

## SYNOPSIS OF THE KNOWN MEXICAN SPECIES OF *ANEFLUS* (COLEOPTERA: CERAMBYCIDAE)

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When Bates reviewed the Cerambycidae of Mexico in the *Biologia Centrali-Americana* (1880–1885), no species of *Aneflus* was known from the Mexican mainland, although LeConte (1873) had described one species from the Cape Region of Baja California. Subsequently, Bates (1892) assigned two new species to the genus, one of which (*A. cylindricollis*) was incorrectly transferred to *Aneflomorpha* by Casey (1912). The other (*A. fulvipennis*) is now the type of *Meganeflus* Linsley (1961).<sup>2</sup> Several additional species were described or recorded from Mexico by Linsley (1936). Franz (1954) added two species from El Salvador. *Aneflus zilchi* Franz can probably be assigned to the subgenus, *Protaneflus*, the males of which possess 12-segmented antennae. The other species, *Aneflus protensus planus* Franz has no close affinities to *protensus* and should be regarded as a good species also in the subgenus *Protaneflus*. Including the six new species herein described, 17 species are now assignable to the genus as it is currently defined, almost all of which are now known to occur in Mexico. The remainder (except *A. zilchi* and *A. planus*) have been included in the key presented below, since they may reasonably be expected to occur within the boundaries of that country. The species now known from America north of the Mexican boundary have been treated elsewhere by Linsley (1963).

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<sup>2</sup> In this genus the integument is shining and glabrous and the antennal scape possesses a distinct apical cicatrix. Through a typographical error, the original description reads "pubescent" rather than "not pubescent." The lack of pubescence is an important feature.



Genus *Aneflus* LeConte

*Aneflus* Le Conte, 1873, Smithsonian Misc. Coll. 11(264):185; ibid. (265):302; LeConte and Horn, 1883, Smithsonian Misc. Coll. 26(507):287; Leng, 1885, Ent. Amer. 1:34; Horn, 1885, Ent. Amer. 1:131; Casey, 1912, Memoirs on the Coleoptera, 3:291; Bradley, 1930, Manual of the Genera of Beetles, p. 233; Linsley, 1936, Ann. Ent. Soc. Amer. 29:468, 469; Linsley, 1961, Pan-Pacific Ent. 37:181; Linsley, 1963, Univ. California Publs. Ent. 21:29.

Form elongate, subcylindrical, a little depressed. Head concave and narrowly channeled between antennal tubercles; palpi unequal, last segment expanded; eyes coarsely faceted; antennae with basal segments spinose at apex, outer segments beginning with fourth or fifth flattened and usually expanded externally, beginning with fourth, fifth, or sixth obtusely carinate. Pronotum subcylindrical, sides a little convex, unarmed; disk dull, usually densely punctured or rugose; prosternum with coxal cavities closed or open behind by less than apical width of intercoxal process. Legs moderately slender; femora not clavate, unarmed at apex. Elytra pubescent, the pubescence sometimes interrupted by denuded lines or small round dots; apices emarginate, bispinose or trispinose.

Type species: *Elaphidion protensum* LeConte.

The form of the antennae and the nature of the pubescence distinguish this genus from its relatives (for further comparisons, see Linsley, 1961). Most of the species are large, ranging in length from 24 to 36 mm., although individual specimens of one or two species may not exceed 19 or 20 mm. The species may be distinguished as follows:

## KEY TO THE SPECIES OF ANEFLUS

1. Elytral pubescence uniform, short, depressed and usually inconspicuous; antennae of males 12-segmented; color dark brownish testaceous ..... 2
- Elytral pubescence irregular, usually dense, conspicuous, often condensed into patches or stripes, if pubescence sparse, erect hairs abundant; antennae of males 11-segmented; color dark reddish brown to piceous ..... 5
- 2(1) Third and fourth antennal segments subequal in length, or third only slightly longer than fourth; head not asperately punctate ..... 3
- Third antennal segment twice as long as fourth; head



- grossly asperate punctate. Length, 30 mm. Vera Cruz  
*cylindricollis*
- 3(2) Elytral pubescence uniform, fine, very short, appressed,  
not interrupted by rows of round denuded spots with a  
coarse puncture each bearing an erect seta ..... 4  
Elytral pubescence dense, coarse, obscuring surface, inter-  
rupted by rows of round denuded spots each enclosing a  
coarse puncture bearing an erect seta; pronotum densely  
pubescent, surface obscured; twelfth antennal segment  
of male only slightly shorter than eleventh. Length, 24-  
32 mm. Yucatan ..... *glabropunctatus*
- 4(3) Each elytron with two costae; twelfth segment of male an-  
tennae about one-half as long as eleventh. Length, 21-  
30 mm. San Luis Potosi ..... *minutivestis*  
Elytra without costae; twelfth segment of male antennae  
only slightly shorter than eleventh. Length, 28-30 mm.  
British Honduras to Vera Cruz ..... *pubescens*
- 5(1) Elytral pubescence interrupted by three longitudinal, gla-  
brous lines or by rows of round, denuded spots, each en-  
closing a large puncture bearing a coarse suberect  
hair ..... 6  
Elytral pubescence uniform, or variegated with irregular  
patches of depressed hairs, not interrupted by longi-  
tudinal, glabrous lines or rows of round, denuded  
spots ..... 8
- 6(5) Elytral pubescence interrupted by three longitudinal, gla-  
brous lines ..... 7  
Elytral pubescence broken by rows of round denuded  
spots, each enclosing a large puncture bearing a suberect  
seta; anterior coxal cavities closed, or practically closed,  
behind. Length, 22-27 mm. Baja California, south-  
western United States to Texas, Sonora and Tamauli-  
pas. .... *prolixus*
- 7(6) Intercoxal process of prosternum obtusely expanded at  
apex, the coxal cavities open behind by about width of  
apex of prosternal process; antennae shorter than the  
body in both sexes, segments beginning with fourth ex-  
panded externally and carinate. Length, 22-30 mm.  
Western Texas to Arizona and Sonora ..... *sonoranus*  
Intercoxal process of prosternum expanded and more or  
less truncate at apex, the coxal cavities closed or essen-  
tially closed behind; antennae longer than the body in



