tween second and third segments, large piece of carapace loose, anterior border of carapace almost completely missing, one pedipalp missing, chelicerae in separate vial, walking legs with most tarsomeres missing. Base color appears darkened due to poor preservation.

LITERATURE CITED

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A New Subgenus of *Andrena* Found in California and Oregon

(Hymenoptera : Apoidea)

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The three species included in *Nemandrena* were brought to the attention of the author by R. W. Cruden, University of Iowa, who found they are important pollinators of *Nemophila menziesii* H. & A. (Hydrophyllaceae) (Cruden, in press). Two of the bees were undescribed and the third was known only from the holotype. The bees form a rather unique natural grouping meriting subgeneric recognition and are of special interest because of the convergence in the form of their mouthparts with other *Andrena*, as described below.

One of the three species has the pronotum with humeral angles and ridges much as in the *Opandrena-Andrena s. str.-Belandrena* group of subgenera. The other two species lack even a trace of these angles and ridges and seem to be related to *Melandrena* (= *Gymnandrena*). The presence of this pronotal character in a species of a subgenus generally characterized by the lack of the humeral angle is known in several subgenera, i.e., *Diandrena, Hesperandrena, Callandrena.* It seems that the three species in question are most closely related to the *Tylandrena-Melandrena* group of subgenera.

The subgenus *Nemandrena* can be recognized readily in both sexes by the extremely narrow, pointed galeae, a character shared with *Belandrena* Ribble (1968a), *A.* (*Micrandrena*) *lamelliterga* Ribble (1968b), *Scoliandrena* and, perhaps, a few other *Andrena.* The *Nemandrena* galeae, however, are dulled by fine, regular tessellation, whereas the other forms with small galeae have shiny galeae which

are at most very delicately shagreened. In addition, the labral process of the male of *Nemandrena* is uniquely horned, as described below, and the mesoscutum of the female is sculptured with extremely fine, longitudinal rugulae, also a unique *Andrena* character.

The short, narrow, pointed galea is presumably an adaptation to the chief nectar and pollen plants visited by these bees. The three species of *Nemandrena*, two species of *Belandrena* and *A.* (*Micrandrena*) *lamelliterga* all seem to be oligolectic on plants of the family Hydrophyllaceae, in particular species of *Nemophila* and *Phacelia*. The narrow galeae of these three groups of bees are then a functional convergence formed by an adaptation to the same or related plants, as the three groups of bees are not closely related to one another.

The *Scoliandrena*, also with narrow galeae although somewhat wider than in the other three groups, seem to be more closely related to the *Nemandrena*. At least these two subgenera both appear to have been derived from the *Tylandrena-Melandrena* stock and they resemble one another in the lack of tergal pale fasciae and in the long, spinelike, simple hairs of the front coxae. However, the small *Scoliandrena* galeae were produced as an adaptation to the narrow-tubed boraginaceous flowers of *Cryptantha* to which they are oligolectic. Also, the small *Scoliandrena* galeae differ markedly from those of *Nemandrena* by bearing numerous, short, hooked hairs, presumably used for pulling pollen from deep within the corolla tube of *Cryptantha*.

The subgeneric and specific descriptions given below follow the form and use of terms defined in papers bearing on a monographic revisional study of the Western Hemisphere species of the genus *Andrena* previously published by the author (1964, 1967, 1969).

Nemandrena LaBerge, new subgenus

TYPE SPECIES.—*Andrena torulosa* LaBerge.

Medium-sized bees; facial quadrangle distinctly broader than long; eyes with inner margins parallel; vertex above lateral ocellus equals one to one and one-half ocellar diameters; labial palpus normal; maxillary palpus longer than galea by last two palpal segments when extended; galea extremely narrow, short and acutely pointed; labral process triangular; clypeus relatively flat, with a low, rounded, subapical, shiny boss; malar area linear; genal area in profile one and one-half times as broad as eye or broader. Pronotum with or without humeral angle and dorsoventral ridge; propodeum with dorsal enclosure finely tessellate, rugulae, if present, extremely short and confined to extreme base. Tergal integument finely and obscurely punctate, surfaces reticularly shagreened or finely tessellate. Hind tibial spur normal. Pterostigma about as broad as from inner margin prestigma to anterior wing margin; with three submarginal cells; vein 1st m-cu meets second submarginal cell slightly before middle of cell. Vestiture

variously colored; terga without trace of apical pale fasciae; sterna with single row of subapical, extremely long, plumose hairs but not forming a dense subapical fimbria.

