

AMERICAN MUSEUM NOVITATES

Number 386

Published by
THE AMERICAN MUSEUM OF NATURAL HISTORY
New York City

Nov. 27, 1929

59.57.62 P (729)

NEW SPECIES OF *PALAMINUS* FROM THE WEST INDIES, TOGETHER WITH A SYNOPTIC REVIEW OF THE GENUS

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One hundred and three species of *Palaminus* and one variety are listed in the 'Coleopterorum Catalogus' of Junk and Schenkling (1912, part 40, pp. 198-201). Thirty-three additional species have been described since the publication of that work. Eight species are described as new in this paper. A synopsis of the North American species was published by LeConte in his paper on the 'Coleoptera of Florida' (1878, Proc. Amer. Philo. Soc., XVIII, pp. 396, 397). Sharp divides the species described by him in the 'Biologia Centrali-Americana' (Coleoptera, I, part 2, pp. 631-639) into two groups, by the form of the apical antennal joints. In Group I, the apical joint is not distinctly wider than the penultimate; in Group II, the apical joint is distinctly wider than the penultimate. Casey ('Mem. Col.,' I, pp. 197-200) describes and tabulates a number of species allied to *P. contortus* LeConte and *P. testaceus* Erichson using the genitalic characters of the female only.

The species of *Palaminus* divide rather satisfactorily on color-characters, the darker colored species ranging from rufous or ferruginous to black in one group and the lighter colored species of various shades of testaceous in a second. In general, the dark-colored species are maculate and the pale species are immaculate. There are, however, twenty-one black or piceous species which are immaculate and thirteen pale species which are maculate. In the pale species the abdomen is usually slightly darker; in *P. atriventris* Bernhauer the abdomen is black.

Other characters used in separating species are as follows: the presence or absence of the tempora of the head; the proportions of the head, thorax and elytra; the presence and degree of distinctness of a medio-basal carination of the thorax; the punctuation of the head, thorax and elytra. The thoracic punctures are occasionally distinctly seriate either side of the median line.

Of the species included in the synopsis one only requires particular mention in regard to its position: *novæ-guinææ* Fauvel is placed with species in which the thorax is quadrate or nearly so although the description gives no clue whatever to the proportions.

The material from Porto Rico was collected in connection with the N. Y. Academy survey of that Island. Types are deposited in The American Museum of Natural History.

SYNOPSIS OF THE SPECIES OF *Palaminus*

1. Dark-colored species, piceous or black, immaculate and unicolorous. 2.
Species not so colored. 22.
2. Color brownish or piceous; thorax transverse. 3.
Color black. 4.
3. Thorax more strongly narrowed posteriorly with distinct, smooth, median carination; head broader than thorax; length, 4.1 mm. . . *piceus* Erichson.
Thorax less strongly narrowed posteriorly with median carination indistinct and punctures longitudinally seriate either side; length, 4.25 mm. . . *brunneus* Fauvel.
4. Thorax longer than wide; length, 7.5 mm. *longicollis* Sharp.
Thorax not longer than wide. 5.
5. Thorax as long as wide. 6.
Thorax transverse. 16.
6. Head wider than thorax. 7.
Head not wider than thorax. 10.
7. Thoracic punctures coarser and more or less seriate. 8.
Thoracic punctures sparse and not seriate. 9.
8. Thoracic punctures more numerous, in four distinct series on the disc, the inner series shorter; elytra more closely punctate basally; length, 5.1 mm. *parvus* Sharp.
Thoracic punctures less numerous, two distinct series on the disc; elytra less closely punctate basally; length 5.1 mm. *pellax* Sharp.
9. Form narrower; elytra less closely punctate; length, 6.1 mm. . . *fuscipes* Sharp.
Form broader; elytra more closely punctate; length, 6.6 mm. . . *stipes* Sharp.
10. Elytra longer, twice as long as thorax. 11.
Elytra shorter, but little more than one and a half times as long as thorax or less. 13.
11. Smaller species; length, 6 mm.; head and thorax proportionally narrower. . . *parviceps* Sharp.
Larger species; length, 8-8½ mm. 12.
12. Thorax narrower, one-half the width of the elytra; punctures very coarse and irregular; length, 8 mm. *lacertinus* Sharp.
Thorax broader; punctures of head and thorax less close and deep; head with tempora; anterior tibiae and tarsi broader; length, 8.5 mm. . . *validus* Sharp.
13. Thorax with sides more distinctly rounded and less narrowed posteriorly; elytra rather more finely and closely punctate. 14.
Thorax with sides scarcely or not at all rounded, much narrowed posteriorly. 15.
14. Thorax more coarsely and distinctly punctate, punctures irregularly, longitudinally biseriate on disc; length, 6.1 mm. *anceps* Sharp.
Thorax sparsely, irregularly and subobsoletely punctate; elytra more than one and one-half times the length of thorax, the latter one-half narrower; length, 6.1 mm. *pilosus* Erichson,