- the male, segments beginning with fifth flattened, excavated, carinate, but scarcely expanded externally. Length, 19–22 mm. Arizona ..... *levettei*
- 8(5) Elytral pubescence usually dense, variegated with patches of condensed hairs; suberect hairs indistinct, not numerous ..... 9
- Elytral pubescence consisting chiefly of short suberect hairs, condensed pubescence, if present, sparse, indistinct; pronotum densely, transversely rugose. Length, 27–38 mm. Baja California to Arizona and Sinaloa ..... *calvatus*
- 9(8) Outer segments of antennae with a very distinct elevated carina; last antennal segment of male moderately to heavily appendiculate; elytral pubescence distinctly condensed into patches ..... 10
- Outer segments of antennae vaguely carinate, carinae not prominently elevated; last antennal segment of male very distinctly appendiculate, almost divided; short appressed pubescence more uniform throughout. Length, 25–31 mm. Southern California to Texas and northern Mexico (Sonora, Coahuila, Tamaulipas) ..... *protensus*
- 10(9) Antennal scape feebly emarginate on underside of apex; basal punctures of elytra coarse, dense, subconfluent ..... 11
- Antennal scape strongly emarginate on underside at apex; basal elytral punctures small, irregularly placed, well separated; color reddish-brown, pubescence fulvous, pubescent patches coalescing. Length, 29–31 mm. Sinaloa ..... *basicornis*
- 11(10) Humeri not prominent, without a deep impression along base of elytra at insides of humeri; discal tubercles at base of pronotum not very prominent or highly elevated ..... 12
- Humeri prominent, base of elytra deeply impressed between humeri and scutellum; discal tubercles at base of pronotum very prominent, highly elevated, glabrous; pubescence white; base of elytra very densely, coarsely, confluent punctate. Length, 30 mm. Mexico ..... *humeralis*
- 12(11) Intercoxal process of prosternum rounded or subtruncate at apex, not notched medially; pubescence of pronotum sparse to dense, usually not obscuring surface; pubescence gray to fulvous ..... 13



- Intercostal process of prosternum rounded at apex, deeply notched medially; pubescence of pronotum dense, at least partially obscuring surface; pubescence white; basal elytral punctures moderately coarse, irregular, confluent and separated. Length, 28–31 mm. Chiapas, Oaxaca, Veracruz ..... *nivarius*
- 13(12) Third antennal segment shorter than or subequal in length to fourth segment ..... 14
- Third antennal segment distinctly longer than fourth; pronotum irregularly, transversely rugose; integument dark piceous, pubescence grayish. Length, 25–37 mm. Sonora to Colima and Mexico ..... *rugicollis*
- 14(13) Vestiture of elytra consisting only of dense patches of white-fulvous pubescence, surface mostly obscured; pronotum densely pubescent, surface obscured except for calluses. Length, 28–31 mm. Yucatan .... *variegatus*
- Vestiture of elytra consisting of short recurved hairs with small patches of appressed fulvous pubescence not obscuring surface; pronotum thinly pubescent. Length, 29–40 mm. Arizona ..... *paracalvatus*

*Aneflus* (*Protaneflus*) *cylindricollis* Bates

*Aneflus cylindricollis* Bates, 1892, Trans. Ent. Soc. London 1892: 147, pl. 5, fig. 2; Linsley, 1936, Ann. Ent. Soc. Amer. 29: 471.

*Aneflomorpha cylindricollis*, Casey, 1912, Memoirs on the Coleoptera 3: 293.

This species resembles *A. pubescens* Linsley in coloration and type of pubescence. It differs by having the third antennal segment twice as long as the fourth in the female, and by the grossly asperate punctures of the head. The male is unknown but presumably falls in the group having 12-segmented antennae.

*Type locality*.—Jalapa, Vera Cruz.