FEMALE.—Facial fovea shallow, extending to below lower margins of antennal sockets, well-separated from compound eye especially in lower half, separated from compound eye especially in lower half, separated from lateral ocellus by at least one ocellar diameter; labrum below process with a strong, transverse, shiny sulcus ending at each apicolateral angle of labrum in a raised, acute process directed apically and slightly laterally, without cristae; subgenal coronet present, well developed. Mesoscutum between parapsidal lines to posterior margin with longitudinal, parallel, extremely fine rugulae and dense tessellation; middle basitarsus not broadened medially; tibial scopal hairs simple, rather short; trochanteral flocculus complete, well formed; propodeal corbicula complete anteriorly with abundant internal simple hairs. Pygidial plate without internal raised triangular area.

MALE.—Clypeus and parocular areas black; labral process with a strong apicomedial horn on surface almost as long as process; mandibles not decussate, femalelike; first flagellar segment at least twice as long as second. Mesoscutum with fine rugulae as in female but much less distinct and usually reduced to short rugulae on declivous posteromedian area. Sterna 2–5 without dense subapical fimbriae; sternum 6 not reflexed apically. Gonobase with ventral-median processes extremely thin and long.

Andrena (Nemandrena) torulosa LaBerge, new species

This small gray species can be told from the other two species of *Nemandrena* by the presence of a strongly developed humeral angle and dorsoventral ridge on the pronotum in both sexes. If this character were overlooked, *A. torulosa* would be extremely similar to *A. crudeni* whose description follows, but differs from *A. subnigripes* by the paler vestiture of the metasoma and legs. So similar are *A. torulosa* and *A. crudeni* that one wonders whether or not the complicated-looking, pronotal character difference could not be produced by a single Mendelian locus with a dominant gene producing one or the other condition. No intermediates have been found and there seems to be complete geographic separation between the two species. It is hoped that giving both forms specific status will keep the problem from becoming lost in the literature.

FEMALE.—*Measurements and ratios.*—N = 20; length, 9–11 mm; width, 3.0–3.5 mm; wing length, M = 3.65 ± 0.110 mm; FL/FW, M = 0.88 ± 0.003; FOVL/FOVW, M = 3.17 ± 0.050.

Integumental color.—Black except as follows: tips of mandibles rufescent; flagellar segments 3– or 4–10 dark brown below; wing membranes hyaline, veins dark reddish-brown; terga 2–4 with apical areas slightly hyaline; sterna 2–5 with apical areas hyaline; distitarsi slightly rufescent; tibial spurs testaceous.

Structure.—Antennal scape length equal to flagellar segments 1–3 plus three-fourths of segment 4; flagellar segment 1 as long as segments 2 plus 3 plus three-fourths of 4, segment 2 about equal in length to 3 and each shorter than 4, segments 2 and 3 about as long as broad or shorter, 4–10 longer than broad. Eyes each about four times as long as broad, inner margins parallel. Malar space linear, width of base of mandible equals about 5.5 times minimum length of malar space. Mandible short, in repose extending beyond middle of labrum by about one-fifth its length. Galea dull, tessellate, short, extremely narrow and pointed. Maxillary palpus extends beyond tip of galea by last two segments; segmental ratio about 1.0:1.0:1.0:0.8:0.5:0.7. Labial palpus with first segment slightly curved; segmental ratio about 1.0:0.7:0.5:0.6. Labral process triangular, depressed medially near apex and with a small median protuberance just basad of depression or with a distinct median longitudinal rugula with a small lateral concavity on either side near apex (holotype of first type) ; labrum apical to process with a strong transverse shiny sulcus. Clypeus relatively flat, with a distinct median subapical shiny boss, lateral to boss gibbous subapically, remainder with large, crowded punctures but extremely shallow and obscured by fine dense tessellation. Supraclypeal area sculptured like clypeus but punctures smaller. Genal area in profile as broad as one and one-half times eye width, surface dulled by minute, relatively sparse punctures and coarse reticular shagreening. Vertex short, above lateral ocellus equal to one ocellar diameter or slightly more, surface opaque, dulled by dense regular tessellation and small sparse punctures. Face above antennae with fine longitudinal rugae, interrugal spaces dulled by fine reticular shagreening. Facial fovea short, narrow, extends to just below lower margins antennal sockets, separated from lateral ocellus by one ocellar diameter or more, well separated from margin of compound eye.

