

CAMBARUS (TUBERICAMBARUS) POLYCHROMATUS (DECAPODA:
CAMBARIDAE) A NEW SPECIES OF CRAYFISH FROM OHIO,
KENTUCKY, INDIANA, ILLINOIS AND MICHIGAN

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Raymond F. Jezerinac

Deceased, 21 April 1996

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Abstract. --A new species of crayfish Cambarus (Tubericambarus) polychromatus is described from western Ohio, Indiana, southern and east-central Illinois, western Kentucky, and southern Michigan areas of North America. Of the recognized members of the subgenus, it is most closely related to Cambarus (T.) thomai, found primarily in eastern Ohio, Kentucky, and Tennessee and western West Virginia. It is easily distinguished from other recognized members of the subgenus by its strongly deflected rostral tip.

Raymond F. Jezerinac (RFT) studied the Cambarus diogenes species complex for two decades. He described one new species and erected the subgenus Tubericambarus (Jezerinac, 1993) before his untimely death in 1996. This paper is the continuing efforts of the senior author (RFT) to complete Ray's unfinished work. Ray had long recognized this species as distinct, but was delayed in its description by his work on the crayfishes of West Virginia (Jezerinac et. al., 1995). After his death, a partial manuscript was found on Ray's computer at the Ohio State University Museum of Biodiversity, Columbus, Ohio. That manuscript served as the impetus for this paper. This species first came to the

attention of RFJ and RFT in 1978 when conducting research into the Cambarus bartonii species complex. At that time it was observed that two color forms of C. diogenes existed in Ohio, one to the east, since described as C. thomai Jezerinac, 1993, and one to the west, the current species.

Cambarus (Tubericambarus) polychromatus new species

Fig. 1

Cambarus diogenes --Girard, 1852:88 [in part]. Bundy, 1877: 173. Hay, 1896:489 [in part]. Williamson, 1899:48 [in part]. Ortmann, 1905:398 [in part], 1905b:123 [in part]. Evermann and Clark, 1920: 719. Newcombe, 1929:286. Creaser, 1931:267 [in part]. Rhoades, 1944a:146 [in part], 1944b:98 [in part]. Eberly, 1955:283 [in part]. Brown, 1955:62 [in part]. Marlow, 1960:231 [in part]. Page, 1985:434 [in part]. Page and Mottesi, 1995:110 [in part]. Norrocky, 1984:65, 1989:67. 1991:77. Taylor et. al., 1996:25 [in part]. Simon, 2001:104. Lukhaup, 2003:123 [in part].

Cambarus obesus --Hagen 1870:81 [in part]. Forbes 1876:x [in part].

Cambarus dubius . --Osburn and Williamson, 1898:21. Forbes, 1876:x

Cambarus diogenes diogenes. --Hay, 1899:959 [in part]. Williamson, 1907:762 [in part]. Marlow, 1960:233.

Cambarus (Bartonius) diogenes. --Ortmann, 1906:402 [in part]. Turner, 1926:168 [in part].

Cambarus (Lacunicambarus) diogenes diogenes. Hobbs, 1969:110 [in part], 1974:20; [in part]. Bouchard, 1972:56 [in part], 1974:595 [in part]. Jezerinac and Thoma, 1984:123 [in part]. Jezerinac 1985:7 [in part].

Cambarus (Lacunicambarus) diogenes. --Jezerinac, 1985:7 [in part]. Hobbs, 1989:24 [in part].

Cambarus (Lacunicambarus) sp. B. --Jezerinac, 1986:178 [in part].

Cambarus (Tubericambarus) n. sp. A. --Thoma and Jezerinac, 2000:22.

Cambarus (Tubericambarus) sp. A. --Jezerinac, 1993:535. Simon and Thoma, 2003:177. Simon and Thoma, in press.

Diagnosis. --Pigmented; eyes not reduced. Rostrum strongly decurved at distal end in lateral view, margins converging, slightly thickened, without marginal spines or tubercles, lacking median carina, shallowly excavated. Acumen well defined by 45-degree angles. Carapace laterally compressed, without cervical spines or tubercles. Branchiostegal tubercles very small or absent. Suborbital angle acute. Postorbital ridges weak, never ending in distinct spines or tubercles. Areola usually obliterated, constituting, in adults, 38.9 to 48.2% ($X = 43.1\%$) of entire length of carapace, and, if open, with room for only a single row of punctuations in narrowest part. Antennal scale 1.8 - 4.6 times as long as wide,

broadest at midlength. Dorsomesial 1/4 surface of palm of chelae with distinct to ad pressed tubercles, mesial row normally consisting of 6 to 8. No tufts of elongate setae at base of propodus. Opposable margin of dactyl weakly concave at base. Ratio of palm length to dactyl length averaging 1.8. Dorsomedian longitudinal ridges of dactyl and opposable propodus moderate to strong. Dorsolateral impression at base of propodus moderate to strong. Ventral surface of chelae with 1, or usually lacking, subpalmar tubercle. Ventral surface of carpus with spiniform tubercle on distal articular rim, mesial margin with two. Mesial ramus of uropod with distomedian spine not reaching or reaching caudal margin, but never extending beyond. First pleopods of form I male contiguous at base, with convexity near mid length of cephalic surface; terminal elements consisting of (1) short, non-tapering, distally truncate central projection, half the length of the mesial process and (2) a conically shaped mesial process, both directed caudally at angle slightly greater than 90°. Hooks on ischium of third pereopods only. Female with annulus ventralis elliptical, slightly longer than broad, and rather deeply embedded in sternum.

Holotype male, Form I. --Body sub ovate (Fig. 1I), laterally compressed. Abdomen narrower than cephalothorax (20.8 and 26.0 mm, respectively); maximum width of carapace less than depth at caudodorsal margin of cervical groove (26.0 and 28.0 mm respectively). Areola closed with no punctuations in

narrowest part; length comprising 40.0% of total length of carapace. Rostrum decurved at distal end with convergent, slightly thickened, raised margins arching upward starting at postorbital ridges and over eyes then strongly decurved to tip; acumen distinctly delimited basally by 45-degree angles, anterior tip upturned and reaching base of ultimate podomere of antennular peduncle; upper surface of rostrum concave with very small punctuations. Subrostral ridge weak but evident in dorsal aspect along basal two-thirds of rostrum. Postorbital ridge weak, grooved dorsolaterally, and ending cephalically without spine or corneous tubercle. Suborbital angle slightly obtuse; branchiostegal spine absent. Cervical spine absent. Hepatic and branchiostegal regions with small granules. Remainder of carapace punctate dorsally and laterally. Abdomen sub equal in length to carapace, pleura short, sub truncate, rounded caudoventrally. Cephalic section of telson with 2 spines in caudolateral corners. Proximal podomere of uropod with well defined distal spine on mesial lobe; mesial ramus of uropod with prominent median rib ending distally as strong distomedian spine not overreaching margin of ramus, laterodistal spine of ramus also strong.

