUS** Ashmead

- B. mayri** Masi. Salisbury, bred from larvae *Bruchus brachialis* in vetch seed.

**COPIDOSOMA** Ratzeburg

- C. gelechia** How. Raleigh, October; bred larvae *Gnorimoschaema gallaesolidaginis*; Rocky Mount, November.  
**C. truncatellum** Dalm. Raleigh, October, November, bred larvae *Autographa brassicae*.

**PSYLLAEPHAGUS** Ashmead

- P. pachypsyllae** How. Raleigh, March, reared from Psyllid galls on hackberry (*Celtis*).  
**P. trioziphagus** How. Raleigh. Reared from Psyllid larvae, Z. P. Metcalf.

**Family EUPELMIDAE**

**ANASTATUS** Motschulsky

- A. redivii** Gahan. Raleigh, May, bred from eggs of Katydid (*Microcentrum*).



## EUPELMUS Dalman

- E. allynii** French. Winston-Salem, Spring, 1921, Hill and Myers. Parasite of Hessian Fly.  
**E. cyaniceps amicus** Gir. Richmond county, reared from cotton squares, C. F. Rainwater.

## Family PTEROMALIDAE

## APLASTOMORPHA Ashmead

- A. vandinei** Tucker. Wenona, January, February, bred from rice weevil in corn; Wilson, Kinston, Goldsboro, Rocky Mount, Winston-Salem, bred from cigarette beetles by agents of U. S. Department of Agriculture.

## MERISUS Walker

- M. destructor** Say. Winston-Salem, Spring, 1921, Hill and Myers; parasite of Hessian Fly.  
**M. subapterus** Riley. Winston-Salem, spring 1921, C. C. Hill and P. R. Myers; parasite of Hessian Fly.

## CHIROPACHYS Norton

- C. colon** Linn. Raleigh, June; a parasite of the shot-hole borer (*Scolytus rugulosus*).

## CATOLACCUS Thomas

- C. hunteri** Cwfd. Moore county, July, bred from bollworm.

## HABROCYTUS Thomas

- H. cerealellae** Ashm. Raleigh, B. B. Fulton.  
**H. thyridopterygii** How. Raleigh, January, found in cases of bagworm.

## ZATROPIS Crawford

- Z. incertus** Ashm. Monroe, bred from boll-weevil, September.

## LARIOPHAGUS Crawford

- L. distinguendus** Foerster. North Carolina, bred from *Bruchus brachialis* (Pinkney).

## HYPOPTEROMALUS Ashmead

- H. tabacum** Fitch. Raleigh, bred from cocoons of *Apanteles congregatus*.

## PACHYNEURON Walker

- P. micans** How. Raleigh, spring, 1912, bred cabbage aphid.  
**P. siphonophorae** Ashm. Sampson county, C. F. Rainwater.

## MORMONIELLA Ashmead

- M. vitripennis** Wlk. North Carolina, a parasite of blowflies.

**Family SPALANGIIDAE**

SPALANGIA Latreille

**S. drosophilae** Ashm. Bladen county, C. F. Rainwater.**Family TRIDYMIIDAE**

EUNOTUS Walker

**E. lividus** Ashm. Reared from cottony cushion scale on persimmon, Z. P. Metcalf.**Family EULOPHIDAE**

HORISMENUS Walker

**H. missouriensis** Ashm. Raleigh, January.

ASAPHES Walker

**A. americanus** Gir. Raleigh, parasite of *Diaeretus rapae*, a parasite of aphids.

PLEUROTROPIS Foerster

**P. sexdentatus** Gir. Raleigh, bred from pupae of cabbage looper.

EUPLECTRUS Geoffroy

**E. comstocki** How. Raleigh, September, bred from Noctuid larvae.**E. sp.** Linville Falls, external parasite of canker worms.

BARYSCAPUS Foerster

**B. centricola** Ashm. Asheville (Ashmead).

TETRASTICHUS Haliday

**T. carinatus** Forbes. Winston-Salem, spring, 1921, Hill and Myers, parasite of Hessian Fly.**T. chrysopae** Cwfd. Sampson, Robeson, Nash and Pitt counties, C. F. Rainwater.**Family TRICHOGRAMMIDAE**

TRICHOGRAMMA Westwood

**T. pretiosa** Riley. Elizabeth City, Terra Ceia, August, September, reared from eggs of the green clover worm moth (*Plathypena scabra*).

UFENS Girault

**U. niger** Ashm. Salisbury (Girault).**Family EVANIIDAE**

EVANIA Fabricius

**E. punctata** Brulle. Raleigh, Rocky Mount, Enfield, Wendell, Louisburg, Sanford, Winston-Salem, Salisbury, January-September; parasite in the egg capsules of cockroaches.**E. semaeoda** Bradley. Raleigh, May-July.

## HYPTIA Illiger

- H. barpyoides** Bradley. Raleigh, Windsor, June, July.  
**H. reticulata** Say. Raleigh, Southern Pines, May, June.  
**H. thoracica** Bl. Fayetteville, Oriental, June, July.

Super-family **FORMICOIDEA, The Ants**

Some authorities place this group as a family in the Vespoidea on genetic grounds, but it seems to us that at the present day the ants are sufficiently differentiated to be considered a super-family.

Our list in this group is possible through the efforts of Dr. M. R. Smith, now with the National Museum, but formerly with this division. Dr. Smith has also determined many species of ants for us since then and has looked over the MSS of the group to help insure its accuracy.

Family **FORMICIDAE**Sub-family **PONERINAE**

## STIGMATOMMA Roger

- S. pallipes** (Hald.). Black Mountain (Wheeler).

## PONERA Latreille

- P. coarctata pennsylvanica** Buck. Raleigh, March; Black Mountain, Craggy Mountains, Bat Cave, (Wheeler); New Bern, February.  
**P. trigona** var **opacior** Forel. Bessemer City, Hot Springs (Vanderford and Smith).

## EUPONERA Forel

- E. solitaria** F. Smith. Wilmington, New Bern, Washington, Elizabeth City, summer of 1912 (Vanderford and Smith).

Sub-family **DORYLINAE**

## ECITON Latreille

Sub-genus **ACAMATUS** Emery

- E. carolinense** Em. Belmont, Faison (Wheeler); Jacksonville, March; type locality is North Carolina.  
**E. opacithorax** Em. Belmont (Wheeler), Charlotte, Jacksonville.  
**E. schmitti** Em. Bat Cave, Henderson county (Wheeler), Wilmington, summer 1912, (Vanderford and Smith).

Sub-family **PSEUDOMYRMINAE**

## PSEUDOMYRMA Latreille

- P. brunnea** F. Smith. Fairbluff, November, in Spanish moss.

## Sub-family MYRMICINAE

## MYRMECINA Fabricius

**M. graminicola americana** Em. Raleigh.

## MONOMORIUM Mayr

**M. minimum** (Buck.). Rutherford and Burke counties east; also Cherokee and Clay.

**M. pharaonis** (Linn.). Haywood and Polk counties east. An introduced species.

## SOLENOPSIS Westwood

**S. molesta** (Say). New Bern, Lake Waccamaw, Wadesboro, Wingate, Monroe, Gastonia, Asheville, Sylva. (All but first two localities are Vanderford and Smith).

**S. pergandei** Forel. Faison (Wheeler).

**S. texana carolinensis** Forel. Faison (Wheeler); Black Mountain (Beutenmuller).

**S. texana truncorum** Forel. Faison (Wheeler).

## PHEIDOLE Westwood

## Sub-genus PHEIDOLE Westwood

**P. anastasioi** Em. Winston-Salem.

**P. crassicornis** Em. Charlotte (type locality); Faison, Morganton, Belmont (Wheeler).

**P. dentata** Mayr. Faison, Goldsboro (Wheeler); Raleigh, Aberdeen, Maxton, Selma, Henrietta.

**P. dentata** var. **faisonica** Forel. Faison (type locality).

**P. metallescens splendidula** Wh. Hot Springs (Vanderford and Smith).

**P. morrisoni** Forel. Faison, Goldsboro, Morganton (Wheeler); Aberdeen, Jacksonville, Chadburn.

**P. morrisoni** var. **vanceae** Forel. Black Mountain (Wheeler); Raleigh, New Bern.

**P. pilifera** var. **stimulans** Wh. Hot Springs (Vanderford and Smith).

**P. tysoni** Forel. Tyson's farm, foot of Mt. Mitchell (type locality); north fork of Swannanoa River; Bat Cave (Wheeler); Raleigh.

**P. vinelandica** Forel. Faison, Morganton, Goldsboro, foot of Mt. Mitchell, Bat Cave, Belmont (Wheeler); Cramerton, Henrietta Mills, Murphy, Almond (Swain county), Lincolnton, Wadesboro, Laurinburg, Bolivia (Vanderford and Smith).

## CREMATOGASTER Lund

**C. ashmeadi** Mayr. Columbus, Monroe, 1932 (Vanderford and Smith).

**C. atkinsoni** Wh. Broad Creek in Hyde county (Wheeler).

**C. atkinsoni** var. **helvola** Wh. Belmont.

**C. laeviuscula** Mayr. North Carolina (Wheeler); Gastonia, 1932 (Vanderford and Smith).

**C. laeviuscula** var. **clara** Mayr. Onslow county; Ellenboro, Rockingham (V. and S.).

- C. lineolata* Say. Durham to Southern Pines and east; also Swannanoa.  
*C. lineolata* var. *cerasi* Fitch (near). Newton (Vanderford and Smith).  
*C. lineolata* var. *lutescens* Em. Raleigh.

## STENAMMA Westwood

- S. brevicorne* (Mayr). North fork Swannanoa river (Wheeler).

## APHAENOGASTER Mayr

## Sub-genus ATTOMYRMA Emery

- A. fulva* Roger. Panther Gap, Mt. Graybeard, north fork Swannanoa (Wheeler); Murphy, Andrews, Asheville, Cherryville, Raleigh, Jacksonville.  
*A. fulva aquia* (Buck). North Carolina (Wheeler).  
*A. fulva aquia picea* Em. Blue Ridge near Black Mountain (Wheeler).  
*A. fulva aquia rudis* Em. North Carolina (Wheeler), one of the type localities.  
*A. mariae* Forel. Raleigh, Jacksonville.  
*A. lamellidens* Mayr. Raleigh, Littleton, Statesville, Hickory, Black Mountain.  
*A. lamellidens* var. *nigripes* M. R. Smith, North Carolina (Wheeler); Murphy (V. and S.).  
*A. texana* var. *carolinensis* Wh. Tryon (type locality).  
*A. tennesseensis* Mayr. Black Mountain (Wheeler).  
*A. treatae* Forel. Faison, Morganton, Black Mountain, north fork Swannanoa (Wheeler); Littleton, Raleigh.

## POGONOMYRMEX Mayr

## Sub-genus POGONOMYRMEX Mayr

- P. badius* (Latr.). Florida Harvester Ant. Craven county to Harnett and Richmond, east and south.

## MYRMICA Latreille

## Sub-genus MYRMICA Latreille

- M. punctiventris* Rog. North Carolina (Wheeler).  
*M. rubra brevinodis* Em. Black Mountain (Wheeler).  
*M. rubra scabrinodis* Eyl. Mt. Mitchell; Canton (Vanderford and Smith).

## LEPTOTHORAX Mayr

## Sub-genus DICHOTHORAX Emery

- L. floridanus* Em. Faison (Wheeler).  
*L. pergandei* Em. Morganton (Wheeler).

## Sub-genus LEPTOTHORAX Mayr

- L. curvispinosus* Mayr. Belmont (Wheeler).

## TETRAMORIUM Mayr

- T. caespitum** Linn. Lawn Ant. New Bern (Vanderford and Smith).  
**T. guincense** (Fab). Raleigh, Hamlet, Whiteville, Castle Hayne, an introduced species.

## CYPHOMYRMEX Mayr

## Sub-genus TRACHYMYRMEX Forel

- C. septentrionalis** (McC). Northern Leaf-Cutting or Fungus-Growing Ant. Black Mountain, Raleigh, Fayetteville, Southern Pines, Hamlet, Southport, Wilmington.

## STRUMIGENYS F. Smith

- S. louisianae** Roger: Laurinburg, 1932 (Vanderford and Smith), Rocky Mount (Creighton).

## Sub-family DOLICHODERINAE

## DOLICHODERUS Lund

## Sub-genus HYPOCLINEA Mayr

- D. mariae** Forel. Panther Gap (Wheeler).  
**D. plagiatus pustulatus** Mayr. Southern Pines, nesting in pitchers of *Sarracenia flava*.  
**D. plagiatus pustulatus beutenmulleri** Wh. Black Mountain (Wheeler).

## DORYMYRMEX Mayr

- D. pyramicus** (Rog.). Statesville, Jacksonville, Charlotte, Morven, Hamlet, Maxton, New Bern.  
**D. pyramicus** var. **flavus** McC. Jacksonville, Wilmington, Fayetteville, Kingsboro.  
**D. pyramicus** var. **niger** Perg. Faison (Wheeler).