Pronotum with well-formed humeral angle, triangular in lateral view, and dorsoventral ridge not crossed by an impressed oblique suture; surface tessellate, area behind dorsoventral ridge slightly roughened. Mesoscutum between parapsidal lines except in anterior third with extremely fine, close-set, longitudinal rugulae, with minute obscure punctures separated mostly by one to two puncture widths or more, surface opaque, dulled by fine regular tessellation. Scutellum similar but without rugulae or these short and evanescent. Metanotum dulled by close-set minute punctures and dense tessellation. Propodeum with dorsal enclosure smooth, tessellate, with a few extremely short rugulae at base; dorsolateral and posterior surfaces with distinct sparse punctures and surface coarsely tessellate; corbicular surface coarsely tessellate, punctures extremely sparse. Mesepisternum with fine shallow punctures obscured by fine dense tessellation. Pterostigma about as broad as from inner margin prestigma to anterior wing margin; vein 1st m-cu meets second submarginal cell at or before middle of cell.

Metasomal terga with apical areas indistinct, basal areas with small punctures separated mostly by one to two puncture widths, more crowded on terga 2 and 3 than on 1 and 4, apical area punctures sparse; punctures obscured by coarse, irregularly and finely reticulate shagreening. Pygidial plate V-shaped with rounded apex, without raised internal triangular area, with strongly curved rows of close-set coarse punctures (unless worn). Sterna 2–5 with narrow impunctate apical areas, basal areas with crowded punctures in apical halves, impunctate basally, surfaces moderately dulled by fine reticular shagreening.

Vestiture.—Generally cinereous but vertex and facial foveae with brown hairs, terga 5 and 6 brown medially, tarsi with outer surfaces at least partly brown, hind tibiae with scopal hairs below basitibial plates and along posterior border brown, and fore and middle tibiae with outer surfaces brown at least in part. Fore coxae (and to a lesser degree middle coxae) with long, stiff, simple hairs. Terga without apical pale fasciae; sterna 2–5 with short hairs in basal areas and subapical fringes of extremely long, plumose hairs. Propodeal corbicula with moderately long, plumose hairs anteriorly, with abundant internal long simple hairs; trochanteral flocculus complete; tibial scopal hairs simple, relatively short (but along posterior margin at least as long as median width of tibia).

MALE.—*Measurements and ratios.*—N = 16; length, 8–10 mm; width, 2–3 mm; wing length, M = 3.43 ± 0.196 mm; FL/FW, M = 0.81 ± 0.004; FS1/FS2, M = 2.33 ± 0.052.

Integumental color.—Black except as follows: mandibles with tips rufescent; flagellar segments 2– or 3–11 reddish-brown to dark brown below; wing membranes hyaline, colorless, veins dark reddish-brown; terga 2–5 with apical areas slightly translucent; sterna 2–5 with apical areas hyaline or rufescent; distitarsi rufescent; tibial spurs testaceous.

Structure.—Antennae moderately long, in repose reaching to metanotum; scape length equals first two and one-half flagellar segments or slightly more; flagellar segment 2 distinctly shorter than 3 and shorter than broad, segments 3–11 longer than broad. Eyes each about three and one-third times as long as broad, inner margins parallel. Malar space and galeae as in female. Mandible as in female but slightly longer. Maxillary palpus as in female but segmental ratio about 0.7:1.0:0.9:0.8:0.7:0.7. Labial palpus as in female but ratio about 1.0:0.5:0.6:0.5. Labral process triangular with a prominent median horn half as long as length of process rising from surface subapically; apical part of labrum not strongly sulcate as in female. Clypeus broad, relatively flat with a prominent median shiny elevated boss, surface elsewhere dulled by crowded, extremely shallow punctures and fine, dense tessellation. Supraclypeal area, genal area, vertex and face above antennae as in female except genal area slightly broader, face above antennae with rugae weak especially near ocelli and vertex somewhat taller.