Cephalomedian lobe of epistome (Fig. 1B) short and sub triangular with uniform raised margins, ventral surface rather flat, lacking setae; main body with shallow fovea; epistomal zygoma arched. Ventral surface of antennal peduncle's proximal podomere without acute spine at base of distal third. Antennal peduncle

without spines; antennal scale (Fig. 1H) 3.3 times as long as broad, broadest at midlength, mesial border straight; distal spine strong, reaching distal extremity of antennular peduncle, slightly turned out. Mesial half of ventral surface of ischium of third maxilliped studded with rows of long, flexible setae; submarginal lateral row on podomere consisting of much smaller flexible ones; distolateral angle not acute.

Length of right chela (Fig. 1K) 86.6% that of carapace; width 48.8% of chela length; palm length 33.3% of chela length; dactyl length 1.8 times palm length. Dorsomesial 1/4 surface of palm studded with tubercles, mesial most row composed of 6 tubercles, dorsal and proximal dorsolateral half smooth, distal area punctuate, punctuations deep and large in vicinity of dorsolateral base of fixed finger; lateral surface of palm and fixed finger not costate; mesial ventral surface slightly punctuate, lacking small corneous tubercle on articular rim opposite base of dactyl; no sub palmer tubercle. Both fingers of chela with well defined sub median dorsal ridges; opposable margin of fixed finger with row of 7 tubercles (third and seventh from base enlarged) along proximal 4/5 of finger. Opposable margin of dactyl with row of 4 tubercles, (first and fourth from base larger) along proximal 2/3; single row of minute denticles extending distally from fourth tubercle; mesial surface of dactyl with 2 rows of 7 (dorsal) and 6 tubercles basally

giving way to punctuations distally. Slight dorsolateral impression at base of fixed finger.

Carpus of cheliped with distinct dorsal furrow; dorsomesial surface with row of 5 low tubercles; dorsolateral surface with sparse punctuations; mesial surface with 2 large spiniform tubercles and 3 additional small ones; ventral surface with 1 spiniform tubercle on distal articular rim. Merus with 2 pre marginal tubercles dorsally, ventrolateral row of 2 tubercles, and ventromesial row of 9 spines; podomere otherwise smooth. Ventral ridge of ischium with 3 small tubercles. Ischium of third pereopod (Fig. 3L) with simple hook extending proximally over basioischial articulation, not opposed by tubercles on basis. Coxa of fourth pereopod (Fig. 3L) with setiferous vertically disposed caudomesial boss; that of fifth pereopod (Fig. 3L) lacking boss, its ventral membrane bearing oblique row of small sclerites armed with setae.

First pleopods contiguous at base (Fig. 3J), reaching coxa of third pereopod; central projection (Fig. 3F,G) short, not tapering, lacking sub apical notch, edge straight and angled greater than 90-degrees apical, half the length of mesial process; mesial process conical at base then tapered, not directed caudolaterally, bent at 90°, caudal knob absent. Distal margin of proximal segment of lateral

ramus of right uropod having 18 spines displayed distally, median spine of mesial uropod ramus not overhanging distal margin.

Allotype female. --Excluding secondary sexual characteristics, differing from holotype in following respects: areola length 42.2% of total length of carapace, right distal lateral surface damaged; cephalomedian lobe of epistome with thickened margins; antennal scale 2.5 times as long as broad; right chela 62.3% of carapace length; opposable margin of left dactyl with row of 9 tubercles, only fifth tubercle enlarged; mesial surface of dactyl with 5 tubercles, third enlarged; left merus with 3 premarginal tubercles dorsally, ventrolateral row of 4 tubercles, and ventromesial row of 10.

Annulus ventralis (Fig. 3E) deeply embedded in V-shaped sternum, rhomboid in outline, with narrow median longitudinal furrow in cephalic half ending in central depression; tongue extending caudosinistrally across caudal side of depression, disappearing beneath thickened caudosinistral wall; sinus reverse S-shaped and tilted sinisterly at almost 90° ending under caudal wall slightly dextral to median line. Post annular sclerite oval without setae. First pleopod reaching edge of annulus when abdomen flexed. Distal margin of proximal segment of lateral ramus of right uropod having 16 spines displayed distally.

Morphotypic male, Form II. --Differing from holotype in following respects:
 areola length 38.9% of carapace length; antennal scale 3.1 times as long as broad;
 right chelae 68.1% of carapace length; palm length 34.1% of chela length;
 opposable margin of right fixed finger with enlarged third tubercle (second
 enlarged on left); palm of right chelae slightly damaged; opposable margin of
 dactyl with first, second and fourth tubercles enlarged, gape between second and
 third (same on left), one sub palmer tubercle right and left; merus with 2 pre
 marginal dorsal spines, ventrolateral row of 4 tubercles and ventromesial row of
 13 spines; central projection of first pleopod (Fig. 1C,D) non corneous and blunt,
 slightly shorter than mesial process. Left lateral cervical groove with 4 very small
 tubercles, right with one. Ischium of third pereopod weakly developed. Distal
 margin of proximal segment of lateral ramus of right uropod having 16 spines
 displayed distally.

Type Locality. --Holotype and allotype dug from burrows on banks and flood
 plain of Flat Creek, tributary of Hall Creek, Patoka River basin, at Pike County
 Rd. 124S culvert crossing; Indiana, Pike Co., Washington Twp. (38.4019 degrees
 N X -87.3066 degrees W). The area is farmed on all sides with some trees
 growing along the stream banks and grass growing on all unplowed areas.

Morphotype from burrow in banks of Flat Creek, tributary of Hall Creek, Patoka River basin, NW of St. Anthony, at C. Rd. 450S bridge; Indiana, Dubois Co., Jackson Twp. (38.3144 degrees N X -86.84388 degrees W).

Disposition of types. --The holotype, allotype, and morphotype are in the collection of the Ohio State University Museum of Biological Diversity Crustacean Collection (OSUMC 5910, 5911, and 5912 respectively), Columbus, Ohio. Paratypes are housed at the National Museum of Natural History, Smithsonian Institution, (USNM XXXXXX), Washington, D.C. and Indiana Biological Survey, Aquatic Research Center, Division of Crustaceans, Indiana State Museum (INBS 500, 501, and 502 respectively), Bloomington, Indiana.

Range and Specimens Examined. --This species is found in western Ohio and Kentucky, all of Indiana except the northwest, southern and east-central Illinois and southern Michigan. It will likely be found in western Tennessee, at least near its northern border with Kentucky.

