



THE HOMOPTERA OF ALASKA

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INTRODUCTION

THE insects of the suborder Homoptera found in Alaska, in comparison with those in the other orders taken by the Harriman Expedition, are few in number and somewhat disappointing, although they add considerably to our knowledge of the Alaska fauna. Few species of rhynchotous insects have been recorded from this territory, and our knowledge is most meager.

Dr. C. Stål, in a paper entitled 'Beitrag zur Hemipteren-Fauna Sibiens und des Russischen Nord-Amerika,' published in 1858,¹ was the first to record any species from Alaska.

In this contribution Dr. Stål enumerated, in all, 113 species, of which only thirteen came from Alaska, and nearly all of these were collected at Sitka. Substantially, this was all that was known of the fauna up to the date of the Harriman Expedition. Some of the Rhynchota taken by the Expedition have already been reported upon: (1) The Heteroptera, by O. Heideman; (2) the Psyllidæ, by E. A. Schwarz; and (3) the

¹ Stettin. ent. Zeitg., XIX, 1858.

Aphididæ, by Theo. Pergande. In studying the remaining unworked material I have here followed my usual plan, and shall give a complete list of all the species in the suborder Homoptera now known to occur in Alaska, arranged in systematic order.

In all, twenty-four species are known in this suborder, arranged under five families and thirteen genera. Of the species, four have a wide distribution in Europe and North America, namely, *Euacanthus acuminatus* (Fabr.), *Deltocephalus abdominalis* (Fabr.), *Cicadula sexnotata* (Fallen), and *C. fasciifrons* (Stål), and will ultimately be found to occur in northern Asia. *Cicadula leta* (Uhler) occurs in Colorado and Labrador.

SYSTEMATIC ACCOUNT.

Order RHYNCHOTA.

Suborder Homoptera.

Superfamily *FULGOROIDEA* Ashmead.¹

Family DELPHACIDÆ.

Genus *Delphax* Fabricius.

DELPHAX STEJNEGERI Ashmead.

Delphax stejneri ASHM., Fur Seals and Fur Seal Isl., IV, 340, 1899.

Type.—Cat. No. 4046, U. S. Nat. Mus., from Pribilof Islands, Bering Sea. Additional specimens from Metlakatla, June 4; Popof Island, Shumagin Islands, July 8; Farragut Bay, June 5.

This species was originally described from a single female specimen taken by Dr. L. Stejneger on Bering Island. Several specimens were taken by the Harriman Expedition, among which are two brachypterous males that differ from the female as follows:

Length 2.4 mm. The face, except the frontal and the clypeal carinæ, the scutellum, except the carinæ and the extreme lateral and posterior margins, the depressions on the sides of the pronotum, the mesopleura, except laterally and the sutures, the mesonotum, most of the coxæ and most of the abdomen, except the first and second sutures and sometimes the extreme lateral margins of dorsal segments, the extreme upper edges of the pygofers and the circular disk, surrounding the cerci, which are pale yellowish, are black; otherwise, except in the usual sexual difference, it agrees with the female.

¹ The Superfamily Cicadoidea is not yet reported from Alaska, but undoubtedly has representatives in the interior.

DELPHAX HEMIPTERUS Germar.

Delphax hemiptera GERMAR, Svensk. vet. Akad. handl., 24, 1844.—GERMAR, Mag. d. Ent., IV, 50, 1822.—STÅL, Öfvers. kongl. vet. Akad. förh., VII, 194, 1851.

Sitka.

Superfamily *JASSOIDEA* Van Duzee.

Family BYTHOSCOPIDÆ.

Genus *Idiocerus* Lewis.

IDIOCERUS STRIOLA Fieber.

Idiocerus striola FIEBER, Verh. zoöl.-bot. Gesell. Wien, XVIII, 453, 1868.—VAN DUZEE, Trans. Am. Ent. Soc., XXI, 262, 1894.

Sitka.

Family CERCOPIDÆ.

Subfamily *APHROPHORINÆ*.

Genus *Aphrophora* Germar.

APHROPHORA CORTICEA (Germar).

Cercopis corticea GERMAR, Mag. d. Ent., IV, 50, 1821.
Aphrophora corticea BOHEMAN, kongl. vet. Akad. handl., 24, 1847.—STÅL, Stettin. ent. Zeitg., XIX, 197, 1854; Die Cicad., 64, 1868.—J. SAHLBERG, Nat. Fenn., XII, 80, 1871.—MELICHAR, Cicad. v. Mittel. Eur., 119, 1896.