Thoracic sculpturing as in female except mesoscutum with rugulae scarcely visible except in posterior declivity, much finer than in female and scutellum without evident rugulae. Wing venation as in female.

Tergal sculpturing as in female except basal area punctures sparser (separated mostly by two to four puncture widths) and apical areas of terga 2–5 shinier, shagreening finer. Sterna 2–5 as in female but punctures extremely sparse. Sternum 6 with a broad, very shallow, apical emargination, subapically with a median, slightly protuberant, triangular knob; medially impunctate and dull to moderately shiny.

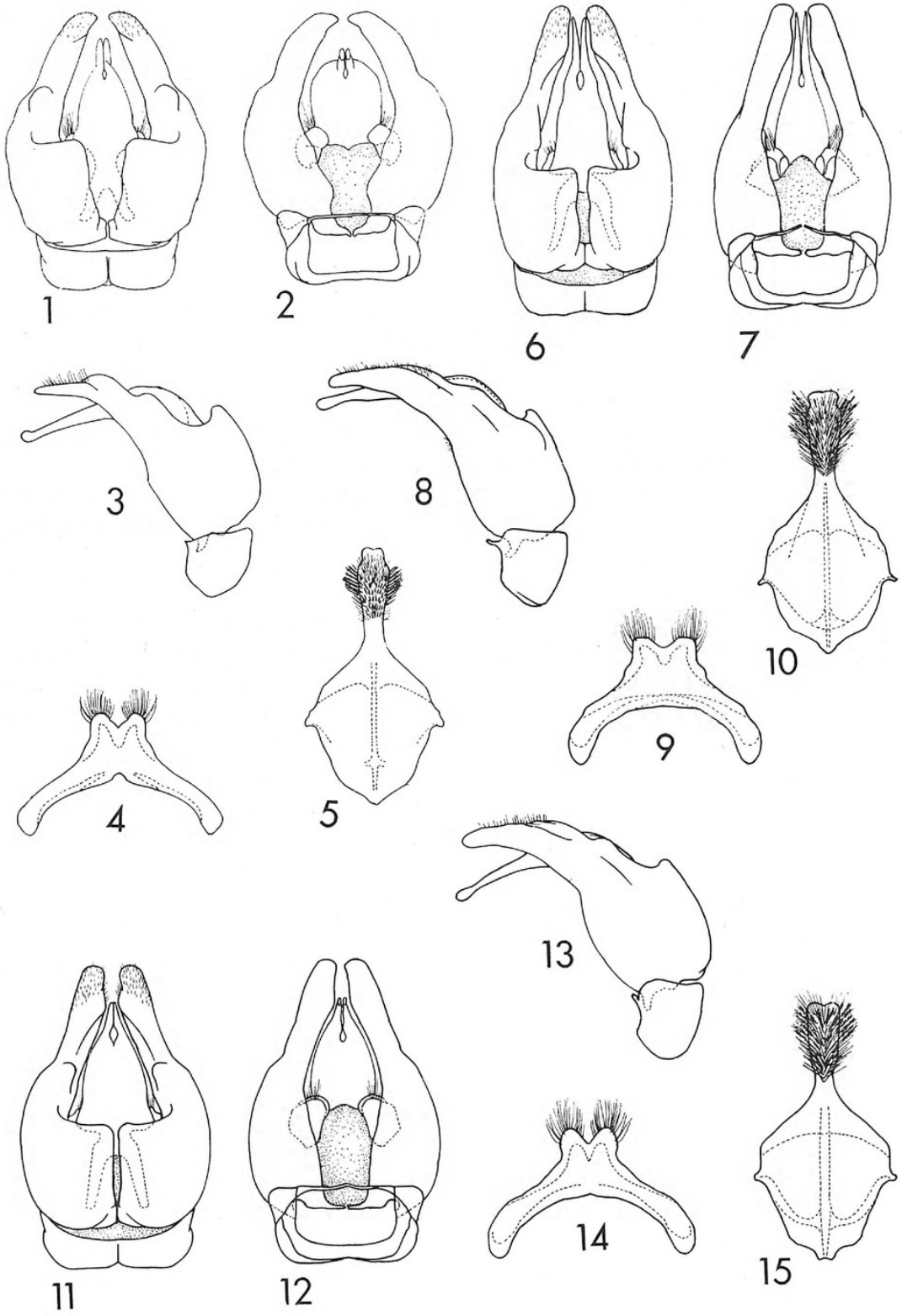
Terminalia as figured (Figs. 1–5), note the following: falcate apical processes of gonocoxites; shape of volsellae; sternum 8 with apical area with short stout pointed hairs medially.

