

TABANIDAE OF NEW HAMPSHIRE

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Many species of Tabanidae are of economic importance in the state as pests of man and of livestock. In general, the species of the genus *Tabanus* are more important as regards livestock, while those of the genus *Chrysops* are irritating to man. The following horseflies, listed in order of their appearance during the summer, are of economic importance; *Tabanus lasiophthalmus*, *T. typhus*, *T. lineola*, *T. trispilus*, *T. aurilimbus*, and *T. sulcifrons*. Along the coast *T. nigrovittatus* in mid-summer and *T. actaeon* in late summer have been numerous enough at times to be important. Other species present at the same time as those mentioned above, though not numerous, contribute to the losses attributed to horseflies. The deerflies, although very numerous, do not irritate the cattle or cause as much loss of blood as do the larger horseflies. The deerflies are important as pests of man in recreational areas and in tracts where lumbering operations are being conducted. Those species causing discomfort to man because of their abundance are: *Chrysops mitis*, *C. sordida*, *C. carbonaria*, and *C. excitans* in early summer. *C. lateralis*, *C. striata*, *C. univittata*, and *C. vittata* are important along the seashore and causes more discomfort to many than any other species of Tabanidae.

The list of species and subspecies is based mainly on material in the University of New Hampshire collection. Incorporated in the collection are the specimens donated by the late S. A. Shaw. Mr. Shaw was an active collector of insects, especially Diptera, from 1890 until 1934. Other collectors contributing to the collection have been: R. L. Blickle, J. G. Conklin, W. F. Fiske, A. G. Humes, P. R. Lowry, W. J. Morse, H. W. Smith and C. M. Weed. Additional records were obtained from the Museum of Com-

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parative Zoology and from the Boston Society collection, now at Boston University. The examination of these collections was made possible through the courtesy of Drs. J. Bequaert and A. G. Humes, respectively.

Published lists recording species taken in New Hampshire are: Johnson (1925, 1925a), Brennan (1935), Stone (1938), Philip (1947, 1950), and Fairchild (1950). In all forty-nine species and subspecies are recorded in the above works. The present list contains seventy-one species and subspecies. Four species recorded from both Maine and Massachusetts are also listed. Judging from the distribution of tabanids in the neighboring states and in Canada, the number recorded will eventually be approximately ninety.

Locality records are given as townships. Only the extreme dates of capture are listed. Most of the records are from the southeastern part of the state and from the White Mountain area. The western part of the state north of the Mt. Monadnock area is poorly represented.

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Stonemyia Brennan

rasa (Loew): Durham, Gilmanton, Hampton, Lee, Mt. Washington, New Durham, Pelham, July 19 to Aug. 29.

tranquilla (Osten Sacken): Crawford Notch, Durham, Gilmanton, Hampton, Kearsarge, Lee, New Durham, Mt. Washington, North Conway, Ossipee, Pinkham Notch, Twin Mts., White Mountains (type loc.) July 18 to Aug. 23.

Chrysops Meigen

aberrans Philip: Alton, Durham, Gilmanton, Lee, Madbury, New Durham. June 15 to Sept. 9.

amazon Daecke: Durham, Lee, Rochester. June 15 to July 13,

atlantica Pechuman: Hampton (S. A. Shaw). July 1 to Aug. 21.

callida Osten Sacken: Barrington, Durham, Gilmanton, Hampton, Lee, Milford. June 12 to Aug. 4.