15. Head less closely punctate; sides of thorax very slightly arcuate; punctures somewhat seriate on disc, series coalescent posteriorly with medio-basal smooth area greatly reduced; length, 6.1 mm. *niger* Sharp.
 Head more closely punctate; sides of thorax absolutely straight, disc closely punctate with distinct medio-basal smooth subcarinate area; length, 5.1 mm. *sobrinus* Sharp.
16. Head narrower than thorax, tempora distinct; elytra nearly twice as long as thorax, somewhat rugosely punctate; length, 5.5-6 mm.
 *morosus* Cameron.
 Head not narrower than thorax. 17.
17. Last two abdominal segments crenate-punctate basally; thorax distinctly bi-impressed basally; head nearly as wide as elytra; length, 7.5 mm.
 *crenatus* Sharp.
 Last two abdominal segments not crenate-punctate basally. 18.
18. Thorax densely and almost regularly punctate; antennæ short and unusually stout; elytra densely punctate; length, 5 mm. *mexicanus* Sharp.
 Thorax more sparsely or irregularly punctate, usually with a medio-basal longitudinal smooth line. 19.
19. Thoracic punctures sparse. 20.
 Thoracic punctures coarse and close, medio-basal, longitudinal smooth area distinct; sides of thorax moderately narrowed posteriorly. 21.
20. Thorax subobsoletely punctate with three distinct smooth areas; elytra distinctly less than twice as long as thorax; length, 8 mm. *cognatus* Sharp.
 Thoracic punctures coarse and sparse; head wider than thorax; elytra fully twice as long as thorax; apical antennal joint longer than three preceding combined; length, 5 mm. *tortilis* Casey.
21. Head not wider than thorax; thorax with distinct medio-basal longitudinal carination; male—6th ventral abdominal segment with asymmetrical apical prolongation; length, 7 mm. *concolor* Sharp.
 Head slightly wider than thorax; thorax bi-impressed at base, impressions coarsely and closely punctate, medio-basal smooth area distinct; elytra more than one and one-half times the length of thorax; male—no distinct modification of 6th ventral abdominal segment; length, 4.73 mm.
 *puncticeps* Sharp.
22. Color black, head, thorax and elytra rufo-testaceous; head without tempora; thorax transverse; length, 4 mm. *atriventris* Bernhauer.
 Color not as above. 23.
23. Color darker; rufous, castaneous or ferruginous species sometimes immaculate; piceous or black species always maculate, vittate, bicolored (elytra pale) or with elytral margins in part at least distinctly paler. 24.
 Color not as above. 73.
24. Elytra not longer than thorax. 25.
 Elytra longer than thorax. 27.
25. Color piceous, elytra paler; thorax as long as wide; length, 3.4 mm.
 *flavipennis* LeConte.
 Color black, elytra maculate. 26.
26. Head wider than thorax; thorax transverse; elytral maculation cruciform; length, 6 mm. *pictus* Bernhauer.

- Head as wide as thorax; thorax longer than wide; elytra shorter than thorax, broadly yellow laterally; length, 4–4.5 mm. *variiventris* Bernhauer.
27. Color piceous, elytra with suture (except at base) and apical margins paler, rufous; head as wide as thorax, the latter transverse; elytra twice as long as thorax; length, 5 mm. *truncatus* Fauvel.
Color not as above. 28.
28. Color black, elytra maculate with yellow on disc, or elytra yellow maculate with black. 29.
Color or maculation not as above. 34.
29. Color black, elytra yellow with large black discal spot reaching the base; head as wide as thorax, the latter transverse, with small denticulation on either side at posterior third; elytra one-half longer than thorax; length, 5 mm. *erichsoni* Bernhauer.
Color or maculation not as above. 30.
30. Color black, elytra each with two yellow spots. 31.
Color black, elytra each with one yellow spot. 32.
31. Thorax slightly transverse, sides less rounded, posterior angles distinct; anterior spot elongate, oblique; length, 5.5 mm. *quadripustulatus* Bernhauer.
Thorax as wide as long, ovate, almost globose; anterior spot round, its position more median; length, 6.5 mm. *quadriguttatus* Fauvel.
32. Thorax longer than wide; elytra with a broad spot on posterior half; elytra twice as long as thorax; length, 6.5 mm. *plagiatus* Fauvel.
Thorax not longer than wide. 33.
33. Elytral spot small, near lateral margin at posterior one-third; head larger; length, 6.5 mm. *biguttatus* Fauvel.
Elytral spot extending from lateral margin almost to suture, emarginate posteriorly; head smaller; length, 7 mm. *bipustulatus* Bernhauer.
34. Color rufo-ferruginous, elytral apices paler. 35.
Color or maculation not as above. 36.
35. Head wider than thorax; thorax transverse; elytra twice as long as thorax and much wider; length, 3.55 mm. *ferrugineus* Sahlberg.
Head as wide as thorax; thorax transverse; elytra one-half longer than thorax; length, 3.55 mm. *apicalis* Sharp.
36. Color black, outer apical angles of elytra broadly obliquely yellow; head as wide as thorax; thorax as wide as long; elytra twice as long as thorax; length, 6 mm. *sharpi* Bernhauer.
Color or maculation not as above. 37.
37. Color black or blackish, elytra with apical margins evenly and distinctly pale. 38.
Color or maculation not as above. 44.
38. Head narrower than thorax. 39.
Head wider than thorax. 40.
39. Thorax longer than wide; elytra a little more than one-half longer than thorax; elytral apices narrowly straw-yellow; length, 5.4 mm. *gracilis* Sharp.
Thorax transverse, small, evidently narrower than elytra; eyes rather small, head with distinct tempora; length, 5 mm. *apicipennis*¹ Sharp.

¹For comment on the size of the head in this species, see the description of *Palaminus apicatus* Bernhauer.

40. Elytra shorter, one-half longer than thorax; thorax transverse; length, 5.4 mm.
distans Sharp.
 Elytra longer, about twice as long as thorax. 41.
41. Thorax as wide as long, much narrowed posteriorly, much narrower than elytra
 length, 5 mm. *insignis* Sharp.
 Thorax transverse. 42.
42. Thorax with sides nearly straight and very strongly narrowed posteriorly;
 length, 4.5 mm. *trapezicollis* Bernhauer.
 Thorax with sides distinctly arcuate. 43.
43. Thorax without distinct, impunctate, more or less elevated areas in anterior
 angles; elytra black with apical margins yellowish; head almost broader
 than elytra; elytra not quite twice as long as thorax; length, 4 mm.
apicatus Bernhauer.
 Thorax with distinct, impunctate, more or less elevated areas in anterior angles;
 elytra black with apical margins piceous; elytra almost twice as long as
 thorax; length, 4.5 mm. *bonariensis* Lynch.
44. Color castaneous, ferruginous, rufo-piceous or piceous with paler maculation
 always more or less distinctly vittaform. 45.
 Color or maculation not as above. 52.
45. Thorax with disc strongly rugose, rugosities oblique, thorax transverse; elytral
 maculation less distinctly vittaform, consisting of humeral and apical
 spots sometimes coalescent; length, 3.5 mm. *rugicollis* Fauvel.
 Thorax with disc not rugose. 46.
46. Elytra with a subhumeral vittaform spot and apex pale. 47.
 Elytra with a subhumeral vittaform spot only or the lateral margin pale. . . . 49.
47. Elytra densely, finely, subrugosely punctate, twice as wide as thorax; thorax
 scarcely transverse; length, 3.5 mm. *circumflexus* Fauvel.
 Elytra coarsely and closely punctate, a little wider than thorax; thorax more
 distinctly transverse. 48.
48. Form more elongate; thorax less transverse; elytra with humeral vittæ reach-
 ing apex; length, 5 mm. *vittatus* Sharp.
 Form less elongate; thorax more transverse; elytra with humeral vittæ not
 reaching apex; length, 4.5 mm. var. *humeralis* Sharp.
49. Elytra with lateral margins pale. 50.
 Elytra with subhumeral vittaform pale spot. 51.
50. Size smaller; elytra longer, twice or more or long as thorax; thorax closely and
 strongly punctate; elytra piceous, the paler lateral margins piceous brown;
 length, 3 mm. *productus* Schubert.
 Size larger; elytra shorter, about one-half longer than thorax; thorax with
 discal punctures biseriate; elytra piceous with lateral margins broadly
 testaceous; head wider than thorax, the latter transverse and much
 narrowed posteriorly; length, 6.1 mm. *vellatus* Sharp.
51. Head scarcely wider than thorax; thorax one-third wider than long with a
 medio-basal smooth carination, sides broadly arcuate and feebly
 narrowed posteriorly; elytra wider and three-fourths longer than thorax;
 length, 3.4 mm. *signifer* Casey (*asymmetricus* Bernhauer).¹

