NEW SPECIES AND SUBSPECIES OF WEST AMERICAN CERAMBYCIDÆ (COLEOPTERA)

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Oeme hirsuta Van Dyke, new species

Elongate, slightly flattened, rufo-castaneous and clothed with a moderately dense fine pile, the elytra with a series of scattered, more erect and longer setæ in addition, the under surface of the antennal segments 3-6 fringed with long flying hair, and the legs decidedly Head moderately coarsely closely punctured and pilose, broadly longitudinally sulcate between the antennæ and evidently flattened behind and between the eyes; eyes large, coarsely granulate and deeply emarginate as usual; antennæ long, reaching four segments beyond apex of elytra in male, first segments very stout and long, reaching beyond anterior third of prothorax and fully two-thirds length of third, segments 3-5 inclusive with small acute tubercles beneath. Prothorax a little wider than long, apex distinctly arcuate, base slightly emarginate, sides divergent from apex and at basal fourth suddenly tubularly constricted, angles in front of the constriction broadly rounded, constriction deepened by a transverse sulcus, disk rather coarsely, closely and irregularly punctured, with a median smooth longitudinal line, barely impressed. Elytra near base barely wider than thorax and four times as long, surface finely closely punctured, with series of larger shallow punctures irregularly dispersed and three feebly elevated lines on each. Body beneath finely, more sparsely punctured and shining. Length, 14.5 mm.; breadth, 2.5 mm.

Males, in addition to the longer and more robust antennæ and broader prothorax, have the last ventral segment somewhat truncate and notched at apex.

Females with antennæ barely reaching beyond apex of elytra, basal segments less robust, acute spines on segments 3-5 hardly evident; prothorax much smaller and less broad and as a result not so suddenly constricted behind; the last ventral segment elongate and arcuated at apex.

Holotype, male, No. 2439, and allotype, female (No. 2440, Mus. Calif. Acad. Sci.), in the Van Dyke collection, and several designated paratypes from a series of seventeen specimens taken at light on **Mount Washington**, near **Nogales**, **Arizona**, altitude 6000 feet, on various dates from July 11-20, 1919, by Mr. J. Aug. Kusche. A specimen from the Huachuca Mountains, Arizona, is also in my collection.

This species superficially very closely resembles Oeme rigida

(Say), but it differs by being more definitely pilose, with a more evident double type of elytral punctuation and pubescence; the head and prothorax more coarsely punctured, the former more flattened between the eyes in the occipital area, the basal antennal segment more robust and longer, in *rigida* barely longer than one-half of third segment, and the disk of the pronotum with a very distinct smooth longitudinal line which is hardly impressed, whereas in *rigida* there is no distinct smooth area but a well-marked longitudinal impression. *O. gracilis* Lec. is more piceous, far less pilose, with more evenly rounded prothorax, less suddenly constricted behind, coarse and very conspicuous pronotal punctuation and much sparser elytral punctuation. From our other species, it is readily separated by the characters given by Doctor Horn ¹ in his review of the species.

Styloxus ruficeps Van Dyke, new species

Delicately formed and elongate, subcylindrical; pitchy black, legs lighter, entire head except the eyes rufous. Head broader across the front than long, front prominent, with a narrow longitudinal line slightly impressed forward, more deeply between the antennæ, antennal tubercles prominent and widely divergent, almost horizontal; eyes very large, coarsely faceted, approximate above, deeply sinuate in front, and separated beneath by narrow gular area, onefourth the breadth of head; antennæ very long and attenuated, about twice as long as from front of head to apex of elytra, first segment with an obtuse spine above, second very short, following very long and cylindrical, the basal joints with a few long hairs beneath. Prothorax almost twice as long as broad, with small tubercles at sides behind the middle, rugosely punctate above, with series of callosities in the form of a circle on the posterior area. Elytra about a fourth broader than prothorax and as broad as head, almost four times as long as prothorax yet not covering the last three abdominal segments nor the apices of the wings, with straight sides, slightly convergent posteriorly, each elytron individually rounded, the disk rather coarsely irregularly punctured, with an indistinct carina at middle of each elytron, and rather finely sparsely pilose. Legs long and delicate, femora slightly clavate, first tarsal segment of hind pair equal to the two following combined. Beneath rather finely sparsely punctured and pilose and shining. Length 9.5 mm. to apex of elytra, abdomen 2.5 mm. longer, breadth 1.75 mm.

