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NEW WORLD LIMNICHINAE IV. *EULIMNICHUS* CASEY.
A. SYNONYMIES, LECTOTYPE DESIGNATIONS, AND
REDESCRIPTIONS (COLEOPTERA: LIMNICHIDAE)

David P. Wooldridge¹

ABSTRACT

A recharacterization of *Eulimnichus* and redescription for all previously described species are presented. In most cases, illustrations of the aedeagus are also presented. Seven names are placed in synonymy, and a new name *E. impostus*, is proposed for *E. elongatus* (Pic) which is preoccupied. Lectotype designations are made for 10 of the 14 species and one synonymous species.

The genus *Eulimnichus* was proposed by Casey (1889) as a subgenus of *Limnichus* to contain some of the North American Limnichidae. Sharp (1902) described a number of species from Mexico and Central America, affording *Eulimnichus* full generic status and restricting *Limnichus* to the old world. Casey (1912) further characterized the genus and added several new species from the United States. Since then, only two species have been described as *Eulimnichus*, both by Pic (1923), and both of those were misplaced. Pic did describe several species of *Eulimnichus* as *Limnichoderus* Casey, and he redescribed one of Sharp's species three different times.

Unfortunately, most of the early descriptions of species in the Limnichidae are inadequate, and without reference to the type material placing specimens with certainty has been impossible. This paper, therefore, presents more complete descriptions of all previously described species, as well as listing synonymies and designating lectotypes. A new name is also proposed for a preoccupied name of one of Pic's species. Descriptions of new species and a key to the members of the genus will be presented in part B.

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Genus *EULIMNICHUS* Casey

Eulimnichus Casey, 1889, subgenus of *Limnichus*. Type-species *Limnichus obscurus* LeConte, designated by Casey, 1912.

Because *Eulimnichus* originally included only species from the United States, some of the generalizations made by Casey in characterizing the genus were too restrictive and do not hold for many species from Central and South America. A redescription of the salient features is therefore presented here.

Eulimnichus includes those species of the Limnichinae with the eyes more or less vertical in plane, and largely concealed from above; basal joint of antennae concealed by the acute sides of the front, or partially revealed by small emarginations at each end of

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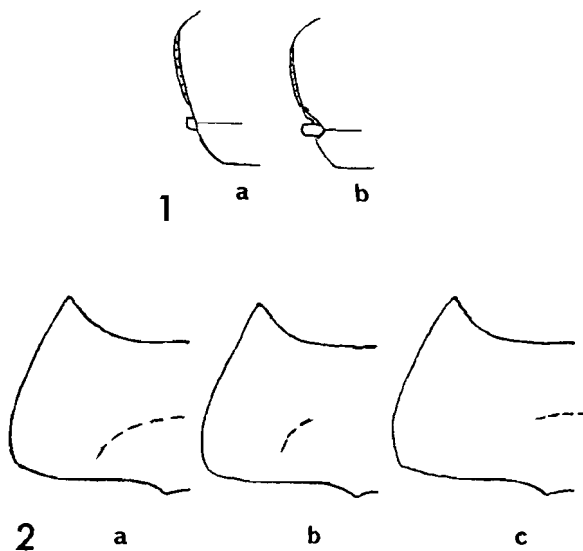
the epistomal suture (Fig. 1); head usually longitudinally rugulose, at least in the vicinity of the epistomal suture and often to vertex. Pronotum often with a curved, transverse line just behind middle, the line varying from a row of minute reticulations to a tuberculate series of punctures (Fig. 2). Prosternum longitudinally sulcate. In many species, the last visible abdominal sternite is much more depressed and more densely pubescent in a central triangle in the male. Otherwise the two sexes are indistinguishable externally.

The vestiture, as in other *Limnichinae*, varies from short and scale-like to setose, often forming maculae of white to golden color on the elytra. Unfortunately these scales and hairs are very easily eroded and in most cases they do not offer a reliable character for separating species. Ventral pubescence is generally more dense on the abdomen but on a few species is also dense on the metasternum. In the descriptions of the species, the values in parentheses refer to the separation of the punctures; e.g., (1-2X) means the punctures are separated by one to two times their own diameters.

