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Monograph of the Species of Aphilanthops Inhabiting Boreal America

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Richard Dow

1758

Hymenoptera - Sphecidae - Phlaethininae

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DUNNING
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MONOGRAPH OF THE SPECIES OF APHILANTHOPS INHABITING BOREAL AMERICA.

BY S. N. DUNNING.

The material on which this study is based belongs (with the exception of *A. bakeri* Dun. and *A. utahensis* Baker) to the American Entomological Society. I am much indebted to Mr. Wm. J. Fox for assistance rendered—without which I could never have completed this article. To Prof. C. F. Baker my thanks are due for the loan of the types of *bakeri* and *utahensis* ♂ above mentioned.

APHILANTHOPS Patt.

Aphilanthops Patton, Proc. Boston Soc. Nat. Hist. xx, 401 (1880).

Clypeadon Patton, Ent. News, p. 13, 1897.

Eyes entire, parallel inwardly; second submarginal cell receiving recurrent nervure near middle, third receiving recurrent near base; head broader than high, wider than thorax; basal segment not strongly constricted; submedian cell of posterior wings falling far short of the median cell on the externo-medial nervure; ♀ with a broad, flattened enclosure on last dorsal segment.

FEMALES.

Clypeus 5-dentate, pygidium triangular, body subdepressed, antennæ subfiliform, tending to subclavate.

A small pair of claspers. **elsie.**

No claspers.

Third joint of antennæ not longer than 4-5 combined. **frigidus.**

Third joint of antennæ longer than 4-5 combined. **subfrigidus.**

Clypeus not dentate, evenly rounded, pygidium subquadrate, body ovate, antennæ filiform.

Ground color of head, thorax, legs and abdomen, black. **taurus.**

Ground color of head and thorax black, legs always rufous, and abdomen divided between black and rufous, latter usually predominating.

quadrinotatus.

Ground color rufous throughout. **utahensis.**

MALES.

Head and thorax extremely hairy. **hispidus.**

Head and thorax not more than ordinarily hairy.

Face covered with thick growth of silvery appressed hairs.

Legs black and yellow, ground color black.

Space between eyes above much greater than their length, the hind ocelli separated by a distance much less than that between them and eyes.

taurulus.

Space between eyes above but little greater than their length, the hind ocelli separated by a distance about equal to that between them and eyes.....**laticinctus.**

Legs rufous and yellow.

Ground color rufous, mesothoracic punctures of medium size..**utahensis.**

Ground color black, or black and rufous, mesothoracic punctures large and coarse.....**concinulus.**

Face more or less hairy, but never thickly so. or appressed.

Clypeus lobed, not dentate.

Ground color yellow, antennæ subfiliform.....**foxi.**

Ground color black, antennæ filiform.....**bakeri.**

Clypeus distinctly 3-dentate.

Third joint of antennæ longer than joints 4-5 combined..**subfrigidus.**

Third joint of antennæ not longer than joints 4-5 combined..**frigidus.**

Aphilanthops frigidus Sm.

Philanthus frigidus Smith, Brit. Mus. Cat. Hym. iv, p. 475, ♂.

Aphilanthops frigidus Patton, l. c., p. 401, 1880, ♂ ♀.

♀.—Length 11-15 mm. Black with yellow markings. Head, except on front, covered with a sparse growth of fine hair; black, except three broad stripes on face (two on eye margins and one below antennal base), and sometimes a line behind eyes, which are yellow, finely and closely punctured; eyes farther apart than their greatest length; ocelli as far from nearest eye-margin as the length of third joint of antennæ, sometimes a barely noticeable smooth shining spot behind; clypeus 5-dentate, sparsely covered with shallow punctures; mandibles piceous, yellow outwardly at base; antennæ subfiliform, scape yellow spotted, flagellum ferruginous at base and at tip of last joint, third joint barely as long as 4-5 combined. Thorax black, a line on collar (usually interrupted) spots on scutellum, postscutellum, posterior angles, tegulæ and spot behind tubercles (all liable to be absent) yellow, covered with a sparse growth of brown hair; mesothorax strongly wrinkled, closely and finely punctured; scutellum more coarsely punctured; metathorax closely and finely punctured, elevation smooth, shining, prominent and not divided by suture, a circular cavity above. Abdomen black, with two large yellow spots on first segment, a band on second narrowly interrupted, like bands on 3, 4 and 5 sometimes connected; finely and closely punctured; a few hairs on first; a somewhat triangular cavity on pygidium containing large shallow punctures; subdepressed; venter black or piceous, a few yellow spots (sometimes absent), a few hairs laterally and with large scattered punctures; coxæ black, sometimes yellow spotted, first half (and sometimes almost all) of femora black or piceous, rest yellow; tibia yellow; tarsi yellow, ferruginous at tips. Wings clear, sometimes darkened, nervures ferruginous, light spot before stigma.

