A NEW WESTERN NEARCTIC SPECIES OF CALAMEUTA KONOW
(HYMENOPTERA: CEPHIDAE)

DAVID R. SMITH AND NATHAN M. SCHIFF

(DRS) Systematic Entomology Laboratory, PSI, Agricultural Research Service, U.S. Department of Agriculture, National Museum of Natural History, Smithsonian Institution, P.O. Box 37012, MRC 168, Washington, DC 20013-7012 U.S.A. (e-mail: dsmith@sel.barc.usda.gov); (NMS) U.S. Forest Service, U.S. Department of Agriculture, Southern Research Station, Center for Bottomland Hardwood Research, P.O. Box 227, Stoneville, MS 38776 U.S.A. (e-mail: nschiff@fs.fed.us)

Abstract.—*Calameuta middlekauffi*, n. sp., is described from southern Oregon and California. It is the second species of *Calameuta* in North America and is differentiated from *C. clavata* (Norton) by head shape and coloration. Illustrations, descriptions, and a key are given to separate the two species. The food plant is unknown, but Palearctic species of *Calameuta* are known to feed in grass stems.

Key Words: Cephinae, grasses, California, Oregon

The genus *Calameuta* Konow is best represented in the Palearctic Region where about 20 species are known. Only one species, *C. clavata* (Norton 1869), is known from North America, and it occurs from California to Idaho, Oregon, and Washington (Ries 1937, Middlekauff 1969, Smith 1979). For a number of years, we noted a few peculiar specimens masquerading under *C. clavata*. These were mostly single specimens from scattered localities, that appear like and key to *C. clavata* and were considered variants of that species. Not until NMS collected a series from the same place could we substantiate that these unusual specimens represent a distinct species rather than an occasional aberration of *C. clavata*. The head shape and relatively constant color pattern are the most distinctive characteristics, and we here describe these specimens as a new species. From the few specimens available, it does not appear to be as common as *C. clavata*, and it is apparently restricted in distribution to the central valley and coastal ranges of southern Oregon to southern California.

Food plants are not known for North American *Calameuta*. Larvae of Palearctic species feed in grass stems, and for *C. clavata*, Middlekauff (1969) stated “unknown grasses” as the food plant but speculated that the grass hosts may turn out to be *Bromus laevipes* Shear and/or *Deschampsia danthomioioides* Trin., which have sympatric ranges with *C. clavata*.

*Calameuta clavata* has been placed in *Cephus* Latreille by some North America authors (Ries 1937, Middlekauff 1969). However, we follow Benson’s (1946) definition of the two genera and place it in *Calameuta*, as was followed by Smith (1979). *Calameuta* is distinguished from *Cephus* by the interantennal distance shorter than the antennal-tentorial distance; lower interocular distance usually less than the eye height; female cerci more than half as long as the sheath; and the eighth sternite of the male without a fringe of long, modified setae. In
North America, *C. clavata* and the new species below can be distinguished from *Ce-
phus* by the bidentate left mandible, with a rounded shoulder on the inner side of the
second tooth. In contrast, the left mandible of *Cephus* is tridentate.

**Calameuta middlekauffi** Smith and Schiff, new species

(Figs. 1–5)

Female.—Length, 6.7–8.5 mm. Antenna and head black, sometimes faint yellow
spot at center of supraclypeal area; mandi-
ble yellow with extreme base black and
apex reddish brown. Thorax black with up-
per corner of mesepisternum and spiracular
c sclerite yellow. Legs with coxae and tro-
chanters black, a small yellow spot on low-
er posterior margin of hind coxa; femora
yellow, fore- and mid-femora with black at
extreme base and hind femur with extreme
apex and base black; fore- and mid-tibiae
and tarsi yellowish, apical 2 or 3 segments
of fore- and midtarsi infuscate; hind tibia
and tarsus black, sometimes hind tibia
slightly yellowish. Abdomen (Fig. 2) black
with continuous lateral longitudinal yellow
stripe of about equal width, yellow on 8th
segment broader and extending onto pos-
terior margin of 8th sternite, 9th segment
with small yellow stripe posteriorly on lat-
eral margin; segments 4–7 with medial dor-
sal yellow spots, varying in size and with
faint to small spots on segments 5 and 8;
apex of segments 8 and 9 with small yellow
spots. Wings hyaline; veins and stigma
brown; outer surface of costa of fore- and
hind wing yellow.

Antenna 23–25 segmented. Left mandi-
ble bidentate, inner tooth with blunt, round-
ed shoulder on inner margin. Head (Figs.
3–5) round in lateral view, in lateral view
and dorsal view with frons protuberant; in
dorsal view head deeply emarginate behind,
depth of emargination half distance from
posterior corner to eye. Eye oval, about
1.3× higher than wide. Distance from an-
tennal insertion to tentorial pits 1.3× dis-
tance between antennal insertions. Lower

Type material.—Holotype ♀, labeled
"USA: California: Solano Co., Stebbins
Cold Creek Canyon, 38°27'N 122°42'W,
15-IV-1-IV-93, Nathan M. Schiff, Malaise
trap." Deposited in the National Museum
of Natural History, Smithsonian Institution,
Washington, DC (USNM).