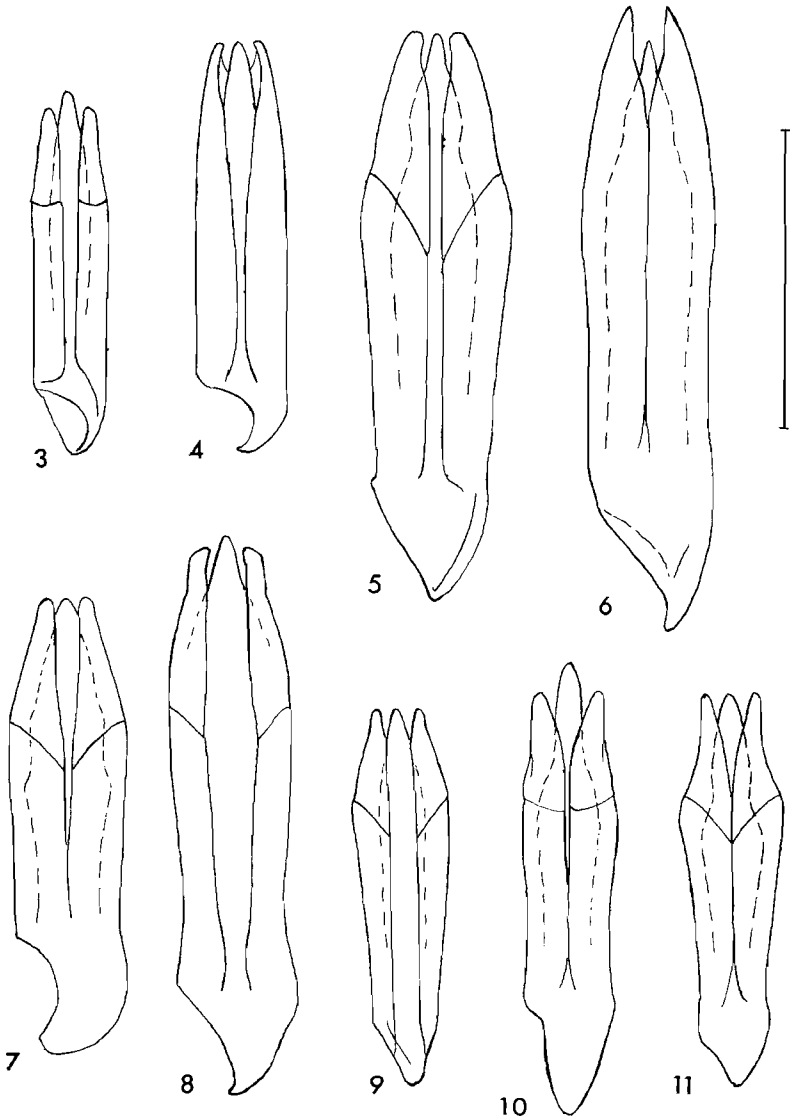
Eulimnichus obscurus (LeConte)

Limnichus obscurus LeConte, 1854, p. 116. Type-locality: New York. Lectotype here designated. Type in MCZ.

TYPE-MATERIAL: The type series of *E. obscurus* is in the LeConte collection of the MCZ. It consists of two specimens. The first of these bears three labels: N.Y.; a red Type/2307 and a white, handwritten *L. obscurus*/N.Y. LeC. It is here designated lectotype and has been so labelled by me. The second specimen, labelled lectoparatype bears only the label N.C.



Figs. 1-2. 1, Right margin of head: 1, Unnotched at end of epistomal suture; b, Notched at end of epistomal suture. 2, Position of transverse series of punctures on pronotum: 1, Completely developed; b, Undeveloped near midline; c, Undeveloped at sides. (Figs. not to scale.)



Figs. 3-11. Dorsal view of aedeagus. 3. *E. nitidulus*; 4. *E. ater*; 5. *E. montanus*; 6. *E. analis*; 7. *E. californicus*; 8. *E. plebius*; 9. *E. optatus*; 10. *E. perpolitus*; 11. *E. evanescens*. Line equals 0.25 mm.