## TAPINOMA Foerster

- T. sessile** (Say). Raleigh, Swannanoa Valley, Cramerton, Shelby, Asheville, Canton, Robbinsville, Mars Hill, Charlotte, Monroe, Fayetteville.

## IRIDOMYRMEX Mayr

- I. humilis** Mayr. Raleigh, Belmont, Wilmington, Goldsboro, Charlotte. The Argentine Ant was first detected in this state at Wilmington in 1915, but so far does not seem to have become a noticeable pest.

## Sub-family FORMICINAE (CAMPONOTINAE)

## BRACHYMYRMEX Mayr

## Sub-genus BRACHYMYRMEX Santschi

- B. heeri depilis** Em. North fork Swannanoa river (Wheeler).

## PRENOLEPIS Mayr

- P. imparis** (Say). Raleigh, Hickory, Statesville.  
**P. imparis** var. *testacea* Em. Raleigh, New Bern, Swannanoa valley, Breward, Burnsville.

## PARATRECHINA Motschoulsky

## Sub-genus NYLANDERIA Emery

- P. parvula** Mayr. Raleigh Black Mountain.  
**P. longicornis** Latr. Wilmington (Vanderford and Smith).  
**P. sp.** Wilmington, 1930, size of *parvula* but light colored.

## LASIUS Fabricius

## Sub-genus CTHONOLASIUS (Ruzsky)

- L. brevicornis** Em. Raleigh, Black Mountain.  
**L. umbratus mixtus aphidicola** Walsh. Raleigh, Black Mountain, Panther Gap.

## Sub-genus ACANTHOMYOPS Mayr

- L. claviger** (Roger). Raleigh, Panther Gap, Chadbourn, Robbinsville.  
**L. interjectus** Mayr. Raleigh, Chadbourn.  
**L. murphyi** Forel. Morganton (Wheeler).  
**L. latipes** Walsh. Charlotte.

## Sub-genus LASIUS Fabricius

- L. niger** var. *neoniger* Em. Catawba and Gaston counties west, also Kinston and Lake Waccamaw.  
**L. niger** var. *americanus* Em. Raleigh, Hendersonville, Statesville, New Bern, Lake Waccamaw, Black Mountain, Almond, Mars Hill, Old Fort, Lilesville, Charlotte, Monroe.

## FORMICA Linnaeus

## Sub-genus FORMICA Linnaeus

- F. truncicola integra** Nyl. Wilmington, Faison.  
**F. difficilis** Em. Black Mountain, Wilmington.  
**F. exsectoides** Forel. Black Mountain, Highlands.

## Sub-genus SERVIFORMICA Forel

- F. fusca** Linn. Lake Toxoway, Black Mountain (Wheeler).  
**F. fusca** var. *subaenescens* Em. Grandfather Mountain.  
**F. fusca** var. *subsericea* Say. Raleigh, Elizabeth City, Hickory, Jacksonville, Balsam, Black Mountain, Hendersonville, Asheville, Highlands, Bakersville, Red Springs.  
**F. lecontei** K. and D. Indian Gap, September, type material.

## Sub-genus PROFORMICA Ruzsky

- F. neogagates** Em. Blowing Rock, Graybeard Mountain.

## Sub-genus NEOFORMICA Wheeler

- F. pallide-fulva** Latr. Raleigh, Wilmington, Durham.  
**F. pallide-fulva nitidiventris** Em. Black Mountain (Wheeler).  
**F. pallide-fulva nitidiventris fuscata** Em. Black Mountain, Blowing Rock, Highlands.  
**F. pallide-fulva schaufussi** Mayr. Raleigh, Black Mountain, Ellenboro, Henrietta Mills.  
**F. pallide-fulva schaufussi** var. **dolosa** Wh. North Carolina (Wheeler).

## Sub-genus RAPTIFORMICA Forel

- F. sanguinea rubicunda** Em. Panther Gap.

## POLYERGUS Latreille

- P. rufescens lucidus** Mayr. Shining Slave-Maker. Belmont (Wheeler); Conover.

## CAMPONOTUS Mayr

## Sub-genus MYRMOTHRIX Forel

- C. abdominalis floridanus** (Buck). Wilmington.

## Sub-genus MYRMENTOMA Forel

- C. caryae** (Fitch). Raleigh, Winton, Lexington, Hot Springs, Washington, Elizabeth City.  
**C. caryae rasilis** var. **decipiens** Em. Cherryville, Belmont, Cramerton, Shelby, Ellenboro, Henrietta, Rockingham.  
 Sub-genus CAMPONOTUS Mayr-Forel  
**C. castaneus** (Latr.). Raleigh, Elizabeth City, New Bern, Clayton, Wilmington.  
**C. castaneus americanus** Mayr. Raleigh, Toxoway, Lake Waccamaw, Greybeard Mountain, Asheville.  
**C. herculeanus pennsylvanicus** (DeG). Carpenter Ant. Raleigh, Hickory, Wilmington, Lake Waccamaw, Southport, Asheville, Sylva, Highlands, Statesville, Blowing Rock, Black Mountain, Franklin, Bryson City, Burnsville. Nests in the dead trunks of trees, and sometimes damages timber in dwellings.  
**C. herculeanus pennsylvanicus ferrugineus** (Fab). Elizabeth City, Raleigh.

## Sub-genus TANARMYRMEX Ashmead

- C. socius** Roger. Southern Pines, Aberdeen; an imported species from South America now apparently distributed from North Carolina, south and west through the Gulf states.

## Sub-genus COLOBOPSIS Mayr

- C. pylartes** Wh. Washington, in dead twigs among Spanish moss.



## Super-family VESPOIDEA, The Vespid Wasps

## Family PSAMMOCHARIDAE, The Spider-hunting Wasps

## CEROPALES Latreille

- C. bipunctata** Say. Raleigh, Winston-Salem, September; Old Fort, October; Bryson City, August.
- C. bipunctata tibialis** Bks. Southern Pines (type locality) Raleigh, Greensboro, July.
- C. foxii** Roh. Raleigh, May, September.
- C. fraterna** Sm. Highlands, Linville Falls, Marion, June, September; Raleigh, Laurinburg, April, May, September, October.
- C. hatoda** Brimley. Raleigh (type locality), September.
- C. longipes** Sm. Raleigh, June.

## AGENIELLA Banks

Every species on our list is represented by one sex only. Some of the males are probably males of small species of *Priocnemis*, but in no case have we been able to correlate the two sexes.

- A. accepta** Cr. Raleigh, Kinston, June, July, August; females.
- A. adara** Brimley. Raleigh (type locality), July-September; males.
- A. aludra** Brimley. Raleigh (type locality), May, August, September; males.
- A. birkmanni** Bks. Raleigh, July, August; males.
- A. bombycina** Cr. Raleigh, Liberty, May, August, November; females.
- A. calcarata** Cr. Raleigh, April-July, September; males.
- A. julia** Brimley. Raleigh (type locality); male.
- A. longa** Cr. Raleigh, Rocky Mount, May-September; males.
- A. mintaka** Brimley. Raleigh (type locality), June; type male.
- A. subra** Brimley (type locality), two males, September.

## PSEUDAGENIA Kohl

- P. architecta** Say. Raleigh, May, July, September-November; Swannanoa, October; females.
- P. caerulea** Dahl. Fayetteville, June; female.
- P. marionae** Brimley. Raleigh (type locality), May; males.
- P. mariva** Brimley. Linville Falls (type locality); one male.
- P. mellipes mellipes** Say. Raleigh, Elizabeth City, Statesville, July-September; females. Mt. Mitchell, June; one male.
- P. mellipes adjuncta** Bks. Raleigh, May-August; both sexes.
- P. mellipes interior** Bks. Southern Pines (type locality).
- P. najacra** Brimley. Raleigh (type locality), June; Hickory, August; males.
- P. nanella** Bks. Raleigh, May, June; both sexes.
- P. nigrella** Bks. Black Mountains, May (type material).
- P. pulchripennis** Cr. Raleigh, June; female.

## PRIOCNEMIS Schiodte

- P. pulchrina** Cr. Raleigh, June-August, probably male of *nebulosus*.
- P. leiby** Brimley. Edgecombe county (type locality), Raleigh, June.
- P. nebulosus** Dahlb. Raleigh, September.
- P. agenoides** Fox. Raleigh, August-September.

- P. alienatus** Sm. Raleigh, May, June, September; Balsam, Sunburst, Linville Falls, May, September.  
**P. arcuatus** Bks. Raleigh, June.  
**P. conicus** Say. Raleigh, April, August; Sunburst, May.  
**P. directa** Bks. Raleigh, June-September.  
**P. fortis** Cr. Boone, Grandfather Mountain, Highlands, September.  
**P. fulgifrons** Cr. Raleigh, August.  
**P. germanus** Cr. Highlands, July.  
**P. gomelza** Brimley. Raleigh (type locality), April.  
**P. incitus** Bks. Raleigh, May, November.  
**P. minorata** Bks. Sunburst, May; Marion, April.  
**P. pompilus** Cr. Raleigh, Trenton, June-October.  
**P. validus** Cr. Raleigh, June, July; Wilkes county, July.

## CRYPTOCHEILUS Panzer

- C. fulvicornis** Cr. State-wide, June-October.  
**C. idoneus** Bks. Raleigh, Southern Pines (type locality), Laurel Hill, Marston, Winston-Salem, June-August, October.  
**C. maculipennis** Sm. Raleigh, July; Southern Pines, June.  
**C. magnus** Cr. Southern Pines (Manee), Judson, Wilmington, Beaufort, June-August.  
**C. unifasciatus** Say. Raleigh, Fayetteville, Elizabeth City, August, September; Bryson City, Swannanoa, Blantyre, Asheville, Wilkes county, July-September.

## PEPSIS Fabricius

- P. elegans** Lep. State-wide, June-September.

## APORINELLUS Banks

- A. fasciatus** Sm. Raleigh, Aberdeen, Marston, Carolina Beach, June, August, September.

## PLANICEPS Latreille

- P. niger** Cr. Raleigh, May-October; Swannanoa, September.

## PEDINASPIS Kohl

- P. brimleyi** Mall. Raleigh (type locality), Cary, Beaufort, Marion, Wilkes county, July-September.  
**P. legatus** Cr. Raleigh, Southern Pines, Benson, May, June, August.  
**P. magnus** Bks. Raleigh, June.  
**P. sanguineus** Sm. Raleigh, August.

## EPISYRON Schiodte

- E. biguttatus** Fab. Elizabeth City, Raleigh, Southern Pines, Aberdeen, Wadesboro, Kittrell, May-October; Swannanoa, July; Bryson City, September.  
**E. mancei** Bks. Southern Pines (type locality), Fayetteville, May; Raleigh, June, August.  
**E. posterus** Fox. Beaufort, 1909, F. Sherman; Wilmington, August.

**E. quinquenotatus** Say. Raleigh, August; Bryson City, July; Black Mountain, May, August.

**E. snowi** Vier. Raleigh, May, June, August, September; Fort Macon, May.

## ALLOCYPHONYX Ashmead

**A. maurus** Cr. Buncombe and Henderson counties east, to Wake, Pender and New Hanover, and south, June-October.

## PSAMMOCHARES Latreille (POMPILUS Fabricius)

## Sub-genus SERICOPOMPILUS Ashmead

**P. cinctipes** Cr. Raleigh, Jonesboro, Southern Pines, June.

**P. fuscipennis** Lep. Wilmington, Raleigh, Kitty Hawk, June, July.

**P. georgiana** Bks. Raleigh, Southern Pines (type material), Carolina Beach, Harkers Island, June, August, September.

## Sub-genus LOPHOPOMPILUS Radoszkovszky

**P. aethiops** Cr. Raleigh, Statesville, June-November.

**P. cleora** Bks. Raleigh, June; Elizabeth City, August.

**P. ilione** Bks. Southern Pines (type locality), May.

**P. atrox** Dahlb. State-wide, April-November.

**P. bengtssoni** Regan. Smiths Island, October.

**P. carolinus** Bks. Black Rock (type locality), Sherman; Cruso, June; Highlands, September; Boone, summer, 1935. There is an error of some sort in the name of the type locality it being apparently a slip for either Black Mountain or Blowing Rock.