♂.—Length 10 mm.; smaller and narrowed, abdomen ovate, not depressed; eyes not as far apart as their greatest length; clypeus 3-dentate; yellow spots on sixth segment and yellow on venter more extended; otherwise as in ♀.

Hab.—Illinois, Massachusetts, Connecticut, New Jersey, Canada, Colorado, Montana. Eleven females and one male. The specimens

from Colorado and Montana show markings very pale yellow. The var. ♀ mentioned by Mr. E. T. Cresson in his Monograph of N. A. Philanthidæ (Proc. Ent. Soc. Phila., vol. v, p. 88, 1865) belongs to *subfrigidus*.

Aphilanthops subfrigidus n. sp.

♀.—Length 11–16 mm. Black, with bright yellow markings. Head closely and finely punctured on vertex, face covered with a thin growth of hair, black except three broad stripes on face yellow (like *frigidus*, but more extended and usually all connected anteriorly, making whole of face except two narrow diverging lines below antennæ yellow), also a yellow line on posterior orbits; eyes farther apart than their greatest length; third joint of antennæ distinctly longer than distance from hind ocelli to eye margin, no smooth shining spot behind; clypeus 5-dentate, a few shallow punctures; mandibles piceous, yellow outwardly at base; antennæ subfiliform, scape yellow spotted, black, tip of last joint only ferruginous, third joint longer than 4-5 combined. Thorax black, a band, usually interrupted, on collar, spot on scutellum, post-scutellum, posterior angles (all liable to be absent), tegulæ and spot behind tubercles yellow, a fairly long growth of hair mostly below and posteriorly; mesothorax wrinkled, closely and finely punctured; scutellum closely and a little more finely punctured; metathorax finely and closely punctured, elevation not smooth shining, not divided by suture, a cavity above. Abdomen black, with deep yellow spots on first segment, a usually disconnected band on second, a sometimes disconnected band on third, bands on segments four and five, sixth usually yellow, or yellow and piceous, sometimes piceous alone, shaped like *frigidus*, subdepressed, a very few hairs at base; venter black, usually yellow marked, with quite a sweep of hairs. Legs as in *frigidus*, except yellow is more pronounced. Wings fulvous, nervures lighter than *frigidus*, no light spot before stigma.

♂.—Length 8–13 mm. Abdomen ovate, eyes about as far apart as their greatest length, clypeus 3-dentate, a yellow band on sixth segment, face (usually) covered with a thin growth of hair, otherwise as in ♀.

Twenty-one females, twenty-nine males. Washington, Nevada, Vancouver Island. The specimens from Vancouver (all males) show color almost white. This may be due to an immersion in spirits.

Aphilanthops foxi n. sp.