Holotype, male, in the Van Dyke collection (No. 2441, Mus. Calif. Acad. Sci.), taken on **Mount Washington**, near **Nogales**,

¹ Trans. Am. Ent. Soc., Vol. VIII (April, 1880), p. 133.

Arizona, altitude 600 feet, July 20, 1919, by Mr. J. Aug. Kusche, and kindly presented to me.

From Styloxus lucanus Lec. from Lower California, the type of the genus and the only other species described, this species appears to be quite distinct, not only in color but because of the greater length of prothorax and practically contiguous eyes above. The genus Idoemea Horn is much more closely related to Styloxus Lec. than is generally supposed, the longer head and longer elytra of the former being the only really evident characters which separate it, a fact which I think would warrant the two being united. Malthophia oculata Casey, I am convinced is nothing but a small specimen of Idoemea californica Fall. I have compared specimens from San Diego, California, the type locality of the former, which agree exactly with the description and with typical specimens of the latter, including a specimen sent to me by Mr. Fall himself.

Centrodera pilosa Van Dyke, new species

Elongate, slender, subparallel, very densely pilose; rufo-piceous, legs and basal portion of antennal segments rufo-castaneous. Head rather finely closely punctured and clothed with rather long cinereous pile, finely impressed longitudinally at middle; eyes prominent, coarsely faceted and separated above by diameter less than one-third of transverse diameter of head; antennæ slender, reaching almost a segment beyond apex of elytra, the outer two-thirds of segments 5-11 darker (black in paratype), fourth segment twice as long as second, fifth as long as 2-4 combined. Prothorax almost a third longer than broad, strongly constricted in front and almost as much so behind, lateral tubercles obtusely angulated, disk rather finely closely punctured, median longitudinal line smooth and nonimpressed, a small tubercle on either side in front of middle, the surface clothed as is the head with rather long cinereous pile. Elytra not quite twice as wide at base as prothorax, almost three times as long as head and prothorax combined, with sides almost straight and very slightly convergent to hind angles which are rounded; disk finely, sparsely and somewhat irregularly punctured, with vague sulci and clothed with rather long somewhat depressed cinereous pile. Beneath clothed as above. Hind tarsi with basal segment about three-fourths length of following segments united. Length, 16 mm.; breadth, 4 mm.

Holotype (No. 2442, Mus. Calif. Acad. Sci.), a supposed male, collected in the Sierra Madre Mountains of **Los Angeles County**, California, June 2, 1922, by Mr. J. Aug. Kusche, and now in my collection. A second specimen belonging to Dr. F. E. Blaisdell which is quite similar in structure and appearance

though somewhat darker and with outer portions of the antennal segments quite black, I have designated as a paratype. It was taken in the Cuyamaca Mountains of San Diego County, California, June 8-21, 1920.

This gray species, because of its extreme pilosity, contrasts markedly with our other Pacific Coast species and should thus be easily recognized.

Centrodera blaisdelli Van Dyke, new species

Elongate, slender and delicately formed; rufo-castaneous, head and prothorax darker and more rufous, legs and antennæ lighter, the outer portion (less than one-half) of segments 5-10 black and the terminal with black band near the apex; surface sparsely clothed with short and fine closely appressed gray hair. Head small, closely, finely and rugosely punctured, finely impressed longitudinally at middle; eyes prominent, coarsely faceted and separated above by a distance less than one-third of transverse diameter of head; antennæ slender, reaching just beyond apex of elytra, fourth segment three times as long as second which is barely longer than broad, fifth barely as long as three and four combined. Prothorax slightly longer than broad, strongly constricted toward front and much less so behind; lateral tubercles obtuse and rounded at apex; disk somewhat finely, closely punctured and subopaque as a result, distinctly sulcate at middle, the depression bounded laterally by elliptical tubercles, convergent anteriorly; surface clothed with evident though sparse cinereous pubescence. Elytra almost twice as wide at base as prothorax, two and a half times as long as head and prothorax combined; sides straight and convergent to rounded hind angles; the disk quite coarsely, closely punctured basally and rapidly more finely punctured toward apex, clothed with fine, short and sparse pubescence. Beneath sparsely, finely pilose. Hind tarsi with basal segment equal to following segments united. Length, 16 mm.; breadth, 4 mm.