¹These are probably synonyms; there is nothing in the description to distinguish them apart.

52. Color castaneous, elytra black with castaneous maculation; thorax transverse; elytra much wider and twice as long as thorax; length, 5-6 mm.
bivittipennis Lea.
Color rufous, elytra often maculate with darker; black or ferruginous with elytra sometimes paler, either immaculate or with suture infusate . . . 53.
53. Elytra maculate . . . 54.
Elytra immaculate or narrowly infusate suturally . . . 58.
54. Sides of thorax with blackish vittæ; sides and suture of elytra with narrow blackish vittæ; thorax as wide as long; elytra much longer than wide; length, 4.5 mm. . . *trivittipennis* Lea.
Sides of thorax without blackish vittæ . . . 55.
55. Elytra with suture and apical margins nigro-piceous; subhumeral vitta of same color; elytra one-third wider and twice as long as thorax, punctuation asperate and subrugose; head slightly wider than thorax; length, 6 mm.
vittensis Fauvel.
Elytra with apical margins not darker . . . 56.
56. Elytra with suture narrowly somewhat darker; thorax subquadrate; color rufo-piceous; thorax subcarinate medio-basally; elytra twice as long as thorax; length, 5 mm. . . *suturalis* Fauvel.
Elytra with large triangular or trilobate common spot . . . 57.
57. Thorax transverse; elytra with a common subtriangular dark spot; length, 4 mm. . . *lancifer* Fauvel.
Thorax transverse; elytra one-third longer than thorax, with common trilobate dark spot; length, 5 mm. . . *heraldicus* Fauvel.
58. Color rufous or ferruginous, immaculate; elytra sometimes slightly paler . . 59.
Color black, piceous-black or ferruginous, elytra always distinctly paler . . 68.
59. Head and thorax densely rugulose-punctate; head as wide as thorax; thorax transverse; elytra less than one-half longer than thorax, paler in color; length, 3.5 mm. . . *opaculus* Bernhauer.
Head and thorax not rugulose-punctate . . . 60.
60. Thorax transverse . . . 61.
Thorax about as long as broad . . . 64.
61. Head wider than thorax, tempora distinct; thorax with sides slightly arcuate, strongly narrowed posteriorly; elytra one-half longer than thorax, slightly paler in color; length, 5.1 mm. . . *crassus* Sharp.
Head not wider than thorax . . . 62.
62. Head with distinct tempora; thorax with sides arcuate, much narrowed posteriorly; elytra one-half longer than thorax; length, 5.6 mm.
longicornis Sharp.
Head without tempora . . . 63.
63. Thorax densely punctate, basal impressions and medio-basal smooth area not distinct; male—6th ventral abdominal segment sharply tri-emarginate apically; length, 4.5 mm. . . *compressiventris* Bernhauer.
Thorax bi-impressed on disc, impressions coarsely and somewhat densely punctate with flat, rather indistinct medio-basal smooth area; male—6th ventral abdominal segment with four apical teeth of unequal length; length, 3.5 mm. . . *spiniiventris* Bernhauer.
64. Base of head scarcely or not emarginate medially . . . 65.
Base of head distinctly emarginate medially . . . 66.