ILLINOIS: **Alexander Co:** 2 mi N of Cache, 17 Apr 1982, K. S. Cummings, 1 F. **Champaign Co:** 2 mi N of Homer, 1.5 mi S of St Rte 49, date ?, J. D. Unzicker, 1 M-II; 0.5 mi S of Savoy, 24 Sep 1972, L. M. Page, 2 12; **Christian Co:** Kincaid Pond, Kincaid, 8 Jun 1979, B. Taubert, 1 M-II, 2 F; **Coles Co:**

Charleston, 31 Mar 1910, T. L. Hankinson, 1 M-I; Fox Ridge State Park, 29 Mar 1947, P. W. Smith, 1 M-I; **Clark Co:** Rocky Br, 18 Apr 1935, R. Rennek, 1 F-ovig; **Edwards Co:** 3 mi SW of Albion, 7 May 1975, Coll ?, 1 F; **Jackson Co:** W edge of Carbondale, 30 Nov 1973, L. M. Page, B. M. Burr, 1 F; **Gallatin Co:** 1 mi W of Ridgeway, 9 Apr 1981, LMP, L. A. Woodrum, 1 M-I; **Hardin Co:** 1 mi SE of Hicks, 4 Mar 1973, LMP, E. L. List, 1 M-I; 2 mi E of Karbers Ridge, 20 Mar 1974, P. W. Smith, LMP, 1 M-I; 23 Mar 1973, LMP, 1 M-I; 26 Mar 1975, LMP, 2 M-I; **Johnson Co:** 2.5 mi SE of Goreville, 28 Feb 1974, BMB, J. Boyd, L. Davis, 1 M-I; 12 Mar 1973, J. Allen, T. Wayne, 1 M-I; 3 mi SW of Goreville, 12 Mar 1973, JA, TW, 1 M-I; **Logan Co:** 2 mi NE of Elkhart, 9 Mar 1983, Coll ?, 2 M-I; **Moultrie Co:** Dead River oxbow, 14 May 1968, R. W. Larimore, 1 M-I, 1 F-ovig; **Piatt Co:** Arrowhead Lake, Allerton Park, 12 Apr 1973, J. Tranquilli, 3 M-I, 1 F; Pope Co: 3 mi SE of Eddyville, 14 Mar 1977, D. W. Webb, 1 M-I, 2 F; 2 mi N of Dixon Springs, 23 Mar 1952, D. F. Hansen, 1 M-I; **Sangamon Co:** 2 mi NW of Springfield, ? Apr 1981, W. J. Tucker, 1 M-I; **Union Co:** 4 mi ESE of Anna, 29 Feb 1976, L. Richart, M. J. Wetzel, 1 M-I; 2.5 W of Cypress, 13 Sep 1972, LMP, BMB, 1 M-II. **Vermilion Co:** Forest Glen, 24 Feb 1976, B. Baldwin, 1 M-I, 1 F.

INDIANA: Unless otherwise indicated, collectors were TPS (Tom Simon) and RFT (Roger Thoma). Other collector abbreviations RFJ (Raymond Jezerinac), GWS (G. Whitney Stocker), RRR (Rhendell Rhoades), HHH (Horton Hobbs, Jr.), FFP (Foster Purrington), CBS (Carol Stein), JN (Jim Norrocky), KM (Karl Matesick). **Adams Co**: Blue Creek Twp, Sec 29, Twp Rd 500S, (6.0 mi E of Berne), 16 May 1973, HHH, 1 F; Sec. 29, T 28 R 14E, Drainage ditch, 0.175 mi S of Co. Rd. 550S, Mt. Pleasant Church, 16 May 1973, H. H. Hobbs, II, 1F (NMNH 176696). **Allen Co**: Inters St Rte 27 and S County Line Rd, (7.8 mi NW of Decatur), 26 Sep 1987, GWS, David Christian (DC), RFJ, 1 M-II; Cedar Creek at bridge 1.75 mi. NW of Cedarville, 2.6 mi. WSW of Huntertown, J.J. & C.S. Jenkinson, 14 Sept. 1971, 1 M II, (OSUMC 35446); ditch to St. Marys River at intersection of In. Rt. 27 and Co. Rd. 9400E, 7.8 mi. NW of Decatur, RFJ & GWS, 1 M II, (OSUMC 2579). **Clay Co**: Inters St Rte 46 and St Rte 59, 7 Mar 1995, C. A. Phillips, 2 M-I; **Crawford Co.**: Patoka Twp., unnamed trib. Patoka Lake, 0.25 mi SW of Wickliffe, 20-May-2001, 2 F-ovig (INBS 99); unnamed trib. south edge of Resource Management Unit 9 adjacent Co. Rd. 95 (Hardscrabble Rd.) bridge 20 May 01, 2 F (INBS 202); unnamed trib. to Patoka Lake NW of Taswell at Co. Rd. 174 bridge, 20 May 01, 1 F, (INBS 207); 1.8 mi N junc. IN Rte 145 and IN Rte. 64 near Ekerty, small intermittent stream, 26 Jun 1958, P.C. Holt, 6 JUV (NMNH uncatalogued, Holt 1-813). **Dubois/Orange Co.**, Columbia/Jackson Twp., unnamed trib. of Crane Creek S of Hillman at Norton, at

Cuzco-Norton Road bridge, 19 May 2001, body parts, (INBS 53). **Dubois Co.:**

Bainbridge Twp., unnamed trib. Hall Creek Hall Creek Rd., 0.75 mi. W of St. Rt. 162, 1.5 mi. SE of Jasper 1 Aug 01 A. Branam 2 JUV (INBS 123); Columbia Twp., Patoka River SW of Cuzco, at E. Dubois-Cuzco Road bridge, 19 May 2001, 6 JUV (INBS 85); Davis Creek just S of Crystal at Cuzco Road bridge, 19 May 2001, 1 MII, 1F (INBS 196); trib. Indian Creek, at IN Rte. 162 bridge, 2.5 mi S Bretzville, 18 May 2001, body parts (INBS 182). Jackson Twp., Grassy Fork of Hall Creek N of St. Anthony, W of Schnellville, at Santine Rd. bridge, 20 May 2001, 1 M-I, 1 F (INBS 31); Flat Creek of Hall Creek NW of St. Anthony, at Co. Rd. 450S bridge, 20 May 2001, 1 M-II (INBS 32); Flat Creek of Hall Creek E of St. Anthony, W of Kyana, at Co. Rd. 600E bridge, 20 May 2001, 1M-I 2-JUV (INBS 81); Indian Creek of Hunley Creek at IN Rt. 162 bridge 18 May 01, body parts (INBS 182);

Madison Twp., Little Flat Creek, at Co. Rd. 300W bridge, 2 mi SE Otwell, 11 Apr 01 2P (INBS 96); unnamed trib., IN Rte. 56 bridge, Ireland, 11 Apr 2001, 3P (INBS 86). Marion Twp., Hall Creek, Santine Rd bridge, 1.25 mi SW of Celestine, 20 May 2001, 3 M-I (INBS 29); Hall Creek SW of Celestine, at Celestine Rd. bridge 20 May 01, 1 partial (INBS 14); unnamed trib. from Beaver Dam Lake near mouth to Patoka River, upstream Co. Rd. 175E bridge, 19 May 2001 12 JUV, 1 P (INBS 59); Patoka Twp., unnamed trib. Ell Creek 200 m N IN. Rte. 64, 2 mi. W of Huntingburg 31 Jul 2001, 1 partial (INBS 148); unnamed