♂.—Length 13–14 mm. Mostly bright yellow, a few black markings. Head yellow, except irregular line across vertex and subquadrate patch back of this which are black, vertex closely and finely punctured; eyes as far apart as their greatest length; hind ocelli about the distance of two-thirds of third antennal joint from eye-margin, no smooth shining spot behind; mandibles yellow, red tipped; clypeus irregular, but not dentate, mustache dull red; scape yellow, flagellum filiform, first joint black and second partly so, next five or six joints rust colored, tip darker, third antennal joint longer than 4-5 combined. Thorax yellow, with three narrow lines on mesothorax, a band across posterior edge of the same, a wider band across front edge, metathorax connected by a narrow line with a subquadrate patch on posterior face (which contains a few yellow dots) and a wedge-shaped mark near middle coxæ, all black; covered with a thin

growth of short white hairs somewhat longer on posterior angles; mesothorax finely and sparsely punctured; scutellum and post-scutellum smooth shining, not punctured; metathorax, except elevation, which is smooth shining, roughly and closely punctured. Abdomen closely covered with medium-sized punctures: yellow, with a narrow, posterior, rufous-colored band on segments 1 to 4 or 5, rest yellow, except tip, which is rufous tinted; a very short growth of white hair above; venter mostly yellow, a longer growth of white hair. Legs yellow, except spot on under side of femora and tip of first and all of remaining tarsal joints, which are rufous. Wings not clouded, clear, stigma and nervures rust colored, stigma without light spot before.

Two specimens collected by Mr. D. W. Coquillett (and deposited by Mr. W. J. Fox in the collection Acad. Nat. Sci.), one from Southern California and the other from San Diego County same State. The collection of the U. S. National Museum contains two other examples of this species.

Dedicated to Mr. Wm. J. Fox.

Aphilanthops bakeri Dun.

Aphilanthops bakeri Dunning, Can. Ent. vol xxviii, p. 203 (1896).

♂.—Length 8.5 10 mm. Black with bright yellow markings. Head closely and finely punctured, covered with a fine white down, black except face and line behind eyes; eyes about as far apart as their greatest length; ocelli about distance of length of third antennal joint from eye-margin, no smooth shining spot behind; clypeus not dentate, but with three not very distinct lobes; mandibles yellow, rufous at tip; third joint of antennæ shorter than joints 4-5 combined, scape yellow spotted, flagellum rufous (more or less) on first half and tip, rest black, filiform. Thorax covered with a growth of fine white hair, black except collar, sometimes a spot below, tegulæ, tubercles, crescent-shaped spot back of tubercles, a V-shaped mark below and back of this, spots on scutellum and post-scutellum and posterior angles, yellow; mesothorax finely, but not as closely punctured as head, wrinkled; scutellum more sparsely punctured, smooth shining; metathorax finely punctured, elevation not shining or divided by suture. Abdomen closely and finely punctured, except first segment, which is coarse; a more sparse growth of fine down posteriorly; first segment spotted, 2-6 with bands narrowed in center, sometimes disconnected, all yellow, rest black; venter black and fairly hairy, liberally spotted with yellow; coxæ and trochanters yellow spotted; first four-fifths of femora outwardly black, rest yellow; tibia yellow, except dark spot inwardly and tip, which is inclined to rufous; tarsi inclined to rufous, except first joint, which is yellow. Wings inclined to dusky, nervures and stigma ferruginous with a light spot before stigma.

Two males, Colorado, collected by Prof. C. F. Baker.

Aphilanthops laticinctus Cr.

Philanthus laticinctus Cresson, Proc. Ent. Soc. Phila. v, 91 (1865).

Aphilanthops laticinctus Patton, l. c.

♂.—Length 5-9 mm. Black with lemon-yellow markings. Head black, except yellow anteriorly on clypeus and side pieces, covered with a dense growth of short silvery hair, closely and finely punctured; eyes above about as far apart as their greatest length or a little more; no smooth spot behind ocelli,

about as far from eye-margin as the length of third joint of antennæ; clypeus 3-dentate, mustache yellowish; mandibles yellow, rufous tipped; scape yellow, second antennal joint black, rest ferruginous, darker above, filiform, third joint as long as 4-5 combined. Thorax with a silvery growth of hair longer below; black, interrupted line on collar, spot below, scutellum anteriorly, post. scutellum, large spot on posterior angles, tegulæ, tubercles and spot back of same yellow; mesothorax with fine close punctures, wrinkled; scutellum shining, with medium sized punctures; metathorax with medium sized punctures, elevation not shining, indistinctly divided by suture, a small cavity above. Abdomen not hairy above, closely and mediumly punctured, black with lemon-yellow band on segments 1-5 (constricted medially on 1-2) located about the middle of the segment, a yellow dot sometimes on segment 6; venter with a few hairs, sometimes yellow marked. Legs black with last half or so of femora, tibia except rufous colored spot inside, yellow; tarsi inclined to rufous. Wings not clouded, sometimes tinged with fulvous, nervures light fuscous, stigma darker, a light spot before.