Holotype (No. 2443, Mus. Calif. Acad. Sci.), a unique, collected in the Cuyamaca Mountains of San Diego County, California, June 8-21, 1920, and now in the collection of Dr. F. E. Blaisdell.

This species can be readily separated from our other Pacific Coast species by its rufo-castaneous color, its delicate form, very short and sparse pubescence and sulcate prothorax.

Table for Separation of Pacific Coast Species of Centrodera

Elytra coarsely, closely punctured near base and finely sparsely

pubescent, basal segments of hind tarsi equal to following segments united.

Prothorax longer than broad, disk distinctly sulcate throughout median area; body narrow and delicate, rufo-castaneous.

Mountains of southern California.....blaisdelli spec. nov.

Elytra rather finely, sparsely punctured even at base, distinctly pubescent, basal segment of hind tarsi not equal to following segments united.

Colonel Casey's oculata is an undoubted nevadica. His type of tenera was probably a depauperized male. In Doctor Blaisdell's collection there is a large female, 18 mm. long, from the type locality, San Diego, California. In this specimen the eyes are much more widely separated than they are in the males. Nevadica breeds in western yellow pine, Pinus ponderosa Don., and the probabilities are that the other species also breed in pine or related coniferous trees.

Semanotus 2 ligneus thujæ Van Dyke, new subspecies

This subspecies or variety resembles in size and general form the variety ampla Casey. It differs otherwise, however, by having the elytra more finely and closely punctured and by possessing a different color pattern. Whereas ampla is quite constant as regards its markings, resembling in this respect the typical form of the eastern part of the country, thujæ is decidedly unstable. The body is black and the elytra a bluish black ornamented with orange, the amount of the orange varying from the forms with maximum coloration where there are two transverse orange bars, the anterior somewhat back from the base, the posterior slightly behind the middle and both connected by narrow bands along the suture and lateral margins, to the forms with minimum ornamentation where there is but a tiny yellow spot on the disk back of the base and a slight yellowing along the anterior epipleuræ. In the more fully marked individuals, the antennæ except the basal segments and the tibiæ and tarsi are also rufous while in the darker phases, often only the tarsi are rufous. The most characteristic feature of the variety is that the base of the elytra is always black, whereas in all other varieties the base is an orange yellow. In this latter peculiarity and, in fact, in its general color pattern and

² For a discussion of the members of this genus see a former article by me in Bul. Brooklyn Ent. Soc., Vol. XVIII (1923), pp. 48-51.

great variability, it resembles a related species, Semanotus nicolas White (litigiosus Casey), but it differs from this otherwise by being much less hairy, by having the elytra in the main a bluish black color instead of a coal black, and by having a different type of punctuation. Its food plant is also one of the cupressine trees, the red cedar, Thuja plicata Don., as is the case with all other phases of the species, whereas nicolas breeds either in the true firs, Abies, or true spruces, Picea.

Holotype, male, No. 2444, and allotype, female, No. 2445, Mus. Calif. Acad. Sci., the first a specimen with maximum orange coloration, the second with minimum amount of orange, and four paratypes, in my collection. There are also a number of designated paratypes in the rest of the series of twelve specimens, all of which were collected by Mr. G. A. Hardy in Vancouver Island, British Columbia. Most of the specimens were taken at Tod Inlet, from the pupal cells in red cedar, *Thuja plicata* Don., on December 5, 1925. For the privilege of studying these I am indebted to Mr. Hardy.