trib. Patoka Lake, Co. Rd. 174 bridge, 1 mi NW Taswell, 20 May 2001 1 F (INBS 207); Ell Creek, at Co Rd. 400S bridge, 2 mi NW Huntingburg, 11 Apr 2001 1F (INBS 127). **Floyd Co:** trib Silver Creek, 3 mi S Sellersburg, 2 Jun 1943, RRR, 2 F (NMNH 91588). **Gibson Co:** Center Twp., Lost Creek, Co. Rd. 50N bridge, 2.5 mi N Francisco, 25 Mar 2001, 1 partial (INBS 24); Columbia Twp., Turkey Creek, Co. Rd. 1275E bridge, 0.75 mi E Oakland City, 25 Mar 2001, 2M-I, 2 F (INBS 30). Patoka Twp., Indian Creek at Co Rd. 150N bridge, 2.5 mi NE Princeton, 24 Mar 2001, 1 partial (INBS 16). White River Twp., Hull ditch, Co. Rd. 350N, 23 Mar-01, 1M-I 1 F 1-ovig (INBS 163). **Washington Twp.,** Trippet ditch, Co. Rd. 400N bridge, 23 Mar 2001, 1 juv, (INBS 26). **Hancock Co:** Branch Brandywine Creek, just S Greenfield, RRR, 24 Aug 1943, 1 M-juv (NMNH 91599). **Henry Co:** Montgomery Creek at US 40 bridge, west edge of Knightstown, Carol Stein, 6 June 1964, body parts (OSUMC 5443). **Huntington Co:** Salamonie River, at Mt. Etna, 26 Sep 1940, RRR and Clark, 1 F (NMNH 91595); Creek, 0.5 mi N Monument City, 19 Apr 1920, E. Captain, 1 F, 1 M-I (NMNH 310492). **Jefferson Co:** Hanover, 14 Sep 1931, J.S. Rogers, 1 F (NMNH 310506); Hanover, 14 Apr 1931, J.S Rogers, 3 M I (NMNH 310541); Thompson Rd. between In. Rt. 256 and In. Rt. 56 (62), 2.3 mi. W of Hanover, Steve Rider, 3 Apr. 1995, 1 M-I, 3 F, (OSUMC 3143). **Knox Co:** White River drainage, 19 Dec 1970, 2 M-I (NMNH 131740). **Lagrange Co:** Pigeon River, 2 mi SE Mango, 7

Sep 1930, Creaser 4 (NMNH 130366); trib. Pigeon River at the head of Mongo Pond, 5 Oct 1930, C.L. Hubbs, 2 M-I M-II 1 F-juv (NMNH 310510). **LaPorte Co:** Laporte, 1 Aug 1906, Barber, 2 (FMNH 1347). **Madison Co:** Ditch to Fall Creek, intersection of US Hwy 36 and In. Rt. 9&67, 8.6 mi. SSW of Anderson, 5.5 mi. W of Emporia, RFJ & GWS, 5 Jan. 1986, 1 M-II, 1 F, 1 F-ovig, (OSUMC 2469). **Marion Co:** Irvington, 2 Apr 1892, 3 (NMNH 22206); Irvington, (NMNH 22378). **Marshall Co:** Mouth Creek, this side of farm, Creek 1 mi Aubbenaubee Creek, 11 Apr 1901, 2 (NMNH 43754); East Long Point, Lake Maxinkuckee, 17 May 1901, 1 (NMNH 43762); Aubeenaubee Creek, Lake Maxinkuckee, B.W. Evermann, 14 Aug 1900, 2 juv (NMNH 44762); Lake Maxinkuckee, B.W. Evermann, 4 Aug 1899, (NMNH 44765); in a ditch leading to a drained lake, W. Faxon, 1 M-I (NMNH 47365). **Martin Co:** Roadside ditch, 4 mi SW Loogootee, 3 Jun 1943, RRR, 1 F (NMNH 91583). **Monroe Co:** Jackson Creek, down stream Rogers Road, 3.1 mi SSE Bloomington, 4 Jul 2002, (INBS 226). stream and burrows at Clear Creek, 8.4 mi N Monroe/Lawrence Co. line on IN Rte. 37S, 8 Sep 1969, HHH, 1 M-I (NMNH 130366); stream and burrows at Clear Creek, 8.4 mi N Monroe/Lawrence Co. Line on IN Rte. 37S, 8 Sep 1969, HHH, 1 F (NMNH 130368); burrows from field in back of 118 Pinewoods Drive, Bloomington, 25 May 1970, HHH, 1 M-II 3 F (NMNH 131250); east end of Bryants Creek Lake, 18 Apr 1970, K. Burdsall, 1M-I (NMNH 131269); small pond, 1.4 mi W Freedom Church, Freedom Rd., K. Williams, 14 Mar 1971, 2M-I 2 F (NMNH

132615). **Morgan Co:** small pond, Brooklyn, 1972, 2 M-I (NMNH 133834).

Orange Co: Greenfield/Southeast Twp., Patoka River, 1.5 mi S of Pine Valley, at IN Rt. 37 bridge, 21 May 2001, 2 M-II (INBS 174); **Greenfield Twp.,** Youngs Creek to Patoka Lake at Youngs Creek, Co. Rd. 560S bridge, Hoosier National Forest, 21 May 2001, 1 partial (INBS 167); **Jackson Twp.,** Cane Creek, 4.5 mi SW of French Lick, at Co. Rd. 500S bridge, 19 May 2001, 1-ovig, 1 partial (INBS 132); **Southeast Twp.,** unnamed trib. of Patoka River just E of Bacon at Co. Rd. 1025S bridge, 21 May 2001 1 F, 1 F-ovig (INBS 64); **Patoka River , Co.** Rd. 375E bridge, 0.1 mi S Valeene, 21 May 2001, 1 F (INBS 178); **Stampers Creek Twp.,** Patoka River S of Trotters Crossing at Co. Rd. 500E bridge, 2 mi SSE Chambersburg, 21 May 2001, 2 F, 1 part, 2 M-I (INBS 88); **Perry Co:** Bridge to Anderson Road, 2 mi S Siberia, 2 Jun 1943, RRR, 1 F (NMNH 96136); spring near Milltown, W.P. Hay, 2 F-juv (NMNH 22207). **Parke Co:** Turkey Run State Park, 12 Apr 1925, H. Shoemaker, 1 M-II (FMNH uncatalogued). **Pike Co.,** Lockhart Twp., Rock Creek, Co. Rd. 1000E bridge, 1.5 mi E Pikesville, 26 Mar 2001, 1 partial (INBS 9); unnamed trib. Cup Creek, road crossing unknown, 26 Mar 2001, 1 F (INBS 28); Cup Creek at IN State Rt. 257 bridge, 0.3 mi SW Pikesville, 26 Mar 2001, 2 partial (INBS 33); **Monroe Twp.,** South Fork Patoka River adjacent Co. Rd. 200E, 2 miles west of Stendal, 26 Mar 2001, 2 juv (INBS 8); **South Fork Patoka River** at Co. Rd. 1200S bridge, 2.5 mi E Spurgeon, 26 Mar 2001 3 part; **unnamed trib. Turkey Creek,** at Co. Rd. 900S bridge, 2 mi SW