Sitka.

Subfamily *TETTIGONIINÆ*.

Tribe Tettigoniini.

Genus *Euacanthus* Lepelletier et Serville.

EUACANTHUS ACUMINATUS (Fabricius).

Cicada acuminata FABR., Syst. Rhyng., 76, 1803.—FALLEN, Hem. Suec., II, 29, 1826.—HERR.-SCHAEF., Nom. Ent., 67, 1835.

Tettigonia acuminata FALLEN, D. Ins., III, 1805-1806.

Euacanthus acuminatus KIRSCHBAUM, Cicad. Wiesb. u. Frankf., 73, 1868.—FLOR., Rhync. Liol., II, 152, 1861.—J. SAHLBERG, Nat. Fenn., XII, 108, 1868.—EDWARDS, Syn. Brit. Hemop., II, 1886.—MELICHAR, Cicad. Hem.-Homop. Mitkl. Europ., 179., 1896.

Amblycephalus germari MARSHALL, Ent. Mo. Mag., II, 85, 1865.

Fox Point, Southeast Alaska, July; Metlakatla, July 4.

Six specimens. It has also been taken at Fort Wrangell by Professor W. H. Wickham.



Family JASSIDÆ.

Tribe Deltocephalini.

Genus *Deltocephalus* Burmeister.

DELTOCEPHALUS ABDOMINALIS (Fabricius).

Cercopis bicolor FABRICIUS, Ent. Syst., IV, 40, 1794.

Cercopis abdominalis FABRICIUS, Syst. Rhyn., 98, 1803.

Cicada abdominalis FALLEN, Hem. Suec., II, 37, 1829.—ZETTERSTEDT, Ins. Lapon., 290, 1840.

Jassus (Deltocephalus) abdominalis FLOR., Rhync. Liol., II, 249, 1860.—GERMAR, Faun. Ins. Eur., fasc. 17, tab. 19.—KIRSCHBAUM, Die Cicad. v. Wiesbaden u. Frankfurt, 129, 1868.

Deltocephalus abdominalis FIEBER, Verh. zöol.-bot. Gesell. Wien, XIX, 215, 1869.—J. SAHLBERG, Nat. Fenn., XII, 328.—EDWARDS, Syn. Brit. Homop., 44, 148.—MELICHAR, Cicad. v. Mittel. Eur., 140, 1896.

Popof Island, Shumagin Islands, July 7.

DELTOCEPHALUS HARRIMANI sp. nov.

Male.—Length to tip of elytra 3.2 mm. Pale or light mushroom brown, the mesonotum with at least three faint pale longitudinal lines, the vertex with a pale median line and a hook-shaped line on each side, the face with 7 or 8 transverse whitish lines interrupted medially; the thorax beneath, except the sutures and margins of the sclerites, and the abdomen, except the apex of the penultimate and ultimate ventral segments and the apical margins of the dorsal segments, which are pale, are smoky or blackish; the legs are pale, the front femora with a brown annulus at base, the two last joints of the hind tarsi fuscous. Elytra hyaline, the veins pale, the clavus with two oblong brown spots, and an irregular series of brown dashes or spots, extending from the middle discoidal cell forward to and enclosing the middle apical cell.

Type.—Cat. No. 6868, U. S. Nat. Mus., from Seldovia, Kenai Peninsula, July 7. Three specimens.

DELTOCEPHALUS EVANSI sp. nov.

Male.—Length to tip of elytra, which extend beyond tip of abdomen, 5 mm. Form of *D. abdominalis* (Fabr.), but slightly smaller and pale greenish, the upper surface of the head, thorax, and the elytra immaculate, except two fuscous dashes at the middle of the angular head and a slight curved line on each side extending from the dashes toward the eyes; frons with 6 or 7 transverse fuscous lines, these becoming shorter and shorter, the seventh being a mere dot; sutures of the face and lora fuscous; thorax at sides and beneath and the abdomen blackish; some of the abdominal segments at apex are narrowly margined with yellowish white; while the legs are maculate with fuscous spots.