## Sub-genus NOTIOCHARES Banks

**P. philadelphicus** Lep. Haywood county east, May to October; one of the commonest Psammocharids.

## Sub-genus POMPILOIDES Radoszkovszky

**P. agnema** Brimley. Raleigh, type locality, July, September.

**P. albomarginata** Bks. Raleigh, July-September; Kingsboro, June.

**P. americanus** Beauv. Raleigh, Kingsboro, June-October.

**P. cylindricus** Cr. Raleigh, May-July, September; Sunburst, June; Highlands, September.

**P. insolens** Bks. Black Mountain, Hendersonville, June.

**P. marginatus** Say. Raleigh, Wadesboro, Burgaw, Wendell, May; Highlands, September.

**P. minora** Bks. Southern Pines, July (type material).

**P. pretiosa** Bks. Hendersonville, June; Raleigh, May.

**P. rectus** Bks. Black Mountain, May (type material); Raleigh, May, September.

**P. reductus** Bks. Raleigh, Wilmington, Kingsboro, Pembroke, Marion, Oriental, July-October.

**P. semirufus** Cr. Raleigh, June, September.

## Sub-genus NANNOPOMPILUS Ashmead

**P. argenteus** Cr. Beaufort, May; Raleigh, May, July, September.

## Sub-genus PSAMMOCHARES Latreille

**P. astur** Bks. Wake and New Hanover counties west, April-October.

**P. autumnalis** Bks. Raleigh, Wilmington, May; Oriental, June.

**P. eurydice** Bks. Raleigh, September; Kinston, June.

**P. fabricii** Bks (*tropicus* Linn. preoccupied). Aberdeen, Faison, Southern Pines, Raleigh, Norlina, Wilmington, Castle Hayne, Carolina Beach, June-October.

**P. gracilicornis** Bks. Southern Pines, May (type material).

**P. marginalis** Bks. Southern Pines (type locality), Raleigh, July; Smiths island, October; Aberdeen, October.

**P. relativus** Fox. Raleigh, October; Fayetteville, June; Zebulon, September.

**P. scelestus** Cr. Kittrell, July.

## Sub-genus ANOPLIUS Lepeletier

**P. illinoensis** Rtsn. Raleigh, September, October.

**P. ithaca** Bks. Raleigh, April, May, October.

**P. tenebrosus** Cr. Swannanoa, September; Raleigh, October; Southern Pines, March.

**P. virginensis** Cr. Moncure, Raleigh, May, June, August, October; Swannanoa, May.

## Sub-genus SOPHROPOMPILUS Ashmead

**P. hyacinthinus** Cr. Tarboro, July; Swannanoa, June.

**P. ingenuus** Cr. Raleigh, Aberdeen, Lumberton, Wilmington, Wendell, Tarboro, Asheville, Swannanoa, April, May, July-October.

**P. tebeni** Brimley. Smokemont, June.

## ARACHNOPROCTONUS Ashmead

**A. ferrugineus** Say. Transylvania and McDowell counties eastward, June-September.

## BATAZONUS Ashmead

**B. interruptus** Say. Raleigh, June, July.

**B. navus** Cr. Elizabeth City, Durham, Raleigh, Pembroke, Kittrell, Merry Oaks, May-October.

## Family CHRYSIDIDAE, The Cuckoo Wasps

These small and brightly colored wasps are parasitic on solitary bees and wasps.

## OMALUS Jurine

**O. corruscans** Nort. Raleigh, May.

## NOTOZUS Foerster

- N. hyalinus** Aaron. Raleigh, September.  
**N. marginatus** Patt. Raleigh, May.  
**N. productus** Aaron. Raleigh, May.

## HOLOPYGA Dahlbom

- H. ventralis** Say. Raleigh, Overhills, McCullers, Kingsboro, Marion, May-July, September; Waynesville, July.

## HEDYCHRUM Latreille

- H. obsoletum** Say. Swannanoa, Candler, June, August; Raleigh, June, July.  
**H. violaceum** Br. Raleigh and Southern Pines eastward, June-September; Bryson City, Cruso, Sunburst, June.

## PARNOPE Fabricius

- P. chrysoprasina** Sm. Fayetteville, June; Marion, July.

## CHRYSIS Linnaeus

## Sub-genus OLOCHRYSIS Lichtenstein

- C. cobaltina** Aaron. Raleigh, April, May.  
**C. hilaris** Dahlb. Raleigh, April, May.  
**C. pacifica** Say. Raleigh, May; Aberdeen.

## Sub-genus GONOCHRYSIS Lichtenstein

- C. kansensis** Vier. Wenona, October.  
**C. perpulchra** Cr. Raleigh, Pollocksville, Tarboro, May, July, October.

## Sub-genus MONOCHRYSIS Lichtenstein

- C. discreta** Aaron. North Carolina (Aaron).

## Sub-genus TRICHRYSIS Lichtenstein

- C. tridens** Lep. (*parvula* Fab.). Buncombe county and east, April-August.

## Sub-genus TETRACHRYSIS Lichtenstein

- C. caeruleans** Fab. Hendersonville, Balsam, Mt. Mitchell, June, August, September; Raleigh, April, May.  
**C. frey-gessneri** Grib. Raleigh, May.  
**C. lauta** Cr. Laurinburg, October; Lakeview, September.  
**C. nitidula** Fab. Southern Pines, June.  
**C. montana** Aaron. Beaufort, June.  
**C. nortoni** Aaron. Linville Falls, Sunburst, May, June.  
**C. pattoni** Aaron. Raleigh, August.  
**C. peracuta** Aaron. Raleigh, October.

## Sub-genus HEXACHRYISIS Lichtenstein

- C. inaequidens* Dahlb. Raleigh, June; Wenona, September.  
*C. intricata* Br. Raleigh, Aberdeen, May.  
*C. sexdentata* Fab. Raleigh, May, September; Aberdeen, June.  
*C. smaragdula* Fab. Tarboro, June.  
*C. texana* Grib. Raleigh, June.  
*C. clara* Cr. Raleigh, Tarboro, Statesville, June, July, October.

## Family RHOPALOSOMIDAE

## RHOPALOSOMA Cresson

- R. poeyi* Cr. North Carolina (Rohwer); Raleigh, July.

## Family ANTHOBOSCIDAE

## SIEROLOMORPHA Ashmead

- S. ambigua* Ashm. Raleigh, May, June; Moyock, August; Blantyre, May.

## Family SAPYGIDAE

## EUSAPYGA Cresson

- E. carolina* Bks. Southern Pines (type locality), August.

## SAPYGA Latreille

- S. centrata* Say. Raleigh, May.

## Family TIPHIIDAE

## Sub-family TIPHIINAE

## MYZINE Latreille (ELIS Fabricius)

- M. caroliniana* Panz. Stokes and Rowan counties east to Vance and New Hanover, June-October.  
*M. interrupta* Say. State-wide, July-October.  
*M. obscura* Fab. State-wide, June-October.  
*M. quinquecincta* Fab. Raleigh, Kittrell, July.  
*M. propodealis* Roh. Aberdeen, Southern Pines, Kingsboro, August-October.  
*M. vicina* Guer. Southern Pines, August.

## TIPHIA Fabricius

- T. clypeata* Rbtsn. Raleigh, March.  
*T. confusa* Allen. North Carolina (paratype).  
*T. crassipunctata* Allen. North Carolina (type locality).  
*T. egregia* Vier. Raleigh, Windsor, Croatan, Southern Pines, May-September; Asheville, August.  
*T. hollowayi* Allen. North Carolina (Allen).

- T. illinoensis** Rbtsn. Raleigh, Bridgeton, Willard, Tarboro, June-September; Swannanoa, July.  
**T. incisurata** Mall. Southern Pines (type locality), June.  
**T. inornata** Say. Vance, Wake, Harnett and Robeson counties west, March-October.  
**T. micropunctata** Allen. North Carolina (Allen).  
**T. punctata** Rbtsn. Raleigh, Beaufort, September, October; Grandfather Mountain, September.  
**T. rugulosa** Mall. Swannanoa, September.  
**T. transversa** Say. Raleigh, Windsor, July-September; Grandfather Mountain, Bryson City, Linville, August, September.  
**T. vulgaris** Rbtsn. Raleigh, Southern Pines, April, May; Pineola, June.  
**T. waldeni** Vier. Swannanoa, September.

## PTEROMBRUS F. Smith

- P. rufiventris** Cr. Raleigh, Laurel Hill, June-September.

## Sub-family METHOCINAE

## METHOCA Latreille

- M. stygia** Say. Bryson City, June.

## Sub-family MYRMOSINAE

## MYRMOSA Latreille

- M. unicolor** Say. Raleigh, June, July; Winston-Salem, August; Blowing Rock, July.

## Family MUTILLIDAE, The Velvet Ants

## PSEUDOMETHOCA Ashmead

- P. actis** Fox. Raleigh, Southern Pines, Southport, April-June.  
**P. canadensis** Bl. Raleigh, Kingsboro, April, June, August; Black Mountain, Lake Toxoway, Bryson City, Stecoah, Swannanoa, June-August.  
**P. geryon** Fox. Raleigh, Lakeview, August-October; Marion, Swannanoa, Bryson City, August, September.  
**P. oecola** Bl. Aberdeen, June.  
**P. oculata** Bks. Raleigh, Southern Pines, March-May.  
**P. sanbornii** Cr. Raleigh, Dunbee, Tarboro, Lagrange, Zebulon, May-November; Bryson City, August, September.  
**P. simillima** Sm. Raleigh, Wilmington, April, May; Asheville, April.  
**P. vanduzei** Bradley. Raleigh, May, June.

## DASYMUTILLA Ashmead

## Sub-genus BRUESIA Ashmead

- D. bexar** Bl. Wilmington, July; Bryson City, June, September.  
**D. harmonia** Fox. Wilmington, July. Probably female of preceding.

Sub-genus *DASYMUTILLA* Ashmead

- D. alesia* Bks. Raleigh, April; Wilkes county, July.  
*D. allardi* Roh. Raleigh, Statesville, Greensboro, Oakdale, Southern Pines, Wilmington, May-September; Bryson City, September.  
*D. castor* Bl. Wilmington, July.  
*D. chatahoochei* Br. Southern Pines, June.  
*D. cypris* Bl. Wilmington, July.  
*D. hora* Mickel. Wilmington, September.  
*D. interrupta* Bks. Wilmington, September.  
*D. lepeletieri* Fox. Catawba county and eastward, June-September.  
*D. obscura* Bl. Raleigh, June, September; Bryson City, June.  
*D. occidentalis* Linn. Cow-Killer Ant. State-wide, May-September, the largest of our mutillids.  
*D. permista* Mkl. Raleigh, Kinston, Wilmington, July.  
*D. rubricosa* Mkl. McDowell county and east, June-September.  
*D. sparsa* Fox. Raleigh, Southern Pines, Tarboro, Aberdeen, Harnett county, June-September; Swannanoa, June, July.  
*D. sparsa segregata* Roh. Raleigh, Southern Pines, Durham, May, June, September, October.  
*D. vesta* Cr. State-wide, April-September.  
*D. vesta sappho* Fox. Raleigh, Southern Pines, June, July.

## TIMULLA Ashmead

- T. barbiger* Bradley. Raleigh, July, September.  
*T. compressicornis* Mickel. South Mills, September, paratype.  
*T. dubitata dubitata* Smith. Black Mountain, August.  
*T. dubitata fugitiva* Mickel. Raleigh, June, July, September.  
*T. dubitatiformis* Mickel. Raleigh, May.  
*T. ferrugata* Fab. Raleigh, Southern Pines, Wilmington, Lumberton, January, (at Wilmington), July-October.  
*T. ornatipennis* Bradley. Raleigh, Wilson, Southern Pines, Kittrell, Wilmington, Willard, April-September, mostly females.  
*T. vagans* Fab. Raleigh, Kittrell, Durham, Southern Pines, June-August; Asheville, Homestead, August.

## EPHUTA Say

- E. pauxilla* Bradley. Raleigh, May, August, September; Jefferson, September.  
*E. puteola* Bl. Raleigh, Southern Pines, July-September; Swannanoa, June, August; the only species of the genus known in the female sex.  
*E. scrupea* Say. Raleigh, July-September; Marion, August.  
*E. tegulicia* Bradley. Raleigh, May, once.

## PHOTOPSIS Blake

- P. myrmicoides* Ckll. Southern Pines, June (Bradley).  
*P. spinci* Bradley. Southern Pines, July, October (Bradley).



## SPHAEROPHTHALMA Blake

- S. pennsylvanica** Lep. Raleigh, Kingsboro, May, June.  
**S. banksi**. Bradley, Raleigh, June.  
**S. johnsoni** Vier. Southern Pines, May (Bradley).

## Family SCOLIDAE

## SCOLIA Fabricius

- S. bicincta** Say. Pasquotank, Wake and Moore counties westward, July-September.  
**S. bicincta undata** Klug. Raleigh, October; Elizabeth City, August.  
**S. dubia** Say. Hertford and New Hanover counties west, June-October.  
**S. nobilitata** Fab. State-wide, June-September.

## CAMPSOMERIS Lepeletier

## Sub-genus CAMPSOMERIS Lepeletier

- C. plumipes plumipes** Drury. State-wide, April-September.  
**C. plumipes fossulana** Fab. Anson, Wake and Gates counties east, March-October, also taken in Forsyth, Madison and Buncombe, but essentially a more southern form than the preceding which it mostly replaces in the south and east of the state.  
**C. quadrimaculata** Fab. Moore, Wake and Edgecombe counties east and south, April-September; also Bryson City and Judson, May, July.