Vestiture.—Generally white to cinereous; clypeus with thick beard; terga without pale apical fasciae; sterna 2–5 without distinct subapical fimbriae but with a single transverse row of subapical, extremely long, plumose hairs (longest laterally).

Holotype female, 2.1 MILES SOUTH OF THE OAKVILLE ROAD ON THE SILVERADO TRAIL, NAPA COUNTY, CALIFORNIA, on *Nemophila menziesii atomeria*, 19 February 1967, by R. W. Cruden. Allotype, 2 ♀ and 3 ♂ paratypes same data as type. Additional paratypes include 230 ♀ and 15 ♂ as listed below.

CALIFORNIA: *Humboldt Co.*: Kneeland (16.3 mi. S.): 1 ♀ on *N. m. atomeria*, 2 May 1965, R. W. Cruden. *Lake Co.*: Anderson Spring: 1 ♀, 30 March 1961, J. S. Buckett. Route 20 (2.1 mi. E. of Rte. 53): 2 ♀ on *N. m. menziesii*, 26 April 1965, R. W. Cruden. Route 175 (2 mi. S. of Rte. 29): 13 ♀ on *N. m. menziesii*, 30 April 1966, R. W. Cruden; 19 ♀ on *N. m. menziesii*, 7 May 1966, R. W. Cruden; 1 ♀ on *N. m. menziesii*, 5 May 1966, R. W. Cruden. Sawmill Flat, Bartlett Mt.: 2 ♀ on *N. m. atomeria*, 9 May 1965, R. W. Cruden. *Marin Co.*: Fort Baker: 1 ♀, 15 March 1925, C. L. Fox. Lake Lagunitas: 1 ♀, 30 March 1961, D. Q. Cavagnaro, Woodacre: 1 ♂, 17 March 1929, M. C. Van Duzee. *Mendocino Co.*: Mendocino Pass: 1 ♀, 19 April 1948, R. M. Bohart. Ryan Creek: 1 ♀, 17 April 1938, N. F. Hardman; 8 ♀, 12 April 1941, N. F. Hardman; 3 ♀, 13 April 1941, N. F. Hardman; 2 ♂ on *Arctostaphylos* sp., 26 March 1949, P. D. Hurd; 1 ♀ on *Nemophila* sp., 18 April 1954, R. Craig. *Napa Co.*: Chiles-Pope Valley Road (0.2 mi. N. of Rte. 128): 1 ♀ on *N. m. menziesii*, 27 March 1965, R. W. Cruden. Monticello (11 mi. S.): 8 ♀, 20 March, 2 ♀, 25 March 1930, L. M. Smith; 2 ♀, 29 March 1956, E. A. Kurtz. Pope Valley (3.3 mi. S.): 6 ♀ on *N. m. liniflora*, 16 April 1966, R. W. Cruden; 1 ♀ on *Platystemon californica*, 2 ♀ on *N. m. menziesii*, 8 ♀ on *N. m. liniflora*, 20 April 1966, R. W. Cruden; 1 ♀ on *Limnanthes douglasii*, 26 April 1966, R. W. Cruden; 1 ♀ on *P. californica*, 8 ♀ on *N. m. atomeria*, 16 April 1967, R. W. Cruden. Silverado Trail (2.7 mi. S. of Oakville Road): 5 ♀, 1 ♂ on *N. m. atomeria*, 24 March 1967, R. W. Cruden. *Sonoma Co.*: El Verano (1 mi. S.): 54 ♀, 7 ♂ on *Nemophila* sp., 9 March 1967, R. W. Thorp, B. J. Donovan and R. Adlakha; 37 ♀ on *L. douglasii*, 29 March 1967, R. W. Thorp and B. J. Donovan; 22 ♀ on *L. douglasii*, 3 April 1967, R. W. Thorp and B. J. Donovan. Lichau Road (2.8 mi. E. of Pressley Road): 1 ♀ on *N. m. menziesii*, 8 May 1965, R. W. Cruden. Triniti: 1 ♂, 26 March 1937. Triniti Road (2.1 mi. E. of Cavedale Road): 2 ♀, 12 April and 3 ♀ 24 April 1965, on *N. m. atomeria*, R. W. Cruden. A single female paratype was collected at Mark West Sprgs., California, on *Nemophila* sp., 23 April 1935, by E. P. Van Duzee, but the author has not been able to locate this site. OREGON: *Washington Co.*: Forest Grove: 1 ♀, 2 April, 1 ♂, 4 April and 2 ♀, 1 ♂, 6 April 1918, F. R. Cole; 1 ♂, 23 March and 1 ♀, 29 March 1919, L. P. Rockwood.