Arthur, 25 Mar 2001, body parts (INBS 11); South Fork Patoka River Co. Rd.
 300E bridge, 1.5 mi. SE of Coe, 4 Apr 2001, 1 M-I 1 juv (INBS 65); South Fork
 Patoka River at Co. Rd. 300E bridge, 2.25 mi. SE Coe 4 Apr 2001, 1 juv (INBS
 65); South Fork Patoka River Co. Rd. 300E, 2.25 mi SSE of Coe 1 Aug 2001, 1
 juv (INBS 112); Patoka Twp., Barren Ditch at unknown Co. Rd., 2mi SW
 Winslow, 26 Mar 2001, 3 juv (INBS 7); unnamed trib. Flat Creek at In. Rt. 57
 bridge, 24 Mar 2001; Sugar Creek at Co. Rd. 150S, 24 Mar 2001, 1M-I (INBS
 21); Mill Creek at IN Rt. 364 bridge, 0.8 mi. SE of Winslow, 5 Apr 2001, 5
 partial (INBS 71); stream at Co. Rd. 475E, 0.75 mi. NE of Winslow, 5 Apr 2001,
 1M-I (INBS 72); Bruster Branch Co. Rd. 200N, 0.75 mi. NE Winslow, 5 Apr
 2001, 1 juv (INBS 158); unnamed trib. Patoka River, Forest Road, 2.0 mi E
 Winslow, 5 Apr 2001, 1 partial (INBS 74). Washington Twp., Flat Creek at Co.
 Rd. 125S culvert, 24 Mar 2001, RFT & FFP, 24 March 2001, 1 M-I (OSUMC
 5910). **Pulaski Co:** 2.7 mi N Medaryville on US Rte. 421, HHH, 1 M-II (NMNH
 115235). **Posey Co:** Big Creek, 3 mi E Poseyville, 28 Apr 1942, L.P. Woods, 1
 (NMNH 2619). **Randolph Co:** Ditch to Green Fork, Co. Rd. 700S, 0.5 mi. W of
 Boundry Pike Rd., 1.4 mi. SSE of Lynx, RFJ & GWS, 5 Jan. 1986, 2 M-I
 (OSUMC 2462). **Ripley Co:** Pipe Creek, 5 mi W Penntown, 30 Apr 1940, RRR,
 1 (NMNH 91587); trib to Bear Creek of Lauchery Creek, Co. Rd. 1.6 mi. E of In.
 Rt. 62, 1.6 mi. E of Gross Plains, 17.5 mi. W of Rising Sun, RFJ & J. A. Thoma,
 1 M-I (OSUMC 2490); small trib. to Laugherty Creek just E of Batesville, RRR,

2 F-ovig. (OSUMC 557). **Shelby Co:** Van Buren Twp., Brandywine Creek, Sec.

5, In. Rt. 9, 7.0 mi. S of Greenfield, CBS, 6 June 1964, 1 F, (OSUMC 2973).

Warrick Co: branch 3 mi E Chandler, 2 Jun 1943, RRR, 1 M juv (NMNH

91799). **Wells Co:** small ditch on Edwards Farm, N of Liberty Center, 1 Apr

1906, E.B. Williamson, 1 M-I, 2 F (NMNH 220322); small ditch on Edwards

Farm, N of Liberty Center, 1 Apr 1906, Williamson, 1 (NMNH 74773). Harrison

Twp., tributary to Six Mile Creek, 14 Apr 1929, Shufelt and Williamson, 1

(NMNH 220321). end of tile ditches emptying into Eight Mile Creek, 7 Apr

1929, Shufelt, 5 M-I (NMNH 144973); Big Creek, burrow on Co Rd. 100W, 2.7

mi N Uniondale, 16 May 1973, HHH, 1 F (NMNH 176700); ditch on Vanenon

Farm, SE Bluffton, 18 Apr 1930, Gloyd and Williamson, 1 (NMNH 220320);

Cravens ditch, 11 Apr 1931, E.B. Williamson, 4 M-I (NMNH 220323); trib. of

Six Mile Creek, 17 Apr 1930, Shufelt and Williamson, 4 M-I, 1 F 1-ovig (NMNH

220324); Cravens ditch, tributary of Wabash River, through Bills Creek, 2 mi S

Bluffton, 17 Apr 1932, E.B. Williamson and C. Hubbs. 3 M-I, 1 F (NMNH

310493).

KENTUCKY: **Boone Co:** S. Fk. of Gunpowder Creek at intersections of Ky.

Rt. 42, US Hwy 127, and Fowlers Rd., CBS, 5 F (OSUMC 1788). **Boyle Co:**

Clarks Run near Gogin Lane bridge, S. Prall, L. Shearer, U. Soehngen, 1 F

(OSUMC 2055). **Breckenridge Co:** St Rt 261, 1.0 mi S of U S Hwy 60, (1.5 mi

S of Hardinsburg), 20 Mar 1987, GWS, RFJ, 1 M-I (OSUMC 2460). **Butler Co:** Little Muddy Creek, 4 mi W Woodbury, 13 May 1941, RRR, 2 F (NMNH 85757). **Crittenden Co:** St Rte 120, 2.0 mi W of Shady Grove at Dearwood, 13 Apr 1978, RFJ, 1 M-I (OSUMC 2483). **Henry Co:** 3 mi. NW of Bethlehem, RRR, 1 F (OSUMC 515). **Ohio Co:** St Rte 69, 4.5 mi SW of St Rte 54, (1.7 mi NE of Dundee), 20 Mar 1987, GWS, RFJ, 1 M-II (OSUMC 2482). **Webster Co:** St Rte 283, 2.0 mi N of St Rte 56, 3.6 mi NW of Sebree, 12 May 1986, GWS, RFJ, 1 F – ovig (OSUMC 2485).

MICHIGAN- **Hillsdale Co:** Crampton Rd, 0.1 mi S of Tammarrack Rd, 2.4 mi NW of Ranson, 31 May 1992, RFJ, 1 F (OSUMC 2504). **Lenawee Co:** Sutton Rd, 0.5 mi E of Palmee Rd, 2.2 mi S of Britton, 21 May 1988, GWS, J. Freeman, RFJ, 1 M-II, 1 F–ovig (OSUMC 2498). East Horton Rd, 1.2 mi W of U S Hwy 223, 1.0 mi SW of Riga, 24 Apr 1986, RFJ, 1 M-II, 1 F (OSUMC 2500). **Monroe Co:** Inters Seegent Rd and Fike Rd, 2.0 mi NNW of Ottawa Lake, 24 Apr 1986, RFJ, 1 M-II, 1 F (OSUMC 2569). Inters Goetz Rd and Stone Quarry Rd, 1.9 mi NNW of Saint Anthony, 21 May 1988, GWS, JF, RFJ, 2 M-II, 1 F (OSUMC 2459). **Oakland Co:** Addison Twp, Sec 36, Inters Brewer Rd and Dequndre Rd, 7.4 mi NE of Orion, 11 Jul 1989, RFJ, 1 F (OSUMC 2489). West Bloomfield Twp: Sec 19, Inters Inkster Rd and Cragin Dr, 2.5 mi SE of Orchard Lake

Village, 10 July 1989, RFJ, 2 M-II (OSUMC 2461); **St. Joseph Co:** White Pigeon River at White Pigeon, 13 Apr 1909, A.S. Pearse, 6 M, 2 F (NMNH 220327). **Van Buren Co:** S of South Haven, 1 May 1940, C. Necker and W. L. Necker, 1 M-I (FMNH uncatalogued). **Washtenaw Co:** Ann Arbor, Tiegels Woods, 25 Apr 1908, 3 (NMNH 101542); Ann Arbor, Steeves Swamp, 21 Apr 1903, Woods and Adams, 1 (NMNH 101543).