## Sub-genus TRIELIS Saussure

- C. hermione** Bks. Southern Pines, Raleigh, Overhills, Castle Hayne, Wilmington, Lumberton, Willard, McCullers, Fayetteville, Clayton, June-October.

## Family BETHYLIDAE

## ATELEOPTERUS Foerster

- A. virginensis** Ashm. High Point, Mt. Olive, Goldsboro, Tarboro, Rocky Mount, Winston-Salem, May, July, August, found working in floors and furniture.

## PRISTOCERA Klug

- P. armifera** Say. Raleigh, Castle Hayne, Phoenix, McCullers, Tarboro, Willard, July-November; Blowing Rock, Montreat, Swannanoa, Bryson City, Marion, August, September.

## Family VESPIDAE

## Sub-family ZETHINAE

## ZETHUS Fabricius

- Z. spinipes** Say. Marion, Highlands, Dillsboro, Bryson City, July-September.  
**Z. variegatus** Sauss. Raleigh, Beaufort, Lucama, Willard, Marion, July-September.

## Sub-family EUMENINAE

## EUMENES Fabricius

**E. fraterna** Say. State-wide, April-November.

**E. verticalis** Say. Raleigh, May; Pilot Mountain, July; Candler, Cashiers, August; Morehead, September.

## PACHYMENES Saussure

**P. symmorpha** Sauss. Raleigh, Warsaw, May.

## MONOBIA Saussure

**M. quadridens** Linn. State-wide, May-October.

## ANCISTROCERUS Wesmael

**A. albophaleratus** Sauss. Blowing Rock, August.

**A. birenimaculatus** Sauss. Highlands, May; White Lake, April.

**A. campestris** Sauss. Elizabeth City, Raleigh, Winston-Salem, August-October; mountain region, May, June, August-October.

**A. capra** Sauss. Raleigh, September; mountains, May, June, August, September.

**A. fulvipes** Sauss. Raleigh, Charlotte, Wilmington, Concord, Fayetteville, May, June, August, September.

**A. quadrisectus** Say. Raleigh and Fayetteville westward, June-September.

**A. saecularis** Sauss. Raleigh, Southern Pines, Spout Springs, Wilmington, May-July, September.

**A. tigris** Sauss. Raleigh, April, May, October; mountains, March, August, September.

**A. unifasciatus** Sauss. Hendersonville, Black Mountain, June.

## SYMMORPHUS Wesmael

**S. debilis** Sauss. Raleigh, Washington, Aberdeen, April, May.

**S. albomarginatus** Sauss. Raleigh, July.

## ODYNERUS Latreille

**O. acolhuus** Sauss. Raleigh, Windsor, May-September; Bryson City, August.

**O. anormis** Say. Raleigh, Southern Pines, April, June, September, December; Marion, August.

**O. arvensis** Sauss. Raleigh, Sanford, Willard, Lakeview, May, September, October.

**O. bellulus** Cr. Raleigh, Harkers Island, Willard, June, July.

**O. bosci** Lep. Raleigh, Wilmington, Dunn, May-October.

**O. collega** Sauss. Raleigh, Marion, April, June, August, September.

**O. conformis** Sauss. Raleigh, Wilmington, Castle Hayne, May, July, August.

**O. dorsalis** Fab. Raleigh, Wenona, Lake Waccamaw, Salisbury, June-October.

**O. foraminatus** Sauss. Raleigh and Wilmington westward, April-October.

**O. fundatus** Cr. Buncombe and Henderson counties east, May-October.

- O. hidalgi** Sauss. Raleigh, Wenona, Pollocksville, Willard, June-September; Flat Rock, July.  
**O. illinoensis** Rbtsn. Raleigh, September.  
**O. kennicottianus** Sauss. Raleigh, July.  
**O. megaera** Lep. Raleigh, Elizabeth City, Greenville, McCullers, Lake Catherine, Pollocksville, April-September.  
**O. pedestris** Sauss. Raleigh, April, June, September; Swannanoa, July.  
**O. perennis** Sauss. Raleigh, Elizabeth City, April, August-October; Marion, August.  
**O. turpis** Sauss. Raleigh, Laurel Hill, Willard, Wilmington, April-July, September, October; Swannanoa, September.  
**O. vagus** Sauss. Raleigh, Elizabeth City, Wilmington, April-September; Marion, August.

## LEPTOCHILUS Saussure

- L. ornatus** Sauss. Raleigh, Wilmington, May, June, August.

## Sub-family POLISTINAE, Social Wasps

## POLISTES Latreille

- P. canadensis annularis** Fab. State-wide, whole season. Hibernating as adults; the only species of the genus in which both sexes regularly hibernate.  
**P. crinitus** Felton? Aberdeen, September.  
**P. fuscatus bellicosus** Cr. Wilmington, April.  
**P. fuscatus fuscatus** Fab. Statewide.  
**P. fuscatus metricus** Say. Laurinburg, Fayetteville, Laurel Hill.  
**P. fuscatus rubiginosus** Lep. So far only recorded from the central part of the state from Edgecombe to Iredell county.  
**P. fuscatus variatus** Cr. Apparently state-wide.  
**P. minor** Auctt. Catawba county eastward, common.  
 (Determinations in this genus by C. L. Hayward.)

## Sub-family POLYBIINAE

## MISCHOCYTTARUS Saussure

- M. cubensis** Sauss. Wilmington, two taken on castor oil plant, April 21, 1918, by M. Kisliuk.

## Sub-family VESPINAE, The Hornets and Yellow-Jackets

## VESPULA Thomson

## Sub-genus VESPULA Thomson

- V. consobrina** Sauss. Sunburst, Blowing Rock, Mt. Mitchell, Swannanoa, Shining Rock, Cruso, all in the mountains.  
**V. maculifrons** Buy. State-wide.  
**V. rufa vidua** Sauss. Mountain region from Buncombe county south, also Camden.  
**V. squamosa** Drury. State-wide.  
**V. vulgaris** Linn. Sunburst, Swannanoa, Grandfather Mountain, Montreat, Mt. Mitchell, Andrews Bald, all mountain localities.

## Sub-genus DOLICHOVESPULA

- V. adulterina arctica* Roh. Boone, Sunburst, Mt. Mitchell, Andrews Bald, Asheville, all mountain localities.  
*V. arenaria* Fab. Boone, Sunburst, Swannanoa, Highlands, Grandfather Mountain, all mountain localities.  
*V. arenaria fernaldi* Lewis, Swannanoa, May.  
*V. maculata* Kirby. Hornet. State-wide.  
*V. norwegica norvegicoides* Sladen. Mt. Mitchell, Boone.

## Super-family SPHECOIDEA

## Family DRYINIDAE

## GONATOPUS Ljungh

- G. sp.* Swannanoa, June.

## Family SPHECIDAE

## Sub-family LARRINAE

## Tribe ASTATINI

## ASTATA Latreille

- A. bicolor* Say. Raleigh, June.  
*A. unicolor* Say. Wilson and Cumberland counties west, June-October.

## Tribe LARRINI

## LARRA Latreille

- L. analis* Fab. Statewide, July-October.

## NOTOGONIDEA Rohwer

- N. argentata* Beauv. State-wide, February-October.  
*N. nigripennis* Fox. State-wide, June-October.

## LARROPSIS Patton

- L. distincta* Smith. Raleigh, September; Jefferson, September.

## TACHYTES Panzer

- T. abdominalis* Say. Raleigh, June.  
*T. aurulentus* Fab. Buncombe county eastward, July-October.  
*T. breviventris* Cr. Raleigh, September.  
*T. calcaratus* Fox. Raleigh, Aberdeen, July, September, October.  
*T. columbiae* Fox. Raleigh, Sanford, October.  
*T. crassus* Patton. Raleigh, Lakeview, Harnett county, July, September.  
*T. distinctus* Sm. Raleigh, south and east, July-October.  
*T. fulviventris* Cr. Raleigh, Carolina Beach, June, July.  
*T. harpax* Patton. Raleigh, June, September.

- T. mandibularis** Patton. Raleigh, Maysville, Goldsboro, Marion, Harnett county, June-September.  
**T. minimus** Fox. Raleigh, June.  
**T. minutus** Roh. Raleigh, Red Springs, Tarboro, May-July, September.  
**T. obscurus** Cr. State-wide, May-September.  
**T. parvus** Fox. Raleigh, July.  
**T. pepticus** Say. Raleigh, Aberdeen, Wilmington, Southern Pines, Bogue Carolina Beach, May-September; Highlands, July.  
**T. praedator** Fox. Flat Rock, Bryson City, Lake Toxoway, July.  
**T. rufofasciatus** Cr. Raleigh, Southern Pines, June.  
**T. validus** Cr. Raleigh, Sanford, September, October.  
**T. sp.** Wilmington, June. (All of the body pile golden.)

## TACHYSPHEX Kohl

- T. acutus** Patton. Fayetteville, June.  
**T. apicalis** Fox. Aberdeen, May.  
**T. fusus** Fox. Raleigh, Salisbury, May, June, August.  
**T. maneei** Bks. Raleigh, Southern Pines (type locality), Havelock, Wilmington, Hoffman, May-August.  
**T. minimus** Fox. Raleigh, June.  
**T. nigrocaudatus** Williams. Raleigh, Aberdeen, May, August.  
**T. tarsatus** Say. Raleigh, July.  
**T. terminatus** Smith. Raleigh, Wilmington, Kinston, Castle Hayne, May-September.

## Tribe DINETINI

## MISCOPHUS Jurine

- M. americanus** Fox. Raleigh, September; Swannanoa, June.

## BOTHYNOSTETHUS Kohl

- B. distinctus** Fox. Raleigh, Aberdeen, July-September.

## LYRODA Say

- L. subita** Say. Raleigh, September; Fayetteville, June.

## Sub-family TRYPOXYLONINAE

## TRYPOXYLON Latreille

- T. albopilosus** Fox. Raleigh, May, June, August, September; Elkin, June.  
**T. basale** Roh? Wilmington, June; Willard, July.  
**T. carinatum** Say. Raleigh, May, July.  
**T. clavatum** Say. State-wide, May-September.  
**T. fastigium** Fox. Durham, July.  
**T. frigidum** Sm. Raleigh, April, July.  
**T. johnsoni** Fox. Raleigh, June, August, September.  
**T. politum** Say. Buncombe county east, March, May-September.  
**T. rubrocinctum** Pkd. Tarboro, July; Hendersonville, Bryson City, June, July.  
**T. tridentatum** Pkd. Raleigh, Dunn, May.

## Sub-family SPHECINAE

## CHLORION Latreille

## Sub-genus CHLORION Latreille

*C. cyaneum* Dahlb. Fayetteville, June; Greenville, July.

## Sub-genus PALMODES Kohl

*C. abdominalis* Cr. Raleigh, Wilmington, Carolina Beach, June, August, September; Boone.

## Sub-genus PRIONONYX Dahlbom

*C. atratum* Lep. Raleigh, May, June; Wrightsville, September; Highlands, September.

*C. pubidorsum* A. Costa (*bifoveolatum* Tasch.). State-wide, May-October.

## Sub-genus ISODONTIA Patton

*C. auripes* Fern. Raleigh, Elizabeth City, Goldsboro, Beaufort, June-October.

*C. aztecum* Sauss. Buncombe county eastward, May-October.

*C. aztecum cinereum* Fern. Raleigh, June.

*C. exornatum* Fern. North Carolina (Fernald).

*C. harrisi* Fern. Raleigh and Southern Pines westward, May-October.

## Sub-genus AMMOBIA Billberg

*C. habenum* Say. Raleigh, Wilmington, Lumberton, July-October.

*C. ichneumoneum* Linn. State-wide, June-October.

*C. nudum* Fern. Bogue, McCullers, Elizabeth City, Wilmington, July, August; Bushnell, August.

*C. pennsylvanicum* Linn. State-wide, July-September.

*C. opacum flavitarsis* Fern. Raleigh, Havelock, Wilmington, July-September; Marion, Swannanoa, July, September.

## PODIUM Fabricius

*P. carolina* Roh. Tryon (type locality), June.

## SPHEX Linnaeus (AMMOPHILA Kirby)

## Sub-genus SPHEX Linnaeus

*S. arvensis* Dahlb. Mt. Mitchell, August.

*S. aureonotata* Cam. (*abbreviata* Fab.). State-wide, June-October.

*S. nigricans* Dahlb. State-wide, April-October.

*S. placidus* Sm. State-wide, May-October.

*S. procera* Klug. Wake and Robeson counties west, May-October.

*S. urnaria* Dahlb. State-wide, April-November.

## Sub-genus PODALONIA Spinola

- S. luctuosus* Sm. North Carolina (Cresson).  
*S. violaceipennis* Lep. Grimesland, Southern Pines, April, May, Franklin, September.

## SCELIPHRON Klug

## Sub-genus SCELIPHRON Klug

- S. cementarium* Dru. Black and Yellow Dirt-Dauber. State-wide, May-October.

## Sub-genus CHALYBION Dahlbom, Blue Dirt-Daubers

- S. cyaneum* Fab. State-wide, April-October. Uses the nests of the preceding and does not build any itself.  
*S. zimmermani* Dahlb. Elkin, June.