Hab.—Montana, Colorado, New Mexico (on *Bigelovia wrightii* by Prof. Cockerell in the Mesilla Valley, also at Santa Fé). Twenty-seven specimens.

***Aphilanthops elsie* n. sp.**

♀.—Length 14 mm. Black with yellow markings. Head finely and closely punctured, except on face a rather long growth of ferruginous hair, black except face and line behind eyes, which are yellow (two black lines forming a disconnected band and surrounded by yellow on face, which is marked like *subfrigidus*); eyes farther apart than their greatest length; hind ocelli about two-thirds of the distance of the length of third antennal joint from eye-margin, no smooth shining spot behind; clypeus 5-dentate, edged with brown hairs; mandibles black, yellow outwardly at base, piceous at tip; scape yellow tipped, flagellum black, subfiliform, third antennal joint longer than 4-5 combined. Thorax black, collar, post-scutellum, scutellum, posterior angles, tegulæ, spot before, small spot on tubercles and larger spot behind, all yellow; a growth of ferruginous hair, longer below and posteriorly; mesothorax finely and closely punctured, wrinkled; scutellum finely and closely punctured, smooth shining, in center; metathorax more closely punctured, elevation not smooth shining, not divided by suture, a circular cavity above (like *subfrigidus*). Abdomen subdepressed; a few scattered hairs, mostly on first segment; finely and closely punctured, more deeply on first; black, large spots on first, barely interrupted bands on 2-4, band on 5, a mark on pygidium, yellow; pygidium margined, *frigidus*-like, but larger; claspers small, protruding beyond pygidium the distance of the length of penultimate tarsal joint; venter yellow marked, not hairy, smooth, with very few punctures. Legs yellow, except base of tibia; trochanters and coxæ black with yellow spots. Wings clear, stigma and nervures ferruginous, no light spot before stigma.

One specimen, California (deposited by W. J. Fox in Acad. Nat. Science).

***Aphilanthops taurulus* Ckll.**

Aphilanthops taurulus Cockerell, Trans. Am. Ent. Soc. xii, p. 293 (1895).

♀.—Length 11 mm. Black with pale yellow markings. Head strongly and closely punctured, covered with a short growth of silvery hair; black, except

prominent whitish band across anterior margin of clypeus and side pieces; eyes much farther apart above than their greatest length; ocelli with a smooth shining spot behind, a little less than the distance of the length of antennal joints 3-4 from eye-margin; scape of antennæ yellow tipped, third joint shorter than 4-5 combined; clypeus not dentate, evenly rounded; mandibles piceous. Thorax black, with collar, anterior portion scutellum, post-scutellum, tegulæ, tubercles and spot behind pale yellowish white, a whitish growth of fine hair below and posteriorly; mesothorax strongly and closely punctured, more finely so at edges; scutellum smooth, shining centrally, large punctures posteriorly; post-scutellum more finely punctured; metathorax rugose, smooth, shining, on elevation, which is divided by suture; suture strongly cross-wrinkled. Abdomen with large, sparse punctures; not hairy; black with yellow patches on segments 1-3 forming bands on 4-5, very wide on latter, segment 6 subquadrate as in *4-notatus*, a deep narrow emargination at sides, claspers as in *4-notatus*; venter smooth, shining, immaculate, a few hairs and punctures. Legs black, tibia yellow outwardly and strongly spined. Wings clear, stigma and nervures ferruginous, a light spot before stigma.

♂.—Length 9-11 mm. Two specimens show yellow on face confined to side pieces, while one specimen shows a band somewhat as in ♀, but shorter and narrower and confined to middle lobe. The latter also shows a spot on posterior angles of metathorax; mandibles yellow spotted outwardly (eyes farther apart than their greatest length); otherwise like ♀.