OHIO-**Allen Co:** Auglaize Twp, Sec 18, Inters Creps Rd and St Rte 117, (0.1 mi SE of Westminster), 9 May 1982, KM, RFJ, 1 partial (OSUMC 2964). **Auglaize Co:** Goshen Twp: Sec 7, Co Rd 79, 0.2 mi of Swartz Rd, 2.5 mi SW of New Hampshire, 28 Jul 1984, GWS, D. M. Williams, RFJ, 2 M-II, 1 F (OSUMC 2592). Noble Twp, Sec 35, St Rte 66, 0.3 mi SW of Co RD 52, 2.0 mi NE of St. Marys, 9 Aug 1987, JN, 1 F (OSUMC 2488). St. Marys Twp: Sec. 19. St Rte 364, just S of Koehn Rd, 4.0 mi SW of St Marys, 2 Aug 1987, J. Norrocky, 1 F (OSUMC 2507). Sec 20, Inters St Rte 364 and St Rte 219, 4.3 mi SW of St. Marys, 2 Aug 1987, JN, 2 F. Washington Twp, Sec 4/5, Co Rd 101, 0.5 mi N of Co Rd 33A, 6 Apr 1984, GWS, Raymond J. Jezerinac, RFJ, 1 M-I, 2 F (OSUMC 2480). **Butler Co:** Morgan Twp, Sec 21, Co Rd 213, 0.1 mi N of St Rte 125, 2.9 mi NW of Shandon, 21 Apr 1985, GWS, RFJ, 1 M-I (OSUMC 2484). Reily Twp, Sec 34/35, Co Rd 224, 0.5 mi N of St Rte 129, 1.3 mi NE of St. Charles, 21 Apr 1985, GWS, RFJ, 1 M-I, 1 M-II (OSUMC 2456). **Clark Co:** Harmony Twp, Sec

16, U S Hwy 40, 0.5 mi W of Twp Rd 92, Campground, 7968 East National Rd, (2.2 mi W of South Vienna), 13 Aug 1983, JN, 1 M-II, 3 F; Mad Twp, Sec 28, Twp Rd 143, 0.8 mi E of Twp Rd 114, 3.5 mi SE of Enon, 12 Oct 1985, GWS, Dave Chrisman, RFJ, 1 M-II, 1 F (OSUMC 2496). **Clermont Co:** Wayne Twp, Stonelick State Park campground, site 17, 2.8 mi N of Newtonville, 7 Aug 1985, GWS, RFJ, 1 M-II (OSUMC 2503). **Defiance Co:** Richland Twp, Sec 25/26, Twp Rd 190, 0.1 mi N of Co Rd 38, 6.1 mi ESE of Defiance, 19 May 1984, GWS, RFJ, 2 M-I, 2 F (OSUMC 2474). **Erie Co:** Groton Twp, Inters St Rte 4 and Interstate 80, 1.8 mi SSW of Sandhill, RF, RW, GWS, CG, RFJ, 20 May 1983, 1 F (OSUMC 2506). Magaretta Twp, Wahl Rd, lot #34 between Whites Landing and Spring Brook, 5.1 mi NW of Castalia, 8 Mar 1983, JN, 10 M-I, 2 M-II, 5 F; Lot 2, Maple Ave, 0.7 mi N of St Rte 101, 1.5 mi NE of Castalia, 1 Aug 1983, JN. **Fayette Co:** Jasper Twp, Co Rd 11, 1.0 mi E of Co Rd 74, 5.8 mi W of Washington Court House, 8 Sep 1984, RFT, RFJ, 1 F (OSUMC 2959). **Fulton Co:** Amboy Twp, Sec 12/13, Inters Twp Rd 50 and Co Rd 25, 1.0 mi SE of Metamora, 21 May 1988, GWS, JF, RFJ, 5 M-I, 1 F–ovig (OSUMC 2464). German Twp, Sec 14, Twp Rd 35, 0.1 mi N of Twp Rd 3, 0.3 mi S of Eckley, 15 May 1982, KM, RFJ, 1 M-I, 1 M-II, 1 F–ovig (OSUMC 2454). Gorham Twp, Sec 25/26, Twp Rd 35, 2.0 mi S of U S Hwy 20, 4.3 mi ESE of Fayette, 15 May 1982, KM, RFJ, 4 M-I, 1 M-II, 1 F (OSUMC 2560). Royalton Twp, Sec 17/18, Twp Rd 44, 0.5 mi N of Twp Rd 27, 1.6 mi SW of Lyons, 15 May 1982, KM, RFJ, 3 M-I,

1 M-II (OSUMC 2465). **Green Co:** Jacoby and Little Miami R., 14 Apr 1981, J. Hubbsman, 1 M-I (OSUMC 2562). Xenia Twp, Inters Co Rd 76 and Twp Rd 86, 4.0 mi NNE of Xenia, 6 May 1980, JH, 1 M-I. **Hancock Co:** Cass Twp, Sec 18, Van Buren State Park campground, 6.6 mi N of Findley, 27 Apr 1985, JN, 1 M-I. Orange Twp, Sec 7/8, Twp Rd 51, 0.1 mi N of Twp Rd 29, 1.8 mi SE of Bluffton, 9 May 1982, KM, RFJ. **Hardin Co:** Liberty Twp, Sec 25, Inters Co Rd 50 and Co Rd 70, 2.9 mi E of Ada, 14 Apr 1985, GWS, RJJ, RFJ, 1 F. Marion Twp: Twp Rd 120, 0.5 mi W of Twp Rd 43, 3.6 mi S of Alger, 14 Apr 1985, GWS, RJJ, RFJ, 4 M-II (OSUMC 2468); McDonald Twp: Co Rd 75, 1.0 mi N of Co Rd 200, (4.0 mi W of Silver Creek), 14 Apr 1985, GWS, RJJ, RFJ, 2 M-II (OSUMC 2472). Liberty Twp, Sec 25, Inters. Co Rd 50 and Co Rd 75, 2.9 mi E of Ada, 14 Apr 1985, GWS, RJJ, RFJ, 1 M-II, 1F (OSUMC 2508). **Henry Co:** Damascus Twp, Sec 26/35, Co Rd "N", 0.1 mi W of Co Rd 2, 2.2 mi SE of McClune, 19 May 1984, GWS, RFJ, 4 F (OSUMC 2467). **Lucas Co:** Jerusalem Twp, Sec 36, Corduroy Rd, 0.5 mi E of Co Rd 205, 11.5 mi E of Toledo, JN, 1 M-I, 1 F (OSUMC 2457); 25 Apr 1983, JN, 3 M-I, 1 F (OSUMC 2511). **Mercer Co:** Recovery Twp, Sec 10, Inters Twp Rd 70 and Twp Rd 25, 3.2 mi NE of Fort Recovery, 27 Sep 1987, GWS, DC, RFJ, 1 F (OSUMC 2561). **Montgomery Co:** Clay Twp, Sec 25, Jones Rd, 0.4 mi SW of Clayton, 23 Mar 1979, RFT, 1 M-II, 1 F (OSUMC 2470). **Ottawa Co:** Allen Twp: Sec 31/32, Inters Twp Rd 54 and