65. Thorax with sides strongly narrowed posteriorly; elytra one-third longer than thorax; length, 4 mm. *nossibianus* Fauvel.
 Thorax with sides slightly narrowed posteriorly, strongly arcuate; elytra nearly one-half longer than thorax; length, 5.1 mm. *modestus* Sharp.
66. Head with distinct tempora, basal angles strongly denticulate; thorax with sides strongly narrowed posteriorly, basal smooth carinulation distinct, bi-impressed either side; length, 3.25 mm. *pennifer* Fauvel.
 Head without tempora. 67.
67. Thorax with sides but little narrowed posteriorly, scarcely impressed either side of medio-basal carinulation; elytra often rufo-testaceous; length, 4.5 mm. *madecassa* Fauvel.
 Thorax with sides strongly narrowed posteriorly; length, 3.25-3.35 mm. *allocerus* Fauvel.
68. Elytra infusate suturally. 69.
 Elytra not infusate suturally. 70.
69. Thorax as long as wide, strongly narrowed posteriorly; antennæ with terminal joint more slender, scarcely wider than preceding; color ferruginous, elytra testaceous; head much narrower than elytra; thorax as wide as long; elytra slightly less than twice as long as thorax; length, 6 mm. *gracilipes* Sharp.
 Thorax transverse, sides arcuate, much narrowed posteriorly; antennæ with terminal joint stout, distinctly wider than preceding; head much narrower than elytra, tempora distinct; abdomen infusate subapically; length, 5 mm. *sordidus* Sharp.
70. Thorax scarcely transverse; color dark piceous, elytra piceo-testaceous or rufous; elytra one-half as long as thorax; length, 4.1 mm. *pallipes* LeConte.
 Thorax strongly transverse; elytra twice as long as thorax. 71.
71. Color black, elytra rufous; head not much narrower than elytra; thorax closely and coarsely punctate and unimpressed; male—6th ventral abdominal segment, strongly asymmetrically produced; length, 7 mm. *rubripennis* Sharp.
 Color ferruginous, elytra testaceous. 72.
72. Form stouter; size larger; head and thorax more coarsely and closely punctate; head as wide as thorax; thorax with a smooth medio-basal carinulation, coarsely and densely punctate either side, more sparsely laterally; male—6th ventral abdominal segment emarginate medially; length, 5.2-5.5 mm. *bolivianus* Bernhauer.
 Form more slender; size smaller; head and thorax less coarsely and closely punctate; male—6th ventral abdominal segment feebly emarginate throughout its width; length, 4 mm. *balzani* Bernhauer.
73. Color rufo-testaceous with black or blackish maculation or sutural infuscation. 74.
 Color rufo-, ferrugineo-, castaneo-, or piceo-testaceous or testaceous, immaculate, abdomen slightly darker. 87.
74. Thorax much longer than wide; head wider than thorax; elytra twice as long as thorax; a broad sutural vitta on elytra and abdomen subapically blackish; length, 5.5-6 mm. *vittiger* Bernhauer.
 Thorax not longer than wide. 75.

75. Elytra with three black vittæ on posterior half; thorax transverse, narrower and much shorter than elytra; length, 4.5 mm. *evansi* Bernhauer.
Elytra not maculate as above. 76.
76. Elytra blackish, suture, apical margins and elongate humeral spots testaceous; head as wide as thorax; thorax slightly transverse, with disc unimpressed; length, 3-3.5 mm. *maculatus* Bernhauer.
Elytra not maculate as above. 77.
77. Elytra with suture more or less distinctly infusate. 78.
Elytra with suture not infusate. 84.
78. Abdomen subapically blackish. 79.
Abdomen not subapically blackish; suture feebly infusate. 80.
79. Elytra with discal spot behind middle, narrowly infusate suturally and along inflexed lateral margins; elytra one-half wider and longer than thorax; head with distinct tempora; length, 3.75 mm. *lengi*, new species.
Elytra without discal spot, sutural vitta black; head wider than thorax; thorax strongly transverse; elytra scarcely twice as long as thorax (on suture); length, 4.2 mm. *pauloënsis* Bernhauer.
80. Head smaller, not wider than thorax; elytra with feeble sutural infuscation. 81.
Head larger, wider than thorax; sides of thorax strongly narrowed posteriorly. 83.
81. Thorax as long as wide; sides not arcuate, much narrowed posteriorly; head with short but distinct tempora; elytra considerably broader than thorax and one-half longer; length, 5.1-5.6 mm. *simplex* Sharp.
Thorax rather strongly transverse; head without tempora. 82.
82. Size smaller, 4 mm.; elytra larger, much wider than thorax and twice as long; male—6th ventral abdominal segment produced medially, lobe strongly twisted to left with minute tooth either side. *debilis* Sharp.
Size larger, 4.73 mm.; elytra smaller, a little wider than thorax and one-half longer; sutural infuscation more apical; thorax with small and narrow medio-basal smooth area. *discretus* Sharp.
83. Thorax less transverse, one-fourth wider than long; elytra with feeble sutural infuscation; length, 4.3-4.7 mm. *isthmianus* Casey.
Thorax more transverse, one-third wider than long; elytra broadly piceous along suture from base nearly to apex; length, 3.2 mm. (contracted).
tegulatus Casey.
84. Elytra with reflexed lateral margins black; head wider than thorax; thorax slightly transverse; length, 5 mm. *lateralis* Cameron.
Elytra with outer apical angles black or infusate. 85.
85. Thorax not darker laterally; outer apical angles of elytra infusate; head slightly wider than thorax; thorax more than a fourth wider than long, much narrower than elytra; elytra more than twice as long as thorax; male—6th ventral abdominal segment strongly produced and tri-emarginate; length, 3-3.2 mm. *infuscatus* Bernhauer.
Thorax darker laterally. 86.
86. Size smaller, 3 mm.; head with post-ocular region black, wider than thorax, eyes very large; thorax sharply and narrowly black laterally.
fijiënsis Cameron.

Size larger, 5.5 mm.; post-ocular region of head not black; head as wide as thorax, tempora not distinct; thorax feebly infusate laterally.

limbifer Fauvel.

87. Elytra not longer than thorax. 88.
Elytra much longer than thorax, rarely only a little longer. 90.
88. Thorax very slightly longer than wide, sides strongly narrowed posteriorly;
length, 3.1 mm. *larvalis* LeConte. 89.
Thorax distinctly transverse. 89.
89. Head larger, wider than thorax; length, 2.8 mm. *apterus* Bernhauer.
Head smaller, not wider than thorax; length, 3.5 mm. *simoni* Fauvel.
90. Thorax distinctly alutaceous. 91.
Thorax not alutaceous but sometimes densely punctate. 99.
91. Head wider than thorax. 92.
Head not wider than thorax; thorax transverse. 96.
92. Elytra longer, twice as long as thorax; thorax transverse; male—6th ventral
abdominal segment without asymmetrical apical ligula; sculpture sparse
and obsolete; length, 2.9–3.3 mm. *coriaceus* Cameron.
Elytra shorter, one-fourth to one-half longer than thorax; thorax without median
carination or impunctate area. 93.
93. Head with distinct tempora. 94.
Head without distinct tempora. 95.
94. Thorax widest at middle, sides arcuate, scarcely more convergent basally than
apically, two-fifths wider than long; elytra one-third wider and less than
one-half longer than thorax; male—6th ventral abdominal segment with
long asymmetrical ligula; length, 3–3.5 mm. *parvipennis*, new species.
Thorax widest near apical third, sides arcuate and strongly narrowed to base,
one-third wider than long; elytra one-third wider and longer than thorax;
male—6th ventral abdominal segment with acuminate, symmetrical
ligula which is bifid at apex; length, 2.5 mm. *bifidus*, new species.
95. Thorax distinctly transverse, one-third wider than long, sides arcuate, widest
at apical fourth, distinctly narrowed posteriorly; elytra a little wider and
one-fourth longer than thorax; length, 2.5 mm. *scitulus*, new species.
Thorax scarcely transverse, one-fifth wider than long, widest at apical fourth,
sides feebly arcuate and rather strongly narrowed posteriorly; elytra
one-third wider and one-half longer than thorax; length, 2.75 mm.
pusillus, new species.
96. Head without distinct tempora; thorax less transverse, one-third wider than
long, rather strongly alutaceous, punctuation more distinct; elytra
twice as long as thorax; length, 3 mm. *aluticollis* Bernhauer.
Head with distinct tempora. 97.
97. Thorax with distinct medio-basal carination, less strongly alutaceous and less
distinctly punctate, with a lateral denticulation; elytra larger, distinctly
wider than thorax and twice as long; form less slender; thorax much more
sparsely punctate than head; length, 3.2 mm. *barbiellini* Bernhauer.
Thorax without medio-basal carination. 98.
98. Elytra much shorter, scarcely more than one-fourth longer than thorax, a little
wider; thorax not quite one-half wider than long, widest at apical third,
sides not more convergent basally than apically, strongly alutaceous,
punctures indistinct; length, 2.9 mm. *grandicollis*, new species.