DESCRIPTION: Length 1.95 mm. Width 1.25 mm. Broadly, evenly oval. Black. Head with margins of front deeply depressed in front of eyes and slightly depressed at ends of epistomal suture, but not notched; sculpture shallowly longitudinally coalescent on front; pubescence long, erect, recurved. Pronotum shining on disk, distinctly microreticulate at

sides; punctures distinct, moderately close (2-4X); transverse line distinct; midline impressed in posterior one-half; pubescence long, erect. Elytra microreticulate; punctuation distinct but not impressed, moderately close (2-3X); pubescence long, erect. Epipleura microreticulate, minutely punctate; pubescence erect and short. Hypomera strongly microreticulate, punctuation minute but visible; outer margin sinuously curved; narrowest just behind anterior margin. Metasternum with punctures small, distinct fairly close (2-3X), about equal across width; midline depressed; not very depressed behind posterior row of distant punctures. Abdomen microreticulate, punctuation small, even, distant; sterna 4 and 5 shining; last sternum with some large perforate punctures, deeply depressed in a small circular area near center of posterior margin in male. I have not seen the aedeagus.

RANGE: Eastern U.S., although apparently uncommon. I have seen specimens from the following localities: D. of C., Ill., Ind., Kan., Md., Miss., N.C., N.Y., Tenn., Tex., Va.

Eulimnichus nitidulus (LeConte)

Limnichus nitidulus Le Conte, 1854, p. 117. Type-locality: Georgia. Lectotype here designated. Type in MCZ.

TYPE-MATERIAL: The type-series of *Eulimnichus nitidulus* (LeConte) is in the LeConte collection of the MCZ. It consists of four specimens. The first specimen in the series bears an orange locality disk, a red label bearing the designation Type/2310, and white handwritten label reading *L. nitidulus*/Ga. LeC. This specimen is here designated lectotype and has been so labelled by me. Of the other specimens, labelled lectoparatypes, two bear only an orange locality disk and one has no labels.

DESCRIPTION: Length 1.75 mm. Width 1.05 mm. Narrowly oval. Black. Head with margins of front with a notch at each end of the epistomal suture and with a distinct circular depression in front of each eye; sculpture longitudinally coalescent on front; vertex with small perforate punctures; pubescence short, erect. Pronotum shining; punctuation small, perforate, distant (3-5X); no transverse row of punctures, midline slightly impressed in posterior half; pubescence long, erect. Elytra shining; punctuation shallowly impressed, close (1-2X), smaller and less distinct at sides and apex, margins near humeri often with short series of small perforate punctures; pubescence sparse, long, semi-erect. Epipleura shining; punctuation distinct, arranged mostly along inner margin. Hypomera long, narrow, outer margin shallowly, evenly curved; microreticulate, punctures minute, except distinct and perforate along inner bead. Metasternum with punctures very fine and perforate at midline, coarser and much closer at sides; posterior row of punctures well marked. Abdomen microreticulate; punctuation fine but distinct, only slightly larger at sides; last sternum densely but irregularly punctate in central triangle. Aedeagus as in Figure 3.

RANGE: From U.S. Atlantic and Gulf Coasts to South America. I have seen specimens from the following localities: ARGENTINA: Tucuman. BRAZIL: R.G.N. COSTA RICA. ECUADOR: Guayas, Los Rios. MEXICO: Chiapas, Tabasco. NICARAGUA. PANAMA: Canal Zone. U.S.: Ala., Fla., Ga., Me., Mo., N.H., N.C., Pa., S.C., Va.

Eulimnichus ater (LeConte)

Limnichus ater LeConte, 1854, p. 117. Type-locality: Mississippi. Lectotype here designated.

Eulimnichus guatemalicus Sharp, 1902, p. 676. Type-locality: Panzos, Vera Paz, Guatemala. NEW SYNONYMY. Holotype in BMNH. I have seen the type.

Eulimnichus sculpticeps Casey, 1912, p. 50. Type-locality: R.I. NEW SYNONYMY. Holotype in USNM, bearing a label Type USNM 48366. I have seen the type.

Limnichoderus oblongus Pic, 1922, p. 4. Type-locality: Corumba, Mato Grosso, Brazil. NEW SYNONYMY. Lectotype here designated. Type in PMNH.

TYPE-MATERIAL: The type-series of *Limnichus ater* consists of eight specimens in the LeConte collection at the MCZ. The first of these, bearing a Miss. locality label, a red Type/2306 and a white handwritten *L. ater* LeC. label is here designated lectotype. The remaining seven specimens (1 Fla., 5 Enterprise, Fla., 1 La.) are designated lectoparatypes. All have been so labelled by me. The type series of *Limnichoderus oblongus* Pic is in the PMNH and consists of five specimens all labelled Corumba/Mato Grosso; Coll M. Pic. One of these has been labelled lectotype by me and the remaining four labelled lectoparatypes.