***Aneflus* (*Protaneflus*) *glabropunctatus* Chemsak and Linsley, sp. n. (Plate 1)**

*Male*.—Form elongate, cylindrical, moderate sized, piceous, elytra pale brownish; pubescence fulvous, dense, moderately coarse, interrupted on elytra by rows of round denuded spots enclosing a puncture bearing an erect seta. Head densely, shallowly, not coarsely punctate, densely pubescent; antennae longer than body, 12-segmented, segments distinctly narrowed basally giving the outside edge a sinuate appearance, segments 3 to 7 spinose at



apex, outer segments prominently carinate, pubescence very short, fine, dense. Pronotum slightly longer than broad, subcylindrical, base impressed; disk somewhat convex, dorsal calluses vague, punctures shallow, slightly rugose; pubescence dense, obscuring surface except for elongate, postmedian, glabrous callus; prosternum impressed, transversely rugose, densely pubescent; meso- and metasternum sparsely punctate, densely pubescent. Elytra over three times as long as broad, tapering apically; basal punctures coarse, dense; pubescence dense, obscuring surface except for rows of round, denuded spots with coarse punctures each bearing an erect seta; lines extending length of suture and spines darker; apices bispinose; scutellum densely clothed with white appressed pubescence. Legs slender; femora very densely, finely punctate, densely pubescent. Abdomen sparsely punctate, very densely clothed with pale appressed pubescence; apex of fifth sternite emarginate. Length, 25–28 mm.

*Female*.—Antennae 11-segmented, not extending beyond first abdominal segment; apex of fifth abdominal sternite sub-truncate. Length, 32 mm.

*Types*.—*Holotype* male, *allotype* female (American Museum of Natural History) and nine *paratypes* (male) from Pisté, Yucatan, Mexico, 3–5 June 1959 and 8–10 June 1959 (P. and C. Vaurie); additional paratypes as follows: 1 ♂, Pisté, 8 June 1959 (E. C. Welling); 1 ♂, Pisté, 6 Dec. 1950 (E. C. Welling); 1 ♂, Merida, Yucatan, 12 May 1960 (E. C. Welling); 1 ♂, Uxmal, Yucatan, 16–18 June 1959 (P. and C. Vaurie).

This species differs from others in the subgenus by the much denser pubescence which is interrupted by round denuded elytral spots.

***Aneflus (Protaneflus) minutivestis* Chemsak and Linsley, sp. n.**  
(Plate 1)

*Male*.—Form elongate, subcylindrical; integument dark reddish-brown, but with head, prothorax, and appendages piceous; pubescence very fine, short, appressed and suberect. Head moderately coarsely, very shallowly, punctate; pubescence moderately dense, yellowish, mostly depressed; antennae 12-segmented, shorter than body, segment finely, densely pubescent, three to seven spinose at apex, third and fourth subequal in length, outer segments vaguely carinate, twelfth about one-half as long as eleventh. Pronotum cylindrical, a little longer than broad, sides feebly rounded; disk very shallowly punctate, slightly, shallowly rugose transversely;



pubescence fairly sparse, depressed, with fewer longer suberect hairs interspersed; prosternum transversely impressed, coarsely, sparsely punctured and transversely rugose, anterior coxal cavities wide open behind; meso- and metasternum finely, sparsely punctate, densely pubescent; scutellum rounded, densely clothed with white pubescence. Elytra more than three times as long as broad, narrower apically; basal punctures coarse, dense, subcontiguous, becoming finer and sparser apically; each elytron with two costae which do not extend to apex; pubescence very short and fine, appressed, with numerous short and long, suberect hairs interspersed; apices bispinose, outer spine longer. Legs slender; femora very densely, finely punctate, densely pubescent. Abdomen finely, sparsely, irregularly punctate, pubescence dense, both short and depressed and long and suberect; apex of fifth sternite shallowly emarginate. Length, 21–23 mm.

*Female*.—Much more robust than male; antennae extending to a little beyond mid-elytra, 11-segmented; each elytron with a third costa extending obliquely from base of subsutural costa to suture; apex of fifth abdominal sternite rounded. Length, 29 mm.

*Types*.—*Holotype* male (California Academy of Sciences) from Tamazunchale, San Luis Potosi, Mexico, 28 Mar. 1956 (D. H. Janzen); *allotype* female (University of Kansas) from El Salto, San Luis Potosi, Mexico, 17 June 1955 (University of Kansas Mex. Exped.); one male *paratype* from Tenosique, Tabasco, Mexico, Feb., 1945 (M. Guerra).

The costate elytra will readily distinguish this species from *A. pubescens* Linsley. It differs from *A. cylindricollis* Bates by the longer fourth antennal segment of the female and the punctation of the head.

*Aneflus (Protaneflus) pubescens* Linsley

*Protaneflus pubescens* Linsley, 1934, Psyche 41: 233.

*Aneflus (Protaneflus) pubescens*, Linsley, 1961, Pan-Pacific Ent. 37: 181.

This species is a rather pale reddish-brown with darker head, prothorax, and appendages. The pubescence is very short, fine, recumbent and uniform. The elytra lack distinct costae and the twelfth antennal segment of the male is subequal to or only slightly shorter than the eleventh.

*Type locality*.—Punta Gorda, British Honduras.

Linsley (1961) lists the range of *pubescens* as Guatemala to Panama. A single female specimen is at hand from Cordoba, Vera Cruz, Mexico (A. Fenyes); 3 males, Cayuga, Guatemala, April-



May, 1915 (W. Schauss); 1 male, Barro Colorado Island, Canal Zone, May, 1941 (J. Zetek).

