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## Descriptive and Synonymical Notes on Some North American Cerambycidae (Coleoptera)

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The following notes and descriptions, resulting mainly from a study of the Casey types in the United States National Museum, were made while the writer was a John Simon Guggenheim Fellow in residence at the American Museum of Natural History, and are offered in advance of a more comprehensive treatment of the groups concerned in response to requests from other workers. Only new synonymy is cited in the bibliographies.

### *Parandra brunnea brunnea* (Fabricius)

*Tenebrio brunneus* FABRICIUS, 1798, *Entomologia systematica*, suppl., p. 49.

*Parandra ampliceps* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 216. New synonymy.

*Parandra gravidula* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 216. New synonymy.

Casey's type of *P. ampliceps* is a large male without locality data but possibly from Indiana. He distinguished it from *brunnea* and *gravidula* by the fact that the carina along the anterior face of the posterior tibiae is much nearer the inner than the outer margin. As has been pointed out by Schaeffer (1939, *Bull. Brooklyn Ent. Soc.*, vol. 24, p. 39), this character is illusory and depends upon the angle from which the tibia is viewed. Furthermore, some of Casey's specimens of "*gravidula*" would run to *ampliceps* on this character. In my opinion *ampliceps* is the fully devel-

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oped male (male major) of *P. brunnea* (of which Casey had but a single specimen under that name).

The type of *P. gravidula* Casey is a male from Indiana. His series contains no specimens labeled Pennsylvania, although he gives the distribution as "Pennsylvania and westward." The antennae are scarcely as long as the width of the head in the type (a male major) but are longer in the females and minor males associated with the type by Casey. I am unable to distinguish *gravidula* from *P. brunnea brunnea*.

***Parandra brunnea coloradensis* Linsley, new subspecies**

Form robust, subparallel; color brunneous; pronotum and elytra finely, sparsely punctate, punctures of elytra generally a little smaller than those of pronotum; anterior submarginal impression of pronotum absent in male, entire in female. Length, exclusive of mandibles, male, 16–18.3 mm.; female, 19.5 mm.

Holotype male, allotype female, and two male paratypes, from "Colorado," in the Hy. Edwards collection, the American Museum of Natural History.

The specimens described above are, on the average, larger than *P. brunnea brunnea* (Fabricius) and bear a strong superficial resemblance to *P. marginicollis* Schaeffer. They differ, however, in the form of the anterior submarginal impression which is absent in the male, entire in the female, as in *P. brunnea* (Fabricius). The average size and fine punctation will distinguish it from *P. brunnea brunnea*, of which it appears to be a western subspecies.

GENUS *STENODONTES* SERVILLE

***NEOMALLODON* LINSLEY, NEW SUBGENUS**

Mandibles robust, strongly retracted at base, outer margin subangulate, inner margin with a stout double tooth before apex. Metepisterna broad, inner margin not concave. Elytral apices rounded, sutural angle not spiniform.

GENOTYPE: *Paramallus arizonicus* Casey.

This subgenus is proposed for a very anomalous species of which, unfortunately, only females appear to be known.<sup>1</sup> Thus the above diagnosis may require modification when the male is discovered. In general, *Neomallodon* agrees rather well with other groups within *Stenodontes*, but the mandibles are different from those of any of the species of that genus

<sup>1</sup> The type of *remotus*, stated to be a male, is apparently a female.

known to me. In their strongly retracted and subangular outline they suggest *Aplagiognathus*. However, the antennal tubercles are acute and the mandibles are deeply excavated internally and more or less carinate above as in *Stenodontes*, and until material of both sexes is available for study it seems much better associated with that genus. Casey regarded the type species as related to *Archodontes melanopus* and associated the two in his genus *Paramallus* (= *Archodontes*).

*Stenodontes (Neomallodon) arizonicus* (Casey)

*Paramallus arizonicus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 228.

*Aplagiognathus remotus* LINSLEY, 1934, Ent. News, vol. 45, p. 161. New synonymy.

*Aplagiognathus remotus* Linsley is identical with *Paramallus arizonicus* Casey.

**ORTHOMALLODON LINSLEY, NEW SUBGENUS**

*Mallodon*, LACORDAIRE (not Serville, 1832), 1869, Genera des coléoptères, vol. 8, p. 125. LAMEERE, 1902, Mem. Soc. Ent. Belgique, vol. 9, p. 71.

GENOTYPE: *Cerambyx spinibarbis* Linnaeus.

There has been considerable confusion with regard to the type of *Mallodon* Audinet-Serville. Serville included only one species, which he referred to as *Prionus maxillosus* Fabricius (1801, Systema eleutheratorum, vol. 2, p. 274),<sup>1</sup> adding a reference to an illustration in the work of Olivier (1795, Entomologie, vol. 4, p. 16, pl. 1, fig. 3). Lameere has pointed out that *Prionus maxillosus* Fabricius, 1801, is *Prionus maxillosus* Drury, 1773, an uncommon species from the Lesser Antilles which is congeneric with the type of *Nothopleurus* Lacordaire. The *Prionus maxillosus* of Olivier, 1795, which appears to have been what Serville had before him when he characterized *Mallodon*, is the common *Cerambyx spinibarbis* Linnaeus, 1758, of Central and South America. As a result, this last species has been regarded as the type by Lameere (1902, p. 72) and was apparently so considered by Lacordaire when he erected the genus *Nothopleurus*. However, Opinion 168 of the International Commission on Zoological Nomenclature makes it quite clear that individual authors do not have the right to take such action and that cases should be appealed to the Commission for decision. Because the present case is hardly important enough to justify such an appeal, I have applied Serville's name *Mallodon* to the species which he thought

<sup>1</sup> Fabricius first used this name in 1775 (Systema entomologiae, p. 163).

he had before him (*P. maxillosus* Fabricius), rather than to the species he had misidentified (*P. maxillosus*, Olivier, *non* Fabricius, *non* Drury). In our fauna *Orthomallodon* should be used for *Prionus dasytomus* Say and *Mallodon* for *Nothopleurus lobigenis* Bates.