DESCRIPTION: Length 1.9 mm. Width 1.2 mm. Oval. Black. Head with margins of front depressed but not notched at ends of epistomal suture; sculpture strongly longitudinally coalescent on front, punctures distinct, large and perforate on vertex; pubescence long, recurved, semi-erect. Pronotum shining; punctation perforate, slightly larger at sides; transverse row of punctures poorly marked but visible, surface depressed behind it, pubescence fairly long. Elytra shining; punctation close (1X), noticeably impressed, broad, side margins with a series of deep, perforate punctures from humerus to behind posterior of epipleural folds; pubescence slightly shorter and finer than on pronotum. Epipleura slightly concave, microreticulate, punctures minute, pubescence short. Hypomera microreticulate, punctation coarse, distinct; inner and outer margin gradually diverging from anterior; anterior outer angle obliterated. Metasternum coarsely, closely (1X) punctate at sides, becoming more perforately and distantly (2-3X) punctate near the slightly impressed midline; not depressed behind the well marked posterior row of punctures. Abdomen microreticulate, punctation small and indistinct in middle, larger at sides; last sternum with central triangle not depressed, about equally punctate in male and female. Aedeagus as in Figure 4.

RANGE: Widespread from Eastern U.S. to Central and South America. I have seen specimens from the following localities: ARGENTINA: Chaco, Entre Rios. BRAZIL: Bahia, Goias, Mato Grosso, Para, R.G.N. BRITISH HONDURAS. COLOMBIA: Magdalena. COSTA RICA. CUBA. ECUADOR: Los Rios. GUATEMALA. HONDURAS. JAMAICA. MEXICO: Campeche, Sinaloa, Sonora, Tabasco, Vera Cruz. PANAMA. PERU: San Antonio. U.S.: Fla, Ga., Ind., La., Mass., Miss., N.C., S.C., Tex., VENEZUELA: Guarico, Portuguesa.

VARIATION: The specimens of *E. ater* vary somewhat throughout their range in the number of sub-marginal punctures. The specimens from the U.S. and Central America average slightly fewer than those from South America and the series extends slightly farther toward the posterior on the South American specimens. However, there seems to be considerable variation among specimens from any given locality and I do not feel the character is reliable enough to justify even sub-species ranking for the different populations.

Eulimnichus montanus (LeConte)

Limnichus montanus LeConte, 1879, p. 514. Type-locality: La Veta, Colorado. Lectotype here designated. Type in MCZ.

Eulimnichus laeticulus Sharp, 1902, p. 674. Type-locality: Mexico City, Mexico. NEW SYNONYMY. Types in BMNH. I have seen one cotype.

TYPE-MATERIAL: The type-series of *E. montanus* is in the LeConte collection at the MCZ. It consists of five specimens. The first of these bearing labels La Veta/4.7 col, 377, *L. montanus*/LeC., and a red Type/2308 is here designated lectotype and has been so labelled by me. The other four specimens are on one pin with no labels other than a small "h" on the card. These specimens are *E. californicus* not *E. montanus* and I have labelled them such.

DESCRIPTION: Length 1.95 mm. Width 1.25 mm. Elongate-oval, broad, sides parallel. Black. Head with margins of front depressed at ends of epistomal suture, but not notched; sculpture deeply coalescent to vertex; pubescence short, recumbent. Pronotum shining only on disk, strongly microreticulate; punctation obscured; transverse row of

punctures faintly marked, midline slightly depressed; pubescence long, recumbent. Elytra very microreticulate, dull; punctation tiny and indistinct; pubescence short, recumbent. Epipleura dull, alutaceous, minutely punctured. Hypomera microreticulate, punctures fine, indistinct; outer margin evenly curved. Metasternum faintly microreticulate; punctation fine, distant (5-7X), not at all impressed, even at sides; surface not depressed behind posterior row of punctures. Abdomen alutaceous; finely, evenly, distantly punctate, slightly closer and coarser at sides; last sternum more shining, punctation closer and perforate; central triangle vaguely marked, only slightly depressed. Aedeagus as in Figure 5.

RANGE: Oregon to Central Mexico. I have seen specimens from the following localities: MEXICO, U.S.: Ariz., Cal., Col., N.M., Ore.