carbonaria Walker: Bretton Woods, Colebrook, Conway,

- Durham, Gorham, Hampton, Hanover, Intervale, Lee, Madbury, Merrimack, Ossipee, Pittsburg, Twin Mts. May 7 to July 14.
- celer* Osten Sacken: Colebrook, Dummer, Durham, Hampton, Lee, Milford, Pittsburg, Rye, June 1 to July 23.
- cuclux* Whitney: Bretton Woods, Colebrook, Durham, Hampton, Madbury, Milford (type loc.), Moultonboro, Pittsburg, White Mts., May 10 to July 14.
- cursim* Whitney: Milford (type loc.). July.
- delicatula* Osten Sacken: Alton, Durham, Gilmanton, Lee, Madbury, Madison, New Durham, North Conway (type loc.), Webster. July 12 to Aug. 14.
- dimmocki* Hine: Lee (R. L. Blickle). July 8.
- excitans* Walker: Antrim, Belmont, Bretton Woods, Colebrook, Dixville, Durham, Dummer, Gorham, Lee, Madbury, Newfields, North Conway, Ossipee, Pittsburg, Rye, Tamworth. June 3 to July 12.
- frigida* Osten Sacken: Durham, Lee, Milford, New Durham, North Conway, White Mts. June 11 to July 14.
- frigida xantha* Philip: Milford, Franconia. July 8.
- fuliginosa* Wiedemann: Durham, Hampton, Lee. June 6 to July 2.
- geminata* Wiedemann: Belknap, Belmont, Durham, Greenfield, Hill, Lee, Lyme, Madbury, Milford, New Durham, Wilton. July 5 to July 25.
- geminata impunctata* Krober: Durham (R. L. Blickle). July 18.
- inda* Osten Sacken: Milford, Pittsburg. June 20 to July 1.
- lateralis* Wiedemann: Barrington, Belmont, Bretton Woods, Dublin, Durham, Gilford, Gilmanton, Hampton, Hanover, Intervale, Lee, Jaffrey, Madbury, Milford, Mt. Monadnock, New Durham, North Conway, Portsmouth, Rochester, Squam Lake, Mt. Washington, Woodstock. June 11 to Aug. 24.
- mitis* Osten Sacken: Bretton Woods, Dixville, Franconia, Jaffrey, Mt. Washington, Pittsburg. June 11 to July 7.
- moecha* Osten Sacken: Alton, Durham, Hampton, Lee, Madbury. June 1 to Aug. 24.
- montana* Osten Sacken: Alton, Durham, Lee. July 6 to July 18.
- nigra* Macquart: Alton, Belmont, Dixville, Durham,

- Hampton, Madbury, Milford, Mt. Washington, Newfields, Pittsburg, Rochester. June 1 to Aug. 11.
- nigribimbo* Whitney: Milford (type loc.). July 9 to July 21.
- pudica* Osten Sacken: Durham, Lee (R. L. Blickle). July 4.
- sackeni* Hine: Durham, Hampton, Lee, Milford, Newfields. June 17 to Aug. 8.
- shermani* Hine: Berlin, Dixville (R. L. Blickle). June 19 to June 20.
- sordida* Osten Sacken: Bretton Woods, Colebrook, Dixville, Dummer, Franconia, Mt. Washington, Pittsburg, Twin Mts. (type loc.). June 19 to July 16.
- striata* Osten Sacken: Belmont, Durham, Gilmanton, Hampton, Lee, Madbury, New Durham, Sanbornton. June 22 to July 30.
- univittata* Macquart: Belmont, Durham, Gilmanton, Hampton, Lee, Madbury, Milford, New Durham, Newfields, Ossipee. May 21 to Sept. 11.
- vittata* Wiedemann: Belmont, Durham, Gilmanton, Greenfield, Hampton, Lee, Madbury, Milford, New Durham, Pelham, Rye, Sanbornton. June 19 to Sept. 9.
- wiedemanni* Krober: Alton, Durham, Epping, Hampton, Lee, Madbury, Milford, New Durham. June 12 to Sept. 9.

Atylotus Osten Sacken

- bicolor* (Wiedemann): Hampton, Webster. July 15 to Aug. 5.
- pematicus* (Johnson): Recorded from Maine and Massachusetts (Philip 1947).
- thoracicus* (Hine): Recorded from Maine and Massachusetts (Philip 1947).

Tabanus L. (*Hybomitra* Enderlein)

- affinis* Kirby: Bretton Woods, Intervale, Jaffrey, Mt. Monadnock, New Durham, Peterboro, Shelburne, Mt. Washington. June 21 to July 11.
- aurilimbus* Stone: Belmont, Durham, Gilmanton, Hampton, Epping, Madbury, Milford, New Durham, North Hampton. June 29 to Aug. 5.