Hab.—New Mexico, Arizona. Two males, Las Cruces, New Mex., Ckll. 872, Ckll. 5090; one ♂ locality not specified; ♀ Arizona. On *Bigelovia wrightii* in the Mesilla Valley, New Mexico. Also at Rincon, New Mex. (Prof. Cockerell).

This species shows some little variation in the size and number of punctures.

***Aphilanthops quadrinotatus* Ashm.**

Aphilanthops quadrinotatus Ashmead, Bull. No. 1 Col. Biological Asso. 1890, p. 7.

♀.—Length 8-10 mm. Black and rufous with pale yellow markings. Head black, covered with a short growth of silvery hair, vertex closely and finely punctured; greatest distance apart on vertex equal to four-fifths of length of eyes; ocelli the length of second and third antennal joints from eye-margin, no smooth spot behind; lower half of clypeus and side pieces yellowish, sometimes rufous, very slightly margined with black, not dentate; mandibles reddish yellow, black tipped; scape yellow, flagellum rufous, third antennal joint as long as two following. Thorax black, with an interrupted line on collar, anterior margin of scutellum, scapulæ, post-scutellum, oblong spot on lateral angles, tegulæ, tubercles and spot behind, all yellowish, with a short growth of silvery hair thicker below; mesothorax, scutellum and post-scutellum closely and finely punctured; metathorax more roughly punctured. Abdomen as long as head and thorax, finely and irregularly punctured; a few silver hairs above longer and thicker posteriorly; rufous, with a black band on margin of segments 3-4 and 4-5; segments 1-3 with oblong spots (last often forming an interrupted band), a band on 4 and 5, all pale yellow; sixth segment flattened, concave, subquadrate, ridged centrally, not marked; claspers obtuse and just protruding beyond segment 6, flattened; venter sometimes darkened apically, a few hairs and a few large punctures. Legs rufous, tarsi darkened. Wings hyaline, not clouded, stigma and nervures fuscous, the former darker and with a light spot before.

Thirty-six specimens, Montana. Ashmead's type was from Colo. Prof. Cockerell has taken this species on *Bigelovia wrightii* in the Mesilla Valley, New Mexico.

Aphilanthops concinnulus Ckll.

Aphilanthops concinnulus Ckll., Can. Ent. xxviii, p. 221, ♂ (not ♀), (1896).

♂.—Length 6-8 mm. Black and rufous (sometimes almost all black) with yellowish white markings. Head black, except most of middle lobe of clypeus and side pieces (all forming a band) which are yellowish white, finely but sparsely punctured, a growth of silvery hair very dense on face; eyes slightly farther apart than their greatest length; ocelli distance of length of third joint of antennæ from eye-margin, a barely noticeable smooth, shining spot behind; mandibles rufous, darker at tips, yellow without at base; third joint of antennæ long as 4-5 combined, scape yellow spotted, flagellum dark rufous, filiform. Thorax with a growth of short silvery hair, black (metathorax sometimes rufous), with collar, scutellums anteriorly and scapulæ, post-scutellum, lateral angles, tegulæ, tubercles and spot behind, all yellowish white; mesothorax with large rough punctures, medium close, not wrinkled; scutellum shining, smooth; metathorax inclined to rugose, elevation not shining, suture narrower than in *concinnulus*. Abdomen ovate, a few pale hairs, large punctures on segment 1, finer and closer on following, black or rufous, or both intermingled on segments 1-3, rest black; bands on segments 1-5 (emarginate posteriorly on first and divided on second, and sometimes on third) and a spot on segment 6, all yellowish white; venter with hairs, large punctures, banded with yellowish white, ground color same as above. Legs rufous, four posterior tarsi darker, knees and the tibia without yellowish white. Wings not clouded, nervures and stigma very dark, a light spot before latter.

Three specimens, Rincon, N. Mex. (on *Chilopsis saligna*). This may be a subspecies or race of *utahensis*.

Aphilanthops utahensis Baker.