Twp Rd 71, 1.5 mi SW of Curtice, 21 May 1983, GWS, R. French, R. Winland, C. Gernari, RFJ, 1 F (OSUMC 2501). Benton Twp, Sec 3, Inters St Rte 590 and St Rte 2, 3.5 mi N of Limestone, 15 May 1982, KM, RFJ, 2 M-I. **Paulding Co:** Blue Creek Twp, Sec 5, Twp Rd 82, 0.1 mi E of Twp Rd 71, 3.3 mi E of Payne, 29 Aug 1987, JN, 1 M-I (OSUMC 2512). **Putnam Co:** Ottawa Twp, Sec 24/28, Inters St Rte 224 and Twp Rd 230, 1.3 mi W of Ottawa, 18 Apr 1987, JN, E. Norrocky, 1 M-I, 1 F (OSUMC 2575). Riley Twp, Sec 19/30, Twp Rd 115, 0.1 mi E of Co Rd 50, 2.0 mi SW of Pandora, 9 May 1982, KM, RFJ, 1 M-II, 1 F (OSUMC 2492). Riley Twp, Sec 5, Co Rd 14, 0.2 mi W of Co Rd 41, 4.6 mi SE of Ottawa, 18 Apr 1987, EN, JN, M-I (OSUMC 2510). **Sandusky Co:** Townsend Twp Sec 24, Inters. Twp Rd 247 and Twp Rd 260, 1.1 mi W of Vickery, 1 May 1987, JN, 1 M-I partial (OSUMC 2479). **Shelby Co:** Van Buren Twp, Sec 21, Twp Rd 52, 1.2 mi E of Twp Rd 53, (2.9 mi NW of McCartyville), 27 Sep 1987, GWS, DC, RFJ, 1 M-II (OSUMC 2578); **Union Co:** Union Twp, Co Rd 62, 0.7 mi SW of St Rte 38, 3.8 mi S of Marysville, 30 Mar 1983, Ohio Environmental Protection Agency, 1 M-I. **Van Wert Co:** Harrison Twp, Sec 3, Twp Rd 152, 0.2 mi W of Twp Rd 47, 8.2 mi NW of Van Wert, 15 May 1987, JN, 1 M-II, 2 F (OSUMC 2471). Tully Twp, Sec 26, Twp Rd 168, 0.5 mi W of St Rte 49, 0.5 mi W of Convoy, 15 May 1987, JN, 3F (OSUMC 2473). York Twp, Sec 3/10, Co Rd 70, 0.1 mi E of Co Rd 113, 3.0 mi NW of Venedocia, 8 Aug 1987, 1 M-I. Washington Twp, Sec 4, Twp Rd 156, 0.3 mi E of Twp Rd 197, 5.7 mi NW of

Delphos, 26 Sep 1987, GWS, DC, RFJ, 2 M-I, 1 F (OSUMC 2475). Sec 12, St Rte 66, 0.1 mi N of St Rte 30, 2.5 mi N of Delphos, 15 Aug 1987, JN, 2 M-II (OSUMC 2491). **Wood Co:** Bloom Twp, Sec 12/13, Bloomdale Rd, 0.6 mi SE of Yates Rd, 3.7 mi N of Bloomdale, 5 Oct 1986, JN, 2 M-II, 3 F (OSUMC 2476). Troy Twp, Sec 36, St Rte 23, 0.4 mi N of Twp Rd 19, 2.4 mi NE of Pemberville, 1 May 1983, JN, 1 M-I, 1 F (OSUMC 2493).

Conservation status. --This species is widely distributed and frequently found in disturbed environments such as partially drained wetlands, ditched streams surrounded by agricultural activity and in farm fields, as well as, undisturbed and more natural habitats including wooded wetlands. It does appear to be negatively effected by pastured livestock. It should be considered Currently Stable following Taylor et al. 1996.

Color notes. --Two general color patterns have been observed in this species, one vermiculated and one of solid shades. Occurring with both color patterns, on the abdomen there may be present a series of brown to greenish brown stripes comprised of a light median stripe, two darker lateral strips, then two more lateral stripes similar in color to the median stripe, two more darker lateral stripes with the plural margins a light tan to cream color with some mottling. This gives the impression of seven stripes in all. In some individuals the stripes appear as

dashes. Both vermiculated and solid shaded individuals may be collected at the same locality though normally only one pattern is present. Striped abdomens may be found at any site. Stripes seem to occur more commonly in young and juvenile individuals. Color tones in all patterns are variable. Consistent colors noted in this species are red to chestnut shades on the rostral margins, chelae fingertips, raised dorsal areas on the chelae palm at the propodus articulation, posterior margins of the abdominal tergum, margins of the telson, and lateral ramus (all margins of both segments), medial ramus and distomedian spine of the uropods. Chelae colorations range from brown, tan, green, and pale blue with shades lighter on the dorsal fingers, fading darker on the dorsoproximal propodus (palm); dorsal merus and carpus brown to green, occasionally suffused with blue. Tubercles on the opposable margins of the chela fingers golden-cream, on dorsal propodus, carpus, and merus orange to chestnut. Carapace either vermiculated or concolorous browns, occasionally with green in area of areola. Pereiopods II, III, IV, and V browns, greens, and blues with red trim at articulations. Ventral surfaces light tan to cream.

Variation. --Other than variations observed in coloration, very few physical variations are seen. Secondary sexual differences exist between male I, male II, and female chelae and abdominal shape and proportion. Males exhibit larger chelae and narrower abdomens. Male I chelae are more sculpted than male II.

Carapace, rostrum, and abdominal shape are remarkably consistent within and between localities. Chelae characters vary the most. Within locality variation is seen in the arc of the opposable dactyl margin, the number and development of tubercles on the opposable dactyl and propodus margins, and the density of tuberculation on the dorsal chelae palm, mesial margin, and carpus, strength of dorsal ridges on chelae fingers and lateral impression of lateral chelae. There seems to be no geographic pattern to the above character variations. Intra-locality variation is as great as inter variation.

Size. --The largest individual observed was a male I, total carapace length 64.2 mm. Mature male I averaged 47.2 mm. (64.2-45.8) male II 41.8 mm. (47.9-32.8), and females 43.5 mm. (51.9-25.5) carapace length.

Life history. --First and second form males are present at all times of the year. Ovigerous females are observed in the winter and spring months but not during summer or fall. Young-of-year are frequently found in early summer (June, July) in small flowing streams and ditches, presumably dispersing. This species has been observed to eat both plant material and animals such as insects and worms. Like Cambarus (T.) thomai, this species can be observed at the mouth of its burrow and responds to prey or potential predators near the opening (Thoma and

Jezerinac, 2000). We have observed numerous species of insects, amphibians, reptiles, and small mammals occupying vacant burrows of this species.