*Aneflus prolixus* LeConte

*Aneflus prolixus* LeConte, 1873, Smithsonian Misc. Coll. 11 (264) : 203; Linsley, 1963, Univ. California Publs. Ent. 21 : 31.

This species may be easily recognized by the dense pubescence which is interrupted by rows of round, glabrous spots each bearing a coarse puncture giving rise to an erect seta.

*A. prolixus* segregates geographically into subspecies as follows:

*Aneflus prolixus prolixus* LeConte

*Aneflus prolixus* LeConte, 1873, Smithsonian Misc. Coll. 11 (264) : 203; Leng, 1885, Ent. Amer. 1 : 35; Horn, 1885, Ent. Amer. 1 : 132; Linsley, 1936, Ann. Ent. Soc. Amer. 29 : 470; Linsley, 1942, Proc. California Acad. Sci. (4) 24 : 36.

*Aneflus prolixus prolixus*, Linsley, 1963, Univ. California Publs. Ent. 21 : 32.

In this subspecies the pubescence is very fine, dense, and short. Also, the hairs of the elytra are uniform except for the round, denuded spots, and the antennae of the male are usually about as long as the body. Length, 20–26 mm.

*Type locality*.—Cape San Lucas, Baja California.

From all indications, this subspecies appears to be restricted to Baja California. Material has been seen as follows: 4 ♂♂ 1 ♀, Triunfo, 13 July 1938 (Michelbacher and Ross); 1 ♂, six miles N. Triunfo, 15 July 1938 (Michelbacher and Ross); 1 ♂, Las Animas, Sierra Laguna, 12 Oct. 1941 (Ross and Bohart); 2 ♂♂, 20 miles NW La Paz, 16 July, 1938 (Michelbacher and Ross); 1 ♂, Arroyo Seco, 6 Oct. 1941 (Ross and Bohart).

*Aneflus prolixus fisheri* Knull

*Aneflus fisheri* Knull, 1934, Ohio Jour. Sci. 34 : 335.

*Aneflus prolixus*, Linsley, 1936, Ann. Ent. Soc. Amer. 29 : 470; Linsley, 1942, Proc. California Acad. Sci. (4) 24 : 36; Linsley, Knull, and Statham, 1961, Amer. Mus. Nov. 2050 : 13 (record).

*Aneflus prolixus fisheri*, Linsley, 1963, Univ. California Publs. Ent. 21 : 32.

The coarser, denser, more irregular pubescence differentiates this subspecies from the typical form. Additionally, the integument is



a darker piceous and the male antennae are shorter than the body. Length, 24–28 mm.

*Type locality*.—Globe, Arizona.

The distribution of *fisheri* ranges from southeastern Arizona to Durango along the western side of the continental divide. Mexican material has been examined as follows: 2 ♂♂, 1 ♀, Desemboque, Sonora, 1–15 Aug. 1953 and 1–10 Sept. 1953 (B. Malkin); 3 ♂♂, 1 ♀, six miles NE El Salto, Durango, 10 Aug. 1947 (D. Rockefeller Exp. Michener).

***Aneflus prolixus insoletus* Chemsak and Linsley, subsp. n.**

Form and size of *prolixus prolixus*, integument dark piceous; antennae of male about as long as body, spines small, that of fourth segment distinctly finer than spine of third segment; pubescence dense, not coarse, fairly long, appressed. Length, 21–26 mm.

*Types*.—*Holotype* male (California Academy of Sciences) and two male *paratypes* from 29 km. S. Hidalgo, Tamaulipas, Mexico, 11 July 1952, "ebony scrub" (F. W. and G. W. Werner); additional *paratypes* as follows: 3 ♂♂, eight miles N. Jimenez, Tamaulipas, 15 June 1953 (Univ. Kansas Mex Exped.); 1 ♂ 1 ♀, Abasolo, Tamaulipas, 17 May 1952 (M. Cazier, W. Gertsch, R. Schrammel); 3 ♂♂, San Fernando, Tamaulipas, 27 Aug. 1954 (C. D. Michener and party); 2 ♂♂, San Fernando, 26 Aug. 1951; 1 ♂, La Gloria, S. of Monclova, Coahuila, 24 Aug. 1947 (Michener); 2 ♂♂, 167 km. E. San Luis Potosi, San Luis Potosi, 3 July 1948 (Werner and Nutting); 1 ♀, San Pedro de Colonas, Coahuila, 20 Aug. 1947 (Cazier); 1 ♂, Jacala, Hidalgo, 6 July 1939; 4 ♂♂, Pedricena, Durango, 19 Aug. 1947 (Cazier); 2 ♂♂, San Juan del Rio, Durango, 30 July 1947 (Cazier); 2 ♂♂, 20 miles SW Camargo, Chihuahua, 13 July 1947 (Gertsch, Schrammel).

This subspecies differs from the others by the nature of the pubescence. The hairs are longer and thicker than in *prolixus* and denser and finer than in *fisheri*. The form is generally less robust than *fisheri*, and the male antennae longer, with smaller spines.

This population occurs from the east side of the continental divide to the coast and as far south as Hidalgo.