## Sub-family PSENINAE

## Tribe PSENINI

## DIODONTUS Curtis

- D. sulcatus* Mall. Highlands, July.  
*D. trisulcus* Fox. Raleigh, June, September.

## PSEN Latreille

- P. carolina* Roh. Raleigh, Eagle Rock, Statesville, Elizabeth City, Tarboro, Wenona, May, July-September.  
*P. kohlii* Fox. Raleigh, June-August.  
*P. simplicicornis* Fox. Raleigh, June, July.  
*P. monticola* Pkd. Raleigh, June, July.  
*P. longicornis* Fox. Raleigh, May, June.  
*P. niger* Pkd. Raleigh, Wenona, Aberdeen, April-June.  
*P. cressoni* Pkd. Raleigh, September, October; Hertford county, June.  
*P. maculipes* Fox. Raleigh, May; Pineola, August.

## PSENIA Malloch

- P. littoralis* Mall. Raleigh, June, September.  
*P. tibialis* Cr. Raleigh, August.  
*P. marginata* Mall. Raleigh, June-September.

## Tribe PEMPHREDONINI

## PASSALOECUS Shuckard

- P. annulatus* Say. Raleigh, Aberdeen, June.  
*P. mandibularis* Cr. Pineola, Grandfather Mountain, June, July.

## PEMPHREDON Latreille

- P. angularis* Fox. Raleigh, May.  
*P. concolor* Say. Swannanoa, May.  
*P. inornatus* Say. Raleigh, Tarboro, April, July; Bryson City, August.

## STIGMUS Panzer

- S. fraternus* Say. Bryson City, April.  
*S. fulvipes* Fox. Raleigh, September.

## Sub-family BEMBECINAE

## Tribe NYSSONINI

## ALYSON Jurine

- A. melleus* Say. Raleigh, Tarboro, Lake Waccamaw, July-September; Bryson City, June.  
*A. oppositus* Say. Raleigh, July, September; Swannanoa, September.  
*A. radiatus* Fox. Raleigh, August; Shining Rock, June.  
*A. triangulifer* Prov. Hendersonville, June.

## DIDINEIS Wesmael

- D. texana* Cr. Raleigh, September; Swannanoa, August.

## CERATOSTIZUS Rohwer

- C. moneduloides* Pkd. Raleigh, Aberdeen, Brunswick county, Carolina Beach, June, July.

## GORYTES Latreille

- G. albosignatus* Fox? Marston, June.  
*G. simillimus* Sm. Raleigh, Benson, May.  
*G. denticulatus* Pkd. Raleigh, Tarboro, July, August.  
*G. nebulosus* Pkd. Raleigh, Havelock, Kingsboro, June, July, September.  
*G. bipartitus* Sm. Raleigh, Kingsboro, June, August, September.  
*G. bipartitus* Sm. var. Raleigh, LaGrange, July, August.  
*G. floridanus* Fox. Raleigh, June.  
*G. phaleratus* Say. Raleigh, Washington, Elizabeth City, May-August; Bryson City, Marion, July, August.  
*G. venustus* Cr. Raleigh, June, July.

## ARPACTUS Jurine

- A. nigrifrons* Sm. Raleigh, August.

## PARAMELLINUS Ashmead

- P. bipunctatus* Say. Raleigh, Aberdeen, Edgecombe county, May-July; Highlands, Mars Hill, July.



## NYSSON Latreille

- N. aequalis* Patton. Raleigh, Laurinburg, Tarboro, July, August, October.  
*N. basilaris* Cr. Windsor, July.  
*N. opulentus* Gerst. Raleigh, July.  
*N. submellipes* Vier. Raleigh, Wilmington, Aberdeen, July, August.

## ZANYSSON Rohwer

- Z. plesia* Roh. Raleigh, Aberdeen, July, August; Bryson City, August.

## SPHECIUS Dahlbom

- S. speciosus* Drury. King Hornet, Cicada Wasp, Cicada Killer. State-wide, June-September. The largest of our wasps.

## Tribe PHILANTHINI

## PHILANTHUS Fabricius

- P. bilunatus* Cr. Highlands, Linville, July, August.  
*P. carolinensis* Bks. Southern Pines (type locality), Harnett county, September.  
*P. carolinensis reductus* Bks. State-wide, September, October.  
*P. politus* Say. Harnett county, Aberdeen, Fairmont, Laurel Hill, Overhills, May, June, September; Hendersonville, Bryson City, Swannanoa, Biltmore, Cruso, June, July, September.  
*P. gibbosus* Fab. State-wide, May-October.  
*P. sanborni* Cr. Wilmington, June; Cruso, Smokemont, June, July.  
*P. vertilabris* Fab. Raleigh to Anson county east and south, June-October.

## Tribe CERCERINI

## CERCERIS Latreille

- C. alaope* Bks. Raleigh, May, September.  
*C. atramontensis* Bks. Valley of Black Mountain (type locality); Elizabeth City, August.  
*C. blakei* Cr. Laurel Hill, Southern Pines, McCullers, June, July, September.  
*C. catawba* Bks. Southern Pines (type locality), June; Swannanoa, July.  
*C. clymene* Bks. Raleigh, June.  
*C. clypeata* Dahlb. State-wide, May-October.  
*C. compacta* Cr. Salisbury eastward, May-September.  
*C. compar* Cr. Lumberton, Hoffman, May, June; Swannanoa, Judson, Flat Rock, Hendersonville, Cruso, June-August.  
*C. crawfordi* Brimley. Raleigh, June; Cruso, June.  
*C. dentifrons* Cr. Blowing Rock, August.  
*C. deserta* Say. Boone, August; Swannanoa, September.  
*C. fasciola* Cr. Harnett county, May.  
*C. finitima* Cr. Wake and Moore counties east, June-September; Flat Rock, Bryson City, June, July.  
*C. finitima nigroris* Bks. Raleigh, June-August.  
*C. fulvipediculata* Schlett. Swannanoa, September.  
*C. fumipennis* Say. Statewide, May-October.

- C. gnara* Cr. Raleigh, August.  
*C. imitatoria* Schlett. Raleigh, Fayetteville, May, June, September; Bryson City, July; Highlands, September.  
*C. insolita* Cr. Raleigh, Kingsboro, Overhills, May, July-September; Marion, Cruso, June, August.  
*C. jucunda carolina* Bks. Southern Pines (type locality); Raleigh, Willard, June, July.  
*C. kennicotti* Cr. Raleigh, Beaufort, June-September; Bryson City, June.  
*C. mandibularis* Patton. Mars Hill, July.  
*C. natalenus* Brimley. Willard, LaGrange, Laurel Hill, Bostic (type localities), June-August.  
*C. nigrescens* F. Smith. Southern Pines, Manee.  
*C. nitida* Bks. Valley of Black Mountain (type locality), July.  
*C. pleuralis* H. Smith. Kitty Hawk, July.  
*C. prominens* Bks. Raleigh, Wadesboro, August-October; Marion, August.  
*C. robertsoni* Fox. Raleigh, Southern Pines, Pungo Lake, May-July; Bryson City, June.  
*C. rufinoda* Cr. Raleigh, Laurel Hill, June-September.  
*C. serripes* Fab. (*bicornuta* Guerin, *venator* Cr.). Raleigh and Southern Pines east, June-October; Bryson City, July.  
*C. shermani* Brimley. Raleigh, Laurinburg, Lakeview, September, October; Marion, August.  
*C. zelica* Bks. Raleigh, July.  
*C. zobeide* Brimley. Raleigh, July.  
*C. zosma* Brimley. Raleigh, May.

(Besides these there are several undetermined and apparently undescribed species in our collections.)

Tribe BEMBECINI

MEGASTIZUS Patton

- M. brevipennis* Walsh. Goldsboro, July 28, 1921, T. B. Mitchell.

STIZUS Latreille

- S. nanus* Hdl. Raleigh, Aberdeen, Croatan, Tarboro, Willard, Wilmington, Wendell, Rocky Mount, May-July.  
*S. uncinatus* Say. Raleigh, September 19, 1900, F. Sherman.

BEMBEX Fabricius

- B. belfragei* Cr. Fayetteville, Southern Pines, June.  
*B. pruinosa* Fox. Beaufort, June.  
*B. simulans* Fox. Wrightsville, Wilmington, Carolina Beach, June, September.  
*B. spinolae* Lep. Edgecombe and Cumberland counties westward, June-October.  
*B. texana* Cr. Raleigh to Laurel Hill, south and east, June-August.

BICYRTES Lepeletier

- B. capnoptera* Hdl. Bogue, Beaufort, Southern Pines, June, August.  
*B. fodiens* Hdl. Raleigh, Willard, June, July.

- B. quadrifasciata** Say. State-wide, June-October.  
**B. ventralis** Say. Wake and New Hanover counties westward, May-November.

## MICROBEMBEX Patton

- M. monodonta** Say. Coastwise from Kitty Hawk to Fort Fisher, June-September; also Lake Waccamaw, August; Marion, July.

## STICTIA Illiger

- S. carolina** Fab. Horse Guard. Guilford and Moore counties, east and south, June-October. Preys on horse flies picking them off horses and cattle, whence its common name.

## STICTIELLA Parker

- S. pictifrons** Sm. Raleigh and westward, May-August.  
**S. serrata** Hdl. Aberdeen, Laurel Hill, White Lake, Carolina Beach, May-June.

## Sub-family CRABRONINAE

## Tribe CRABRONINI

## CRABRO Fabricius

## Sub-genus CRABRO Fabricius

- C. bigeminus** Patt. Marion, August.  
**C. brunneipes** Pkd. Mt. Mitchell, August.  
**C. chrysarginus** Pkd. Raleigh, Sanford, April, June-October; Blowing Rock, Bryson City, Cruso, Black Mountain, June-August.  
**C. decemmaculatus** Say. Raleigh, Terra Ceia, Elizabeth City, Aberdeen, Overhills, Tarboro, June-October; Swannanoa, July-September.  
**C. dilectus** Cr. Flat Rock, July.  
**C. nigrifrons** Sm. Sunburst, June.  
**C. sayi** Ckll. Blowing Rock, Dillsboro, August, September.  
**C. singularis** Sm. Raleigh, Southern Pines, June.  
**C. stirpicolus** Pkd. Raleigh, June-August.  
**C. texanus** Cr. Raleigh, May-September.

## Sub-genus CERATOCOLUS Lepeletier

- C. interruptus** Lep. Raleigh, Havelock, Greensboro, May-September; Marion, Biltmore, Waynesville, Swannanoa, August, September.  
**C. producticollis** Pkd. Mt. Mitchell, Cruso, June, August.

## Sub-genus THYREOPUS Lepeletier

- C. cingulatus** Pkd. Laurel Hill, June.  
**C. hilaris** Sm. Raleigh, Aberdeen, June, September.  
**C. incertus** Fox. Gibson, October.  
**C. tumidus** Pkd. Raleigh, Reidsville, September.

## Sub-genus CROSSOCERUS Lepeletier

- C. carolina* Bks. Black Mountain, north fork of Swannanoa river (type locality of *Rhopalum carolina* Bks.), May.  
*C. cinctipes* Prov. Raleigh, September.  
*C. cognatus* Cr. Fort Macon, May.  
*C. errans* Fox. Moncure, May.  
*C. impressifrons* Sm. Raleigh, Edgecombe county, March, June.  
*C. maculiclypeus* Fox. Raleigh, May.  
*C. latifrons* Fox. Bryson City, September.  
*C. minimus* Pkd. Aberdeen, May.  
*C. nigricornis* Prov. Blowing Rock, July.  
*C. nitidiventris* Fox. Raleigh, C. H. Bostian, no date.  
*C. pedicellatum* Pkd. Raleigh, June.  
*C. rufigaster* Pkd. Raleigh, May.

## ENTOMOGNATHUS Dahlbom

- E. sp.* Bryson City, August.

## ANACRABRO Packard

- A. ocellatus* Pkd. Raleigh, Cedar Grove, Bogue, McCullers, June-September; Marion, Highlands, Hendersonville, Black Mountain, June, July.

## Tribe OXYBELINI

## OXYBELUS Latreille

- O. carolina* Bks. Southern Pines (type locality), May.  
*O. laetus* Say. Raleigh, August.  
*O. major* Mkl. Cruso, June.  
*O. packardii* Rbtsn. Raleigh, June-September.  
*O. quadrimaculatus* Say. Charlotte, April.  
*O. subulatus* Rbtsn. Aberdeen, May; Bryson City, June.

## NOTOGLOSSA Dahlbom

- N. americana* Rbtsn. Raleigh, Fairmont, Aberdeen, Bogue, May, August; Bryson City, June.  
*N. emarginata* Say. Raleigh, September; Judson, July; Bryson City, June.  
*N. frontalis* Rbtsn. Raleigh, June, August.

## Super-family APOIDEA, The Bees

Nowadays often merged with the Sphecoidea, but their food habits as a whole are different and I prefer to keep them separate.