Callidium vancouverense Van Dyke, new species

Moderately elongate, parallel-sided, flattened; body black, front of head, basal antennal segment, prothorax, both above and beneath, and elytra dark greenish blue, legs with a bluish cast; upper surface somewhat shining. Head slightly more than one-half breadth of prothorax, coarsely reticulately punctured, most pronounced behind the eyes, median line finely impressed; antennæ moderately robust, in male extending to last quarter of elytra, second segment about twice as long as broad and third almost four times as long as broad and twice as long as second. Prothorax twice as broad as long, just perceptibly narrower than elytra, sides broadly rounded, more evenly in front and more obliquely behind, disk with sides finely, deeply, closely and reticulately punctured, the median area with an amphoralike depression which is more shining and more coarsely, shallowly and sparsely punctured than the sides, the surface rather sparsely clothed with short, suberect black hair. Elytra twice as long as broad, parallel-sided, gradually obliquely rounded to apex, humeri prominent, disk very coarsely, deeply, irregularly and cribrately punctured, with a short black obliquely inclined seta arising from each puncture. Abdomen beneath somewhat smooth and shining and finely sparsely punctured and pubescent. Legs with femora markedly pubescent and suddenly clavate, those of the middle and hind pairs with the basal shank cylindrical almost to the middle. Length, 13 mm.; breadth, 5 mm.

Female with antennæ shorter than in male, reaching barely beyond middle of elytra; prothorax smaller and proportionally narrower; femora less clavate and hind tibiæ straighter.

Holotype, male, No. 2446, and allotype, female, No. 2447, Mus. Calif. Acad. Sci.), and four paratypes, in my collection, as well as numerous paratypes in the collection of Mr. G. A. Hardy of Victoria, British Columbia, and Mr. W. H. A. Preece of Sidney, British Columbia. These are from a series of thirtyfour specimens kindly submitted for study by the gentlemen named. The majority of the specimens were reared by Mr. Preece from boughs of Douglas fir, Pseudotsuga taxifolia Britt., collected at Sidney, British Columbia, during the months of April and May, 1926. The series shows considerable variation as to both size and color, ranging in length from 9-15 mm. and in color from greenish blue to blue and violet.

This species is of the same size and general form as Callidium antennatum Newm., particularly of the western variety, hesperum Casey, and very closely resembles it, especially the bluer specimens. It differs from it by being in general of a greener cast, though many are as pronounced a blue; by the much finer, deeper and more distinctly punctured sides of the pronotum; the coarser and deeper punctures and reticulation of the elytra; and the more suddenly clavate femora. It also quite closely resembles Callidium subopacum Swain,3 especially the greener forms, because of the coarse elytral sculpturing, but it differs by having much more robust antennæ, the sides of the prothorax more deeply and finely punctured, and the femora, particularly in the males, more suddenly and broadly clavate. From the Californian Callidium pseudotsugæ Fisher 4 which has the same food tree, it differs by being more elongate, by not possessing the black or bluish black color, by having slightly shorter antennæ, more deeply punctured sides of prothorax and coarser and more irregular elytral reticulation. Callidium antennatum var. hesperum Casey, like the typical eastern form, is in the main restricted to pines, but rarely breeding in other coniferous trees. Callidium subopacum Swain, no doubt, breeds in the true spruces or possibly the true firs, whereas all of our other large western bluish species breed in the juniper with the exception of one which lives in the giant sequoia.

³ Report of the Canadian Arctic Expedition, 1913-1918, Vol. III, Insects, Part E. Coleoptera, J. M. Swain (December 12, 1919), p. 12E.

4 A New Genus and Several New Species of Cerambycidæ (Coleoptera), by W. S. Fisher. Proc. Entom. Soc. Wash., Vol. 22, No. 7 (October, 1920), pp. 155-156.

Neoclytus basalis Van Dyke, new species

Elongate, subcylindrical, moderately robust; rufous, pronotum brownish, margined anteriorly and posteriorly with narrow bands of yellow hair, elytra brown with three transverse bars of yellow pile arranged as follows: a broad basal band occupying more than onefourth of basal area and extending transversely from margin to margin, a postmedian band, broad at suture and rapidly narrowing toward margins, and a subapical of moderate breadth extending obliquely backward and outward from the suture on either side and, like the postmedian, not quite reaching the lateral margin, underside sparsely clothed with yellow pile, slightly more abundant at sides. Head rather closely, finely punctate in front and behind, but coarsely punctured just back of antennal tubercles, moderately sulcate between the antennæ; antennæ reaching at least three segments behind base of prothorax, with outer segments considerably enlarged, third segment hardly longer than fourth and segments three and four but little more than three times as long as broad. Prothorax longer than broad, broader at apex than base, greatest breadth anterior to middle; sides rather evenly but not markedly arcuate; disk with longitudinal ridge evident but not well defined; surface rather finely, closely punctured, with series of asperities along summit and at sides, and three evident transverse cristæ, the anterior back of apex, the others postmedian. Elytra almost three times as long, and barely broader than prothorax, about three times as long as broad; sides straight, slightly convergent posteriorly; apices angulate but rounded at tips; disk finely, closely punctate, rather sparsely clothed with brown pile on brown areas and more densely with yellow pile on yellow areas. Beneath somewhat shining. Length, 15 mm.; breadth, 3.75 mm.