Eulimnichus analis (LeConte)

Limnichus analis LeConte, 1879, p. 515. Type-locality: Texas. Lectotype here designated. *Eulimnichus analis rugiceps* Casey, 1912, p. 47. *Eulimnichus analis coloradensis* Casey, 1912, p. 47.

TYPE-MATERIAL: The type-series of nine specimens is in the LeConte collection of the MCZ. The first of these, bearing four labels TEX; 277; Type/2305; L. analis/LeC. is here designated lectotype and has been so labelled by me. The remaining specimens, 2 labelled Tex., 4 labelled Denver, Col., 7.7, 1 labelled Cloverdale, Cal., and 1 Cal., are designated lectoparatypes.

DESCRIPTION: Length 2.2 mm. Width 1.2 mm. Narrowly elongate-oval, parallel-sided. Black. Head with margins of front depressed at ends of epistomal suture and in front of eyes, but not notched; sculpture strongly longitudinally coalescent to vertex; pubescence short, recumbent in grooves. Pronotum shining on disk, microreticulate at sides; punctation small, distinct, moderately close (2-3X); transverse row of punctures almost unnoticeable, but surface is depressed behind it; midline broadly impressed in posterior two-thirds; pubescence short at sides, longer on disk. Elytra with punctation close (1X), impressed, becoming shallower at sides and apex; pubescence long at base, becoming shorter toward sides and apex. Epipleura shining, finely punctate; flat; pubescence short. Hypomera microreticulate, minutely punctate; outer anterior angles prolonged into an obtuse spine; outer margin sinuately curved, nearly paralleling the sinuately curved inner margin. Metasternum shining; deeply, closely (1X), perforately punctate at sides, more distantly, shallowly punctate at depressed midline; a few minute pubescent punctures scattered among the larger ones; surface depressed behind posterior row of punctures. Abdomen shining on sterna 1, 3, and 5, sterna 2 and 3 microreticulate; punctation small at midline, becoming larger and longitudinally coalescent at sides; last sternum with central triangle depressed and closely, coarsely punctate in male. Aedeagus as in Figure 6.

RANGE: Western U.S. and Northwestern Mexico. I have seen specimens from the following localities: MEXICO: Nayarit, Sonora. U.S.: Ariz., Ark., Cal., Col., Mo., Ore., Tex., Ut., Wash.

VARIATION: There is a considerable variation in size and punctation within this species and Casey apparently selected extremes of the variable characters and described them as subspecies. I can find no real justification for retaining these names because the variation within many populations is as great or greater than that found in Casey's types.

Eulimnichus californicus (LeConte)

Limnichus californicus LeConte, 1879, p. 515. Type-locality: Los Angeles, California. Lectotype here designated.

TYPE-MATERIAL: The type-series, consisting of ten specimens, is in the LeConte collection of the MCZ. The first of these bearing the labels: h Cal; Los Angeles; L.

Californicus/LeC.; Type/2309, is here designated lectotype and has been so labelled by me. The other nine specimens, designated lectoparatypes, have only the first of these four labels, three lacking the handwritten h.

DESCRIPTION: Length 1.85 mm. Width 1.15 mm. Ovate. Black. Head with margins of front depressed at ends of epistomal suture and in front of eyes, but not notched; sculpture strongly longitudinally coalescent to vertex; pubescence very short. Pronotum shining on disk, strongly microreticulate at sides; punctation fine, moderately distant (3-5X); transverse line not marked; midline impressed in posterior two-thirds; pubescence medium long. Elytra shining; punctation round, perforate, close (2X), becoming more distant and less marked at sides and apex; pubescence short, sparse. Epipleura shining, flat, minutely punctate, pubescence short. Hypomera microreticulate; punctation fine; outer margin sinuately carved; outer anterior angle distinct but not produced. Metasternum shining; punctation perforate, close at sides, more distant at midline but only slightly smaller and shallower; midline impressed; transverse row of punctures not well marked. Abdomen microreticulate, especially at sides; punctation distinct, closer and coarser at sides; last sternum more coarsely punctate at sides, central triangle irregular, not very impressed in either sex. Aedeagus as in Figure 7.

RANGE: Common along the Pacific coast from Oregon to Southern California; less common inland. I have seen specimens only from these two states.

Eulimnichus sordidus Sharp

Eulimnichus sordidus Sharp, 1902, p. 676. Type-locality: Guatemala City, Guatemala. Types located in BMNH.