The division into families is that used by Mr. J. A. Crawford and Dr. T. B. Mitchell when they were in this Division and worked on the group, and it is to these two gentlemen we owe the fine list of bees which follows:

## Family HYLAEIDAE

## HYLAEUS Jurine

- H. cressoni** Ckll. Raleigh, Aberdeen, April-September; on flowers of *Ceanothus*, *Chrysogonum*, *Pentstemon*, *Rubus* and *Solidago*.  
**H. modestus** Say. Raleigh, July; Yonahlossee Road, May.  
**H. nelumbonis** Rob. Raleigh, Goldsboro, Wilmington, April, June, July, on *Cephalanthus*.  
**H. saniculae** Rob. Black Mountain, July.  
**H. sayi** Rob. Raleigh, May-July; Highlands, July, on *Ceanothus*, *Gerardia* and *Pycnanthemum*.  
**H. telepora** Lov. Southern Pines, type locality, May.  
**H. triangularis** Ckll. Bryson City, June, on *Erigeron annuus*; Havelock, May; Kellum, August.  
**H. varifrons** Cr. Mt. Mitchell, 6,000 feet, August.  
**H. ziziae** Rob. Statewide, May-September, on *Senecio*, *Rubus* and *Fragaria*.

## Family COLLETIDAE

## COLLETES Latreille

- C. aestivalis** Pat. Bryson City, June, on *Heuchera americana*.  
**C. americanus** Cr. Raleigh to Wadesboro and west, in autumn, on *Aster*, *Helenium*, and *Solidago*.  
**C. armatus** Pat. Raleigh to Councils and west, September, October; on *Aster* and *Solidago*.  
**C. brevicornis** Rob. Raleigh, May; Bryson City, May, June, on *Ceanothus* and *Specularia*.  
**C. compactus** Cr. Raleigh Bryson City, September, October, on *Aster*, *Helenium*, *Solidago*.  
**C. eulophi** Rob. Bryson City, June, on *Ceanothus*.  
**C. howardi** Swk. Southern Pines, type locality, September, on *Petalostemum corymbosum*.  
**C. inaequalis** Say. Raleigh, and Onslow county, March, April; Bryson City, March; on *Cercis* and *Prunus*.  
**C. latitarsis** Rob. Elizabeth City, Bryson City, August, on *Physalis*.  
**C. nudus** Rob. Raleigh, May, June, August.  
**C. productus** Rob. Raleigh, May; Black Mountain, May, June, on *Xolisma ligustrina*; Bryson City, July, on *Rhus glabra*.  
**C. solidaginis** Swk. Elizabeth City, August; Bryson City, July.  
**C. thoracicus** Sm. Raleigh to Lake Waccamaw and eastward; a spring species taken on *Salix*, *Rubus* and *Sassafras*.

## CAUPOLICANA Spinola

- C. electa** Cr. Southern Pines, September. According to Rev. A. H. Manee occurs on the flowers of *Gerardia*.

## Family ANDRENIDAE

## TRACHANDRENA Robertson

- T. alleghaniensis** Vier. Bryson City, April; Swannanoa, May.  
**T. ceanothi** Vier. Bryson City, Black Mountain, May, on *Ceanothus* and *Amorpha*.

- T. crataegi* Rob. Hendersonville, Swannanoa, Marion, June, July, on Daucus; Black Mountain, Bryson City, June, on Ceanothus.
- T. heraclei* Rob. Black Mountain, May.
- T. imitatrix claytoniae* Rob. Raleigh, Southern Pines, Southport, on Prunus, and Pyrus, March, April; Bryson City, May, on Ilex.
- T. imitatrix profunda* Vier. North Carolina, paratype.
- T. imitatrix texana* Cr. Southport, Charlotte, Washington, April; Black Mountain, March.
- T. mariae* Rob. Raleigh, March, on willow.
- T. miranda* Smith. Raleigh, Tarboro, March, April, on willow.
- T. morrisonella* Vier. Black Mountain, May, on Amorpha; Bryson City, May on Ilex.
- T. nuda* Rob. Raleigh, March, April; Swannanoa, May.
- T. rehni* Vier. Black Mountain, June, probably the chief pollinator of chinquapins.
- T. weedi* Vier. Raleigh, March, May, on willow, plum, blackberry, Zizia, and Viburnum.

## DOLICHOCHILE Viereck

- D. melittoides* Vier. Black Mountain, June, on Xolisma ligustrina, oligotropic.

## MELITTA Kirby

- M. americana* Sm. Black Mountain, May, June, oligotropic on Polycodium stamineum; Tarboro, May.

## ANDRENA Fabricius

- A. aliciae* Rob. Cherokee, August; Swannanoa, October; Bryson City, August, on various composites.
- A. andrenoides* Cr. Raleigh, March-May; Wharton, April.
- A. asteris* Rob. Raleigh, October; Bryson City, September.
- A. belfragei* Cr. Raleigh, Burgaw, Washington, March, April, polytropic.
- A. beutenmuelleri* Vier. Black Mountain (type locality).
- A. bisalicis* Vier. Raleigh, Burgaw, Charlotte, Statesville, March, April; Bryson City, March.
- A. bradleyi* Vier. Raleigh, Willard, March, April, on Vaccinium.
- A. brunneiventris* Cr. Raleigh, April.
- A. carlini* Ckll. Raleigh, March, April; Swannanoa, May.
- A. carolina* Vier. North Carolina (type locality); Black Mountain, May, on Polycodium stamineum.
- A. ceanothana* Mall. Black Mountain, May, June, on Ceanothus and Amorpha.
- A. commoda* Sm. Marion, July, one specimen only.
- A. confederata* Vier. Raleigh, Aberdeen, Bryson City, May.
- A. cornelli* Vier. Swannanoa, Marion, Highlands, Andrews Bald, Black Mountain, May-July, on azalea. Undoubtedly the female of *A. tridens* Rob. (J. C. Crawford).
- A. cressoni* Rob. Statewide, March-May in east, May-June in mountains.
- A. dubia* Rob. Raleigh, Aberdeen, March, April.
- A. erigonae* Rob. Raleigh, April, on Claytonia.
- A. erythrogaster subaustralis* Ckll. Raleigh, Southern Pines, Charlotte, Washington, March, April.

- A. forbesi* Rob. Raleigh, May on willow.  
*A. fragariana* Graen. Bryson City, April.  
*A. fragilis* Sm. Raleigh, May, June; Swannanoa, Black Mountain, Bryson City, June; on elder and dogwood.  
*A. fulvipennis* Sm. Tarboro, Southern Pines, October; Swannanoa, October.  
*A. gardineri* Ckll. Bryson City, Raleigh, May, on golden groundsel.  
*A. hilaris* Sm. Statewide, in east, March-May, in mountains, March-June.  
*A. hirticincta* Cr. Mt. Mitchell, Swannanoa, Bryson City, Black Mountain, September.  
*A. integra* Sm. Cullasaja, May, on dogwood.  
*A. krigiana* Rob. Raleigh, Lake Waccamaw, April, May; Swannanoa, June.  
*A. macoupinensis* Rob. Raleigh, March, April.  
*A. mandibularis* Rob. Bryson City, March.  
*A. miserabilis* Cr. Raleigh, Greensboro, March; Bryson City, March.  
*A. miserabilis flavoclypeata* Sm. Raleigh, Willard, March, April.  
*A. nasonii* Rob. Raleigh, Dunn, Bryson City, April, May.  
*A. nasonii fulvodorsata* Vier. Bryson City, April.  
*A. nubecula* Sm. Raleigh, September; Grandfather Mountain, Montreat, Highlands, Bryson City, Black Mountain, September, October, on composites.  
*A. peckhami* Ckll. Highlands, August.  
*A. perplexa* Sm. Statewide, March, April, in east, May, June, in west.  
*A. personata* Rob. Bryson City, April.  
*A. pruni* Rob. Raleigh, Washington, Aberdeen, Oxford, March, April; Swannanoa, May.  
*A. robertsoni* DT. Raleigh, June; Bryson City, July.  
*A. salictaria* Rob. Raleigh, Charlotte, March, April; Bryson City, April.  
*A. solidaginis* Rob. Raleigh, September, October; Bryson City, September, October.  
*A. tridens* Rob. Andrews Bald, July; Black Mountain, June.  
*A. vicina* Sm. Swannanoa, May.  
*A. ziziae* Rob. Charlotte, May; Black Mountain, June, on Zizia.

## IOMELISSA Robertson

- I. violae* Rob. Raleigh, March, April, on Viola.

## Family PANURGIDAE

## CALLIOPSIS Smith

- C. andreniformis* Sm. Raleigh, Sanford, May, June, on *Trifolium repens*, *Ceanothus*, *Lespedeza* and *Gerardia*.

## PANURGINUS Nylander

- P. atramontensis* Cwfd. Swannanoa, type locality, June; Black Mountain, May, June; on *Polycodium stamineum*, and occasionally on *Gaylussacia dumosa*.  
*P. potentillae* Cwfd. Raleigh, Bryson City, April, May, on *Potentilla*.

## PSEUDOPANURGUS Robertson

- P. asteris** Rbtsn. Blowing Rock, September 10, 1912; September 10, 1908.  
Z. P. Metcalf.
- P. albitarsis** Cr. Bryson City, Swannanoa, Black Mountain, July, on  
Coreopsis.
- P. compositarum** Rob. Raleigh, Greensboro, September-November; Black  
Mountain, Blowing Rock, Grandfather Mountain, September, on  
Aster ericoides.
- P. gerardiae** Cwfd. Bryson City, August, on Gerardia tenuifolia.
- P. labrosiformis** Rob. Bryson City, August, on Helianthus atrorubens.
- P. labrosus** Rob. Bryson City, August, on Helianthus atrorubens.
- P. pauper** Rob. Raleigh, Sanford, May, June, on Ceanothus.
- P. rugosus** Rob. Raleigh, September; Bryson City, September, on Helianthus atrorubens.
- P. virginicus** Ckll. Bryson City, June, on Houstonia purpurea; Raleigh,  
May.

## PERDITA Smith

- P. bequaerti** Vier. Raleigh, McCullers, September; Bryson City, September,  
on Helianthus atrorubens and H. microcephalus.
- P. gerardiae** Cwfd. Gliden, Southern Pines, McCullers, September, on  
Gerardia.
- P. halictoides** Sm. Bryson City, August.
- P. chrysopsina** Timb. Bryson City (type locality), August, on Chrysopsis  
mariana; Raleigh, May.
- P. obscurata** Cr. Aberdeen, May.
- P. octomaculata** Say. Wake county, Lucama and Bryson City, September,  
on Euthamia, Solidago and Aster.

## ANTHEMURGUS Robertson

- A. passiflorae** Rob. Raleigh, August. Said to frequent the flowers of Passiflora lutea.

## Family HALICTIDAE

## Sub-family HALICTINAE

## AGAPOSTEMON Smith

- A. radiatum** Say. Statewide, May-November, on Gerardia, Pycnanthemum  
and Senecio.
- A. splendens** Lep. Statewide, May-November, on prickly pear, Strophostyles,  
Pentstemon and many composites.
- A. texanus** Cr. Mountains, May-September.
- A. virescens** Fab. Raleigh, Southern Pines and Anson county, May, June,  
August, on evening primrose and Pentstemon.
- A. viridulus** Fab. North Carolina (Robertson).

## AUGOCHLORA Smith

- A. aurata** Sm. Raleigh, Dixon, Willard, Castle Hayne, May-July, on Senecio,  
Lachnanthes and oxeye daisy.



- A. confusa** Rob. Statewide, March-September, in east, July-September, in mountains, on oxeye daisy, evening primrose, prickly pear, blackberry, turnip and Pentstemon.
- A. fervida** Sm. Raleigh, Castle Hayne, Willard, Marion, on New Jersey tea, redbud, morning glory, evening primrose, locust, Senecio and Polygala; Bryson City, Swannanoa, June-September.
- A. festiva** Sm. Yonahlossee Road, Grandfather Mountain, Blowing Rock, Highlands, September; Raleigh, Beaufort, April, August, November.
- A. fulgida** Sm. Statewide, April, May, July-September, in east; July-September, in mountains.
- A. pura** Say. Statewide, March, May, August, at Raleigh; on redbud, willow, and Senecio.
- A. similis** Rob. Biltmore, Judson, Smokemont, Bryson City, June, July, on Monarda, St. John's Wort, and goldenrod.
- A. stricta** Prov. Marion, August; Aberdeen, Castle Hayne, Carolina Beach, on goldenrod, huckleberry, and Polygonum.
- A. sumptuosa** Sm. Wilmington, Southern Pines, Tarboro, Dixon, Halifax, May-August, on Clethra and Lachnanthes.

## DIALICTUS Robertson

- D. anomalus** Rob. Bryson City, April, on wild strawberry.

