

ANNOTATED LIST OF FOREST INSECTS OF BRITISH COLUMBIA PART I—LASIOCAMPIDÆ, SATURNIIDÆ, LIPARIDÆ*

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Introduction

This is the first of a series of annotated lists of insects collected or reared by personnel of the Forest Insect Survey in British Columbia since 1937. For the most part, the insect species to be considered are feeders on forest trees, although insects of shrub-sized *Alnus* spp., *Salix* spp., and *Prunus* spp., etc., are also included. Families or genera of insects for which our data are most complete will be treated first.

Precise collection localities are noted only where there are less than five scattered locality records for a given species; otherwise, broad distribution categories are used. Categories employed herein are as follows: Vancouver Island; Coast (west of the Coast Mountain Range); Interior British Columbia (east of the Coast Range); Southern, Northern, and Central British Columbia. For convenience, "Southern B.C." refers to that section of the Province south of 52° latitude, exclusive of Vancouver Island; "Northern" refers to the area north of 57° latitude; and "Central B.C." is that portion between. Little survey work has been done in Northern B.C.; when the term "Northern B.C." is used, it refers to areas close to the Alaska Highway.

Brief descriptions, generally of full-grown larvæ, are included in the annotated list where such stages are known to one or both of the writers. The descriptions are by no means complete but in most cases should be adequate for specific determination.

Lasiocampidæ

The caterpillars of this family are leaf-eaters. Species in the genus *Malacosoma*,

the tent caterpillars, frequently are spectacular defoliators, denuding the trees or shrubs over extensive areas. Common characters of the lasiocampid larvæ are: Head dull, i.e., not glossy; head and body covered with simple hairs, the hairs not in discrete tufts; body smooth. The larvæ spin cocoons on the host or adjacent trees. Overwinter in egg stage.

Tolyte dayi Blkm. *Pseudotsuga taxifolia*, *Tsuga heterophylla*; Vancouver Island. LARVA: 1½ inches; wide and flattened, flecked in pastel shades of brown and grey, light subdorsal and supraspiracular patches; subspiracular lappets with clumps of long fine hair, hair shorter and less dense on remainder of body; humped tubercles on subdorsum of each segment, largest on T3 and A8; transverse orange fold on dorsum of T3; venter pinkish with dark blotches shaded to orange.

Tolyte laricis Fitch. *Larix occidentalis*, Vernon; *Pseudotsuga taxifolia*, Barriere.

Malacosoma pluviale (Dyar). Western tent caterpillar. *Prunus* spp., *Alnus* spp., *Salix* spp., *Amelanchier* spp., *Malus* spp., *Rosa* spp., and other shrubby growth; Southern B.C. and Vancouver Island. Caterpillars form large, unsightly communal tents of silk over the branches adjacent to the leaves on which they are feeding. Eggs laid on twigs of host plant, close to the ground; cemented in a curved mass, seldom forming a complete band about the twig. LARVA: 1¾ inches; head greyish, speckled with black; body blackish; broken, greyish-blue middorsal stripe; orange blotches along addorsal area; greyish-blue blotches on subdorsum; orange, wavy supraspiracular stripe; subspiracular area, orange; hairs orange.

Malacosoma pluviale (Dyar) var.? So far as is known, the geographical ranges of this and the preceding form are separate.

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Limited to *Betula glandulosa* and *Salix* spp. bordering swamps and muskegs; Central Interior B.C., 1947—defoliated scrub birch at Aleza Lake; 1950—larvæ abundant near Stone Creek, Cluculz Lake, Wells, and north-east of Isle Pierre; 1951—caused light defoliation at various points in the Prince George area. This species makes communal silken tents similar to *M. pluviale*. Eggs in cylindrical mass about twig, similar to *M. disstria*. The larvæ frequently form communal cocoons; as many as six pupæ are enclosed in a single envelope. LARVA: 1¾ inches; basic markings similar to *M. pluviale*, but very little orange coloration (replaced by black) in most specimens.