Female.—Length to tip of abdomen 4.5 mm., the elytra somewhat abbreviated and not extending to the tip of the abdomen. Differs in color from the male in having the apex of the abdomen, the venter, and legs pale yellowish, the hind tarsi fuscous. Kusilof, July, 1899 (W. H. Evans).

Type.—Cat. No. 6869, U. S. Nat. Mus., from Kusilof, July, 1898 (W. H. Evans). Additional specimens from Metlakatla, July 4.

Tribe Cicadulini.

Genus *Cicadula* Zetterstedt.

CICADULA SEXNOTATA (Fallen).

Cicada sexnotata FALLEN, Acta Holm., XXII, 34, 1806.—Kongl. vet. Akad. handl., 33, 1806.—FALLEN, Hem. Suec., II, 47, 1826.

Eupteryx sexnotata CURTIS, Brit. Ent., XIV, 14, pl. 640, 10.

Tettigonia 6-notata GERM., Faun. Ins. Eur., fasc. 14, tab. 13.

Jassus 6-notatus BURMEISTER, Gen. Ins., I, no. 17, 1840.—WALKER, List Homop. Brit. Mus., III, 878, 1851.—FLOR., Rhync. Liol., II, 341, 1861.—MARSHALL, Ent. Mo. Mag., III, 125, 1867.—THOMSON, Opus. Ent., I, 77.

Acrosteles 6-notata FIEBER, Verh. zoöl.-bot. Gesell. Wien, XVI, 54, 1866.

Limnotettix sexnotata J. SAHLBERG, Nat. Fenn., XII, 247, 1879.—STÅL, Stettin. ent. Zeitg., XIX, 194, 1858.—EDWARDS, Trans. Ent. Soc. London, 76, 1888.

Cicada alpina ZETTERSTEDT, Ins. Lappon., 297, 1840.

Cicadula sexnotata ZETTERSTEDT, Ins. Lappon., 297, 1840.—SCOTT, Ent. Mo. Mag., XI, 230, 1870.—FIEBER, Revue d'Ent., IV, 47, 1885.—WOODWORTH, Psyche, V, 75, 1888-90.—PROVANCHER, Pet. Faun. Ent. Can., III, 287, 1890.—VAN DUZEE, Psyche, VI, 305, 1891-92.—HARRINGTON, Ottawa Nat., VI, 32, 1892.—SOUTHWICK, Science, XIX, 288, 1892.—OSBORN, Proc. Iowa Acad. Sci., I, 12, 1892.—SLOSSON, Ent. News, V, 5, 1894.—VAN DUZEE, Trans. Am. Ent. Soc., XXI, 307, 1894.—MELICHAR, Cicad. v. Mittel-Eur., p. 309, 1896.

Popof Island, Shumagin Ids., July 17; Seldovia, July 21; Karluk, Kadiak Island.

CICADULA FASCIIFRONS (Stål).

Thamnotettix fasciifrons STÅL, Stettin. ent. Zeitg., XIX, 192, 1858.

Cicadula fasciifrons FIEBER, Revue d'Ent., IV, 48, 57, 1885.—VAN DUZEE, Trans. Am. Ent. Soc., XXI, 308, 1894.

Sitka; Popof Island, Shumagin Ids., July 7; Seldovia, July 21; Karluk, Kadiak Island. Sixteen specimens.

CICADULA LÆTA (Uhler).

Jassus lætus UHLER, Bull. U. S. Geol. Surv., II, 360, 1876; id., III, 473, 1877.

Thamnotettix lætus VAN DUZEE, Psyche, VI, 306, 1891-92; Can. Ent., XXIV, 268, 1892; Trans. Am. Ent. Soc., XXI, 303, 1894.

Popof Island, Shumagin Islands, July 7.

CICADULA LINEATIFRONS (Stål).

Thamnotettix lineatifrons STÅL, Stettin. ent. Zeitg., XIX, 195, 1858. —
FIEBER, Revue d'Ent., IV, 85, 1885. — VAN DUZEE, Trans. Ent. Soc.,
XXI, 303, 1894.

Sitka; additional specimens from Seldovia, July.

CICADULA UNGÆ sp. nov.