- Elytra much longer, twice as long as thorax, scarcely wider; form slender and parallel; thorax with sides very little narrowed posteriorly; length, 3.5 mm..... *diffinis* Sharp.
99. Thorax as long as wide or nearly so..... 100.
 Thorax transverse..... 109.
100. Head with tempora obsolete or nearly so..... 101.
 Head with distinct tempora..... 103.
101. Elytra shorter, less than one-third longer than thorax, scarcely longer than wide; length, 3.33-3.5 mm..... *transmarinus* Fauvel.
 Elytra longer, twice as long as thorax, the latter with sides straight and much narrowed..... 102.
102. Head larger, as wide as elytra at humeri; length, 4 mm. (extended).
tener Bernhauer.
 Head smaller, narrower than elytra; length, 2.75 mm.
philippinus Bernhauer.
103. Elytra longer, twice or more as long as thorax; thorax coarsely and densely punctate, sides strongly and subrectilinearly narrowed posteriorly; elytra finely punctate; last joint of antennæ short, subequal to tenth; length, 4 mm..... *densicollis* Bernhauer.
 Elytra shorter, scarcely more than one-half longer than thorax, often but slightly longer..... 104.
104. Elytra about one-third to one-half longer than thorax..... 105.
 Elytra only slightly longer than thorax..... 107.
105. Sides of thorax straight, much narrowed posteriorly; head as wide as thorax; thorax much narrower than elytra, not distinctly impressed but with median smooth area; male—6th ventral abdominal segment feebly, broadly produced, broadly trisinate; length, 4.1 mm..... *sinuatus* Sharp.
 Sides of thorax somewhat arcuate..... 106.
106. Sides of thorax much narrowed posteriorly; head wider than thorax; thorax much narrower than elytra, disc bi-impressed, sparsely but strongly punctate; length, 3 mm..... *pallidus* Sahlberg.
 Sides of thorax only slightly narrowed posteriorly; head scarcely wider than thorax; elytra one-third longer than thorax; transversely subcrenately punctate; length, 4 mm..... *novæ-guinææ* Fauvel.
107. Thorax much more narrowed posteriorly, sides arcuate; elytral punctuation coarse but not sparse; length, 2.8 mm..... *cribratus* LeConte.
 Thorax less narrowed posteriorly; elytra more finely punctate..... 108.
108. Elytral punctuation closer and finer; length, 2.1 mm..... *pumilus* LeConte.
 Elytral punctuation sparser and coarser; length, 3 mm..... *lividus* LeConte.
109. Head distinctly narrower than thorax..... 110.
 Head not narrower than thorax..... 117.
110. Head with distinct tempora; thorax with sides distinctly arcuate..... 111.
 Head without tempora..... 113.
111. Elytra shorter, one-third longer than thorax; thorax with disc scarcely impressed; abdomen with 6th segment strongly punctate; length, 4 mm.
australix Fauvel.
 Elytra longer, about twice as long as thorax..... 112.

112. Size larger, 5 mm.; punctuation of thorax sparser, discal impressions feebler; elytra longer; male—6th ventral abdominal segment apically produced with a small but distinct, semicircular emargination at apex.

thiemi Bernhauer.

Size smaller, scarcely 4 mm.; punctuation of thorax denser, discal impressions of thorax stronger; elytra shorter; male—6th ventral abdominal segment feebly produced, deeply emarginate for nearly the full width of the segment.

columbinus Bernhauer.

113. Elytra shorter, not more than one-half longer than thorax. 114.
Elytra longer, about twice as long as thorax. 115.
114. Size larger, 6.1 mm.; thorax more closely punctate, smooth areas subobsolete; thorax a little narrower than elytra. *robustus* Sharp.
Size smaller, 3 mm.; thorax more sparsely punctate, smooth areas dilated, prominent; thorax much narrower than elytra. *minor* Bernhauer.
115. Thorax slightly transverse; male—6th ventral abdominal segment broadly symmetrically produced; thorax much narrower than elytra; length, 4 mm. *parvulus* Sharp.
Thorax strongly transverse; male—6th ventral abdominal segment asymmetrically produced at middle. 116.
116. Form broader; punctuation more dense; male—6th ventral abdominal segment with median ligula longer with a spine on the left side; length, 4 mm. *deformis* Sharp.
Form more slender; punctuation more sparse; male—6th ventral abdominal segment with ligula shorter, without spine, apex acute on left side rounded on right; length, 4 mm. *chiriquensis* Sharp.
117. Head distinctly wider than thorax. 118.
Head about as wide as thorax. 127.
118. Elytra shorter, one-third to one-half longer than thorax. 119.
Elytra longer about twice as long as thorax. 122.
119. Sides of thorax distinctly arcuate, distinctly but not strongly narrowed posteriorly, thorax one-third wider than long, widest at apical fourth, with distinct medio-basal carination; elytra one-third wider and longer than thorax; length, 2.35 mm. *dubius*, new species.
Sides of thorax subrectilinear. 120.
120. Thorax more closely punctate, slightly transverse; elytra coarsely, closely and rugulose punctate; length, 3 mm. *samoensis* Cameron.
Thorax more sparsely punctate. 121.
121. Thorax slightly transverse, widest at the anterior angles; antennæ with first three joints equal in length, 11th as long as two preceding; length, 3.4 mm. *bryanti* Cameron.
Thorax more transverse, one-third wider than long, widest behind anterior angles; antennæ with first two joints equal in length, 11th obconic, broader than the preceding; length, 2.75 mm. *parvus* Cameron.
122. Thorax more transverse, one-third or more wider than long. 123.
Thorax slightly transverse. 124.
123. Thorax about twice as wide as long; sides slightly narrowed posteriorly; antennæ a little shorter than head and thorax; elytra densely and strongly punctate; length, 3–3.6 mm. *ceylanensis* Kraatz.