DESCRIPTION: Length 1.8 mm. Width 1.1 mm. Elongate oval. Black. Head with margins of front notched at the ends of epistomal suture, notches small; sculpture longitudinally coalescent to vertex, pubescence recumbent in grooves. Pronotal punctation fine on entire surface; pubescence coarse and sparse; transverse series of punctures absent. Elytra shining; punctation sparse and lightly impressed, nearly unnoticeable at apex; pubescence short, coarse and sparse. Epipleura not punctate. Hypomera microreticulate, punctation minute. Metasternal punctation not very coarse even at sides, slightly finer at midline, midline impressed in anterior one-half; posterior row of punctures coarse and deep. Abdomen finely punctate, punctures indistinct at midline, coarser toward sides; second visible sternum with a distinct, polished, impunctate longitudinal depression on each side to receive the tarsi; last sternum (male) with central triangle coarsely punctate and densely pubescent. I have not seen the aedeagus.

I have seen three cotypes but no other specimens.

Eulimnichus sublaevis Sharp

Eulimnichus sublaevis Sharp, 1902, p. 675. Type-locality: San Geronimo, Vera Paz, Guatemala. Types located in BMNH.

DESCRIPTION: Length 1.6 mm. Width 1.0 mm. Oval. Black. Head with margins of front notched at ends of epistomal suture; sculpture strongly longitudinally coalescent on front; vertex strongly alutaceous; punctures coarse in grooves, weak on vertex; pubescence very short and recumbent. Pronotum shining on disk, microreticulate at sides and posterior angles; punctation fine and distant (4-6X); transverse line distinct, fine; midline impressed from just behind front margin to hind margin. Elytra shining, slightly alutaceous; punctation very fine, distant (5-6X), not at all impressed; pubescence very short, recumbent. Epipleura shining, slightly concave; punctures minute, scattered. Hypomera microreticulate, minutely punctured, outer margin curved from anterior angle for about one-third its length, then straight and nearly parallel with inner margin to

posterior angle. Metasternum slightly alutaceous; punctation minute, shallow and poorly marked, no deeper at sides; posterior row of punctures absent. Abdomen alutaceous but distinctly shining; punctation minute, even, fairly close. I have not seen the aedeagus.

I have seen only one cotype.

Eulimnichus ephistemus Sharp

Eulimnichus ephistemus Sharp, 1902, p. 673. Type-locality: Guatemala City, Guatemala. Types located in BMNH. I have seen one cotype.

DESCRIPTION: Length 1.2 mm. Width 0.75 mm. Oval. Black. Head with margins of front slightly notched at ends of epistomal suture; sculpture longitudinally coalescent from top to middle of frons, vertex alutaceous with fine, indistinct punctation; pubescence very fine and short. Pronotum shining on disk, becoming very vaguely microreticulate at sides; punctation very fine, distant (5-7X); transverse series very distinct, surface depressed behind it; pubescence very short, sparse. Elytra shining; punctation very fine, widely scattered, barely impressed; pubescence minute, sparse. Epipleura shining, minutely punctate. Hypomera microreticulate, minutely punctate. Outer margin evenly curved. Metasternum indistinctly, sparsely punctate; midline barely impressed; posterior row of punctures absent. Abdomen slightly microreticulate, punctation minute and indistinct; central triangle of last sternum densely punctate and depressed in male. I have not seen the aedeagus.

RANGE: Guatemala to Costa Rica. I have seen specimens only from these two countries.

Eulimnichus plebius Sharp

Eulimnichus plebius Sharp, 1902, p. 675. Type-locality: S. Geronimo, Guatemala. Type in BMNH. Lectotype here designated.

Limnichoderus convexus Pic, 1922, p. 4. Type-locality: Rio de la Plata, Argentina. Holotype in PMNH. NEW SYNONYMY. I have examined the type.

Limnichoderus breyeri Pic, 1930, p. 43. Type-locality: Tigre, Argentina. Holotype in PMNH. NEW SYNONYMY. I have examined the type.

Limnichoderus peruvianus Pic, 1954, p. 178. Type-locality: Sivia, Peru. Type in PMNH. NEW SYNONYMY. Lectotype here designated.

TYPE-MATERIAL: Sharp's series of *E. plebius* consists of ten cotypes in the BMNH. I have seen two of these, originally on a single pin, bearing the label S. Geronimo/Guatemala/Champion. I have labelled one of these lectotype, and the other, remounted on a separate pin, has been labelled as a paralectotype. The type-series of *E. peruvianus* (Pic) consists of four specimens on two pins in the National Museum of Natural History (Paris). The left specimen on one pin is here designated lectotype and has been labelled as such and is indicated with an arrow on the card it is mounted on. The remaining three specimens are here designated lectoparatypes.