## HALICTUS Latreille

- H. abanci** Cwfd. Andrews Bald, type locality, July; Highlands, July, September.
- H. apopkensis** Rob. Aberdeen, Southern Pines, March, April; Wilmington, August.
- H. arcuatus** Rob. Statewide, March-June, in east, July, September, in mountains.
- H. ashmeadi** Rob. Wilmington, June.
- H. brimleyi** Cwfd. Bryson City, type locality, May, July, on Ilex, Senecio, Nicandra, four o'clocks, and gladiolus.
- H. brycinci** Cwfd. Bryson City, type locality, April, on five fingers and wild strawberry.
- H. caeruleus** Rob. Raleigh, April.
- H. coriaceus** Sm. Mountains, May, June.
- H. coreopsis** Rob. Statewide, April-July, in east, September, in mountains.
- H. cuprea** Sm. Raleigh, Aberdeen, Burgaw, Castle Hayne, Southport, Reidsville, Marion, and Harnett county, April, June-September.
- H. cressoni** Rob. Raleigh, New Bern, April, August; Grandfather Mountain, September; Black Mountain, May.
- H. divergens** Lov. Highlands, September.
- H. floridanus** Rob. Southern Pines, Aberdeen, Wharton, March, April.
- H. forbesii** Rob. Wharton, April.
- H. foxii** Rob. Bryson City, June.
- H. fuscipennis** Sm. Raleigh, April, May, on evening primrose; Black Mountain, May, June, females on Xolisma ligustrina.
- H. gratiosa** Sm. Beaufort, June; Wilmington, September.
- H. humeralis** Patt. Spout Springs, Tarheel, July.
- H. illinoensis** Rob. Raleigh, March; Bryson City, April, May.
- H. lerouxii** Lep. Statewide, March-July in east, in mountains also in August, September; on turnip, New Jersey tea, evening primrose, and Senecio.

- H. ligatus* Say. Statewide, whole season, polytropic.  
*H. longiceps* Rob. Havelock, May; Aberdeen, August.  
*H. marinus* Cwfd. Carolina Beach, September.  
*H. nymphaeorum* Rob. Mountains, May, July, September.  
*H. nymphalis* Sm. Hoffman, May.  
*H. obscurus* Rob. Bryson City, April; Raleigh, April-August.  
*H. oenotherae* Stevens. Raleigh, May.  
*H. pectoralis* Sm. Statewide, commonest in mountains; May, June, in east; May, June, September, in mountains; on *Coreopsis*, *Chrysanthemum*, *Pentstemon*, *Rubus*, *Steironema*.  
*H. parallelus* Say. Raleigh, June; Bryson City, Highlands, Bostic, July; on *Ceanothus* and *Pycnanthemum*.  
*H. pilosus* Sm. Statewide, April-July, and later on the high mountains, on flowers of many families.  
*H. provancheri* DT. Raleigh, April, July; Black Mountain, May; Swannanoa, July; Blowing Rock, August.  
*H. quadrimaculatus* Rob. Raleigh, March; Bryson City, April; Andrews Bald, July.  
*H. quebecensis* Cwfd. Mountains, above 4,000 feet, May-September.  
*H. raleighensis* Cwfd. Raleigh, type locality, June.  
*H. ralenci* Cwfd. Raleigh, type locality, May.  
*H. rugosus* Cwfd. Wenona, April, May, on *Rubus*.  
*H. sopinci* Cwfd. Southern Pines, type locality, March.  
*H. sparsus* Rob. Statewide, March-August, in east; September, in mountains.  
*H. tegularis* Rob. Raleigh, May, July, December, on *Ceanothus* and *Chrysanthemum*.  
*H. truncatus* Rob. Raleigh, June; Grandfather Mountain, Highlands, September.  
*H. testaceus* Rob. Raleigh, July, August.  
*H. versatus* Rob. Bryson City, July.  
*H. vierecki* Cwfd. Washington, April; Aberdeen, May; Bryson City, June, on *Rubus*, *Rosa*, and *Ceanothus*.  
*H. zephyrus* Sm. Bryson City, August.

## PARALICTUS Robertson

- P. platyparius* Rob. Raleigh, Aberdeen, March, May, July, August, October; Bryson City, March-June, on *Potentilla*, *Fragaria*, *Ceanothus*.  
*P. simplex* Rob. Bryson City, June, on *Ceanothus*.

## HEMIHALICTUS Cockerell

- H. lustrans* Ckll. Raleigh, May, June, August, on cucurbits.

## Sub-family SPHECODINAE

## SPHECODES Latreille

- S. antennariae* Rob. Bryson City, September.  
*S. arvensis* Pat. Spruce, Blowing Rock, Bryson City, June, September; Mt. Mitchell, 6,000 feet, August.  
*S. clematidis* Rob. Raleigh, March-May; Swannanoa, September.  
*S. falciferum* Pat. Raleigh, June.

- S. heraclei* Rob. Raleigh to Lake Waccamaw and westward, April-October.  
*S. illinoensis* Rob. Bryson City, April, August.  
*S. pimpinella* Rob. Bryson City, June, August.  
*S. ranunculi* Rob. Raleigh, April.  
*S. stygia* Rob. Raleigh, July; Bryson City, April, June, August.

## Family NOMIDAE

## PARANOMIA Friese

- P. maneei* Ckll. Raleigh, LaGrange, Wilmington, Croatan, Dixon, June-August, on Lespedeza and Strophostyles; Southern Pines, type locality; Bryson City, August, on Lespedeza.  
*P. ncitoni* Cr. Elizabeth City, August.

## Family MACROPIDAE

## MACROPIS Panzer

- M. ciliata* Patton. Black Mountain, June, on Lysimachia.  
*M. patellata* Pat. Hendersonville, Swannanoa, July, on Steironema.  
*M. steironematis* Rob. Raleigh, June, on Steironema.

## Family MEGACHILIDAE, The Leaf-Cutter Bees

## Sub-family OSMINAE

## HERIADES Spinola

- H. carinatus* Rob. Raleigh, May.  
*H. variolosus* Cr. Raleigh, Cary, and Washington county, May, September, on Eupatorium coelestinum.

## NEOTRYPETES Robertson

- N. productus* Rob. Raleigh, May.

## PROCHELOSTOMA Robertson

- P. philadelphia* Rob. Raleigh, Bryson City, May, on Rubus and Philadelphia.

## ROBERTSONELLA Titus

- R. simplex* Cr. Raleigh, Charlotte, Kinston, April, May, on Rubus.

## ALCIDAMEA Cresson

- A. pilosifrons* Cr. Raleigh, Swannanoa, May; Aberdeen, April; on Oxalis, Pentstemon, Rubus and Sisyrrinchium.  
*A. producta* Cr. Goldsboro to Laurel Hill and westward, April-June, on Geranium, Oxalis, Pentstemon and Rubus.  
*A. truncata* Cr. Raleigh, New Bern, Merry Oaks, Willard, April-June; Bryson City; on Ceanothus, Oenothera, Pentstemon, Rubus, Tephrosia, and Trifolium.

## ANDRONICUS Cresson

- A. cylindricus* Cr. Raleigh, Aberdeen, April; Black Mountain, May, on *Amorpha fruticosa*; Macon county, July.

## OSMIA Panzer

- O. albiventris* Cr. Cruso, June, on Pentstemon.  
*O. atriventris* Cr. Raleigh, Lake Catherine, April, May; Franklin, May, polytropic.  
*O. bucephala* Cr. Black Mountain, May, on Robinia.  
*O. collinsoniae* Robt. Raleigh, April-May.  
*O. conjuncta* Cr. Raleigh, April, on Fragaria.  
*O. distincta* Cr. Bryson City, May, June, on Pentstemon.  
*O. georgica* Cr. Raleigh, Aberdeen, April, May, polytropic.  
*O. inspergens* L&C. Raleigh, Tarboro, Catharine Lake, April, May; Franklin, May, polytropic.  
*O. lignaria* Say. Raleigh, Washington, Goldsboro, Statesville, March-May; Spruce, May.  
*O. melanotricha* L&C. Raleigh, April, May, on Lupinus, Pentstemon and Vicia.  
*O. pumila* Cr. Raleigh, Tarboro, Goldsboro, Statesville, April, May, on Geranium and Vicia.  
*O. quadridentata* Cr. Raleigh, March-May, on Cercis and Rhus.  
*O. sandhouseae* Mitch. Halifax to Aberdeen and eastward, late March-June; polytropic. Raleigh is the type locality.  
*O. simillima* Sm. Cruso, June, on Pentstemon.

## ASHMEADIELLA Cockerell

- A. buconis* Say. Aberdeen, May.

## Sub-family MEGACHILINAE

## LITHURGUS Latreille

- L. gibbosus* Sm. Raleigh, Aberdeen, Tarheel, May-July, on *Opuntia* and *Helianthus*.

## MEGACHILE Latreille

## Sub-genus LITOMEGACHILE Mitchell

- M. brevis* Say. Statewide, whole season, polytropic, but mostly on legumes and composites.  
*M. brevis* var *pseudobrevis* Mitch. Moore and Carteret counties southward, April, June, July, September.  
*M. mendica* Cr. Statewide, whole season, polytropic.  
*M. texana* Cr. Statewide, May-October, polytropic.

## Sub-genus ANTHEMOIS Robertson

- M. inermis* Rob. Highlands, Linville, Marion, Cruso, July.  
*M. montivaga* Cr. Raleigh, Greensboro, Julian, May, June, August, September; Swannanoa, Highlands, Bryson City, June, August, September; polytropic.  
*M. relativa* Cr. Mountains, June, August, September.

## Sub-genus DELOMEGACHILE Viereck

- M. addenda** Cr. Raleigh, Kenansville, Merry Oaks, Fayetteville, Southport, Wilmington, White Lake, May; Bryson City, Shining Rock Mountain, June; polytropic.
- M. gemula** Cr. Mountains, including high altitudes, May-July, once in September, polytropic.
- M. ingenua** Cr. Raleigh, Benson, Kenansville, Tarboro, and Harnett county, May, on Tephrosia.
- M. mucida** Cr. Raleigh, Castle Hayne, Fort Bragg, Kinston, April, May;  
**M. vidua** var. **appalachiensis** Mitch. Mountains, June, July, on Pycnanthemum, Tephrosia, Baptisia, Pentstemon, and Gerardia, mostly the first two.

## Sub-genus XANTHOSARUS Robertson

- M. latimanus** Say. Mountains, and Newton, June-September, mostly on composites.

## Sub-genus MEGACHILOIDES Mitchell

- M. oenotherae** Mitch. Raleigh, Carolina Beach, Southern Pines, New Bern, May-July.

## Sub-genus XEROMEGACHILE Mitchell

- M. brimleyi** Mitch. Wilmington, type locality, Southern Pines, June, July, on Hypericum and Galactia.
- M. deflexa** Cr. Wilmington, August, on Strophostyles; Marston, July.
- M. integra** Cr. New Bern, Wilmington, June, August, on Pycnanthemum, Strophostyles, and Galactia.
- M. integrella** Mitch. Wilmington, type locality, Carolina Beach, Fort Fisher, White Lake, May, June, on Hypericum.
- M. rubi** Mitch. Raleigh, type locality, Wenona, Rollsville, White Lake, May, June, on Rubus.

## Sub-genus ARGYROPILE Mitchell

- M. parallela** Sm. Willard, Raleigh, August, September; Marion, Hendersonville, Smokemont, July, on four genera of composites. Dr. Mitchell tells me the records of this species from North Carolina are doubtful.

## Sub-genus LEPTORACHIS Mitchell

- M. petulans** Cr. Statewide, whole season, polytropic.

## Sub-genus PSEUDOCENTRON Mitchell

- M. pruina** Sm. Carolina Beach, Harker's Island, Morehead, June, September, on Strophostyles and Crotalaria.

## Sub-genus ACENTRON Mitchell

- M. albitarsis** Cr. Swannanoa, Marion and eastward, June-October, polytropic.

## Sub-genus MELANOSARUS Mitchell

*M. xylocopoides* Sm. Coastal plain from Camden to Columbus county, once at Raleigh, May-September, on Mikania, Rudbeckia and Elephantopus.

## Sub-genus SAYAPIS Titus

*M. frugalis* Cr. Raleigh, June; Swannanoa, Bryson City, Smokemont, June, July, polytropic.

*M. inimica* Cr. Raleigh to Wilmington and westward, June-August in east, July-September in mountains.

*M. pugnata* Say. Black Mountain, Highlands, Swannanoa, Smokemont, July-September, on Vernonia and Rudbeckia.

## Sub-genus CHELOSTOMOIDES Robertson

*M. campanulae* Rob. Raleigh to Wilmington and westward, June-September, polytropic.

*M. campanulae* var. *wilmingtoni* Mitch. Wilmington, type locality, July, August, on Strophostyles and Galactia.

*M. exilis* var. *parexillis* Mitch. Statewide, May-September, polytropic.

*M. georgica* Cr. Raleigh to Wilmington and westward, May-September, polytropic.

*M. rugifrons* Sm. (*rufimanus* Rob). Flat Rock, July on Baptisia; Southport, June on Hypericum.