The holotype and allotype are preserved in the collection of the Illinois Natural History Survey. Paratypes are deposited in the collections of The University of California at Berkeley and at Davis, the California Academy of Sciences in San Francisco, Professor P. H. Timberlake at Riverside, California, Dr. R. W. Cruden, Iowa City, Iowa, Oregon State University at Corvallis, Utah State University at Logan, the University of Kansas at Lawrence and the United States National Museum in Washington, D. C.



FIGS. 1–15. Genital capsules (dorsal, ventral and lateral views) and sterna 7 and 8 of the following: *A. torulosa* (1–5), *A. crudeni* (6–10), and *A. subnigripes* (11–15).

Andrena (Nemandrena) crudeni LaBerge, new species

Andrena crudeni is almost indistinguishable from *A. torulosa* except for the fact that *A. crudeni* lacks completely the pronotal humeral angle and ridge in both sexes.

FEMALE.—*Measurements and ratios.*—N = 20; length, 9–12 mm; width, 2.5–4.0 mm; wing length, M = 3.61 ± 0.102 mm; FL/FW, M = 0.86 ± 0.003; FOVL/FOVW, M = 3.22 ± 0.072.

Integumental color.—As in *A. torulosa.*

Structure.—Structure and sculpture of head as in *A. torulosa* except as follows: maxillary palpus with segmental ratio about 1.0:1.0:0.7:0.7:0.6:0.4; labial palpus with ratio about 1.0:0.6:0.4:0.6. Thoracic and metasomal sculpture and structure as in *A. torulosa* except pronotum completely lacks humeral angle and dorsoventral ridge, laterally pronotum rather evenly and finely tessellate.

Vestiture.—As in *torulosa* but head with vertex and along inner margins compound eyes usually with abundant reddish-brown hairs.

MALE.—*Measurements and ratios.*—N = 9; length, 8–10 mm; width, 2.0–2.5 mm; wing length, M = 3.32 ± 0.229 mm; FL/FW, M = 0.80 ± 0.008; FS1/FS2, M = 2.37 ± 0.087.

Integumental color.—As in *A. torulosa.*

Structure.—Structure and sculpture of head as in *torulosa* except as follows: maxillary palpus with segmental ratio about 1.0:1.0:1.0:0.9:0.7:0.6; labial palpus with ratio about 1.0:0.5:0.4:0.4. Thoracic and metasomal structure and sculpturing as in *A. torulosa* except as follows: pronotum completely lacks humeral angle and dorsoventral ridge, surface finely and regularly tessellate; terminalia as figured (Figs. 6–10), note apical process gonocoxite longer, less falcate; sternum 7 broader at apex; shape of volsellae; sternum 8 lacking short stout hairs medially.

Vestiture.—As in *A. torulosa.*

Holotype female, 10 MILES NORTH OF CALIENTE, KERN COUNTY, CALIFORNIA, on *Nemophila menziesii menziesii,* 21 March 1965, by R. W. Cruden. Allotype, 2 ♀ and 2 ♂ paratypes same data as type. Additional paratypes include 125 ♀ and 6 ♂ from California, all collected by R. W. Cruden on *Nemophila menziesii menziesii* unless otherwise indicated.