*Aneflus sonoranus* Casey

*Aneflus sonoranus* Casey, 1924, Memoirs on the Coleoptera, 11: 241; Linsley, 1936, Ann. Ent. Soc. Amer. 29: 470, pl. 1, fig. 5, 5a; Linsley, Knull, and Statham, 1961, Amer. Mus. Nov. 2050: 13 (record); Linsley, 1963, Univ. Calif. Publ. Ent. 21: 30.



*Axestinus obscurus* Leng (nec LeConte), 1885, Ent. Amer. 1, pl. 2, fig. 27; Schaeffer, 1908, Bul. Brooklyn Inst. Arts Sci. 1: 335 (Misident.).

This species may be readily recognized by the three longitudinal, glabrous, impunctate lines of the elytra and the posteriorly closed anterior coxal cavities.

Although no material from Mexico is at hand, *A. sonoranus* undoubtedly occurs in Sonora and perhaps elsewhere.

*Aneflus levettei* (Casey)

*Elaphidion levettei* Casey, 1891, Ann. New York Acad. Sci. 6:29; Hamilton, 1896, Trans. Amer. Ent. Soc. 23: 167.

*Aneflus levettei*, Schaeffer, 1908, Bul. Brooklyn Inst. Arts Sci. 1: 335; Casey, 1924, Memoirs on the Coleoptera, 11: 241, 242; Linsley, Knull, and Statham, 1961, Amer. Mus. Nov. 2050: 13 (record); Linsley, 1963, Univ. California Publs. Ent. 21: 31.

*Aneflomorpha levettei*, Casey, 1912, Memoirs on the Coleoptera, 3: 293; Linsley, 1936, Ann. Ent. Soc. Amer. 29: 475.

*A. levettei* may be separated from *A. sonoranus*, which it closely resembles, by the posteriorly open front coxal cavities. The form is also narrower and less robust. Although available specimens are all from montane areas of Arizona, the species may extend into Mexico.

*Aneflus calvatus* Horn

*Aneflus calvatus* Horn, 1885, Ent. Amer. 1: 132; Linsley, 1936, Ann. Ent. Soc. Amer. 29: 471; Linsley, 1942, Proc. California Acad. Sci. (4)24: 37; Linsley, 1963, Univ. California Publs. Ent. 21: 36.

The robust form, piceous color, short inconspicuous pubescence consisting chiefly of suberect hairs, and the strongly wrinkled pronotum, distinguish this species.

*Type locality*.—Arizona.

*A. calvatus* ranges from about the middle of Baja California to Arizona and south to Sinaloa. Mexican records as follows: 1 ♂, 15 miles N. San Ignacio, Baja California, 27 July 1938 (Michelbacher and Ross); 2 ♂♂ 1 ♀, 45 miles N. San Ignacio, 27 July 1938 (Michelbacher and Ross); 1 ♀, 5 miles NW Punta San Felipe, Baja California, 9 July 1955 (J. P. Slevin); 1 ♀, San Bernardino, Rio Mayo, Sonora, 18 Aug. 1935 (B. S. Gentry); 1 ♀, Alamos, Sonora, 22 Aug. 1959 (R. L. Westcott); 1 ♀, 26 miles N. Pericos, Sinaloa, 13 Aug. 1960 (Arnaud, Ross, and Rentz).



*Aneflus protensus* (LeConte)

*Elaphidion protensum* LeConte, 1858, Proc. Acad. Nat. Sci. Philadelphia, p. 82.

*Aneflus protensus*, LeConte, 1873, Smithsonian Misc. Coll. 11 (264): 185; Leng, 1885, Ent. Amer. 1: 34, pl. 3, fig. 5; Horn, 1885, Ent. Amer. 1: 131; Linsley, 1936, Ann. Ent. Soc. Amer. 29: 470; Linsley, 1942, Proc. California Acad. Sci. (4)24: 36; Linsley, Knull, and Statham, 1961, Amer. Mus. Nov. 2050: 13 (record); Linsley, 1963, Univ. California Publs. Ent. 21: 32.

*Aneflus cochisensis* Casey, 1912, Memoirs on the Coleoptera, 3: 296.

Color piceous; pubescence fairly uniform, condensed patches small, numerous, giving a somewhat speckled appearance. Antennal carinae feeble, not prominently elevated.

*Type locality*.—Sonora, Mexico.

The distributional range of this species extends from Baja California to Texas and northern Mexico. Mexican material examined: 2 ♂♂, Desemboque, Sonora, 20–31 Aug. 1953 (B. Malkin); 1 ♂, 16 miles SW Hermosillo, Sonora, 21 July 1950 (J. P. Figg-Hoblyn); 1 ♀, Navajoa, Sonora, 24 June 1956 (R. and K. Dreisbach); 3 ♂♂, San Bernardino, Rio Mayo, Sonora, 26 June 1935; 1 ♂, Guaymas, Sonora, 13 June 1954 (C. Dodson); 1 ♂, 42 miles SW Camargo, Chihuahua, 15 July 1947 (Cazier); 6 ♂♂, 12 miles N. Hermanas, Coahuila, 11 Aug. 1959 (L. A. Stange, A. S. Menke); 2 ♂♂, Coahuila, July, 1952; 1 ♂, 43 km. E. Mante, Tamaulipas, 27 May 1948 (Nutting and Werner); 1 ♂, Abasolo, Tamaulipas, 17 May 1952 (M. Cazier, W. Gertsch, R. Schrammel).