- Thorax less transverse, about one-third wider than long, sides arcuate, narrower than elytra, widest at anterior third; 11th antennal joint a little longer but not thicker than preceding; length, 2.8 mm. *insularis* Cameron.
124. Thorax with distinct medio-basal smooth carination, slightly transverse, strongly punctate; length, 4.1 mm. *indicus* Kraatz.
Thorax without distinct medio-basal carination; sparsely punctate. 125.
125. Thorax with sides strongly converging posteriorly, smaller, not more than two-thirds as wide as elytra; elytra longer than wide; length, 4.5 mm. (extended). *hudsonicus* Casey.
Thorax with sides moderately converging posteriorly, larger, slightly narrower than elytra. 126.
126. Eyes moderate; elytra less densely punctate than thorax; antennæ slightly shorter than head and thorax, last joint abruptly larger; length, 4.1 mm. *variabilis* Erichson.
Eyes large; last antennal joint not abruptly larger; length, 3.37–4.1 mm. *decussatus* Wollaston.
127. Head without distinct tempora. 128.
Head with distinct tempora. 134.
128. Elytra shorter, not more than one-half longer than thorax. 129.
Elytra longer, about twice as long as thorax. 131.
129. Thorax not narrower than elytra, one-third wider than long, with distinct medio-basal smooth carination; length, 3.5 mm. *brevipennis* Bernhauer.
Thorax distinctly narrower than elytra. 130.
130. Thorax slightly narrower than elytra, with sides feebly arcuate and feebly narrowed posteriorly, disc coarsely punctate without distinct median smooth area; length, 5.1 mm. *breviceps* Sharp.
Thorax much narrower than elytra, sides greatly narrowed posteriorly, disc moderately closely punctate and bi-impressed; 11th antennal joint scarcely thicker and but little longer than preceding; length, 4.5 mm. *fusciventris* Sharp.
131. Thorax strongly narrowed posteriorly. 132.
Thorax not or but slightly narrowed posteriorly. 133.
132. Thorax strongly transverse, much narrower than elytra, disc coarsely punctate, without medio-basal smooth area; elytra coarsely punctate basally, gradually more sparsely apically; 11th antennal joint broader than preceding and as long as preceding two; length, 2.7 mm. *fragilis* Sharp.
Thorax slightly transverse and only slightly narrower than elytra, coarsely and densely punctate; elytra "densely and rather finely punctate"; 11th antennal joint "quite short"; length, 4 mm. *filum* Sharp.
133. Thorax not narrowed posteriorly, twice as wide as long, sides scarcely arcuate; elytra slightly wider than thorax; length, 3 mm. *brevicollis* Sahlberg.
Thorax slightly narrowed posteriorly, moderately transverse, disc scarcely impressed with carination indistinct; elytra much wider than thorax, nearly twice as wide; length, 2.8–3 mm. *continentalis* Bernhauer.
134. Thorax with more or less distinct medio-basal smooth carination. 135.
Thorax without medio-basal carination. 136.
135. Size larger, 4 mm.; thorax more strongly narrowed posteriorly. *difficilis* Cameron.

Size smaller, 2.5 mm.; thorax only slightly narrowed posteriorly.

malandanus Bernhauer.

136. Size much larger, 6.5 mm.; form robust; thorax slightly narrower than elytra; antennæ with 11th joint longer and much thicker than preceding.

palmatus Sharp.

Size much smaller, 2.5–3 mm. 137.

137. Elytra distinctly wider than thorax, one-half wider; length, 2.8 mm.

amplipennis Fall.

Elytra only slightly wider than thorax. 138.

138. Male—6th ventral abdominal segment not asymmetrically modified. 139.

Male—6th ventral abdominal segment asymmetrically modified. 140.

139. Male—6th ventral abdominal segment deeply bi-incised, middle ligula broadly rounded; length, 2.8 mm. *normalis* LeConte.

Male—6th ventral abdominal segment with two long, apically incurved lateral processes and a short, rounded, median lobe; length, 2.5 mm.

procerus, new species.

140. Male—6th ventral abdominal segment bi-incised, the median ligula contorted and unsymmetrically curved, broadly truncate at apex. Female—the same segment broadly, deeply and angularly emarginate; length, 3 mm.

testaceus Erichson.

Female—6th ventral abdominal segment with narrow, deep parallel-sided emargination or evenly and shallowly sinuate or truncate. 141.

141. Female—6th ventral abdominal segment with narrow, deep, parallel-sided emargination; male—6th ventral abdominal segment bi-incised, the median ligula longer and narrower, asymmetrically curved, concave and truncate at apex; length, 2.5 mm. *contortus* LeConte.

Female—6th ventral abdominal segment shallowly and broadly sinuate or truncate at apex. 142.

142. Female—6th ventral abdominal segment sinuate at apex. 143.

Female—6th ventral abdominal segment truncate at apex. 144.

