

mailed 10 Jan 1969

Reprinted from the
JOURNAL OF THE KANSAS ENTOMOLOGICAL SOCIETY
Vol. 41, October, 1968, No. 4
pp. 494-501
Made in United States of America

**NEW SPECIES OF PSEUDOPLISUS FROM NORTH
AND CENTRAL AMERICA. I. THE P.
PHALERATUS GROUP (Hymenoptera: Sphecidae)**

R. M. BOHART

NEW SPECIES OF *PSEUDOPLISUS* FROM NORTH
AND CENTRAL AMERICA. I: THE *P.*
PHALERATUS GROUP (Hymenoptera: Sphecidae)¹

R. M. BOHART
Department of Entomology
University of California, Davis, Calif. 95616

ABSTRACT

New species of *Pseudoplisus* related to *phaleratus* are: *guadalajarae* and *notopilis* from Mexico, *oraclensis* and *wernerii* from Arizona, and *tritospilus* from El Salvador, Costa Rica, Guatemala, and Mexico.

The genus *Pseudoplisus* Ashmead has usually been considered as part of *Gorytes* Latreille. However, species of *Pseudoplisus* consistently differ in having the propodeal enclosure defined anteriorly by a simple or pitted groove which does not subtend longitudinal carinae extending onto the enclosure.

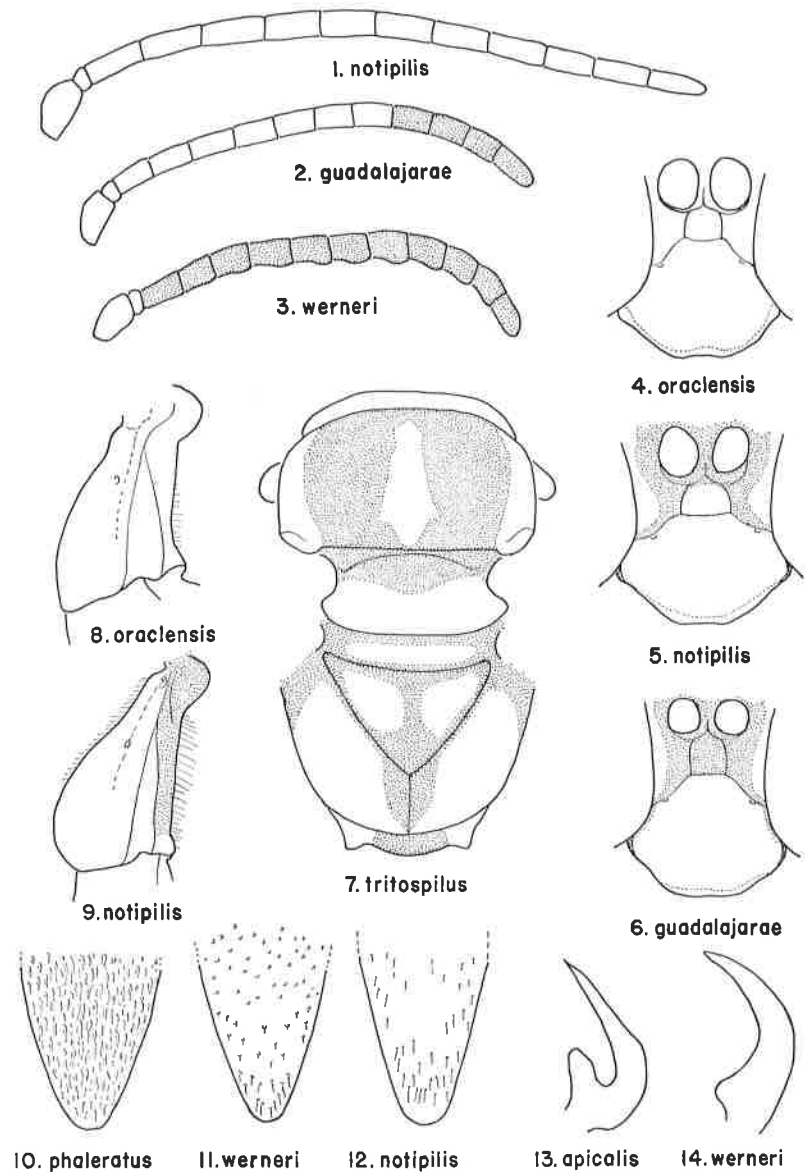
The new species described below all belong to the *phaleratus* group, which is characterized by the simple rather than pitted prescutellar sulcus, the simple or nearly simple lateral sulci of the propodeal enclosure, and a strong expansion at the base of the forewing costa. Also, the thorax and first four gastral segments, at least, are practically impunctate. Already described species in this group are *apicalis* F. Smith and *phaleratus* Say.