*Stenodontes (Orthomallodon) dasytomus dasytomus* (Say)

*Prionus dasytomus* SAY, 1823, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 326.

*Mallodon debile* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 222. New synonymy.

*Mallodon debile* Casey is based upon what appears to be a depauperate female of *S. dasytomus dasytomus* (Say). *Mallodon baroni* Casey (from Guerrero, Mexico), placed questionably as a synonym of *Stenodontes spinibarbis* Linnaeus by Lameere, has the genae more or less tridentate as in *S. dasytomus masticator* (Thomson) and may be that subspecies. However, *Aplagiognathus guatemalensis* Casey (from Esquintla, Guatemala), assigned by Lameere as a possible synonym of *S. dasytomus masticator* Thomson, is quite distinct from what I have identified as *masticator*. Although apparently assignable to *Stenodontes (Orthomallodon)*, it is unlike any species now known to me.

*Stenodontes (Stenodontes) chevrolati* Gahan

*Stenodontes chevrolati* GAHAN, 1890, Ann. Mag. Nat. Hist., ser. 6, vol. 6 p. 23.

*Stenodontes cubensis* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 224. New synonymy.

*Stenodontes parallelus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 225. New synonymy.

This is the species which has appeared in our catalogues as *Stenodontes mandibularis* (Fabricius) (= *exertus* Olivier.) Two specimens in the Leng collection in the American Museum of Natural History from Metacomb Key, Florida, are apparently the basis for the Florida record. Both *S. cubensis* Casey and *S. parallelus* Casey are also assignable to *chevrolati* Gahan.

*Orthosoma brunneum* (Forster)

*Cerambyx brunneus* FORSTER, 1771, Novae species insectorum, p. 37.

*Orthosoma ampliatus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 231. New synonymy.

*Orthosoma spadix* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 231. New synonymy.

*Orthosoma spadix* is, as suggested by Casey (1924, *Memoirs on the Coleoptera*, vol. 11, p. 226), the female of *O. brunneum* (Forster). *Orthosoma amplians* is based on a somewhat larger female from Indiana, but I can find no support for Casey's contention (*loc. cit.*) that it probably represents a subspecies. It appears to fall well within the range of variation observed throughout the distribution of the species.

***Ergates pauper* Linsley, new species**

**MALE:** Form elongate subparallel; color of head, prothorax, antennae, and anterior legs reddish brown to piceous, elytra, metathorax, intermediate legs and abdomen testaceous or brownish testaceous. Head narrow, rather coarsely punctate; antennae only moderately robust, surpassing the middle of the elytra, third segment only about as long as pronotum, apex not attaining base of pronotum. Pronotum as wide as elytra at base, about twice as wide as long; surface dull, contiguously and confluent punctured, except for a number of deep pits, the most prominent an elongate gash on each side of disk and an oval pit in the middle at base; lateral margin between base and apex armed with a number of prominent spines as long as or longer than one-half of the diameter of the third antennal segment. Elytra two and one-half times as long as broad, surface becoming more rugose apically; apices broadly rounded externally, narrowly rounded and unarmed internally. Metasternum pubescent, densely finely punctate. Abdomen sparsely pubescent, last sternite short, broadly emarginate at apex. Length, 35–38 mm.

**FEMALE:** Color piceous black, elytra testaceous, the humeri darker. Antennae slender, scape much narrower than upper lobe of eye. Pronotum with disk elevated, shining, plane, moderately finely, distinctly punctate, with an impunctate depressed area on each side of middle and at base; lateral margin armed with equally long, prominent spines from base to apex, the spines about twice as long as diameter of third antennal segment. Elytra three times as long as humeral width; surface shining, shallowly punctate, basal areas scarcely rugose. Metasternum finely punctate, densely pubescent. Abdomen shining, finely and very sparsely pubescent; last sternite not longer than broad, deeply notched, bilobed and broadly channeled at apex, surface thinly clothed with fine short pubescence. Length, 42 mm.

Holotype female and allotype male, in the Ralph Hopping collection, California Academy of Sciences, from Tulare County, California (F. T. Scott), and one paratype male from Ojai, California, July 15, 1936 (Helen A. Brandt).

This species differs from *Ergates spiculatus* LeConte in the smaller

size, slender form, and numerous structural characters. Both sexes are bicolored. Some of the other differences between the two species may be brought out as follows:

#### MALES

- Antennae with third segment distinctly longer than pronotum, attaining base of elytra; pronotum with lateral margin entire or armed with short spicules; elytra with sutural angle distinct, dentate or with a stout spine. Length, 41–56 mm. . . . . *spiculatus*
- Antennae with third segment about as long as pronotum, not attaining base of pronotum; pronotum with lateral margin armed with a number of prominent spines, as long as or longer than one-half of the diameter of the third antennal segment; elytra with sutural angle rounded, unarmed. Length, 35–38 mm. . . . . *pauper*

#### FEMALES

- Pronotum with disk coarsely confluent punctured, except for three raised calluses, one at base, one at each side of middle, lateral margin with prominent spines at base and apex, shorter spines or spicules in between; elytra with sutural angle distinct, dentate or with a stout spine; last abdominal sternite with apex entire or very shallowly emarginate. Length, 42–65 mm. . . . . *spiculatus*
- Pronotum with disk elevated, shining, plane, more finely and distinctly punctured, an impunctate depressed area on each side of middle and at base, lateral margin with equally long prominent spines from base to apex; elytra with sutural angle rounded, unarmed; last abdominal sternite deeply notched, bilobed at apex. Length, 42 mm. . . . . *pauper*

#### *Prionus californicus* Motschulsky

*Prionus californicus* MOTSCHULSKY, 1845, Bull. Soc. Nat. Moscou, vol. 18, p. 29, pl. 2, fig. 9.