Crayfish associates. --Over the wide range of this species, numerous other burrowing species were encountered the most common Fallicambarus (Creaserinus) fodiens. Also encountered were Procambarus (Scapulicambarus) clarkii, Procambarus (Ortmannicus) acutus, Procambarus (Girardiella) gracilis, Cambarus (Lacunicambarus) diogenes (s.l.), Cambarus (Cambarus) ortmanni, Cambarus (Cambarus) bartonii cavatus, and Cambarus (Tubericambarus) thomai. It can be found in some degree of association with all stream dwelling species reported by Page, 1985, and Simon, 2001, and western Ohio species reported by Thoma and Jezerinac, 2000.

Relationships. --This species is most closely related to an undescribed species found in Alabama, Tennessee, and Mississippi. Of the currently recognized taxa in the subgenus, it is most closely related to C. (T.) thomai.

Comparisons. --Cambarus (T.) polychromatus n. sp. can be distinguished from C. (T.) thomai and C. (T.) acanthura by its strongly deflected distal rostrum. In addition C. (T.) acanthura displays a distal median spine that overhangs the distal mesial ramus margin of the uropode. It differs from other undescribed members

of the subgenus in lacking strong cervical spines or tubercles, having a central projection half the length of the mesial process, and/or the deflection of the distal rostrum. Jezerinac (1993) reported the chelae characteristics that separate members of subgenus Lacunicambarus from Tubericambarus.

Etymology. --The authors RFJ and RFT had long discussed the use of the species epithet polychromatus for this species, recognizing its more colorful nature in comparison to C. (T.) thomai. It is a combination of the Greek prefix poly (many) and word chromato (color). Thoma and Jezerinac (2000) applied the common name paintedhand mudbug to this species.

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Table 1. -- Measurements (mm) of C. (T.) polychromatus, new species.

Character	Holotype	Allotype	Morphotype
Carapace			
Height	28.0	15.3	15.3
Width	26.0	17.4	16.2
Length	57.5	35.8	33.2
Areola			
Length	25.3	15.1	12.9
Rostrum			
Width at eyes	6.1	4.1	3.7
Length	11.9	4.0	3.9
Postorbital ridge			
Width	8.3	4.7	4.9
Chelae - right			
Length of lateral			
margin of chelae	49.8	22.3	22.6
Length of mesial			
margin of palm	16.6	8.7	7.7

Width of palm	24.3	11.5	11.3
Length of dactyl	30.3	15.6	14.2
Thickness of palm	15.2	7.3	6.5
Abdomen			
Length	57.3	36.7	34.9
Width	20.8	13.1	12.4
Gonopod			
Length	14.1	N/A	6.7
Antennal scale			
Length	8.6	5.8	6.2
Width	2.6	2.3	2.0

Table 2.--Seasonal data of C. (T.) polychromatus, new species.

	Male I	Male II	Females	Sex ratio
				—
January	X	X	X ^a	0.8/1
February			X	----
March	X	X	X ^a	1/1.2
April	X		X	0.3/1
May	X	X	X ^a	1/1
June	X	X	X	1.2/1
July	X	X	X	0.8/1
Aug	X	X	X	0.8/1
September	X	X	X	0.8/1
October		X	X	----
November	X	X	X	----
December	X	X	X	1/1

a Females with eggs

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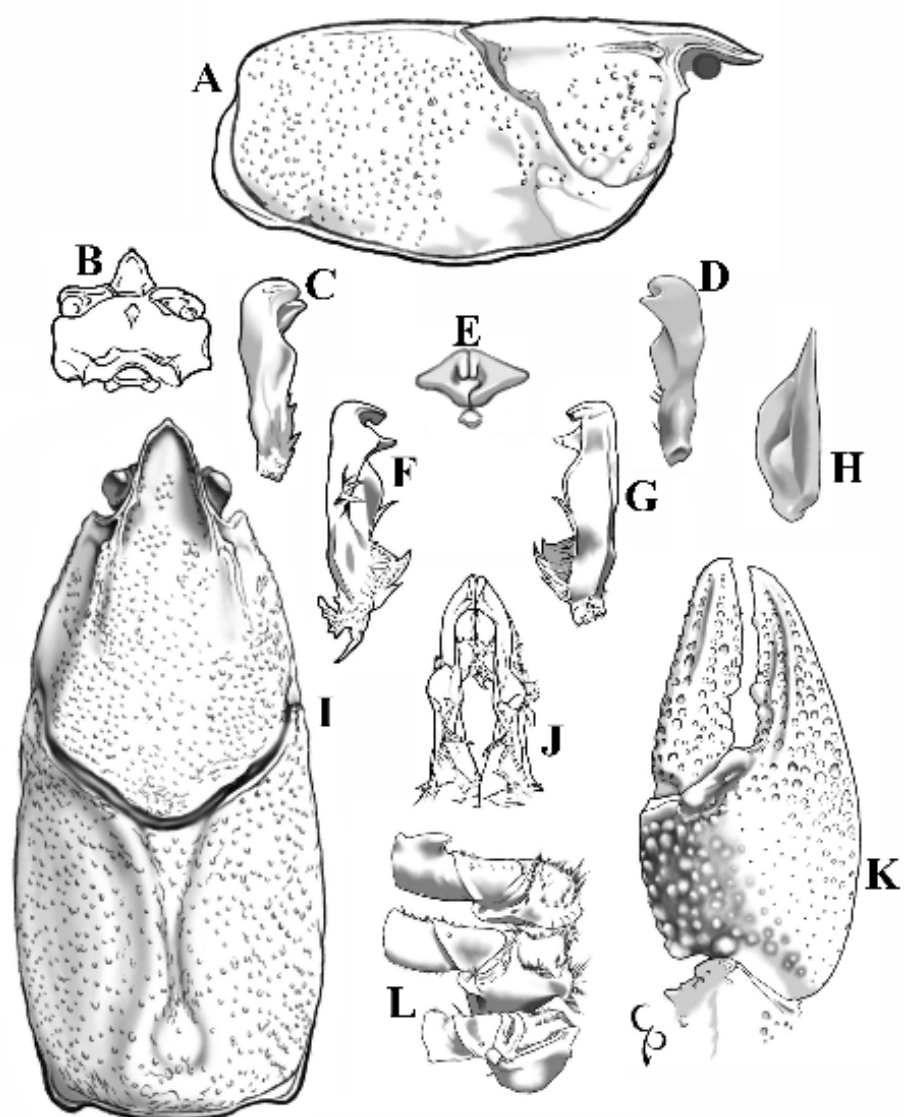


Figure 1. --Cambarus (Tubericambarus) polychromatus, new species; all from holotype male, form I (OSUMC 5910), except F, G, from morphotype male, form II (OSUMC 5912), and E from allotype female (OSUMC 5911): A, lateral aspect of carapace; B, epistome; C, G, lateral aspect of gonopode (first pleopod); D, F, mesial aspect of gonopod; E, caudal aspect of annulus ventralis; H, dorsal aspect of antennal scale; I, dorsal aspect of carapace; J, caudal aspect of in situ gonopods; K, dorsal aspect of distal podomeres of right cheliped; L, ventral aspect of right third, fourth, and fifth pereopods.