143. Female—sinus of 6th ventral four or five times as wide as deep. Male—"with the ligula convex, smooth, long and parallel, its apex only moderately oblique from angle to angle but strongly arcuate sinistrally and thence straighter and more oblique to the angle at the right"; length, 3 mm.

luteus Casey.

Female—sinus of 6th ventral seven or eight times as wide as deep. Male—ligula "flat, gradually and obtusely, subobliquely acuminate behind, short, broad basally and with a short acute longitudinal fold at apex on the left side"; length, 3 mm. *fraternus* Casey.

144. Form not quite so slender (more slender than in *testaceus* Erichson). Female—6th ventral abdominal segment with a minute, median sinus, shallow and evenly curved; male undescribed; length, 3 mm. *invidus* Casey.

Form more slender (thorax more transverse). Female—6th ventral abdominal segment more narrowed apically, apex rectilinearly truncate. Male—"ligula of the 6th ventral narrower than in *testaceus*, *luteus* and other similar species, and with the apex oblique in contrary sense or from the right anteriorly to the left, its surface concave and gradually more elevated at the right edge"; length, 3 mm. *timidus* Casey.

RECORDS AND DESCRIPTIONS OF NEW SPECIES

***Palaminus lengi*, new species**

Form slightly robust. Color piceo-testaceous, head and thorax more rufous, the abdomen darker with the fifth segment blackish basally, the elytra with suture and inflexed margins narrowly infusate and the disc with an elongate fuscous spot behind the middle. Integuments strongly shining. Head slightly wider than the thorax, about one-half wider than long, the tempora distinct behind the eyes, the base strongly emarginate medially with the beading interrupted, the antennæ with the apical joints very elongate, the ultimate scarcely longer or wider than the penultimate, the punctures coarse, distinct and rather sparse. Thorax about one-third wider than long, widest at apical fourth, sides evenly arcuate and strongly convergent basally, basal angles not distinct, disc with distinct median carination, bi-impressed either side with four distinct series of punctures, the outer pair approximate basally, more sparse and coarse punctures laterally. Elytra about one-half wider and one-half longer than the thorax on the suture, the punctures moderately coarse and close, apex impunctate. Length, 3.75 mm.

FEMALE (?).—Apex of sixth ventral abdominal segment rectilinearly truncate.

Type: Adjuntas, Porto Rico, June 8-13, 1915.

***Palaminus parvipennis*, new species**

Form slender; color rufo-testaceous, abdomen darker, integuments alutaceous, lustre dull. Head strongly transverse, twice as wide as long, wider than the thorax, the tempora distinct, the base widely and distinctly emarginate medially, punctuation rather coarse and sparse but indistinct; antennal joints rather short, the apical stout, longer and wider than the penultimate. Thorax two-fifths wider than long, widest at middle, sides arcuate, scarcely more convergent basally than apically, posterior angles not distinct, punctuation coarse, moderately close and evenly distributed, disc without median impunctate area, carination or impressions. Elytra rather small, one-third wider and less than one-half longer than the thorax, slightly wider posteriorly, one-fourth longer than wide, punctuation rather sparse fine and indistinct. Length, 3-3.5 mm.

MALE.—Sixth ventral abdominal segment with a strong median ligula which is asymmetrically curved to the left, broad at base and rather rapidly narrowed to an obtusely rounded apex, segmental margin slightly emarginate to the left.

FEMALE.—Sixth ventral abdominal segment with the apex very slightly emarginate.

Type and four paratypes: El Yunque, Porto Rico, February, 1921, 2000 ft. Allotype: Loiza, Porto Rico, February, 1913.

***Palaminus bifidus*, new species**

Form slender; color rufo-testaceous, the abdomen darker; integuments alutaceous, lustre rather dull. Head strongly transverse, twice as wide as long, wider than the thorax, the tempora distinct, the base emarginate medially, punctuation coarse, sparse and rather indistinct, apical antennal joints missing in the type. Thorax one-third wider than long, widest near apical third, sides moderately arcuate and strongly narrowed to the base, basal angles completely rounded, punctuation coarse, mod-

derately close, rather indistinct, regular without median impunctate area, carinulation or distinct impressions. Elytra one-third wider and one-third longer than thorax, wider posteriorly, one-fourth wider than long, punctuation rather coarse and close but indistinct, subrugulose. Length, 2.5 mm.

MALE.—Sixth ventral abdominal segment with a strang symmetrical median ligula which is rather rapidly narrowed to an acute apex, the apex being minutely but sharply bifid.

FEMALE.—Sixth ventral abdominal segment very slightly emarginate apically.

Type: El Yunque, Porto Rico, February, 1921, 2000 ft. Allotype and two paratypes: Aibonito, Porto Rico, June 1-3, 1915. Two paratypes: Adjuntas, Porto Rico, June 8-13, 1915.

In the allotype the two apical antennal joints are distinctly larger, the apical being longer and thicker than the penultimate.

***Palaminus scitulus*, new species**

Form slender; color testaceous, abdomen darker; integuments alutaceous, lustre dull. Head strongly transverse, about twice as wide as long, wider than the thorax, the tempora indistinct, subobsolete, base broadly and distinctly emarginate, punctuation coarse, and sparse; antennæ with the apical joint rather short, longer and thicker than the penultimate. Thorax one-third wider than long, widest at apical fourth, the sides arcuate and distinctly more convergent basally than apically; the punctuation only moderately coarse and sparse, indistinct, no median impunctate area or carinulation, disc faintly bi-impressed. Elytra a little wider and one-fourth longer than the thorax, scarcely elongate, punctuation coarse, rather close and subrugulose. Length, 2.5 mm.

MALE.—Sixth ventral abdominal segment somewhat produced and arcuate medially.

FEMALE.—Sixth ventral abdominal segment broadly and feebly emarginate medially.

Type: Aibonito, Porto Rico, June 1-3, 1915. Allotype: Aibonito, Porto Rico, June 1-3, 1915.