*Prionus (Prionus) alutaceus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 237. New synonymy.

*Prionus (Prionus) solidus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 238. New synonymy.

*Prionus (Prionus) spiculosus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 240. New synonymy.

*Prionus (Prionus) consors* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 240. New synonymy.

*Prionus (Prionus) consors acomanus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 241. New synonymy.

*Prionus (Prionus) consors proximans* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 241. New synonymy.

*Prionus (Prionus) angustulus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 241. New synonymy.

*Prionus (Prionus) californicus punctulatus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 243. New synonymy.

*Prionus (Prionus) fissifrons* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 243. New synonymy.

*Prionus (Prionus) texanus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 243. New synonymy.

*Prionus (Prionus) terminalis* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 244. New synonymy.

*Prionus (Prionus) serriger* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 215. New synonymy.

*Prionus (Prionus) suspectus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 215. New synonymy.

*Prionus (Prionus) orbiceps* CASEY, Memoirs on the Coleoptera, vol. 11, p. 216. New synonymy.

*Prionus (Prionus) californicus compar* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 217. New synonymy.

*Prionus (Prionus) californicus ovipennis* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 217. New synonymy.

*Prionus (Prionus) spiculosus coloradensis* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 218. New synonymy.

*Prionus (Prionus) scutellaris* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 219. New synonymy.

*Prionus (Prionus) ineptus ambiguus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 219. New synonymy.

*Prionus (Prionus) ineptus uintanus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 220. New synonymy.

*Prionus (Prionus) spaldingi* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 221. New synonymy.

*Prionus (Prionus) stultus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 221. New synonymy.

*Prionus (Prionus) stultus parvicollis* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 222. New synonymy.

*Prionus (Prionus) nanus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 222. New synonymy.

After studying a long series of specimens of *Prionus californicus* from various localities in western North America, I have been unable to recognize any of the numerous forms described by Casey as anything but individual variants. Casey had only one specimen, a female, identified as *californicus*. Of the 26 forms recognized by him which appear to me to be assignable to *californicus*, 21 were represented in his collection by single specimens. He recognized 12 "species" or "subspecies" from Utah, seven of which were from Eureka, four from Provo or Provo Canyon. *Prionus horni* Lameere also appears to me to be based on a variation of infrequent occurrence. It has been taken with the typical form at Prescott, Arizona, and elsewhere.

*Prionus laticollis* (Drury)

*Cerambyx laticollis* DRURY, 1773, Illustrations of exotic insects, vol. 1, p. 23, pl. 37, fig. 2.

*Prionus (Prionus) kempi* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 233. New synonymy.

*Prionus (Prionus) laticollis oblongus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 234. New synonymy.

*Prionus (Prionus) parvus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 234. New synonymy.

*Prionus (Prionellus) frosti* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 210. New synonymy.

*Prionus (Prionellus) nigrescans* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 211. New synonymy.

*Prionus (Prionellus) densus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 211. New synonymy.

I am unable to discover any population significance in any of the segregates of *Prionus laticollis* (Drury) named by Casey. The various characters utilized by Casey intergrade and reappear in widely scattered localities. He had only two specimens, his largest females, identified as *laticollis*.

*Prionus pocularis* Dalman

*Prionus pocularis* DALMAN, 1817, in Schönheer, Synonymia insectorum, vol. 1, pt. 3, app., p. 148.

*Prionus (Prionus) validiceps* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 235. New synonymy.

*Prionus (Prionus) bicolor* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 239. New synonymy.

*Prionus validiceps* Casey and *P. bicolor* Casey appear to represent individual variations which are not infrequent in this species. *Prionus pocularis prolixus* Casey is also assignable to *P. pocularis, sensu stricto*, a fact which was recognized by Casey in 1924 (Memoirs on the Coleoptera, vol. 11, p. 213).

*Prionus (Prionus) heroicus* Semenov

*Prionus heroicus* SEMENOV, 1907, Rev. Russe d'Ent., vol. 7, p. 259.

*Prionus (Prionus) tumidus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 235. New synonymy.

*Prionus (Prionus) vastus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 236. New synonymy.

*Prionus (Prionus) tristis* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 236. New synonymy.



*Prionus (Prionus) tetricus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 237. New synonymy.

*Prionus (Prionus) fontinalis* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 221. New synonymy.

Casey had no specimens in his collection identified as this species. His six examples, all females, were segregated under five names. Three of these (*tristis*, *tetricus*, *fontinalis*) were proposed for specimens from Jemez Springs, New Mexico, one from Fort Wingate, New Mexico (*tumidus*), one from Arizona (*vastus*). They all appear to me to be *heroicus*.

*Prionus (Antennalia) fissicornis* Haldeman

*Prionus fissicornis* HALDEMAN, 1847, Proc. Acad. Nat. Sci. Philadelphia, vol. 3, p. 125.