Holotypes of the new species will be deposited in the Entomology Museum of the University of California at Davis (UCD).

Key to the species in the *Pseudoplisus phaleratus* group

1. Propodeal enclosure with median groove becoming faint anteriorly; omaulus indistinct above near pronotal lobe; female pygidium closely striatopunctate (Fig. 10) 2
 Propodeal enclosure with median groove distinct and complete; omaulus plainly continued above to pronotal lobe; female pygidium with well separated punctures, at least medially (Figs. 11, 12) 4
2. Scutum with a somewhat diamond-shaped median yellow spot (Fig. 7); propodeal enclosure with two yellow spots; wings light brown *tritospilus* R. Bohart
 Scutum without a diamond-shaped median yellow spot; forewing dark except toward apex 3
3. Scutellum with convex lens-shaped red or black band anteriorly; propodeal enclosure nearly always black; sternite II unusually hairy toward apex, especially in males *phaleratus* (Say)

¹ Accepted for publication March 16, 1968.



All figures are of *Pseudoplisus*; Figs. 1 to 9, males; 10 to 14, females; Figs. 1, 2, 4-9, 11, 14, holotypes; 3, 12, paratypes. Figs. 1 to 3, front view of antenna. Figs. 4 to 6 clypeus and details of nearby face. Fig. 7, pattern of notum and propodeum. Figs. 8, 9, profile of first gastral segment. Figs. 10-12, pygidium. Figs. 13-14, profile of hindclaw.

- Scutellum entirely yellow; propodeal enclosure with two yellow spots or nearly all yellow; sternite II not unusually hairy.....
oraclensis R. Bohart (n.sp.)
4. Scrobal sulcus indistinct anteriorly before reaching omaulus; male flagellomere X at least 1.6 times as long as broad (Figs. 1, 2) — 5
 Scrobal sulcus continuing forward distinctly to omaulus; male flagellomere X less than 1.5 times as long as broad (Fig. 3) — 6
5. Longer hair on mesopleuron and propodeum two or more times midocellus diameter; acetabular carina a medioventral process directed forward in profile; subantennal sclerite broader than high (Fig. 5); male flagellomere I more than twice as long as broad (Fig. 1)
notipilis R. Bohart (n.sp.)
- Longer hair on mesopleuron and propodeum scarcely more than a midocellus diameter; acetabular carina a thin process directed downward and backward in profile; subantennal sclerite higher than broad, at least in male (Fig. 6), male flagellomere I scarcely twice as long as broad (Fig. 2)
guadalajarae R. Bohart (n.sp.)
6. Double pit at posterior end of sternaulus divided by a slightly depressed septum; pubescence of mesopleuron and propodeum short and inconspicuous; hindclaw with unusually prominent basal lobe (Fig. 13)
apicalis (F. Smith)
- Double pit at posterior end of sternaulus confluent; pubescence of mesopleuron and propodeum thick, 1.0 to 2.0 midocellus diameters in length; hindclaw with small basal lobe, as usual in genus (Fig. 14)
wernerii R. Bohart (n.sp.)

Pseudoplisus **guadalajarae** R. Bohart, new species

MALE (holotype): Length 9.0 mm. Black with red and extensive yellow markings. Red are: flagellomeres I to VII in front, wings basally, tints on legs, large medial spot on tergite I, median transverse band on tergite II; yellow are: mandible mostly, clypeus, scape and pedicel dully, pronotal ridge and lobe broadly, upper mesopleural spot, short scutal stripe next to tegula, broad posterior bands across scutellum and postnotum, femora partly, tibiae and tarsi mostly, a large spot on each propodeal "cheek", apical five-sixths of tergite I except for red spot, tergite II mostly, broad apical bands on tergites III to V, sternites I to V mostly. Wings brown, distal one-fourth of forewing paler. Pubescence inconspicuous, pale to fulvous, short, that on mesopleuron shorter than a midocellus diameter. Body extensively smooth, a few scattered punctures on upper frons and interocellar area. Clypeus (Fig. 6) nearly as long as broad, longer than least interocular distance; subantennal triangle higher than broad (Fig. 6); antenna (Fig. 2), flagellomeres II to XI and scape about equal in length, I shorter, 1.7 times as long as broad; II twice as long as broad; prescutellar sulcus simple, lateral grooves of propodeal enclosure simple, median groove complete; costa