Malacosoma disstria Hbn. Forest tent caterpillar. *Populus tremuloides*, *Populus trichocarpa*, *Alnus* spp., *Salix* spp., *Betula papyrifera*, and other broad-leaved trees and shrubs; during heavy outbreaks may spread to and damage new growth of conifers; generally distributed. Medium to heavy infestations have been reported at one or more localities in British Columbia during the following periods: 1938, 1941–43, 1945–47, 1949–53. Apparently the most recent of these outbreaks is the largest and most widespread of those occurring during the past fifteen years. No tree mortality has been reported following any of these infestations. The depredations of this species cause considerable concern to tourist-camp operators and home-owners with dwellings within or adjacent to poplar stands. Eggs cemented together in a cylindrical mass about a twig, usually in upper crown of the tree. No tents formed. LARVA: 2 inches; head and body, pale greyish-blue, speckled with black; black-bordered orange subdorsal and supraspiracular stripes; additional orange and black line-markings on dorsum; off-white or cream-coloured blotches along middorsum.

Epicnaptera americana Harr. Lappet moth. *Populus tremuloides*, *Populus trichocarpa*, *Quercus* spp., *Salix* spp., *Betula papyrifera*, *Alnus* spp., *Amelanchier* spp., *Acer* spp., *Corylus* spp., *Cra-*

tægus spp., *Malus* spp.; generally distributed; not recorded in outbreak proportions. LARVA: 2 inches; head and body, hairy; flap-like projections beneath the spiracular area; body greyish, finely speckled with black, some orange spots; two reddish or orange black-edged transverse bands on dorsum of thorax (bands concealed when body contracted); middorsal protuberance on A8; venter flattened, orange with black blotches.

Saturniidae

The silk moths are relatively unimportant defoliators in this Province. Their large size and the striking coloration of some species attracts much attention from the general public. The larvæ have spine-bearing tubercles or dense groups of spines and branched spines on the thorax and abdomen.

Hyalophora euryalus (Bdv.). Ceanothus silk moth, incorrectly called "Cecropia." *Ceanothus sanguineus*, *Alnus* sp., *Salix* spp., *Ribes* spp., *Betula* spp., and other deciduous hosts; Southern Interior, Victoria, Saltspring Island, Quesnel. Cocoon, pointed at one end, firmly attached to twig on host tree; overwinters. LARVA: 3¼ inches, stout; head and body, yellowish-green; elongate tubercles, each tipped with small black spines; subdorsal and lone middorsal (A8) tubercles red, those on the meso- (T2) and meta-thorax (T3), and middorsum of A8 ringed with black; tubercles in supra- and sub-spiracular rows, white and bluish, black at bases.

Autheræa polyphemus (Cram.). Polyphemus. *Betula papyrifera*, *Quercus garryana*, *Alnus* sp., *Prunus* sp., *Salix* spp., *Populus tremuloides*; Vancouver Island, Southern and Central Interior B.C. Cocoon broadly rounded at both ends, usually formed within leaves; as a rule winters on the host tree suspended on the twigs or the trunk. LARVA: About 3 inches; head yellowish-brown; body green; row of elongate tubercles, with pale bristles along subdorsal, supra- and sub-spiracular areas; all tubercles, except the yellow

anterior subdorsal pair, are an orange-red, those above the spiracles with silvery bases; almost vertical cream-coloured line behind red spiracles on A1 to A8; suranal plate edged laterally with purple and white. Larva takes hunched stance when at rest.

Pseudohazis eglanterina Bdv. Range moth. *Salix* spp., *Populus tremuloides*, *Amelanchier* spp., *Spiraea* spp.; Vancouver Island, Silver Creek, Rock Creek, Vernon. Probably has two-year cycle; overwinters in cocoon or in egg stage. Eggs in mass about twigs. LARVA: 2¼ inches; head, brown, hairy; body, dark brown, paler intersegmental areas; rather obscure, off-white, subdorsal, supra- and sub-spiracular and midventral stripes; row of dense clumps of brown spines along subdorsum; rows of dark-brown branched spines along supra- and sub-spiracular areas; portions of body clothed with fine grey hair.

Liparidæ

Members of this family are defoliators of coniferous and deciduous trees. The caterpillars are hairy, and all but *Stilpnolia* have prominent tufts of plumose hairs. Liparids may be distinguished from the larvæ of other families by the eversible glands (bright red on *Hemerocampa* and *Notolophus*) on the middorsum of abdominal segments 6 and 7. Pupation occurs within thin grey or whitish silken cocoons spun on the leaves, branches, or trunks of the host or adjacent trees. Wings of female *Notolophus* and *Hemerocampa* are rudimentary.