*Prionus (Antennalia) fissicornis parviceps* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 250. New synonymy.

*Prionus (Antennalia) fissicornis transversus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 251. New synonymy.

*Prionus (Antennalia) thoracicus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 223. New synonymy.

Casey had a male from Texas and a female from Colorado identified as *fissicornis*. His *parviceps* and *transversus* were based on females from Texas, and *thoracicus* was based on a female from Akron, Colorado.

*Prionus (Neopolyarthron) imbricornis* Linnaeus

*Cerambyx imbricornis* LINNAEUS, 1767, Systema naturae, ed. 12, p. 622.

*Prionus (Riponus) imbricornis mimus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 248. New synonymy.

*Prionus (Riponus) imbricornis brunneus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 248. New synonymy.

*Prionus (Riponus) diversus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 247. New synonymy.

*Prionus (Riponus) diversus cuneatus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 247. New synonymy.

*Prionus (Neopolyarthron) robustus* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 222. New synonymy.

I have been unable to detect any population significance for any of the variants named by Casey. Three of his names were based on specimens from Southern Pines, North Carolina (*brunneus*, *cuneatus*, *robustus*). A fourth was from Indiana (*diversus*). The type locality for *mimus* was not indicated.

*Prionus (Homaesthesis) emarginatus* Say

*Prionus emarginatus* SAY, 1823, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 327.

*Homaesthesis pubicollis* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 254. New synonymy.

*Homaesthesis debiliceps* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 255. New synonymy.

Casey's types of *pubicollis* and *debiliceps* fall well within the usual range of individual variation of *emarginatus*. The median lateral angle of the pronotum may be spiniform, acutely produced, obtuse, or absent. Of 17 males examined from Larkspur, Colorado (Edmonston), 10 have the angle acute or spiniform, and in seven the angle is obtuse or lacking.

***Prionus (Homaesthesis) rhodocerus* Linsley, new species**

Form as in *P. (H.) integer* LeConte, but differing in the 12-segmented, reddish antennae, distinct anterior lateral angles of the pronotum, and the punctuation of the pronotum and elytra.

**MALE:** Integument piceous or black, antennae reddish. Head coarsely but irregularly punctate, with raised, impunctate calluses between upper lobes of eyes; antennae 12-segmented, extending over basal one-fourth or one-third of elytra; external processes entire, not bilobed; eyes separated above by nearly half of the greatest width of head. Pronotum with anterior and posterior lateral angles distinct but not produced, surface coarsely but irregularly punctate. Elytra coarsely punctate, sutural angle slightly produced. Metasternum pubescent. Abdomen sparsely pubescent, last sternite broadly emarginate, densely punctate and pubescent at apex. Length, 19–25 mm.

**FEMALE:** More robust. Integument brownish piceous, antennae reddish. Head punctured about as in male; antennae slender, 12-segmented, barely surpassing elytral humeri, external processes entire, not bilobed. Metasternum and abdomen glabrous; last abdominal sternite narrowly, shallowly emarginate at apex. Length, 22.5 mm.

Holotype male and allotype female, in the California Academy of Sciences, from Red Creek, Utah, July, 1925. Paratypes, two males, in the United States National Museum, from Fort Duchesne, Utah, one July 9, 1932 (F. K. Stoffers), the other July 12, 1932 (Lowell Cutler). Additional material in the collections of the California Academy of Sciences includes three males from Syracuse, Kansas, May 1, 1942 (E. S. Herald), and one male from Chappell, Nebraska, July, 1942 (E. S. Herald).

In the classifications of LeConte, Lameere, and Casey, this species would be placed with *Prionus palparis* Say, because of the 12-segmented

antennae and distinct anterior angles of the pronotum. It appears to me more closely related to *P. integer* LeConte, differing as indicated above.

The specimens from Kansas and Nebraska have the integument, other than the antennae, black rather than piceous, the metasternum thinly pubescent, the abdomen nearly glabrous, and the punctation of the pronotum and elytra finer. I have hesitated to designate them as subspecifically different in the absence of material from the intervening area.

*Arhopalus asperatus* (LeConte)

*Criocephalus asperatus* LECONTE, 1859, Smithsonian Contrib. Knowledge, vol. 11 p. 19.

*Criocephalus honduranus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 265. New synonymy.

?*Criocephalus filitarsis* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 266.

*Criocephalus honduranus* Casey falls well within the normal range of variation of *A. asperatus* as now understood, in spite of the fact that it was taken considerably beyond the previously known southern limits of its distribution. However, "typical" *asperatus* has been recorded from Chiapas and Jalapa, Mexico, by Bates (1884, Biologia Centrali-Americana, Coleoptera, vol. 5, p. 239) and from Guaymas, Mexico, by Sharp (1905, Trans. Ent. Soc. London, p. 161).

*Criocephalus filitarsis* was described from a unique female from El Paso, Texas, which has a slightly narrower fifth abdominal sternite than usual and differs in other minor ways from typical *asperatus*. It is very likely a synonym of *asperatus*, but because no male has been associated with this female, and because additional material from the same area has not been available for study, I have preferred to leave the matter in question.

*Arhopalus foveicollis* (Haldeman)

*Callidium agreste* KIRBY (*nec* Fabricius, 1787), 1877, in Richardson, Fauna Boreali-Americana, vol. 4, p. 170. Primary homonym.

*Criocephalum foveicolle* (Dejean MS) HALDEMAN, 1847, Trans. Amer. Phil. Soc., ser. 2, vol. 10, p. 35.