Female.—Length to tip of elytra 5.1 mm. Stature and general appearance of *C. læta* (Uhler), and evidently allied. General color yellowish, the vertex and the face black; the crown has a yellowish median line which extends forward and connects with a transverse yellowish band on the upper margin of the face, and on each side of this median line is a circular yellowish line enclosing a rounded black spot, which, however, is not entirely separated from the black along the eyes; cheeks yellowish, with a spot beneath the eyes and an oblique line across the lora black; thorax at sides and beneath black, the mesonotum along the anterior and posterior margins blackish, the scutellum black except the extreme margins, the prosternum marked with yellow, the mesopleura with a yellow oblique line which is connected with a yellow line along the hind margin; legs blackish, the joints of the trochanters apically, the front and middle femora at apex and beneath, interrupted by a black spot or band, and the hind femora, except at sides basally, which are black, the black extending into a narrow line, apically, are yellowish; the hind tibiæ are black beneath, with a double row of black dots behind, the joints of tarsi are black apically, with a black line beneath and above. The elytra are yellowish along the costa, the veins being margined with fuscous. Abdomen black, the dorsal segments at apex and along the sides are margined narrowly with yellow, while the terminal ventral segment, except a black spot laterally near the base and along the basal margin, is almost wholly yellow.

Type.—Cat. No. 6870, U. S. Nat. Mus., from Unga Island, Shumagin Islands, July 2. One specimen.

Subfamily *TYPHLOCYBINÆ*.Genus *Dicraneura* Hardy.

DICRANEURA CARNEOLA (Stål).

Typhlocyba carneola STÅL, Stettin. ent. Zeitg., XIX, 196, 1858.
Dicranoneura carneola WOODWORTH, Psyche, v, 213, 1888-90.
Dicraneura carneola VAN DUZEE, Trans. Am. Ent. Soc., XXI, 311, 1894.

Sitka.

Genus *Chloroneura* Walsh.

CHLORONEURA PURA (Stål).

Typhlocyba pura STÅL, Stettin. ent. Zeitg., x, 175, 1858.*Empoasca pura* WOODWORTH, Psyche, v, 213, 1888-90.

Sitka.

Genus *Empoasca* Walsh.

EMPOASCA COMMISSURALIS (Stål).

Typhlocyba commissuralis STÅL, Stettin. ent. Zeitg., XIX, 196, 1858.*Empoasca commissuralis* WOODWORTH, Psyche, v, 214, 1888-90.—VAN DUZEE, Trans. Am. Ent. Soc., XXI, 310, 1894.

Sitka.

Superfamily *PSYLLOIDEA* Ashmead.Family *PSYLLIDÆ*.Genus *Aphalara* Förster.

APHALARA SCHWARZI sp. nov.

Aphalara sp. SCHWARZ, Proc. Wash. Acad. Sci., II, 539, 1900.

Female.—Length to tip of abdomen 2.3 mm., to tip of wings 4.2 mm. General ground color greenish-white, the crown of the head, except narrowly at the margins, the middle of the face, the thorax beneath, except narrowly along the sutures of the sclerites, the coxæ, the femora, except apically and basally, the ventral segments, except apical margins, a dot on each side of the collar, the mesonotum, except a median streak posteriorly from the transverse grooved line and extending to the scutellum, the depressions at base of metathorax just back of the scutellum, and the dorsum of the abdomen except at the sutures of the segments, dark fuscous or brown; antennæ whitish or pale, with the terminal joint black.

Wings hyaline, the front wings with a rather broad transverse fuscous band at the basal third which is connected with a fuscous band at the base of the radial cell; there is another fuscous band extending obliquely across the wings from the tip of the radial cell, and two triangular fuscous spots at the apical margin, one enclosing the apex of the cubital vein, the other the lower branch or fork of the cubitus.

Male.—Length to tip of abdomen 1.8 mm., to tip of wings 3.1 mm. Agrees well with the female, except that the head, thorax, and abdomen are darker, almost black, the apices of the abdominal segments being very narrowly whitish, the mesopleura having a whitish streak at the middle, the basal margin of the mesonotum being narrowly whitish



FIG. 6. Genitalia of *Aphalara schwarzi*.

and connected with two median dots just in front of the scutellum, while there are two whitish curved lines on the scutellum.

Genitalia as in fig. 6.

Type.—Cat. No. 6271, U. S. Nat. Mus., from Fox Point, Southeastern Alaska. Additional specimens from Popof Island, July 7; Belkofsky, July 29.