strongly lobed basally; scrobal sulcus of mesopleuron disappearing before reaching omaulus, which is continuous to pronotal lobe, acetabular carina a rather thin, downwardly directed, medioventral process as seen in profile; double pit at end of sternaulus divided by a septum; tergite I about twice as long as broad.

Holotype male (UCD), Guadalajara, Jalisco, MEXICO, November. Paratype, one male, same data as type.

This species is known from two males only, but it is easily distinguished as indicated in the key. The antennae are moderately slender but flagellomere I is rather short (Fig. 2). The acetabular carina is unusually thin and directed backward as well as downward.

Pseudoplisus notipilis R. Bohart, new species

MALE (holotype): Length 10 mm. Black and yellow with some reddish. Yellow are: mandible mostly, clypeus, spot above, lower inner orbit, scape and pedicel in front, pronotal ridge and lobe, associated mesopleural dot, lateral scutal spots, scutellum and metanotum mostly, large spots on propodeal cheeks, legs extensively, tergite I mostly except for elongate median red mark, broad apical bands on tergites II to V, narrower bands on sternites II to IV; reddish are: flagellum in front, wing bases, femora partly, spots on tergites I and II, latter medial and broad. Wings brown, lighter in distal one-fourth of forewing. Pubescence unusually prominent, longer hairs compared with midocellus diameter: clypeus 2.0, vertex and scutum 0.7, mesopleuron 2.0, propodeum 2.8, first sternite 1.2, longer hairs mostly well separated. Body extensively smooth, frons nearly impunctate, interocellar area polished and only a little raised. Clypeus (Fig. 5) 1.5 times as broad as long, shorter than least interocular distance; subantennal triangle broader than high (Fig. 5); flagellomeres I to VIII about equal in length, longer than scape, I about 2.5 times longer than broad, entire antenna (Fig. 1) more than twice head width; prescutellar sulcus simple; lateral grooves of propodeal enclosure simple, median groove deep and complete; costa strongly lobed basally; scrobal sulcus of mesopleuron disappearing well before reaching omaulus which is continuous to pronotal lobe; acetabular carina a medioventral process, projecting forward in profile; double pit at end of sternaulus plainly divided; tergite I about 1.7 times as long as broad, strongly convex in profile (Fig. 9).

FEMALE: Markings about as in male. Clypeus black with a broad yellow spot, subantennal triangle black and twice as broad as high, pygidium yellow to reddish apically, more densely setose apically, becoming smooth medially (Fig. 12). Pubescence conspicuous, as in male. Clypeus with some macropunctures, frons and interocellar area with weak punctures. Least interocular distance about equal to eye breadth, 1.5 times length of flagellomere I which is 3.0 times as long as broad; flagellum all reddish, a little thicker toward apex, flagellomere VIII about 1.3 times as long as broad.

Holotype male (UCD), 23 mi. s. Matias Romero, Oaxaca, Mexico, August 14, 1963 (F. Parker, L. Stange). Paratypes, MEXICO: male, Alpuyecca, Morelos, June 27, 1951 (P. D. Hurd, California Insect Survey); two females Yautepec, Morelos, July 13, 1963 (F. Parker, L. Stange, UCD).

P. notipilis agrees with *guadalajarae* in many structural details, but the former is much more hairy, the subantennal triangle is shorter (Fig. 5), the acetabular carina is stronger and more forward-projecting, the antennae are considerably longer (Fig. 1) as well as more slender, and tergite I is more strongly curved in profile (Fig. 9).