*Criocephalus impressus* (Dejean MS) GEMMINGER AND HAROLD, 1872, Catalogus coleopterorum, vol. 9, p. 2789 (in synonymy).

*Criocephalus lacustrinus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 267.

*Criocephalus cervinus* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 267. New synonymy.

Unfortunately Kirby's name for this species is a primary homonym, and I have resurrected the name *foveicolle* made available by Haldeman.

A study of the two Casey types confirms the view expressed by Casey (1924, *Memoirs on the Coleoptera*, vol. 11, p. 230) that *lacustrinus* is a synonym. *Criocephalus cervinus* is also well within the normal range of variation of this species and is therefore suppressed.

*Arhopalus productus* (LeConte)

*Criocephalus productus* LECONTE, 1850, *Jour. Acad. Nat. Sci. Philadelphia*, ser. 2, vol. 2, p. 36.

*Criocephalus elongatus* CASEY, 1924, *Memoirs on the Coleoptera*, vol. 11, p. 230. New synonymy.

*Criocephalus propinquus* CASEY, 1924, *Memoirs on the Coleoptera*, vol. 11, p. 230. New synonymy.

The above synonymy is based on a study of the types involved and a long series of specimens from various localities throughout the known range of the species. *Criocephalus elongatus* was proposed for large robust females from Utah and Oregon; *C. propinquus* for a pair of slender forms from Colorado. Both types can be matched in both Pacific coast and Rocky Mountain series.

*Arhopalus montanus* (LeConte)

*Criocephalus montanus* LECONTE, 1873, *Smithsonian Misc. Coll.*, vol. 11, no. 263, p. 170.

*Nothorhina spissicornis* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 264. New synonymy.

*Nothorhina spissicornis longicornis* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 264. New synonymy.

*Nothorhina gracilipes* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 265. New synonymy.

*Criocephalus cavicollis* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 266. New synonymy.

*Criocephalus coloradensis* CASEY, 1924, *Memoirs on the Coleoptera*, vol. 11, p. 231. New synonymy.

The above synonymy is based on an examination of all the types involved. *Arhopalus montanus* is extremely variable, but all the forms described by Casey fall within the normal range of variation of the species, as I understand it. Casey had no specimens identified as *montanus* LeConte (type locality, Colorado). His *spissicornis*, *longicornis*, *cavicollis*, and *coloradensis* were described from Colorado; *gracilipes* is from Las Vegas, New Mexico. ◀

*Megasemum asperum* (LeConte)

*Asemum asperum* LECONTE, 1854, *Proc. Acad. Nat. Sci. Philadelphia*, vol. 7, p. 18.

*Nothorhina aspera impressa* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 264. New synonymy.

*Nothorhina aspera rectipennis* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 264. New synonymy.

*Criocephalus uteanus* CASEY, 1924, *Memoirs on the Coleoptera*, vol. 11, p. 231. New synonymy.

The above synonymy is based on a study of the four types involved as well as a long series of specimens covering the known range of the species. Casey had no material identified as *asperum* LeConte. His types of *impressa* and *rectipennis* differ slightly from each other in the position of the basal swelling of the pronotum, but the other characters which he mentions break down in his own series of *impressa* from Boulder County, Colorado. *Criocephalus uteanus* has the basal swelling as in *impressa*. However, this character appears to have very little value, and the swelling may be present or absent in individuals from a single series. In general, *M. asperum* appears to be a well-defined and relatively stable species in comparison to the various forms of *Arhopalus*. Although it may prove possible at some future time to separate the Rocky Mountain and Pacific coast populations as subspecies, I am reasonably certain that it cannot be done on the basis of the characters utilized by Casey, and any others have eluded the present writer.

#### *Asemum nitidum* LeConte

*Asemum nitidum* LECONTE, 1873, *Smithsonian Misc. Coll.*, vol. 11, no. 263, p. 169.

*Liasemum mokelumne* CASEY, 1912, *Memoirs on the Coleoptera*, vol. 3, p. 262. New synonymy.

Casey's type, as well as the series of topotypes from Mokelumne Hill, Calaveras County, California, in the collection of the California Academy of Sciences, agrees with LeConte's *Asemum nitidum*.

#### *Asemum caseyi* Linsley, new species

MALE: Form moderately slender; color pale brownish to piceous; surface shining, clothed with fine, short, golden pubescence. Head shallowly impressed between antennal bases, moderately shallowly, irregularly punctured, interspaces shining; eyes moderately finely faceted, slightly emarginate; antennae slender throughout, attaining middle of elytra, segments brownish, finely punctured and pubescent, second segment about one and one-half times as long as broad, third segment subequal in length to scape, at least one and one-half times as long as second segment, outer segments not abbreviated, ninth segment about one-half as wide as, nearly twice as

long as, second segment. Pronotum wider than long, sides broadly rounded; surface moderately deeply, not closely, punctured; disk feebly impressed. Elytra about two and one-half times as long as basal width, pale to dark brown in color; disk with three feeble, longitudinal costae; apices separately rounded. Legs short, pale to dark brown, tibiae and tarsi densely hairy. Abdomen with sternites shining, distinctly but shallowly punctured, pubescent; fifth sternite shorter than fourth, broadly rounded or subtruncate at apex. Length, 12–14 mm.

FEMALE: Form more elongate than male; antennae extending over basal one-third of elytra; elytra about two and three-fourths times as long as broad; fifth abdominal sternite longer than fourth, narrowly rounded at apex. Length, 13–16 mm.