Amador Co.: Jackson (0.5 mi. S. on Rte. 49): 1 ♀, 17 April 1966. *Calaveras Co.*: Angels Camp (1.9 mi. S. at Rte. 49): 3 ♀, 3 April 1965. Mokelumne River and Rte. 29: 1 ♀, 29 April 1967. Mokelumne River and Rte. 49: 4 ♀, 17 April 1966. *Fresno Co.*: Fresno (Shaw Avenue): 2 ♀, 2 ♂, 5 March 1957. Watts Valley (7 mi. W. of and near Watts Creek): 25 ♀, 3 ♂, March 1967, on *N. m. menziesii,* John Weiler. *Kern Co.*: Caliente (10 and 11 mi. N.): 22 ♀, 1 ♂, 6 April 1966. Glennville (3.8 mi. N.): 2 ♀, 14 April 1965, on *N. m. menziesii,* R. A. Schlising. Granite-Glennville Road (8.8 mi. N.E. of Woody-Granite Rd.): 2 ♀, 14 April 1965, on *N. m. menziesii,* R. A. Schlising. Lake Isabella (1 mi. W.): 1 ♀, 21 March 1969. Walker Basin (15.2 mi. N. of Caliente): 4 ♀, 6 April 1966. *Madera Co.*: Bass Lake Road (Rte. 432, 0.4 mi. S. of Rte. 222): 2 ♀, 15 May

1967. Coarsegold (3.1 mi. N.E. at Rte. 41): 12 ♀, 15 May 1967. *Monterey Co.*: Jolon (12.9 mi. S. on Jolon-Bradley Rd.): 1 ♀, 20 March 1965. Spring Road (1.7 mi. N.E. of Mission Rd.): 3 ♀, 19 March 1965. *Nevada Co.*: Route 49 (1.8 mi. N. of County line): 1 ♀, 24 April 1966. *San Benito Co.*: Lonoak Road (11.3 mi. E. of Rte. 101): 3 ♀, 19 March 1965. *San Luis Obispo Co.*: Palo Prieto Road (4.5 mi. S. of Rte. 466): 1 ♀, 26 March 1965. San Miguel (1.4 mi. E.): 2 ♀, 20 March 1965. *Tulare Co.*: Badger (2.9 mi. N.): 1 ♀, 15 April 1965, on *N. m. menziesii*, R. A. Schlising. *Tuolumne Co.*: Black Oak Road (3.5 mi. N. of Sonora-Tuolumne Rd.): 4 ♀, 13 May 1967, on *Nemophila maculata*, R. W. Cruden. Soulsbyville Road (0.5 mi. N. of Sonora-Tuolumne Rd.): 5 ♀, 13 May 1967, on *N. maculata*, R. W. Cruden. Standard Road (at Sonora-Tuolumne Rd.): 3 ♀, 13 May 1967, on *N. maculata*, R. W. Cruden. Thell-Ward Ferry: 20 ♀, 13 May 1967.

A single female in the P. H. Timberlake collection, Riverside, California, bears no collection data. The paratypes are distributed to the same collections as listed for *A. torulosa*. The holotype and allotype are in the collection of the Illinois Natural History Survey.

ANDRENA (NEMANDRENA) SUBNIGRIPES Viereck

Andrena (*Andrena*) *subnigripes* Viereck, 1916, Proc. Acad. Natur. Sci. Philadelphia, 68: 581.

Andrena (*Cryptandrena*) *subnigripes*: Lanham, 1949, Univ. Calif. Publ. Entomol., 8: 223.

This small, brightly colored species is closely related to *A. crudeni*. Like *A. crudeni*, it differs from *A. torulosa* by lacking the pronotal humeral angle and ridge. The female of *A. subnigripes* differs from that of *A. crudeni* by having the metasomal and leg hairs black and the thoracic hairs fulvous to fox-red. The male of *A. subnigripes* differs from that of *A. crudeni* by having black hairs on the last few metasomal segments and having dark ochraceous thoracic hair. Viereck's (1916) original description of the *A. subnigripes* female is excellent.

FEMALE.—*Measurements and ratios.*—N = 20; length, 10–12 mm; width, 3.0–3.5 mm; wing length, M = 3.74 ± 0.099 mm; FL/FW, M = 0.84 ± 0.003; FOVL/FOVW, M = 3.09 ± 0.050.