Pseudoplisus oraclensis R. Bohart, new species

MALE (holotype). Length 10 mm. Mostly yellow, edged with black or reddish brown. Yellow are: mandible mostly, clypeus, lower frons, scape and pedicel in front, prothorax mostly, scutum laterally and with a squarish median spot, scutellum, metanotum, propodeum almost entirely, mesopleuron and legs mostly, abdomen mostly except for dark bases (sometimes concealed) on tergites III to V; reddish to reddish brown are: flagellum in front, scutum except for yellow marks, small pleural spots, outer areas of hindfemur and hindtibia, summit of tergite I, basomedial areas on tergites III to IV. Wings dark brown, distal one-fifth of forewing contrastingly pale. Pubescence silvery to fulvous, short, mostly thick. Body extensively smooth, a few scattered punctures on upper frons, interocellar area impunctured. Clypeus a little broader than long, but longer than least interocular distance, subantennal triangle about as high as broad (Fig. 4), flagellomere I about 1.8 times as long as broad, a little shorter than scape, but longer than II; flagellomeres III to X stout, about 1.3 times as broad as long, convex beneath; interocellar area strongly convex, velvety; scutum flattened; pre-scutellar sulcus simple; lateral grooves of propodeal enclosure simple, median groove faint anteriorly; costa strongly lobed basally; scrobal sulcus of mesopleuron complete forward to omaulus which is hardly indicated from this point to pronotal lobe; acetabular carina a medio-ventral process projecting forward in profile; double pit at end of sternaulus divided by a carina; tergite I about 1.7 times as long as broad, not strongly curved in profile (Fig. 8).

FEMALE. Markings about as in male, scutum sometimes all red medially, tergite II with transverse red mark or marks, pygidium yellow and closely striatopunctate. Clypeus about twice as broad as long, length equal to least interocular distance, subantennal triangle broader than high, flagellomere I with length 2.2 times breadth, flagellum gradually thicker toward apex.

Holotype male (UCD), 8 mi. NE. of Nogales, ARIZONA, August 1, 1966 (C. R. Kovacic). Paratypes, eight males, five females from ARIZONA: Oracle (E. P. Van Duzee, Calif. Acad. Sci.; R. S. Beal, CIS); Patagonia, Santa Cruz Co. (F. Werner, G. Butler, U. Ariz.); 35 mi. E.

of Nogales (R. L. Brumley, UCD); Nogales (F. Werner, G. Butler, U. Ariz.); Baboquivari Mts. (O. C. Poling, Calif. Acad. Sci.; R. H. Beamer, U. Kansas).

The nearly all-yellow body, bicolored wings, details of the mesopleural sulci, short pubescence, rather stout antennae, and striatopunctate female pygidium furnish several character combinations which distinguish this species from others in the *phaleratus* group. In most morphological details *oraclensis* resembles *phaleratus*, but the latter has the least interocular distance a little greater, the antennae a little more slender, the scutum less flattened, and in the male the apical pubescence of sternites II and III much more prominent.

Pseudoplisus tritospilus R. Bohart, new species

MALE (holotype). Length 11 mm. Black with extensive yellow markings as follows: mandible mostly, clypeus, lower frons, scape and pedicel in front, pronotum mostly, lateral and medial stripes on scutum (Fig. 7), scutellum and metanotum broadly banded, enclosure of propodeum with two large spots, rest of propodeum except for black stripes medially and behind stigmal groove, legs extensively but shading into orange brown, tergites I and II except for tranverse medial black spots, apical bands on tergites III to V, exposed parts of VI to VII and sternites almost entirely; flagellum brown in front, wings light brown, paler on distal one-third of forewing. Pubescence fulvous to golden, abundant, but short, that on propodeum shorter than diameter of midocellus. Body practically impunctate. Clypeus nearly as long as broad, length about 1.5 times least interocular distance; subantennal triangle a little higher than broad; flagellomere I about 1.6 times as long as broad, shorter than scape, I to X gradually declining in length, X nearly as broad as long; interocellar area strongly convex, velvety; scutum flattened; prescutellar sulcus simple; lateral grooves of propodeal enclosure simple, median groove faint anteriorly; costa strongly lobed basally; scrobal sulcus of mesopleuron complete to omaulus which is hardly indicated from this point to pronotal lobe; acetabular carina a medioventral process projecting forward in profile; double pit at end of sternaulus plainly divided; tergite I about 1.2 times as long as broad.