Holotype male, allotype female, and four paratypes, in the California Academy of Sciences, from Bear Lake, San Bernardino Mountains, California, collected on various dates in June and July, 1919 (J. O. Martin). Additional paratypes from the San Bernardino Mountains, California, elevation 7500 feet, are in the California Academy of Sciences and the American Museum of Natural History.

This is a common and widely distributed species occurring in the pine forests of the Sierra Nevada and Cascade Mountains, the Coast Ranges, and the mountains of southern California where it breeds in various species of pines, including *Pinus sabiniana*, *P. murrayana*, *P. ponderosa*, and *P. lambertiana*. It is related to *Asemum nitidum* but is less robust, with longer, more slender antennae and tarsi, and a paler ground color. In *A. nitidum* the antennae are very robust at the base, tapering apically, and the second segment is only about as long as broad, the third segment much shorter than the scape and less than one and one-half times as long as the second segment. In *A. caseyi*, the slender antennae have the second segment about one and one-half times as long as broad, the third segment about as long as the scape and at least one and one-half times as long as the second segment.

#### *Asemum australe* LeConte

*Asemum australe* LeConte, 1850, Jour. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 2, p. 35.

*Crioccephalus champlainianus* Casey, 1924, Memoirs on the Coleoptera, vol. 11, p. 231. New synonymy.

The unique type of *Crioccephalus champlainianus* is a male (not a female as stated by Casey) and agrees with LeConte's *A. australe*. This species occurs along the Atlantic coast from Massachusetts to Florida. It

resembles *A. caseyi* but differs in the coarsely faceted eyes and the deep interantennal impression. The antennae are thick at the base and tapering as in *A. nitidum* LeConte.

*Tetropium velutinum* LeConte

*Tetropium velutinum* LECONTE, 1869, Ann. Mag. Nat. Hist., ser. 4, vol. 4, p. 382.

*Tetropium columbianum* CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 268. New synonymy.

*Tetropium hexagonum* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 228. New synonymy.

*Tetropium boreale* CASEY, 1924, Memoirs on the Coleoptera, vol. 11, p. 228. New synonymy.

Both *T. hexagonum* and *T. boreale* represent males of *T. velutinum* LeConte. Casey had no male specimens identified as the LeConte species; his sole example so labeled was a female. *Tetropium columbianum* I had once thought distinct, but in a long series of specimens from British Columbia, reared from *Larix*, the two cannot be segregated.

**XERANOPLIUM** LINSLEY, NEW GENUS

Form moderately slender. Head short; eyes moderately large, coarsely faceted, deeply emarginate, lower lobe extending in front of antennal insertion; front broadly concave, without a deep transverse impression at base of labrum; genae rounded, not prominent; palpi moderate, last segment expanded; antennae slender, slightly flattened, not carinate, third segment longer than scape, shorter than fifth segment, fourth segment a little shorter than scape, fifth segment longest, segments 5 to 10 successively decreasing in length. Pronotum a little longer than broad, sides feebly angulate but scarcely tuberculate; dorsal surface not granulate; disk with a median callus and a pair of obtuse anterior tubercles and a pair of vague posterior calluses; prosternum with intercoxal process not expanded at apex, coxal cavities distinctly but narrowly angulate externally, open behind; intermediate coxal cavities closed externally; metepisterna narrow, parallel-sided, scent pore not evident. Legs moderately slender; posterior femora scarcely enlarged. Elytra nearly three times as long as basal width; apices unarmed, rounded to suture.

GENOTYPE: *Xeranoplium gracile* Linsley, new species.

This genus is assigned to the Hesperophanini and runs near *Brothylus* and *Chrotoma* but differs in the thin vestiture and the absence of round, elevated, denuded areas on the elytra.

**Xeranoplium gracile** Linsley, new species

FEMALE: Color brown; clothed with recumbent pale pubescence intermixed with coarser, erect and suberect hairs. Head with vertex coarsely, closely punctate, the punctures becoming somewhat confluent at middle; antennae nearly as long as body, eleventh segment a little shorter than tenth. Pronotum coarsely but shallowly punctate, the punctures generally dense and somewhat confluent, except for discal tubercles and median area, pubescence fine, not obscuring surface, erect and suberect hairs scattered; scutellum a little broader than long, sides subparallel, apex obtusely rounded, surface finely densely pubescent; prosternum transversely rugose and rugoso-punctate, punctures not well defined, pubescence fine, not obscuring surface; metasternum minutely punctate, with irregularly placed coarse punctures superimposed, pubescence fine, recumbent, with scattered suberect hairs. Elytra depressed along suture at base, more shallowly and broadly a little behind middle, and transversely at basal one-fourth, the depressed areas more finely, confluent punctate, elytra otherwise coarsely, distinctly punctured at base, the punctures becoming shallower towards middle and almost disappearing apically; surface finely clothed with appressed white pubescence intermixed with longer, coarse, suberect hairs which become longer and more numerous towards apex. Legs finely punctured and pubescent; femora with scattered, coarser, shallower, but inconspicuous punctures superimposed and bearing longer suberect hairs; tibiae with longer suberect hairs on posterior margin which are longer than diameter of tibia; posterior tarsi slender, first segment distinctly longer than second and third taken together, second segment distinctly longer than third. Abdomen minutely punctate, with scattered larger punctures which are, however, very much smaller and less evident than those of metasternum; pubescence fine, recumbent, not obscuring surface, intermixed with finer, shorter, more suberect hairs than those of dorsal surface; fifth sternite a little longer than fourth, apex narrowly rounded.