APHALARA KINCAIDI sp. nov.

Male.—Length to tip of abdomen from 1.6 to 1.8 mm., to tip of wings 2.5 to 2.6 mm. General color pale greenish-yellow; there is a large median spot on each lobe of the head above, two dots or lines on the sides of the collar with a puncture beyond near the lateral angles, two triangular spots on the anterior lobe of the mesonotum just back



FIG. 7. Genitalia of *Aphalara kincaidi*.

of the collar, four bands on the mesoscutum and the depressions of the scutellum, dark fuscous or black. The antennæ, except the basal and apical joints which are black, are whitish. Wings hyaline, with some fuscous along the margin of the radial cell, the cubitus and its forks, the fork of the postcubitus apically, the lower fork of the cubitus and the upper fork of the postcubitus; the latter is sometimes connected with a fuscous streak, rarely, however, very distinct.

Genitalia as in fig. 7.

Type.—Cat. No. 6272, U. S. Nat. Mus., from Metlakatla, June 4. Additional specimens from Popof Island, July 9; Fox Point, July.

APHALARA ALASKENSIS sp. nov.

Female.—Length to tip of abdomen 2.3 mm., to tip of wings 3.6 mm. Uniformly pale greenish, the tips of the antennæ and the claws black, the eyes brown. Wings hyaline, with a fuscous streak along the radial vein, along the upper and lower forks of the cubitus, and at the apex of the upper fork of the postcubitus, the latter being connected by a fuscous streak with the base of the cubital fork.

Male.—Colored as in female, and hardly distinguished from it except for the sexual abdominal differences, and by the less distinct fuscous streak along the nervures, the upper fork of the postcubitus not being connected by a fuscous streak with the base of the cubital fork.

Genitalia as in fig. 8.

Type.—Cat. No. 6273, U. S. Nat. Mus., from Fox Point, Southeastern Alaska, July.



FIG. 8. Genitalia of *Aphalara alaskensis*.

Genus *Psylla* Geoffroy.

PSYLLA ALASKENSIS sp. nov.

Female.—Length to tip of abdomen 2.8 mm., to tip of wings about 5 mm. Greenish-yellow; last four or five joints of antennæ, especially toward apex, more or less fuscous; eyes green; large spot on each side of collar and the depressions and sutures of scutellum and metathorax more or less fuscous; median line on anterior lobe of mesonotum and four lines on posterior lobe whitish. Wings pale greenish-hyaline, immaculate, except a faint dusky shade toward the apices.

Male.—Length to tip of abdomen 1.8 mm., to tip of wings less than 3 mm. Colored as in female, except the antennal joints 3 to 6 are tipped with black, while the wings are more distinctly dusky at apex.

Genitalia as in fig. 9.

Type.—Cat. No. 6274, U. S. Nat. Mus., from Popof Island, Shumagin Ids., July 16. Additional specimens from Fox Point, July 19; Seldovia, July 21.



FIG. 9. Genitalia of *Psylla alaskensis*.

Superfamily *APHIDOIDEA* Ashmead.Family *APHIDIDÆ*.Genus *Nectarophora* Koch.*NECTAROPHORA CAUDATA* Pergande.

Nectarophora caudata PERGANDE, Proc. Wash. Acad. Sci., II, 513, ♀, 1900.

Type.—Cat. No. 5274, U. S. Nat. Mus., from Juneau.

NECTAROPHORA EPILOBII Pergande.

Nectarophora epilobii PERGANDE, Proc. Wash. Acad. Sci., II, 515, ♀, 1900.

Type.—Cat. No. 5276, U. S. Nat. Mus., from Popof Island, Shumagin Ids.

NECTAROPHORA INSULARIS Pergande.

Nectarophora insularis PERGANDE, Proc. Wash. Acad. Sci., II, 515, ♀, 1900.

St. Paul Island, Bering Sea.

Genus *Cladobius* Koch.*CLADOBIUS POPULENS* (Kaltenbach).

Aphis populens KALTENBACH, Monogr. d. Pflanzenl., I, 116, 1843.

Cladobius populens PERGANDE, Proc. Wash. Acad. Sci., II, 516, 1900.

Superfamily *COCCOIDEA* Ashmead.

No Coccid is yet reported from Alaska, although a species, probably an *Aspidiotus*, is found on willows.