*Aneflus basicornis* Linsley

*Aneflus basicornis* Linsley, 1936, Ann. Ent. Soc. Amer. 29: 471, pl. 1, fig. 9.

The strongly emarginate apex on the underside of the scape distinguishes this species. The color is reddish-brown with patches of fulvous pubescence. The pronotum is not strongly rugose but possesses five irregular calluses on the disk.

*Type locality*.—Venedio, Sinaloa.

This species is known only from the type locality, all specimens (males) taken on 27 July 1918.

***Aneflus humeralis* Chemsak and Linsley, sp. n.**

*Male*.—Form stout, somewhat compressed; color dark reddish-



piceous; pubescence white, appressed, condensed into patches. Head irregularly, shallowly punctate; antennal tubercles prominent; pubescence somewhat sparse, rather long, depressed; antennae extending to about apex of fourth antennal segment, segments three to seven spinose at apex, carinae prominent beginning with sixth segment, basal segments densely white pubescent, outer segments clothed with very short appressed pubescence, third segment longer than fourth, fifth longer than third, eleventh segment longer than tenth. Pronotum slightly broader than long, deeply impressed near base behind middle; disk with two very large, prominent calluses at base, one on each side of middle, center longitudinally glabrous, calluses near apex irregular, tranverse rugae prominent; pubescence moderately dense, appressed, with few long erect hairs interspersed; prosternum deeply impressed, coarsely, rugosely punctured behind coxae, intercoxal process narrow, apically expanded, coxal cavities open behind; meso- and metasternum coarsely, densely punctate, pubescence dense, appressed; scutellum densely white pubescent. Elytra less than three times as long as broad; base deeply impressed inside of humeri giving a sinuate appearance; basal punctures coarse, dense, becoming obsolescent toward apex; each elytron bicosate; pubescence consisting of irregular, dense patches of white appressed hairs, longer, suberect hairs few; apices bispinose. Legs moderate, slender; femora densely, moderately coarsely and finely punctate, densely pubescent. Abdomen finely, sparsely punctate, moderately pubescent. Length, 30 mm.

*Holotype* male (California Academy of Sciences) from Tejupilco, Mexico, Mexico, June, 1933 (Hinton and Usinger).

This species may be recognized by the prominent humeri and the two high calluses near the base of the pronotum.

The type specimen has been partially destroyed by dermestids with the apex of one antenna, elytra near the base, and apex of the abdomen damaged. However, the specimen is distinct enough to permit characterization in spite of the minor damage.

### ***Aneflus nivarius* Chemsak and Linsley, sp. n.**

*Male*.—Form robust, somewhat compressed; color dark reddish-brown; pubescence dense, white, appressed, condensed into patches. Head finely, shallowly punctate, white appressed pubescence partially obscuring surface; antennal tubercles not produced apically; antennae extending to fourth abdominal segment, basal segments except scape densely white pubescent, segments three and four subequal in length, fifth longer, segments three to seven spinose at apex,



outer segments prominently carinate, eleventh segment longer than tenth, appendiculate. Pronotum broader than long, sides sinuate, impressed behind middle; disk irregular, with five raised calluses, central callus glabrous, irregularly rugose; white appressed pubescence dense, partially obscuring surface; prosternum deeply impressed, rugosely punctate, densely pubescent, intercoxal process narrow, slightly expanded apically, apex rounded, notched medially, coxal cavities open behind; meso- and metasternum moderately coarsely, rather sparsely punctate, densely pubescent; scutellum densely white pubescent. Elytra less than three times as long as broad; basal punctures moderately coarse, irregular, well separated in spots; costae vague, almost not discernible; short, white, appressed pubescence condensed into many irregular patches; apices bispinose. Legs slender; femora finely punctate, densely pubescent. Abdomen finely, densely punctate, very densely pubescent; apex of fifth sternite emarginate. Length, 30 mm.

*Holotype* male (California Academy of Sciences) from 7 miles W. Tuxtla Gutierrez, Chiapas, Mexico, 2 April 1953 (R. C. Bechtel, E. I. Schlinger). Also tentatively assigned to this species are two males from 23 miles S. Matias Romero, Oaxaca, 5, 22 April 1962 (F. D. Parker, L. A. Stange) and one female from 20 miles S. Veracruz, 16 June 1961 (J. H. Legue). These specimens differ slightly in the elytral punctation from the type and in addition, the front coxal cavities of the female are more widely open behind.

This species is distinctive by the dense white patches of pubescence over the elytra, densely pubescent head and prothorax and by the rounded, medially notched apex of the prosternal intercoxal process.

*Aneflus rugicollis* Linsley

*Aneflus rugicollis* Linsley, 1935, Trans. Amer. Ent. Soc. 61: 74.

This species is suggestive of *paracalvatus* except for the piceous color, and denser patches of condensed pubescence. The pronotum is moderately densely pubescent and the third antennal segment distinctly longer than fourth.

*Type locality*.—Jofutla, Morelas.