- astutus* Osten Sacken: Pinkham Notch, White Mts. (type loc.). Aug. 21-22.
- brennani* Stone: Franconia (type loc.). July 14.
- cinctus* Fabricius: Dublin, Durham, Lee, Madbury, Union. July 23 to Aug. 2.
- epistates* Osten Sacken: Durham, Lee, Mt. Monadnock, Shelburne. July 4 to July 25.
- hinei* Johnson: Lee, Madbury (R. L. Blickle). June 28 to July 25.
- illotus* Osten Sacken: Pittsburg (Morse, Blickle). June 20.
- lasiophthalmus* Macquart: Bretton Woods, Dummer, Durham, Hampton, Hanover, Jackson, Jefferson, Lee, Newfields, Pelham, Pittsburg, Rye, Twin Mts. May 30 to Aug. 15.
- longiglossus* Philip: Recorded from Maine and Massachusetts (Philip 1947).
- metabolus* McDunnough: Hampton, Jaffrey, Milford, Passaconaway, Pittsburg.
- microcephalus* Osten Sacken: Lee, Jackson, Madbury, New Durham, Pinkham Notch, Rumney, Twin Mts., White Mts. (type loc.). July 8 to Sept. 9.
- minusculus* Hine: Philip (1950).
- nudus* McDunnough: Durham, Hampton, Jackson, Jaffrey, Lee, New Durham, Passaconaway, Pittsburg. May 3 to June 20.
- septentrionalis* Loew: Recorded from Maine and Massachusetts (Philip 1947).
- trepidus* McDunnough: Colebrook, Dummer, Durham, Hampton, Lee. June 10 to Aug. 10.
- trispilus* Wiedemann: Barrington, Dublin, Durham, Epping, Franconia, Hampton, Lee, Madbury, Newfields, Pittsfield. July 4 to Aug. 8.
- typhus* Whitney: Barrington, Durham, Freedom, Lee, Madbury, Milford (type loc.), New Durham, North Conway. June 15 to July 27.
- zonalis* Kirby: Lee, Milford, Passaconaway. June 8 to July 15.

Tabanus L. (*Tabanus* s.str.)

- actaeon* Osten Sacken: Amherst, Dublin, Durham, Hampton, Lee, Milford, Pelham, Rye. Aug. 9 to Sept. 17.
- americanus* Forster: Dublin. (Johnson 1925 a). July.
- atratus* Fabricius: Durham, Hampton, Lee, Pelham. June 30 to Aug. 28.
- atratus fulvopilosus* Johnson: Durham (H. W. Smith). July 22.
- atratus nantuckensis* Hine: Hampton, Newfields, Rochester. July 9 to Sept. 13.
- catenatus* Walker: Durham, Hampton, Jaffrey, Lee, Rye. July 7 to Aug. 27.
- fairchildi* Stone: Alstead, Hillsboro. July 1 to July 16.
- lineola* Fabricius: Barrington, Durham, Gilmanton, Hampton, Lee, Madbury.
- lineola scutellaris* Walker: Durham, Hampton, Lee. June 17 to July 20.
- nigripes* Wiedemann: Hampton, Milford. July 3 to July 14.
- nigrovittatus* Macquart: Durham, Hampton, Newmarket, Portsmouth, Rye. June 30 to Aug. 8.
- nivosus* Osten Sacken: Durham, Freedom, Hampton, Lee, New Durham. June 12 to July 31.
- pumilus* Macquart: Barrington, Durham, Lee, Madbury, Portsmouth. July 1 to July 31.
- quinquevittatus* Wiedemann: Durham, Gilmanton, Lee, Madbury, New Durham, Newfields, Newmarket. July 2 to Sept. 21.
- reinwardtii* Wiedemann: Durham, Newfields. July 11 to Aug. 1.
- sparus* Whitney: Durham, Hampton, Lee, Milford (type loc.), Newfields, Rye. June 10 to July 20.
- stygius* Say: Durham. (no date).
- sulcifrons* Macquart: Durham, Hampton, Lee, Madbury. July 11 to Sept. 9.
- superjumentarius* Whitney: Durham, Epping, Hampton, Lee, Madbury, Milford (type loc.). June 14 to Aug. 3.
- vivax* Osten Sacken: Durham, Farmington, Gilmanton, Hampton, Lee, Strafford. July 4 to July 23.

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