Holotype, female, in the American Museum of Natural History, collected near Kits Peak, Baboquivari Mountains, Arizona, August 7-9, 1916 (F. E. Lutz).

The generic characters should enable this species to be readily distinguished from any other now known in our fauna. Superficially, it is suggestive of some of the species recently included in *Anoplium*.

**KNULLANOPLIUM** LINSLEY, NEW GENUS

Form moderately robust, somewhat depressed. Head short; eyes moderate, coarsely faceted, deeply emarginate, lower lobes not extending in



front of antennal insertion; front with a deep transverse impression at base of labrum; genae prominent, angulate; palpi moderate, last segment scarcely expanded; antennae without spines, segments flattened but becoming successively slightly narrower towards apex, dorsal surface finely, not densely pubescent, feebly longitudinally carinate; third segment a little shorter than scape and subequal in length to fifth, fourth segment only two-thirds to three-fourths as long as third, segments 5 to 7 increasing very slightly in length, 8 to 10 decreasing in length. Pronotum large, as long as, or a little longer than, broad, sides each with a feeble lateral tubercle, dorsal surface granulate, with a median, polished, narrow, longitudinal impression; prosternum with intercoxal process expanded behind the coxae, coxal cavities narrowly angulate externally, open behind; intermediate coxal cavities closed externally; metepisterna moderately broad at base, narrowed posteriorly, scent pore not evident. Legs moderately short, femora gradually enlarged. Elytra about three times as long as pronotum; elytral apices unarmed, rounded to suture.

GENOTYPE: *Brothylus subpubescens* Schaeffer.

This genus is proposed for a species doubtfully referred by its author to *Brothylus* LeConte but which is by no means congeneric with the two known species of that genus. It differs markedly by having the anterior coxal cavities at most feebly angulate externally, the intercoxal process of the prosternum expanded behind the coxae, and the antennae feebly carinate dorsally. The genus is dedicated to J. N. Knull who has sought out and made known so many interesting elements in the coleopterous fauna of the Southwest.

#### PERANOPLIUM LINSLEY, NEW GENUS

Body small, slender, subparallel, without long, conspicuous flying hairs. Eyes coarsely faceted. Antennae a little shorter than to a little longer than the body in the male, shorter than the body in female, segments not carinate, without spines or with a short spine at apex of third or third and fourth segments, second and third segments together longer than scape. Pronotum rounded at sides; disk coarsely, closely, alveolately punctate, without a median polished vitta; anterior coxal cavities closed behind; intermediate coxal cavities closed to epimeron; metepisternum narrowed from base to apex. Elytra subparallel; surface coarsely punctured at base, more finely, sparsely apically; pubescence usually both subrecumbent and suberect; apices rounded to suture, not spinose. Legs slender; femora without apical spines; tibiae not carinate.

GENOTYPE: *Elaphidion (Anoplium) hoferi* Knull.

This genus is proposed for a group of species related to *Anopliomorpha*

but differing by having the antennae and legs without long, flying hairs, the spine of the third antennal segment short or lacking, and the elytra sometimes with pubescent fasciae. Included are, in addition to the genotype, *E. subdepressum* Schaeffer, *E. simile* Schaeffer, and *Anoplium tuckeri* Casey.

#### MICRANOPLIUM LINSLEY, NEW NAME

*Anoplium* LACORDAIRE (*nec* Haldeman, 1847), 1869, *Genera des coléoptères*, vol. 8, p. 355.

This new name is proposed for the *Anoplium* of authors, not Haldeman. Thomson (1864, *Systema cerambycidarum*, p. 236) designated *Anoplium pubescens* Haldeman as type of the Haldeman genus. This latter species appears to be assignable to *Hesperophanes* Mulsant.

GENOTYPE: *Anoplium unicolor* Haldeman.

#### HESPERANOPLIUM LINSLEY, NEW GENUS

Form elongate, subparallel, a little depressed; pubescence short, intermixed with scattered, long, erect setae. Eyes coarsely faceted. Antennae a little longer than the body in the male, a little shorter than the body in the female, segments without spines, third segment shorter than fourth, second and third together shorter than scape. Pronotum broadly rounded or subangulate at sides, disk coarsely, densely punctate, without a median polished vitta; anterior coxal cavities open behind. Elytra wider at base than pronotum at middle, elongate, parallel-sided; apices rounded, without spines. Legs slender; femora without apical spines. Abdomen with sternites finely sparsely punctate, fifth shorter than fourth and apically subtruncate in male, as long as fourth and rounded at apex in female.

GENOTYPE: *Haplidus antennatus* Linsley.

This genus is related to *Micranoplium* but differs by having the third antennal segment shorter than the fourth, the second and third together shorter than the scape, and the pubescence short with an intermixture of scattered, long, erect setae. Included with the genotype should be *Gymnospyra notabilis* Knull.