Notolophus antiqus (L.). Rusty tussock moth. *Alnus* spp., *Salix* spp., *Betula papyrifera*, *Acer* sp., *Malus* spp., *Tsuga heterophylla*, *Pseudotsuga taxifolia*, *Picea engelmanni*, *Picea sitchensis*, *Larix occidentalis*, *Abies lasiocarpa*, *Abies grandis*, *Thuja plicata* (two records), *Pinus contorta* (two records); generally distributed; occasionally numerous. Overwinters in egg stage. LARVA: 1 inch; head, glossy black; dorsum of body, grey with black dorsal stripe, narrow on thorax,

broad on abdomen (body may be almost entirely blackish); orange tubercles; brush-like tufts of cream or buff-coloured hair on segments A1 to A4 (in early instars, the first two tufts are black, last two are pale); a long pencil of black plumose hairs on A8, and similar lateral pencils on T1; females have an additional lateral pencil-tuft on A2.

Hemerocampa pseudotsugata McD. Douglas-fir tussock moth. *Pseudotsuga taxifolia*; this species may spread to other coniferous hosts during an infestation. Southern Interior. Outbreaks in the Southern Interior occurred during the following periods: 1918–22, 1928–31, 1938–39, and 1946–49. In most infestations heavy defoliation on a given area apparently was limited to one or two years. Overwinters in egg stage. LARVA: 1¼ inches; head, glossy black; body, hairy, grey and black with broken orange-yellow subspiracular stripe; red tubercles; two prominent black lateral pencil-tufts on T1 and one black dorsal pencil-tuft preceded by a shorter recurved rust-coloured tuft on A8; a dense rust-tipped brush-like tuft on dorsum of each segment A1 to A4; venter pale. Contact with the larval hairs of this species causes a skin rash on some persons.

Parorgyia styx (B. & McD.). *Tsuga heterophylla*, *Pinus monticola* (two records); Coastal B.C. and Vancouver Island. *Parorgyia* spp. have a two- or three-year cycle. LARVA: 1½ inches; dark brown; prominent brush-like clumps of mole-grey hair on dorsum of A1 to A4; very long pencil-tufts of dark clubbed setæ on subdorsum of T1 and A9, single tuft on dorsum of A8; balance of dorsum with tufts of long yellowish setæ, more dense subdorsally on T3 and A5; interspersed with longer clubbed dark setæ subspiracularly.

Parorgyia griseifacta (Dyar). *Pseudotsuga taxifolia*, *Tsuga heterophylla*, *Picea engelmanni*, *Picea glauca*, *Abies lasiocarpa*, *Larix occidentalis*, *Pinus contorta*; Interior B.C.; no infestations recorded. Overwinters in the larval stage.

LARVA: $1\frac{3}{4}$ inches; head, dark brown; dorsum of T1 and A5 to A10 rusty-brown; sides of body, occasionally whole body, blackish; a long black pencil-tuft on the dorsum of A8 and similar lateral paired pencil-tufts on T1 and A9; shorter tufts of plumed black hairs along the supra- and sub-spiracular areas; dirty white brush-like tufts on dorsum of segments A1 to A4; numerous short, white plumed hairs in most of the setal tufts on body above spiracles.

Stilpnotia salicis (L.). Satin moth. *Populus tremuloides*, *Populus trichocarpa*, *Salix* spp. (*Populus nigra* and *P. alba*—exotic species). An introduced insect, first discovered at New Westminster dur-

ing 1920; spread to Vancouver Island by 1932, and up the Fraser River as far as Clinton and east along Thompson River Valley to Bestwick by 1953. During 1944 and 1945, cottonwoods at Botanie Valley, near Lytton, were defoliated; in 1946 a light infestation was observed at a point 10 miles south of Clinton. During 1949, defoliation occurred in several new localities—Savona, Ashcroft, and Stump Lake in the Nicola Valley. Overwinters as young larva in hibernaculum. LARVA: About 2 inches; head, dull black; body, blackish, with a row of constricted white blotches on the dorsum; broken, white subdorsal line; prominent reddish-brown tubercles bearing clumps of brownish hairs on upper portions of the body.

Reference

- Jones, J. R. J. L. An annotated check list of the macrolepidoptera of British Columbia. Occasional Paper No. 1, Ent. Soc. B.C. 148 pp. 1951.