## Sub-family COELIOXINAE

## COELIOXYS Latreille

*C. alternata* Cr. Raleigh, May.

*C. dolichos* Fox. Wilmington, Beaufort, Tarboro, Deppe, June-August, on Rudbeckia and Mikania, probably parasitic on *Megachile xylocopoides*.

*C. germana* Cr. Raleigh, New Bern, Newton, Marion, June-September.

*C. modesta* Cr. Raleigh, June, Swannanoa, Bryson City, Marion, July, on *Coreopsis* and *Rhus*.

*C. lucrosa* Cr. Highlands, Bryson City, June, July, on *Tephrosia*.

*C. mendacina* Ckll. Statewide, April-October.

*C. octodentata* Say. Statewide, April-September. Less common than *mendacina*.

*C. sculptifrons* Cwfd. Wilmington, August.

## Family STELIDAE

## STELIS Panzer

*S. costalis* Cr. Raleigh, Wilmington, Aberdeen, April, September.

*S. foederalis* Sm. Raleigh, May.

*S. lateralis* Cr. Aberdeen, Bryson City, April, on *Potentilla*.

*S. louisae* Ckll. "N. C." An old specimen bearing state label only.

## ANTHIDIUM Fabricius

*A. cognatum* Cr. Raleigh to Aberdeen, west to Bostic, May-September, polytropic, mostly on legumes and composites.

## HETERANTHIDIUM Cockerell

- H. harbecki** Cwfd. McCullers, Wilmington, August, September, on *Strophostyles* and *Galactia*.  
**H. crassipes** Cr. Hoffman, July.  
**H. ridingsi** Cr. Wilmington, July.

## DIANTHIDIUM Cockerell

- D. curvatum** Sm. Raleigh, Kinston, Wilmington, Fayetteville, Lumberton, Tarheel, Marion, May-September; on *Koellia*, *Chrysogonum* and *Helianthus*.

## PARANTHIDIUM Cockerell

- P. lepidum** Cr. Raleigh to Wadesboro and westward, July-September, on composites.

## ANTHIDIELLUM Cockerell

- A. notatum** Latr. Raleigh to Southern Pines and eastward, May-October; Bryson City, August.  
**A. perplexum** Sm. Wilmington, Southport, Aberdeen, and Washington county, July-September.

## Family CERATINIDAE

## CERATINA Latreille

- C. dupla** Say. Statewide, April, May, August, in east; July, October, in mountains; polytropic.  
**C. calcarata** Rob. Raleigh, March, April; Bryson City, April.  
**C. metallica** Sm. Raleigh, Charlotte, March-May, July, August; Black Mountain, Bryson City, April, May.

## Family XYLOCOPIDAE, The Carpenter Bees

## XYLOCOPA Latreille

- X. micans** Lep. Beaufort, White Lake, Wilmington, Proctorville, Castle Hayne, Magnolia, Columbus county, March-August, once in October.  
**X. virginica** Dr. Statewide, whole season.

## Family ANTHOPHORIDAE

## Sub-family ANTHOPHORINAE

## ANTHOPHORA Latreille

- A. abrupta** Say. Raleigh, March-June; mountains, May-July, on *Pentstemon* and *Monarda*.  
**A. bomboides** Kby. Haywood, Swain and Macon counties, late May-July, on *Trifolium*, *Monarda* and *Pentstemon*.  
**A. ursina** Cr. Raleigh, April, May; Bryson City, June, polytropic.

## EMPHOROPSIS Ashmead

*E. floridana* Sm. Raleigh to Southern Pines and eastward, March, April, polytropic.

## CLISODON Patton

*C. terminalis* Cr. Bryson City, June, July, on Pentstemon and Scutellaria.

## EMPHOR Patton

*E. bombiformis* Cr. Raleigh, Wilmington, Greensboro, June-August, on Hibiscus.

## MELITOMA Latreille

*M. taurea* Say. Statewide, June-September; mostly on Ipomoea and Pentstemon.

## Sub-family EUCERINAE

## ANTHEDON Robertson

*A. compta* Cr. Moore county and Hickory, August; mountain region from Asheville and Marion southward, July, August; the females collect pollen of *Oenothera biennis*.

## CEMOLOBUS Robertson

*C. ipomoeae* Rob. Flat Rock, Black Mountain, August, on *Ipomoea pandurata*.

## FLORILEGUS Robertson

*F. condignus* Cr. Moncure, June, on *Oenothera*.

## MELISSODES Romand

*M. agilis* Cr. Bostic, Newton, Sanford, July, August, October; Biltmore, Boone, July, August.

*M. agilis subagilis* Ckll. Raleigh, Greensboro, July, August.

*M. atripes* Cr. Raleigh and Castle Hayne, west to Hickory, June-September, polytropic.

*M. autumnalis* Rob. Tarboro to Laurinburg and westward, July-October, usually on composites.

*M. bimaculata* Lep. Statewide, June-September, polytropic.

*M. boltoniae* Rob. Raleigh, Greensboro, August, on *Solidago*.

*M. caliginosus* Cr. Statewide, June-September, on *Vernonia* and other composites.

*M. carolinensis* DT. North Carolina (type locality).

*M. coloradensis* Cr. Cary, September, on *Coreopsis*.

*M. communis* Cr. Statewide, May-August, polytropic.

*M. comptoides* Rob. Newton, Greensboro, Bostic, July, August.

*M. fimbriata* Cr. Raleigh, Sanford, May, June, on *Ceanothus* and *Pentstemon*.

*M. grindeliae* Ckll. Newton, August.

*M. nivea* Rob. Raleigh, Greensboro, Elrod, Moncure, August-October; Highlands, September; on composites.



- M. obliqua** Say. Franklin, Marion, Bryson City, August, September, on composites.  
**M. perplexa** Cr. Raleigh to Lumberton and westward, August-October, on composites.  
**M. rustica** Say. Raleigh, September.  
**M. simillima** Rob. Tarboro to Laurinburg and westward, August-November, on composites.  
**M. trinodis** Rob. Raleigh, May, September.

## TETRALONIA Spinola

- T. atriventris** Sm. Raleigh, Charlotte, Statesville, April, July; Bryson City, June.  
**T. dilecta** Cr. Raleigh, Charlotte, Statesville, April; Bryson City, June; polytropic.  
**T. fulvohirta** Cr. Raleigh, March, April, on *Vicia caroliniana* and *Geranium maculatum*.  
**T. rosae** Rob. Raleigh, May; Yadkin county, June, on *Pentstemon*.

## XENOGLOSSA Smith

- X. pruinosa** Say. Statewide, June-September, on cucurbits.  
**X. strenua** Cr. Statewide, June-August, on cucurbits.

## Family MELECTIDAE

## EPEOLUS Latreille

- E. anomalus** Cwfd. Bryson City, type locality, June.  
**E. autumnalis** Rob. Raleigh, September, October, on composites.  
**E. bifasciatus** Cr. Raleigh, June, July; Swannanoa, Bryson City, July, August.  
**E. interruptus** Rob. Raleigh, May, June; Bryson City, June.  
**E. lectoides** Rob. Elizabeth City, August.  
**E. pusillus** Cr. Raleigh, Wadesboro, Sanford, September, October.  
**E. scutellaris** Say. Wenona, September; Bryson City, Swannanoa, August, September.  
**E. vernoniae** Ckll. Bryson City, Swannanoa, August, September. Probably only a slight color variety of *scutellaris*.

## EPEOLOIDES

- E. pilosulus** Cresson. Highlands, July, T. B. Mitchell.

## TRIEPEOLUS Robertson

- T. concavus** Cr. Greensboro, Cherokee, Bryson City, August.  
**T. concolor** Rob. Bryson City, Smokemont, July-September.  
**T. cressoni** Rob. Raleigh, Lumberton, September, October; Swannanoa, Bryson City, August, September.  
**T. donatus** Sm. Raleigh, Sanford, September, October; Swannanoa, Bryson City, August, September.  
**T. lunatus** Say. Statewide, July-September, on composites.

- T. nevadensis** Cr. Southern mountain region, August, September, on Vernonia.  
**T. pectoralis** Rob. Raleigh, September, October; Bryson City, Swannanoa, September, on composites.  
**T. quadrifasciatus** Say. Overhills, Southern Pines, September.  
**T. remigatus** Fab. Raleigh and westward, July-September, polytropic.  
**T. simplex** Rob. Newton, August, on Vernonia; Bryson City, September.

## ARGYROSELENIS Robertson

- A. banksi** Ckll. Gibson, October.

## HOLCOPASITES Ashmead

- H. heliopsis** Rbtsn. Bryson City, August.  
**H. illinoensis** Rob. Southern mountain region, mostly on Ceanothus, Erigeron and Lespedeza, in June, July, September.

## Family NOMADIDAE

## NOMADA Scopoli

## (Sub-genus GNATHIAS)

- N. carolinae** Ckll. North Carolina (type locality).  
**N. lepida** Cr. Highlands, July; Sunburst, May.  
**N. maculata** Cr. Sunburst, May.  
**N. ovatus** Rob. Raleigh, Lake Waccamaw, March-May.

## (Sub-genus CENTRIAS)

- N. articulata** Sm. Raleigh, Fayetteville, Southern Pines, April, May; Swannanoa, Bryson City, April, June.  
**N. erigeronis** Rob. Aberdeen, Kinston, April.  
**N. incerta** Cr. Swannanoa, Bryson City, April, June.

## (Sub-genus HOLONOMADA)

- N. superba malvastre** Swk. Raleigh, Grimesland, Aberdeen, April, May; Spruce, May.  
**N. besseyi** Swk. Bryson City, August, September, on Rudbeckia.  
**N. vineta** Say. Swannanoa, September, on Bidens.

## (Sub-genus MICRONOMADA)

- N. crassula** Ckll. Bryson City, Smokemont, July, on Rudbeckia.  
**N. modesta** Cr. Bostic, Marion, July, on Rudbeckia.  
**N. tiftonensis** Ckll. Raleigh, Willard, Greensboro, Bostic, July-September; Swannanoa, Bryson City, August, September.

## (Sub-genus NOMADA)

- N. cressoni** Rob. Smokemont, Swannanoa, Black Mountain, July.  
**N. denticulata** Rob. Raleigh, March, May.

- N. illinoensis* Rob. Raleigh, Southern Pines, March, April.  
*N. parva* Rob. Aberdeen, Southern Pines, April; Blantyre, May.  
*N. rubicunda* Oliv. Black Mountain, May; Wenona, May.  
*N. sayi* Rob. Raleigh, April; Bryson City, April.  
*N. vicina* Cr. Raleigh, September.

## (Sub-genus HEMINOMADA)

- N. dentariae* Rob. Raleigh, May.  
*N. festiva* Cr. Spruce, July.  
*N. luteola* Oliv. Raleigh, Lake Waccamaw, Charlotte, Statesville, March, April; Spruce, May.  
*N. luteoloides* Rob. Raleigh, Wilmington, and Onslow county, March-May; Spruce, May.  
*N. obliterated* Cr. Raleigh, April.  
*N. sulphurata* Sm. Raleigh, April; Black Mountain, May.  
*N. subrutilla* Lov. and Ckll. Swannanoa, May.

## Family BOMBIDAE, The Bumble Bees

## BOMBUS Latreille

- B. affinis* Cr. Raleigh and westward.  
*B. affinis novaeangliae* Beq. Grandfather Mountain.  
*B. americanorum* Fab. (pennsylvanicus DeG). Statewide.  
*B. auricomus* Rob. Statewide.  
*B. bimaculatus* Cr. Raleigh, Wallace, Swannanoa, Blowing Rock, Tarboro, Judson, Bryson City.  
*B. fervidus* Fab. Raleigh and Mitchell county.  
*B. fervidus dorsalis* Cr. Highlands, Pinnacle, Mount Mitchell, July-September.  
*B. fraternus* Sm. Raleigh to Southern Pines and eastward; Highlands.  
*B. impatiens* Cr. Statewide.  
*B. perplexus* Cr. Mountain region only.  
*B. separatus* Cr. Raleigh, Charlotte, Yadkinville, Sands, Fort Bragg, Bryson City, Wilkes county.  
*B. terricola* Kby. Grandfather Mountain, at 4,000 feet; Mt. Mitchell, at 6,000 feet, and Blowing Rock.  
*B. vagans* Sm. Mountain region, also Raleigh and Whiteville.

## PSITHYRUS Lepeletier

- P. fernaldae* Fr. Highlands, July; Andrews Bald at 6,000 feet, July; Mt. Mitchell, at 6,000 feet, August, September.  
*P. laboriosus* Fab. Raleigh, May; Statesville, April; Bryson City, Judson, Blowing Rock, Bushnell, July-September; Hendersonville, June.  
*P. variabilis* Cr. Raleigh, Overhills, Greensboro, May-November.

## Family APIDAE

## APIS Linnaeus

- A. mellifica* Linn. HONEY BEE. Introduced. Statewide, both wild and domesticated.