Mexican material as follows: 1 ♂, Tejupilco, Mexico, June, 1933 (Hinton and Usinger); 3 ♂♂ 1 ♀, Jesus Maria, Nayarit, 6, 27 July 1955 (B. Malkin); 1 ♂, 26 miles N. Perico, Sinaloa, 13 Aug. 1960 (Arnaud, Ross, Rentz); 1 ♂, Teloloapan, Guerrero, 12 June 1957 (W. Gibson); 1 ♀, Alpuyeca, Morelas, 27 June 1951 (H. E. Evans); 2 ♂♂ 1 ♀, 10 miles W. Alamos, Sonora, 21 July 1954



(Cazier, Gertsch, Bradt). A specimen from Colima was included in the type series.

***Aneflus variegatus* Chemsak and Linsey, sp. n.**

Male.—Form elongate, subcylindrical; color dark reddish-brown; pubescence dense, white-fulvous, appressed, condensed into patches. Head moderately coarsely, shallowly punctate, densely clothed with appressed pubescence; antennal tubercles not prominent, rounded; antennae shorter than body, segments three to six spinose at apex, seventh minutely dentate, carinae of outer segments prominent, basal segments finely, densely pubescent, outer segments densely clothed with very short pubescence, segments three and four subequal in length, fifth longer, eleventh longer than tenth, appendiculate. Pronotum slightly broader than long, widest at middle; disk irregularly rugosely punctate, calluses distinct, median callus gla-

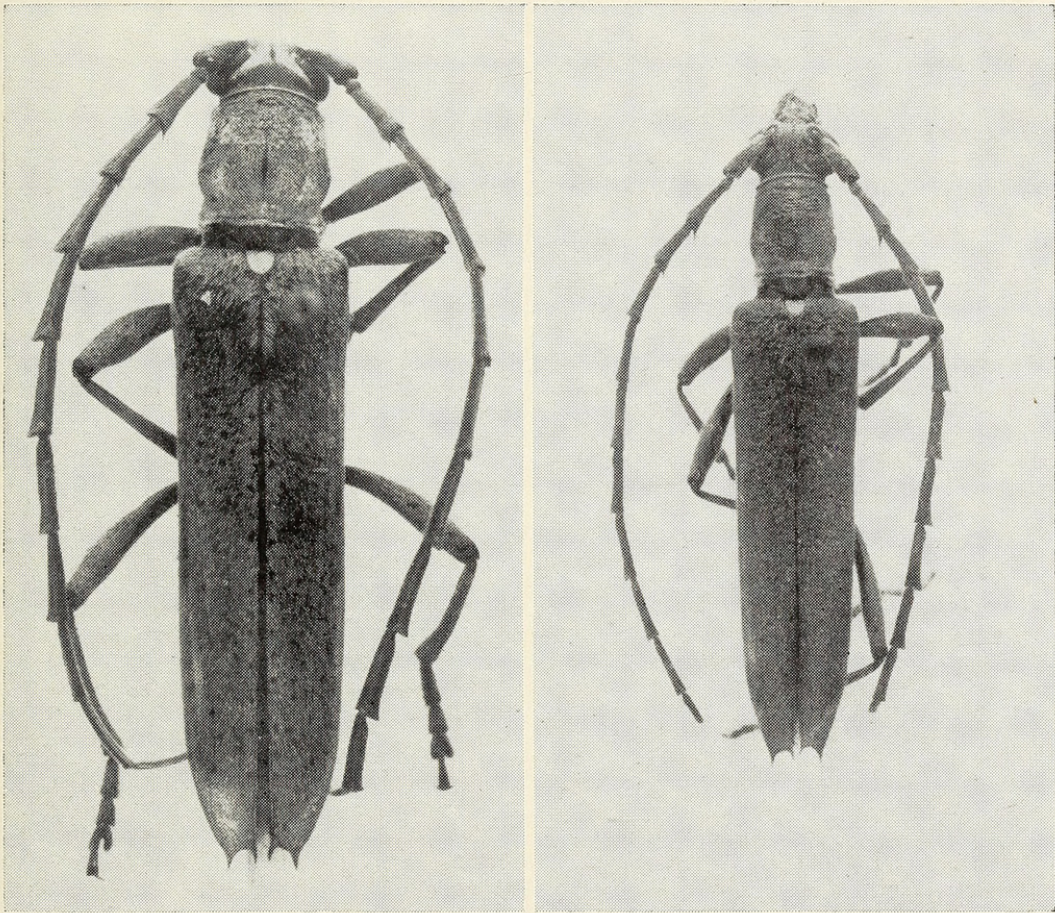


Plate 1. Left: *Aneflus* (*Protaneflus*) *glabropunctatus* Chemsak and Linsley, ♂; Right: *Aneflus* (*Protaneflus*) *minutivestis* Chemsak and Linsley, ♂. × 3.



brous, elongate; appressed pubescence dense, partially obscuring surface, long suberect hairs sparse; prosternum deeply impressed, coarsely, sparsely punctate before coxae, densely pubescent, intercoxal process slightly expanded apically, apex subtruncate, coxal cavities open behind; meso- and metasternum rather finely, not densely punctate, densely pubescent. Elytra about three times as long as broad, surface densely variegated with patches of appressed pubescence, surface partially obscured; basal punctures coarse, dense, irregular, subconfluent; costae vague; apices bispinose; scutellum densely white pubescent. Legs slender; femora finely and moderately coarsely punctate, densely pubescent. Abdomen finely punctate, densely pubescent; apex of fifth sternite emarginate. Length, 28–31 mm.