Integumental color.—As in *A. torulosa* but terga not at all translucent apically and tibial spurs dark reddish-brown.

Structure.—Head structure and sculpturing as in *A. torulosa* except as follows: maxillary palpus with segmental ratio about 1.0:1.0:0.9:0.7:0.6:0.7; labial palpus with ratio about 1.0:0.5:0.5:0.4. Thoracic and metasomal structure and sculpturing as in *A. torulosa* except pronotum completely lacks humeral angle and dorsoventral ridge, surface dull, finely and regularly tessellate and terga 1–4 with apical areas slightly shinier.

Vestiture.—Head hairs dark ochraceous to fulvous with dark brown hairs usually present on vertex and on all specimens along inner margins of eyes, on lower parts

of genal area, on mandibles and labrum, in facial fovea and a few dark brown hairs mixed with the paler hairs on clypeus especially apically. Thorax fulvous to bright fox-red above, fulvous on sides and a few dark brown hairs ventrally. Metasomal hairs black or blackish-brown except tergum 1 basally and tergum 2 at extreme base at sides; first two sterna with hairs often pale. Leg hairs black to dark brown except hind trochanteral flocculus ochraceous and usually some femoral hairs pale; fore coxae with long spinelike hairs dark brown. Hair form and pollen collecting hairs as in *A. torulosa.*

MALE.—*Measurements and ratios.*—N = 4; length, 9–10 mm; width, about 2.5 mm; wing length, 3.35–3.50 mm; FL/FW, 0.78–0.79; FS1/FS2, 2.00–2.50.

Integumental color.—As in *A. torulosa.*

Structure.—Head structure and sculpturing as in *torulosa* except as follows: maxillary palpus with segmental ratio about 0.9:1.0:0.9:0.9:0.6:0.7; labial palpal ratio about 1.0:0.6:0.4:0.6. Thoracic and metasomal structure and sculpturing as in *torulosa* except as follows: pronotum completely lacks humeral angle and dorsoventral ridge, surface finely and regularly tessellate; terga 1–5 with apical areas shiny, shagreening extremely delicate; terminalia as figured (Figs. 11–15), note gonocoxites with apical processes less falcate; note shape of volsellae; sternum 8 with apical area with median hairs stout but not short as in *torulosa.*

Vestiture.—Head and thoracic hairs ochraceous to pale fulvous. Metasomal hairs ochraceous except last three or four terga and sterna with dark reddish-brown hairs. Leg hair ochraceous except as follows: inner surfaces tarsi dark brown (hind) to reddish-brown (fore and middle); hind tibia with outer surface with some brown hairs along posterior margin and surrounding basitibial plate; middle tibia with outer surface with brown hairs at least apically.

TYPE MATERIAL.—The holotype female of *A. subnigripes* from Southern California is in the collection of the Philadelphia Academy of Natural Sciences (No. 4018).

DISTRIBUTION.—This species is known from only a few localities in California and the data is given below in full.

Fresno Co.: Shaw Avenue east of Fresno. 37 ♀, 4 ♂, on *Nemophila menziesii menziesii,* 5 March 1967, R. W. Cruden. *Tulare Co.*: Strathmore. 1 ♀, 1 April 1933, P. H. Timberlake.

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A New Species of *Phaeogenes*

(Hymenoptera : Ichneumonidae)

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A new species of *Phaeogenes*, tribe Alomyini of the subfamily Ichneumoninae (Hymenoptera : Ichneumonidae), was discovered during a study of the parasitoids of the artichoke plume moth, *Platyptilia carduidactyla* (Riley) (Lepidoptera : Pterophoridae) (Lange, 1950). As the new species, *Phaeogenes cynarae*, doesn't conform well to the existing key for the Alomyini (Townes, *et al.*, 1965), Dr. Henry Townes was kind enough to confirm the species as being in the genus *Phaeogenes sensu lato*, as compared to *Phaeogenes* in the strict sense.[1] This paper presents the description of *Phaeogenes cynarae* for the benefit of future workers in the ecology of the species and its host.

[1] Personal communication, 9 December 1969.

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