***Palaminus pusillus*, new species**

Form slender; color rufo-testaceous, abdomen darker; integuments alutaceous lustre dull. Head about twice as wide as long, wider than the thorax, the tempora indistinct, subobsolete, base broadly and distinctly emarginate, punctuation coarse, sparse, indistinct; apical antennal joints lacking. Thorax one-fifth wider than long, widest at apical fourth, sides feebly arcuate and rather strongly narrowed posteriorly, punctuation coarse, rather sparse and indistinct, no distinct median impunctate area, carinulation or impressions. Elytra one-third wider and one-half longer than the thorax, punctuation coarse and close but shallow and indistinct, subevenly distributed. Length, 2.75 mm.

Type: El Yunque, Porto Rico, February, 1921, 2000 ft.

The genitalia are missing.

***Palaminus grandicollis*, new species**

Form slender; color rufo-testaceous, abdomen darker; integuments alutaceous, lustre dull. Head strongly transverse, about twice as wide as long, as wide as the thorax, the tempora distinct, the base widely and distinctly emarginate medially, the beading not interrupted, punctuation coarse and rather sparse; antennal joints rather short, the apical a little wider and longer than the penultimate. Thorax not quite one-half wider than long, widest at apical third, sides arcuate, not more convergent basally than apically, punctuation coarse, rather sparse and indistinct, without any impunctate median area or carination, very faintly bi-impressed. Elytra a little wider and scarcely more than a fourth longer than the thorax, a little longer than wide, rather coarsely, closely and somewhat rugulose punctured. Length, 2.5-3. mm.

MALE.—Sixth ventral abdominal segment a little produced and arcuate medially.

FEMALE.—Sixth ventral abdominal segment slightly emarginate apically.

Type, allotype, and one paratype: Aibonito, Porto Rico, June 1-3, 1915. One paratype: Adjuntas, Porto Rico, June 8-13, 1915.

***Palaminus dubius*, new species**

Form slender; color rufo-testaceous, abdomen darker; integuments strongly shining. Head about twice as wide as long, wider than the thorax, the tempora distinct, the base widely and distinctly emarginate medially, punctuation coarse, somewhat sparse and distinct; antennæ with the apical joints short, the apical scarcely longer but distinctly thicker than the penultimate. Thorax one-third wider than long, widest at apical fourth, sides arcuate, distinctly but not strongly narrowed posteriorly, punctuation coarse, moderately sparse and somewhat irregular, a rather distinct medio-basal carination with slight impressions either side. Elytra one-third wider and longer than the thorax, one-fourth longer than wide, punctuation coarse, rather close and evenly distributed, scarcely sparser or finer posteriorly, surface subrugulose. Length, 2.35 mm.

The sixth ventral abdominal segment is very slightly produced and rounded apically.

Type: Gourbeyre, Guadeloupe.

***Palaminus procerus*, new species**

Form slender; color testaceous, abdomen darker; integuments strongly shining. Head about twice as wide as long, scarcely wider than the thorax, tempora distinct, the base broadly and distinctly emarginate medially, punctuation coarse, sparse and distinct; antennal joints rather short, somewhat shrunken. Thorax about one-fourth wider than long, widest just before the middle, sides rather feebly arcuate, but slightly more convergent basally than apically, punctuation coarse, somewhat sparse, distinct, without median smooth area or carination, scarcely impressed. Elytra a little wider and about one-third longer than the thorax, conjointly about one-third longer than wide, the punctuation much closer and more distinct on basal third, not very coarse, the surface subrugulose. Length, 2.5 mm.

MALE.—Sixth ventral abdominal segment with two long lateral processes incurved at tip, the arcuate emargination between them with a short median lobe, broadly rounded at apex.

Type: Aibonito, Porto Rico, June 1-3, 1915. Paratype: male, Aibonito, Porto Rico, June 1-3, 1915.

The paratype lacks head and thorax.

In addition to the species described as new the following are recognized in the material at hand.

***Palaminus apterus* Bernhauer**

Gourbeyre, Guadeloupe, two specimens.

***Palaminus insularis* Cameron**

Aibonito, Porto Rico, June 1-3, 1915, and Gourbeyre, Guadeloupe, two specimens.

CATALOGUE

THE SPECIES OF *Palaminus* DESCRIBED SINCE 1911

- aluticollis* Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 82. Brazil.
apicatus Bernhauer, 1921, Deuts. Ent. Zeits., p. 69. Colombia.
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asymmetricus Bernhauer, 1920, Wien. Ent. Zeitg., XXXVIII, p. 44. Costa Rica.
atriventris Bernhauer, 1926, Wien. Ent. Zeitg., XLIII, p. 160. Fiji Islands.
bipustulatus Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 73. Colombia.
bivittipennis Lea, 1923, Trans. Roy Soc. S. Austr., XLVII, p. 12. Queensland.
brevipennis Bernhauer, 1912, Verh. zool.-bot. Ges. Wien, LXII, p. 33. Argentina.
bryanti Cameron, 1920, Trans. Ent. Soc. Lond., p. 280. Singapore.
columbinus Bernhauer, 1921, Deuts. Ent. Zeits., p. 71. Colombia.
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coriaceus Cameron, 1913, Ann. Mag. Nat. Hist., XII, p. 331. Jamaica.
difficilis Cameron, 1927, Rec. S. Austr. Mus., III, p. 261. Fiji Islands.
evansi Bernhauer, 1926, Wien. Ent. Zeitg., XLIII, p. 161. Fiji Islands.
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maculatus Bernhauer, 1920, Ark. Zool., XIII, No. 8, p. 9. Australia.
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philippinus Bernhauer, 1914, Verh. zool.-bot. Ges. Wien, LXIV, p. 98. Philippine Is.
pictus Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 84. Bolivia.
quadripustulatus Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 74. Colombia.
samoënsis Cameron, 1927, 'Ins. Samoa,' IV, p. 22. Samoan Islands.
spiniventris Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 81. Brazil.
tener Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 76. Brazil.
thiemi Bernhauer, 1921, Deuts. Ent. Zeits., p. 70. Colombia.
trapezicollis Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 74. Brazil.
trivittipennis Lea, 1927, Rec. S. Austr. Mus., III, p. 273. Fiji Islands.
variiventris Bernhauer, 1918, N. Beitr., syst. Insektenk., I, p. 83. Bolivia.
vittiger Bernhauer, 1918, N. Beitr. syst. Insektenk., I, p. 75. Peru.