DESCRIPTION: Length 2.15 mm. Width 1.3 mm. Broadly oval, somewhat parallel-sided. Black. Head with margins of front notched at ends of epistomal suture; sculpture of front longitudinally coalescent into fine, even grooves, punctures of vertex close; pubescence short, recumbent in grooves. Pronotum shining; punctation small and perforate on disk, closer (1-2X) and impressed at sides; transverse row of punctures not visible; surface slightly depressed on posterior part of disk; midline impressed. Elytra shining; punctation close (~1X), impressed, fairly even, except slightly more distant at sides; pubescence dense, flattened. Epipleura microreticulate; fairly densely, finely punctate, pubescence short. Hypomera microreticulate; densely and distinctly punctate; outer margin shallowly, evenly curved. Metasternum with two sizes of punctures, the larger punctures not very impressed, even at sides, close (~1X) becoming finer, more

distant and shallower at midline, the smaller punctures very fine, minute and interspersed with the larger; posterior row of punctures deep, well marked, the surface depressed behind them. Abdomen alutaceous; punctation small, impressed, dense and even, close (~1X); last sternum in male with a distinct, depressed, densely punctate and pubescent triangular area. Aedeagus as in Figure 8.

RANGE: Southern Mexico to Argentina and Peru. I have seen specimens from the following localities: ARGENTINA: Buenos Aires, Chaco. BRAZIL: Maranhao, Mato Grosso, Para, R.G.N. COLOMBIA: Magdalena. DOMINICAN REPUBLIC. ECUADOR: Cotopaxi, Guayas, Los Rios, Manabi, Napo, Pichincha. EL SALVADOR. GUATEMALA. HAITI. HONDURAS. MEXICO: Chiapas. PUERTO RICO. TRINIDAD. VENEZUELA: Guarico, Portuguesa.

Eulimnichus optatus Sharp

Eulimnichus optatus Sharp, 1902, p. 675. Type-locality: Mexico. Lectotype here designated. Type in BMNH.

TYPE-MATERIAL: The type-series consists of ten specimens in the Sharp collection of the BMNH. I have seen one of these and here designate it lectotype. In addition to the lectotype label it bears the following labels: A red disk bearing the word "Type." White labels, one reading Mexico/Flohr. and one B.C.A. II.1/*Eulimnichus/optatus*,/Sharp. On the card with the specimen is written "Cuernavaca."

DESCRIPTION: Length 1.8 mm. Width 1.0 mm. Narrowly oval. Black. Head with margins of front depressed at ends of epistomal suture, but not notched; sculpture deeply longitudinally coalescent to vertex; pubescence very short, recumbent. Pronotum shining on disk, strongly microreticulate at sides; punctation fine, perforate, moderately distant (3-5X); transverse row faintly marked at sides; midline impressed behind transverse row; pubescence fine, short. Elytra shining; punctation impressed, coarse, moderately distant (3-4X), becoming indistinct at sides and apex; pubescence very short, fine, appearing very sparse. Epipleura faintly microreticulate, minutely punctured. Hypomera microreticulate; punctation minute and sparse; outer margin slightly sinuate at anterior end, then nearly straight to posterior angle; anterior outer angle distinct but not produced. Metasternum shining; punctation fine, unimpressed, distant (5-6X) at midline, becoming closer (1-2X) at sides; midline impressed; posterior row of punctures even, shallow but lying in a distinct groove, surface slightly depressed behind the groove. Abdomen microreticulate; punctation fine and scattered, becoming slightly coarser and closer at sides. Last sternum of male with an indistinct circular punctate depression near the posterior margin that is only slightly less developed in the female. Aedeagus as in Figure 9.

RANGE: Southeastern U.S. and Mexico. In addition to the types I have seen specimens from the following localities: U.S.: Ala., Ga., La., Tex.

Eulimnichus perpolitus (Casey)

Limnichus (Eulimnichus) perpolitus Casey, 1889, pp. 147, 151. Type-locality: Albuquerque, N.M. Lectotype here designated. Type in USNM.