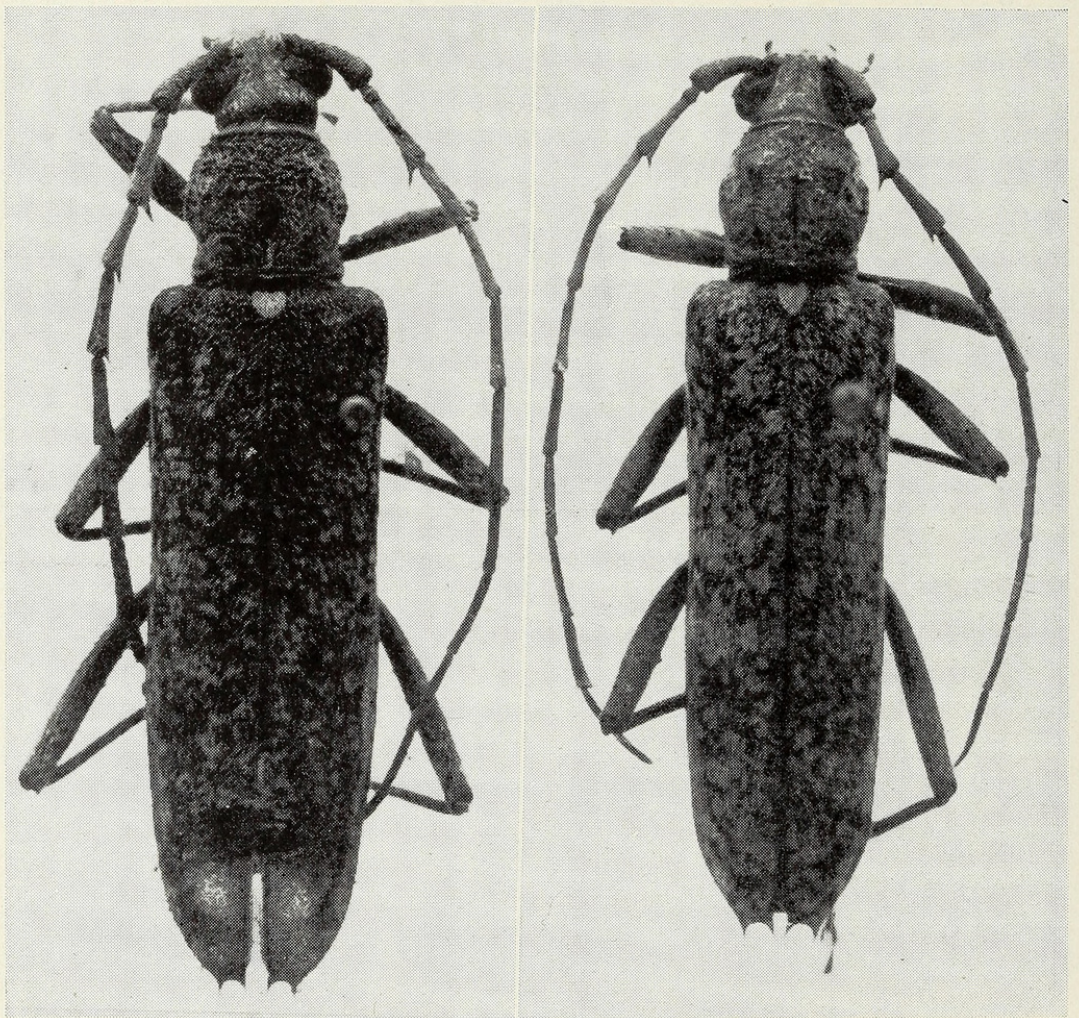


Plate 2. Left: *Aneflus humeralis* Chemsak and Linsley, ♂; Right: *Aneflus variegatus* Chemsak and Linsley, ♂. × 3.



*Types*.—*Holotype* male (American Museum of Natural History) from Pisté, Yucatan, Mexico, 8–10 June 1959 (P. and C. Vaurie). One male *paratype* from Chichen-Itza, Yucatan.

This species has densely variegated elytra with patches of appressed hairs. It resembles *nivarius* and *rugicollis* but may be distinguished by the characteristics used in the key.

*Aneflus paracalvatus* Knull

*Aneflus paracalvatus* Knull, 1955, Ent. News 66: 21; Linsley, 1961, Univ. Calif. Publ. Ent. 21: 33.



Plate 3. Left: *Aneflus rugicollis* Linsley, ♂; Right: *Aneflus nivarius* Chemsak and Linsley, ♂. × 3.



*Aneflus prosopidis* Linsley, 1957, Amer. Mus. Nov. 1828: 20.

The robust form, brown color and thin patches of fulvous pubescence separate this species from *calvatus*. The pronotum is thinly pubescent and rugose with a T-shaped, glabrous callus usually present on the disk. The elytra contain very few erect hairs.

*Type locality*.—Santa Rita Mts., Arizona.

This species is not yet known from Mexico but may occur in the northern portions of the country.

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