FEMALE. Markings about as in male, pygidium orange-yellow and closely striatopunctate. Clypeus about twice as broad as long, with some median macropunctures, clypeal length equal to least interocular distance which is less than eye breadth, subantennal triangle broader than high, flagellomere I about 2.5 times as long as broad, flagellum somewhat clubbed.

Holotype male (UCD), Quezaltepeque, EL SALVADOR, August 12, 1963 (D. Cavagnero, M. Irwin). Paratypes, 38 males, 8 females, EL SALVADOR: Quezaltepeque (D. Cavagnero, M. Irwin, S. Bolinger, H. Scullen), 23 mi. N. of San Salvador (H. Scullen, S. Bolinger); 1 pair, COSTA RICA: Liberia (H. Scullen, S. Bolinger); 1 female, GUATEMALA:

Amatitlan (H. Scullen, S. Bolinger); 2 males, MEXICO: 20 mi. S. of Tuxtla, Chiapas (F. Parker, L. Stange).

The often diamond-shaped yellow mark at the middle of the scutum is diagnostic (Fig. 7). Other distinctions are the rather stout antennae, short pubescence, lightly browned wings, stouter than usual tergite I, flattened scutum, narrow least interocular distance, and closely striatopunctate female pygidium.

Pseudoplisus wernerii R. Bohart, new species

FEMALE (holotype). Length 12 mm. Black with yellow and orange-red markings. Yellow are: clypeus, lower inner orbit, scape and pedicel in front, pronotal ridge and lobe, lateral scutal spot, scutellar band, legs partly including tibiae and tarsi mostly, broad apical bands expanded laterally on tergites I to IV, V and following entirely, sternites II and following mostly; red are: infusions into yellow markings, especially on thorax, flagellomeres in front except tip of last one, antenna behind to apex of flagellomere V, legs partly, large median spot on tergite I, large transverse median area on tergite II; wings light brown, darker in marginal cell, one-half of second submarginal and one-third of third submarginal, area behind these in distal one-third of wing pale. Pubescence silvery on clypeus, fulvous to brown elsewhere, much of it short, but sparse and fairly long on interocellar area (2.0 midocellus diameters), thick on mesopleuron (1.0 midocellus diameter) and propodeum (1.5 to 2.0 midocellus diameters). Body mostly impunctate, a few macropunctures on clypeus, frons, between ocelli, and at sides of tergites III and following. Clypeus 2.5 times as broad as long, least interocular distance as great as eye breadth and greater than clypeal length; subantennal triangle nearly twice as broad as high; flagellomere I three times as long as wide, antenna gradually thickening toward apex; interocellar area nearly flat; prescutellar sulcus simple; lateral grooves of propodeal enclosure simple, median groove deep and complete; costa strongly lobed basally; scrobal sulcus of mesopleuron distinct to omaulus which disappears dorsally before pronotal lobe; acetabular carina a medioventral process hardly projecting in profile, but directed backward; double pit at end of sternaulus confluent; pygidium with elongate macropunctures which are well separated medially (Fig. 11).

MALE. Markings about as in female but red less prominent, flagellum nearly all dark; sternites with narrow yellow bands apically. Clypeus 1.5 times as broad as long; least interocular distance about equal to clypeal length; subantennal triangle as high as broad; antenna (Fig. 3), flagellomeres I to VII about equal in length, I about 1.5 times as long as broad, shorter than scape, VII to IX angled out beneath in profile; first tergite 1.5 times as long as broad. Pubescence and punctation about as in female.

Holotype female (UCD), Rustlers Park, Chiricahua Mts., Cochise Co., ARIZONA, August 6, 1958, on oak (R. M. Bohart). Paratypes, 4

males, 2 females from ARIZONA: Catalina Mts., July 9, 1957, on *Ceanothus* (F. G. Werner, U. Ariz.); Southwestern Research Station, 5 mi. w. Portal, July 7, 1959, (M. Statham, Amer. Mus. Nat. Hist.); Rustlers Park, Chiricahua Mts., August 6, 1958 (R. Bohart, UCD). One paratype male, Colorado ("Col." (W. J. Fox, U. S. Natl. Mus.).

The thick and fairly long hair on the mesopleuron and propodeum, the rather short antennae, and the confluent double pit at the posterior end of the sternaulus are diagnostic.

The species was named for Dr. Floyd G. Werner who has contributed greatly to knowledge of Arizona Hymenoptera.