TYPE-MATERIAL: The type-series is in the Casey collection of the USNM. One of these, a male labelled Albuquerque/N.M.; Casey Bequest/1925; Type USNM/48367, is here designated lectotype. Two females from the same locality are designated lectoparatype and all have been so labelled by me. Other specimens in the type-series from eastern localities are *Eulimnichus optatus* Sharp.

DESCRIPTION: Length 1.8 mm Width 1.1 mm. Elongate oval. Black. Head with margins of front depressed but not notched at ends of epistomal suture; sculpture deeply longitudinally coalescent to vertex; pubescence short, recumbent in grooves. Pronotum shining on disk, distinctly microreticulate at sides; punctation small, distant; transverse

row of punctures not visible; pubescence fairly long, recumbent. Elytra shining, faintly microreticulate; punctation fine, not impressed, distant (5-6X); pubescence short. Epipleura shining but rough; punctation minute; pubescence very short. Hypomera microreticulate, punctation minute but distinct; outer margin sinuately curved near anterior outer angle which is distinct but not produced. Metasternum with punctation small, perforate, distant (4-5X); midline impressed; posterior row of punctures small and indistinct, but surface depressed behind it. Abdomen microreticulate but faintly shining; punctation fine becoming coarser at sides; last sternum of male with the central triangle more depressed and more coarsely punctate than in female. Aedeagus as in Figure 10.

RANGE: Southwestern U.S. I have seen specimens from the following localities: U.S.: Ariz., Calif., N.M.

Eulimnichus evanescens Casey

Eulimnichus evanescens Casey, 1912, p. 48-9. Type-locality: Southern California. Type in USNM. Lectotype here designated.

TYPE-MATERIAL: Three specimens from S. Cal. are in the Casey collection of the USNM. The first of these, a male bearing a label Type USNM/48368, is here designated lectotype; one male and one female are designated lectoparatypes and they have been so labelled by me.

DESCRIPTION: Length 1.6 mm. Width 0.95 mm. Elongate-oval. Black. Head with margins of front not notched, but somewhat depressed at ends of epistomal suture; sculpture longitudinally coalescent to vertex; pubescence recumbent in grooves. Pronotum microreticulate except on disk; punctation fine and distant; midline not impressed; transverse series of punctures absent; pubescence short and recumbent. Elytra shining, faintly microreticulate; punctation fine, barely impressed, distant; pubescence short, sparse. Epipleura flat, shining, minutely punctate. Hypomera microreticulate, punctation minute. Metasternal punctation small, distant, not impressed, somewhat denser at sides; midline impressed; surface not at all depressed behind faint posterior row of punctures. Abdomen microreticulate; punctures moderately coarse and impressed, barely closer at sides. Last sternum with central triangle deeply impressed and densely pubescent in male. Aedeagus as in Figure 11.

RANGE: Southern California

Eulimnichus impostus new name

Limnichoderus elongatus Pic, 1922, p. 4. Type-locality: Corumba, Mato Grosso, Brazil.

Eulimnichus elongatus (Pic) new combination, name preoccupied [*Eulimnichus elongatus* Pic, 1923, p. 7.] Holotype in PMNH. I have seen the type.

TYPE-MATERIAL: The holotype of *Limnichoderus elongatus* Pic is in the PMNH and, on examination, it has proved to be a *Eulimnichus*. The combination *Eulimnichus elongatus* was used by Pic in 1923 and the name is therefore preoccupied. The new name *Eulimnichus impostus* is proposed here.

DESCRIPTION: Length 1.9 mm. Width 1.0 mm. Narrowly elongate, very gradually narrowing for two-thirds its length. Black. Head with margins of front not at all notched at ends of epistomal suture; sculpture deeply longitudinally coalescent to vertex, pubescence short. Pronotum shining on disk, alutaceous near hind angles; punctation fine, moderately distant (3-4X); midline impressed; pubescence long on disk, somewhat shorter and flattened at sides. Elytra shining, surface somewhat ridged between punctures; punctation fine, distinct, not impressed, close (1-2X); pubescence short. Epipleura alutaceous, slightly depressed. Hypomera microreticulate, finely punctate, flat; outer margin evenly curved from just behind anterior angle which it does not reach. Metasternum fairly evenly, finely, closely (2-3X) punctate, punctures only slightly larger

at sides; midline deeply impressed. Abdomen microreticulate, punctation fine, obscure. I have not seen the aedeagus.

The type is the only specimen I have seen.

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