Holotype (No. 2448, Mus. Calif. Acad. Sci.), a specimen in my collection from **Spokane**, **Washington**, collected July 30, 1907, by Davidson. I have also associated with this a smaller specimen, 10 mm. in length, which is more uniformly rufous but has the three characteristic elytral bars, the third differing from the type in reaching the apices, the prothorax also with a faint median transverse bar of yellow hair. This latter was collected at Castle Crags, Shasta County, California, July 26, 1921, by Mr. C. L. Fox.

This species belongs in the group with balteatus and interruptus, but differs from both by the color pattern, the anterior yellow bars of the elytra being well separated from the basal margin in both of these and by having the third antennal segment not distinctly longer than the fourth. Its prothorax is generally narrower, less cristate and with more rounded sides than is the prothorax of balteatus, and its upper surface a dark brown contrasting with the rest of the body, whereas the color of the latter is more uniform. In *interruptus* the prothorax is broader than long and the ground color black, both above and below.

Neoclytus angelicus Van Dyke, new species

Elongate, subcylindrical; velvety black, legs and antennæ rufopiceous, the terminal segments of the latter darker; pronotum with a narrower band of white hair bordering anterior and posterior margins and a complete transverse band of white hairs across the middle; scutellum white; elytra with three transverse white bands, the first one-fourth distant from base; the second submedian and the third toward the apex, the last slightly oblique, barely touching suture and not reaching the lateral margins; underside with patches of white hair along the posterior pronotal margin, on the meso- and meta-epimeron and lateral posterior margins of ventral segments. Head moderately finely, closely punctured, more coarsely just behind antennæ, giving the surface a granulate appearance, depressed between antennal tubercles; antennæ extending a few segments beyond posterior margin of prothorax, segments 5-11 considerably enlarged, third slightly longer than fourth and almost four times as long as broad. Prothorax as broad as long, base and apex of about equal breadth, sides narrowed in front and back, slightly irregularly arcuate at middle; disk with median and lateral longitudinal ridges well marked, with small transverse rugæ on their summits; surface finely, closely punctured. Elytra barely broader than prothorax and about two and one-half times as long; sides straight, apices subangulate, disk finely, closely punctured. Beneath rather finely, closely punctured and somewhat shining. Length, 10 mm.; breadth, 2.5 mm.

Holotype (No. 2449, Mus. Calif. Acad. Sci.), a specimen in my collection, picked up on the beach at **Santa Monica**, **California**, during the summer of 1891. A second specimen caught at the same time was submitted to Dr. George Horn and is now in his collection at the Philadelphia Academy of Sciences.

This very attractive species also belongs in the group with *interruptus* and *balteatus*, but can always be readily separated by the distinct white bands. From other western black and white species, it can be distinguished by the transverse nature of the bands and shorter and more markedly clubbed antennæ.

Neoclytus vanduzeei Van Dyke, new species

Elongate, subcylindrical; reddish brown; sides and base of prothorax and base and apex of elytra definitely sprinkled with yellow hair; scutellum completely clothed with yellow pile; three elytral bands formed of the same pile, the subbasal slightly behind basal fourth, almost transverse, narrowed outwardly, and triangularly enlarged at suture, the second at middle, very oblique, broader and acutely angulate near suture, its sutural limb reaching backward to the suture, and the third near apex, oblique, broad and somewhat triangularly enlarged at suture, beneath with yellow patches on meso- and meta-epimeron and posterior margins of first and second abdominal segments. Head rather coarsely punctured and granulate; antennæ almost reaching middle of elytra, with segments 5-11 forming a narrow club. Prothorax longer than broad, slightly broader than elytra, narrowed at base and apex; sides scarcely arcuate; disk slightly longitudinally cristate at middle, with few transverse tubercles along crest and at sides, especially anteriorly and posteriorly. Elytra about two and one-half times as long as prothorax, with straight sides gradually narrowing; apices obliquely truncate within, the angles subacute. Apex of posterior femora acutely toothed; the posterior tibiæ long, curved, slightly dilated outwardly and grooved on inner and outer side. Length, 11 mm,; breadth, 2.5 mm.