Aphilanthops utahensis Baker, Can. Ent. xxvii, p. 335 (1895), ♂.

Aphilanthops concinnulus Ckll., Can. Ent. xxviii, p. 221 (1896), ♀ (not ♂).

♀.—Length 9 mm. Rufous, with yellow-white markings. Head rufous, with irregular dark band across region of ocelli, covered with a thin growth of silvery hair, finely and sparsely punctured; eyes as far apart as their greatest length; ocelli as far from eye-margin as length of third joint of antennæ, a not very distinct, smooth, shining spot behind; clypeus rounded, not dentate; mandibles rufous, black tipped, a yellow spot outwardly at base; antennæ rufous, darker above, filiform, third as long as 4-5 combined. Thorax rufous, with collar, scutellum anteriorly, scapulæ, post-scutellum, tegulæ, tubercles and spot behind, yellow; covered with a sparse growth of silvery hair mostly below and behind; mesothorax not distinctly wrinkled, with medium sized sparse punctures; scutellum smooth, shining, not punctured; post-scutellum edged with black; metathorax rugose rather than punctured, elevation not smooth shining, divided by suture, cavity above with crosswise wrinkles. Abdomen rufous, darker posteriorly, two spots on segment 1, an interrupted band on segments 2-3, a band, narrow on posterior edge, on segment 4, a spot on 5, all pale yellow, almost white; roughly punctured on first and more finely on rest, fairly close; a few scattered white hairs; apical segment as in *quadrinotatus*, but is twice emarginate

posteriorly, also a deep narrow notch on each side; venter immaculate, a few hairs and punctures. Legs rufous, fore knees, middle and hind knees and tibia outwardly yellowish white, middle and hind tarsi darker. Wings clear, nervures and stigma dark ferruginous, a light spot before stigma.

♂.—Length 7.5 mm. Black band on vertex interrupted on each side of ocelli; clypeus 3-dentate, two yellowish spots on corners of middle lobe and one on each of side pieces, covered with a dense growth of silvery hair; yellowish on fore legs a little more extended; a band on segments 1-5, disconnected on second only, apex darker than ♀, venter yellow banded; mesothorax with black and rufous merged, as are posterior lateral angles of metathorax; eyes a little farther apart than their greatest length; otherwise same as ♀, except that suture of metathorax shows no cross wrinkles.

One ♂ one ♀, former Utah (Mr. Baker's type), latter Rincon, New Mex. (type of *concinulus* ♀).

I fail to find the yellow-white marks on clypeus in the ♀ as described by Prof. Cockerell. Possibly they have faded.

Not Identified.

Aphilanthops hispidus Fox.

Aphilanthops hispidus Fox, Proc. Cal. Acad. Sci. Vol. iv, p. 106 (1894).

♂.—Length 13 mm. Black; the head, thorax, femora and first segment of abdomen densely clothed with long whitish hair, as are likewise the ventral segments of abdomen, but not so densely: clypeus 3-dentate, finely punctured; hind ocelli separated from each other by a slightly less distance than they are from the eye margin; first joint of flagellum nearly as long as three following united, the second joint roundly and deeply emarginate beneath; thorax indistinctly sculptured, evidently very finely punctured or granulated on the meso- and metapleuræ; dorsal segments 6-7 distinctly punctured: mandibles, except apex, head below the antennæ, scape in front, posterior orbits narrowly, line on pronotum, tubercles, tegulæ, apex of four anterior femora, spot on hind femora above, all the tibia at base and on outer side, spot on each side of first abdominal segment (drawn out to a point within), fascia on apical part of segments 2-6 (that on second narrowly interrupted medially, on third very nearly interrupted, 4-5 emarginate on each side anteriorly, sixth indistinct) and spot on ventrals 2-3, all pale yellow or whitish; wings subhyaline, darker towards apex, nervures black, stigma testaceous.

San José del Cabo, Lower California, Mexico. October.

Since the above was prepared I have taken *A. laticinctus* and *A. quadrinotatus* at *Cleome serrulata* Denver, Colo., July 20th.