#### *Elaphidion knulli* Linsley, new species

MALE: Form elongate, moderately robust; color reddish brown; pubescence white, appressed, partially obscuring surface. Head sparsely punctate and shining between eyes, densely pubescent next to eyes; antennae relatively short, at most with one segment extending beyond apex of elytra, segments 3 to 10 bispinose at apex, scape gradually enlarged from base to apex, anterior surface coarsely, somewhat rugosely

punctate, shallowly longitudinally canaliculate, third segment a little longer than scape, fourth segment a little shorter than third, segments 4 to 10 gradually successively decreasing in length, eleventh segment about as long as tenth. Pronotum wider than long, disk with a narrow, median, smooth vitta, a small pair of round, glabrous, smooth callosities, one on each side in front of middle, and a pair of small, elongate, partially pubescent callosities, one on each side in front of middle, and a pair of small, elongate, partially pubescent callosities, one on each side behind middle, surface elsewhere finely, closely, shallowly punctate, rather densely clothed with prostrate white pubescence, some of which appears to be branched; scutellum densely white pubescent; prosternum with punctation much like that of pronotum but pubescence thinner; intercoxal process prominent, apex abruptly, concavely declivous; mesosternum with intercoxal process prominent, subvertical; metasternum very finely, closely punctate with superimposed scattered coarse punctures bearing a suberect hair, surface more densely pubescent than prosternum, but all the sterna more densely punctate at sides. Elytra much more coarsely punctate than head or pronotum, basal punctures deep but mostly well separated, becoming finer, sparser apically; pubescence dense but irregular so as to appear slightly irrorate; apices prominently bispinose, the outer spine longer. Legs moderately slender; femora bidentate at apex, finely, closely punctate, with coarse punctures superimposed, pubescence moderately dense but irregular; all tibiae carinate; posterior tarsi with first segment a little shorter than two following together. Abdomen with punctation and pubescence similar to those of metasternum. Length, 18.5 mm.

Holotype, male, in the J. N. Knull collection, from Miami, Florida, March, 1937, in "flowers of *Conocarpus*."

This species superficially resembles *E. tectum* LeConte but can be distinguished at once by the bispinose antennal segments. It is apparently related to *E. lanatum* Chevrolat, from Cuba, but differs from what I take to be the male of that species in the smaller pronotal callosities, finer punctation, more robust femora, and less prominent femoral and elytral spines.

#### NEANEFLUS LINSLEY, NEW GENUS

Form robust, elongate subcylindrical, a little depressed. Head concave and shallowly channeled between antennal tubercles; antennal tubercles acute; eyes coarsely faceted; palpi unequal, last segment scarcely expanded; antennae not attaining elytral apices in the male, segments beginning with third opaque, finely punctulate and pubescent, segments beginning with fourth or fifth expanded externally but not carinate, seg-

ments 3 to 5 with a short spine at apex, third segment subequal to fifth, a little longer than fourth, eleventh segment appendiculate. Pronotum a little wider than long, sides obtusely rounded; prosternum with anterior coxal cavities rounded, intercoxal process expanded behind but cavities open by the apical width of the process or more; metepisterna narrow, a little wider anteriorly. Elytra with apices rounded externally, suture spiniform. Legs slender; posterior femora linear, not clavate; posterior tibiae carinate.

GENOTYPE: *Elaphidion fuchsii* Wickham.

This genus differs from *Aneflus* in having the anterior coxal cavities open behind by the width of the apex of the intercoxal process or more, the antennal segments beginning with the third finely punctulate and pubescent, the outer segments not carinate, and the elytral apices rounded externally, with only the sutural angle dentate or spiniform. The robust form and broadly expanded, non-carinate antennae will separate it from *Aneflomorpha*.

#### ***Aneflus prosopidis* Linsley, new species**

MALE: Form robust, subcylindrical; color brown; integument shining, coarsely punctate, thinly clothed with pale, depressed pubescence. Head coarsely punctate; maxillary palpi with last segment broadly expanded; antennal tubercles rounded above, not acute; antennae attaining apex of third abdominal segment, segments 3 to 7 spinose at apex, 5 to 11 expanded and carinate, third segment a little longer than fourth, not quite so long as fifth, eleventh segment appendiculate, longer than tenth. Pronotum wider than long, base a little wider than apex, sides obtusely rounded, surface very coarsely, rugosely punctate, thinly clothed with short appressed hairs which do not obscure the surface, a few long, erect hairs intermixed; disk with a median longitudinal impunctate callus; prosternum transversely impressed, coarsely punctate behind the impression, thinly pubescent, intercoxal process expanded at apex but cavities open behind; mesepisterna and metepisterna rather coarsely punctate, metasternum less so. Elytra nearly three times as long as basal width; surface coarsely, closely punctate at base, more shallowly and less distinctly towards apex, pubescence thin, depressed, variegated with patches of shorter, appressed hairs which are visible to the naked eye; apices bispinose. Legs more finely punctate than elytra, thinly pubescent; posterior tarsi robust, first segment not so long as following two together. Abdomen rather finely punctate, thinly pubescent; fifth sternite transverse, apex emarginate. Length, 32.5 mm.

FEMALE: Form more robust; antennae barely surpassing base of ab-

domen, segments 3 to 9 spinose at apex; abdomen with fifth sternite elongate, apex somewhat angularly rounded. Length, 35 mm.

Holotype male, from Sabino Canyon, Santa Catalina Mountains, Arizona, July 12, 1918, at light (G. Hofer), allotype female, same locality, July 25, 1919 (G. Hofer), and 15 paratypes in the collection of the United States National Museum. Six additional specimens in the same collection from the Santa Catalina Mountains, Arizona, were reared from *Prosopis* (G. Hofer) and another was captured at light at Tucson, Arizona (R. Budlong). A male in the California Academy of Sciences collection was taken in Brown Canyon, Baboquivari Mountains, Pima County, Arizona, July 29–30, 1952 (H. B. Leech and J. W. Green).

This species is related to *A. calvatus* Horn which it resembles in the thin pubescence which does not obscure the surface punctuation. It differs in the robust pronotum, unarmed antennal tubercles, broadly expanded last segment of the maxillary palpi, and the brown rather than piceous integument, with the elytra variegated with patches of pale hairs which are visible to the naked eye.