Holotype (No. 2450, Mus. Calif. Acad. Sci.), a unique secured by Mr. E. P. Van Duzee at **Nogales, Arizona**, April 3, 1921.

This elegant species belongs in the group with approximatus, abbreviatus, peninsularis, and tenuiscriptus, from all of which it differs by having the subbasal and subapical yellow elytral bars triangularly dilated at the suture. In Neoclytus approximatus Lec. the anterior band is narrow and transverse; in Neoclytus abbreviatus Schffr. it runs obliquely upward and is broken; in Neoclytus peninsularis Schffr. the subbasal band is much as in abbreviatus, but the middle is not hooked; while in Neoclytus tenuiscriptus Fall the anterior band is quite oblique, the middle less oblique than in vanduzeei and the antennæ shorter and more suddenly clubbed.

Neoclytus modestus zebratus Van Dyke, new subspecies

As shown by Mr. Alonzo Davis,⁵ Neoclytus modestus Fall and Neoclytus carus Fall are sexes of the same species, the first, the male, having priority. It seems to be confined to the mountains of southern California. In the mountains of northern California and southern Oregon the typical species is replaced by a phase where the males differ only by having no white patches on the meso-epimera and but a slight amount on the meta-epimera, and the females by having the ornamental bands of white pile, not yellow, the three fasciæ, especially the anterior,

⁵ Pan-Pacific Entom., Vol. I, No. 4 (April, 1925), p. 169.

somewhat narrower, and the meso-epimeron without a tuft of hair as in the males. This, I have named as a new subspecies.

Holotype, female, No. 2451, and allotype, male, No. 2452, Mus. Calif. Acad. Sci., and four paratypes, three males and one female, in the Van Dyke collection. These were beaten by me from a species of scrubby live oak, near Meadow Valley, Plumas County, California, June 10, 1924. I have also examined four other males in the collection of the California Academy of Sciences, taken at the following localities: Santa Clara County, California, July 22, 1914; Castle Crags, Shasta County, California, July 9, 1921; Cayton, Shasta County, California, July 9, 1913; and Colestin, Jackson County, Oregon, August 1, 1918. A phase from Keen Camp, Riverside County, California, collected by Mr. E. P. Van Duzee, June 6-12, 1917, should also be placed here though it differs slightly. It is a female which has the anterior band more transverse and broken and the posterior band more crescentic than is the case with the northern phases but with the markings white and otherwise the same.

This subspecies might at first sight be confused with some of the numerous phases of *Neoclytus muricatulus* (Kirby), a spruce and fir-feeding species. It has, however, the scutellum clothed with white hair, not naked and black as in *muricatulus*, and the inner oblique truncature of the elytral apices somewhat emarginate and spiniform at the margins. *Neoclytus infans* Casey is but a local form of *muricatulus*.

Neoclytus magnus Schffr. In the collection of Dr. F. E. Blaisdell are two specimens of this splendid species caught on the outskirts of San Diego, California, by the doctor's mother.

SWARMING TERMITES A CORRECTION

In an article with the above heading appearing in *The Pan-Pacific Entomologist*, III:92, 1926, the following statement was made: "No individuals were seen to be in copulation: this, according to Dr. S. F. Light, had already occurred, and the males were simply following the females in search of a suitable place for founding a new colony." This was an error in quoting Doctor Light: pairing had already occurred, but copulation does not take place until a suitable place to establish a colony is found. February 23, 1927.—E. O. Essig.



Van Dyke, Edwin C. 1927. "New species and sub-species of West American Cerambycidae (Coleoptera)." *The Pan-Pacific entomologist* 3, 99–109.

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