Paratypes: CALIFORNIA: Same data as
holotype (3 ♀, 1 ♂), same data as holotype
except 1-14-IV-96 (2 ♀); Solano Co., Cold
Cyn. Res., 11 km W Winters, 12-III-1-IV-
92, S. L. Heydon, MT (2 ♀); Siskiyou Co.,
Hill Hungry Road, Forest Service Rd. 1,
May 12, 1996, Nathan M., Schiff (1 ♀); El
Dorado Co., Blodgett, 38°54'N 122°42'W,
12-1-1-IV-96, Nathan M. Schiff, Malaise
trap (1 ♀); Mts. near Claremont, Baker (1
♀, 1 ♂); Upland, 4/17/20 (1 ♀); Corte Ma-
dera Cr., IV-25–1960 (1 ♀, 1 ♂); Santa Cla-
ra Co., Mount Hamilton, 2 May 1976, Lar-
ry Bezark (1 ♀); 1.5 mi W on Mix Canyon
Road, Solano Co., ele. 1,000, III-30-76, N.
J. Smith, colr. (1 ♀); Green Valley, Solano


Etymology.—The specific epithet is in honor Dr. Woodrow W. Middlekauff, University of California, Berkeley, for his excellent contributions to the knowledge of North American sawflies.

Remarks.—*Calameuta middlekauffi* is distinguished from *C. clavata* by a solid lateral yellow stripe on the female abdomen, small yellow markings laterally and on the dorsum of segments 3, 4, 6, and usually 7
on the male abdomen, the round head in side view, more rounded eyes, protuberant frons, and deep posterior emargination of the head as seen in dorsal view. In general, the size of *C. middlekauffi* is smaller than *C. clavata*, with most specimens of the latter being 10 mm or more in length.

The female abdomen of *C. clavata* (Fig. 7) is banded yellow on segments 3, 4, and 6, with medial and lateral spots on segment 7, segment 8 mostly black, and segment 9 black with the apical half yellow. It lacks the solid lateral yellow stripe. The male abdomen has similar yellow markings as the female (Fig. 6). The eyes are more elongate, with the height 1.6× or more their width; the head is more oval in lateral view; the frons is more evenly rounded and less protuberant in lateral and dorsal views; the posterior margin of the head in dorsal view is less emarginate, the depth of the emargination less than half the distance from the posterior corner of the head to the eye (Figs. 8–10); and the oblong plate is 1.6× the length of the sheath. The male usually has more yellow on the supraclipeal area, the coxae are yellow except at their bases, and the hypandrium is mostly yellow with a large round black spot at its base. Though the coloration of *C. clavata* is variable, as stated by Middlekauff (1969), the variation does not reach the extreme solid lateral stripe as in *C. middlekauffi*. The amount of yellow on segments 2, 3, and 5 and 6 of *C.

Figs. 6–10. *Calumeta clavata*. 6, Male abdomen, lateral view. 7, Female abdomen, lateral view. 8, Head, front view. 9, Head, lateral view. 10, Head, dorsal view.
clavata varies somewhat, but segment 4 is
normally entirely black.

Calameuta middlekauffi has been found
from southern Oregon south to southern
California. Most specimens are from the
coastal range in central California. Cala-
meuta clavata has a much wider distribu-
tion, which encompasses that of C. middle-
kauffi and occurs from Washington and Ida-
ho south to southern California (as far as
the Mexican border) in the coastal ranges
and at high elevations in the Sierras.

We have examined a number of Palearc-
tic species of Calameuta and checked the
literature and are not aware of a Palearctic
species of Calameuta similar to C. middle-
kauffi.

KEY TO SPECIES OF NORTH AMERICAN
Calameuta

1. Female abdomen with solid lateral yellow
stripe (Fig. 2); male abdomen with dorsal yel-
low spots on segments 3, 5, 6, and usually 7,
usually not extending laterally, and lateral
spots on segments 1–8 (Fig. 1); head round in
lateral view (Fig. 4), frons protuberant (Figs.
4–5), and in dorsal view with deep posterior
emar- gination (Fig. 5) . . . . . . . . . . . . . . C. clavata

ACKNOWLEDGMENTS

We thank Steve Heydon, University of
California, Davis, for the loan of speci-
mens. Cathy Apgar, Systematic Entomol-
ogy Laboratory, USDA, took the Auto-Mon-
tage photos and arranged the plates. We ap-
preciate the reviews of the following: S. G.
Codella, Kean University, Union, NJ; N. J.
Vandenber and M. A. Solis, Systematic
Entomology Laboratory, USDA, Washing-
ton, DC.

LITERATURE CITED

Benson, R. B. 1946. Classification of the Cephidae
(Hymenoptera: Symphyta). Transactions of
the Royal Entomological Society of London 96: 89–
108.

Middlekauff, W. W. 1969. The cephid stem borers of
California (Hymenoptera: Cephidae). Bulletin of
the California Insect Survey 11, 19 pp.

Norton, E. 1869. Catalogue of the described
Tenthredinidae and Uroceridae of North America.
Transactions of the American Entomological Society 2:
321–368.

Ries, D. T. 1937. A revision of the Neartic Cephidae
(Hymenoptera). Transactions of the American En-
tomological Society 63: 259–324.

Smith, D. R. 1979. Symphyta, pp. 1–137. In Krom-
bein, K. V., P. D. Hurd, Jr., D. R. Smith, and B.
D. Burks, eds. Catalog of Hymenoptera in Amer-
ica North of Mexico. Vol. 1. Symphyta and Apo-
crita (Parasitica). Smithsonian Institution Press,
Washington, DC, xvi + 1198 pp.