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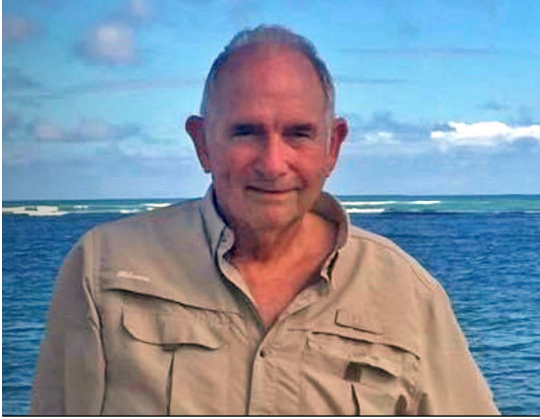


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RICHARD WILLIS HEARD III, Ph.D.

FEBRUARY 14, 1939 – NOVEMBER 2, 2022

Richard W. Heard, III was born and grew up in Savannah, GA, where he developed an early love of coastal marshes and the sea. He attended the University of Georgia in Athens, receiving a Bachelor of Science degree in Biology in 1962. He then went on to earn a Masters degree from the University of Georgia in 1967, followed by a PhD from the University of Southern Mississippi in Hattiesburg in 1976. His graduate research focused on his dual interest in parasitology and salt marshes, encompassing studies on helminth parasites of the clapper rail (MS) under the direction of Dr. Elon Byrd, and microphallid trematode metacercariae in fiddler crabs (PhD) under the direction of Dr. Robin Overstreet. Between his Masters and PhD degrees, he worked as a biologist at the University of Georgia Marine Institute, Sapelo Island, GA, and the Skidaway Institute of Oceanography, Savannah, GA, followed by a position as a biologist in the Parasitology Section at the Gulf Coast Research Laboratory (GCRL), Ocean Springs, MS. After receiving his PhD, Richard worked as an instructor and curator of marine invertebrates at the Dauphin Island Sea Lab, Dauphin Island, AL, and taught in the summer field programs at the University of Louisiana Lafayette's Redfish Point Field Station and the Louisiana Universities Marine Consortium (LUMCON) Port Fourchon Field Station. In 1979, he accepted a position as an Associate Biologist in Invertebrate Zoology at GCRL, becoming the head of the Invertebrate Zoology Section in 1986.

Richard worked at GCRL for the next 37 years, joining the newly formed Department of Coastal Sciences (COA) as a tenured full professor in 1998, 10 years after GCRL became a part of the University of Southern Mississippi (USM). He retired from USM in 2016, after which he was granted emeritus professor status. For many years, he taught Marine Invertebrate Zoology and Fauna of Salt Marshes and Sand Beaches as a part of the GCRL Summer Field Program, and served as a mentor to several generations of undergraduate and graduate students. During his career, he served as advisor

for 21 Masters and five PhD students, and was a committee member for an additional 16 Masters and 13 PhD students. To all of his students, he was an enthusiastic colleague who was as willing to learn from them as to transmit his own extensive knowledge to them.

In addition to teaching and mentoring students, Richard served USM GCRL in many other capacities. His institutional appointments included the Personnel Committee (1990–1994), the Academic Committee (1991–1994; 1996–1997), Vice–Chairman of the Staff Council (1994–98), the Museum Committee (1996), the Advisory Board of *Gulf Research Reports/Gulf and Caribbean Research* (1997–2015), the COA Curriculum Committee (1998), Editor of *Gulf and Caribbean Research* (2002–2003), and the Summer Field Program Committee (2002–2007). He brought his own unique perspective to all of these roles and made frequent suggestions regarding improvements to many facets of the laboratory.

Richard had an endlessly inquiring mind, reflected in his broad range of research interests. His main areas of research were peracarid (including fossil tanaid) and decapod crustacean taxonomy, systematics, life history, biodiversity and biology, as well as parasitic trematode taxonomy, life cycles and host associations. However, he also delved extensively into the trophic biology of birds and fishes (he loved a good stomach!), salt marsh ecology, and macrobenthic community ecology. His publication record is indicative of this diverse array of research interests.

Richard was a prolific author, publishing a total of 209 peer–reviewed papers between 1966 (Coil and Heard 1966) and 2023 (Rakocinski et al. 2023; [see publication list](#)) and presenting or co–authoring 40 papers at scientific meetings or workshops. The Gunter Library's database of GCRL publications lists over 275 records of reports, peer–reviewed articles, book reviews, abstracts of presentations, and book chapters authored or co–authored by Richard. His works have been frequently cited, with 13 of his peer–reviewed

papers receiving more than 50 citations each (Table 1) and 48 papers receiving 20 or more citations. Over Richard's career of nearly 60 years, his peer-reviewed articles have been cited

TABLE 1. Peer-reviewed publications of Dr. Richard W. Heard that have been cited more than 50 times (listed in order of number of citations). GS—Google Scholar; WoS—Web of Science.

Rakocinski, C.F., S.S. Brown, G.R. Gaston, **R.W. Heard**, W.W. Walker, and J.K. Summers. 1997. Macrobenthic responses to natural and contaminant-related gradients in northern Gulf of Mexico estuaries. *Ecological Applications* 7:1278–1298. GS=165, WoS=98

Howard, J.D., T.V. Mayou, and **R.W. Heard**. 1977. Biogenic sedimentary structures formed by rays. *Journal of Sedimentary Petrology* 47:339–346. GS=121; WoS=70

Rakocinski, C.F., **R.W. Heard**, S.E. LeCroy, J.A. McLelland, and T. Simons. 1996. Responses by macrobenthic assemblages to extensive beach restoration at Perdido Key, Florida, U.S.A. *Journal of Coastal Research* 12:326–353. GS=118; WoS=50

Brown, S.S., G.R. Gaston, C.F. Rakocinski, and **R.W. Heard**. 2000. Effects of sediment contaminants and environmental gradients on macrobenthic community trophic structure in Gulf of Mexico estuaries. *Estuaries* 23: 411–424. GS=104, WoS=51

Overstreet, R.M. and **R.W. Heard**. 1978. Food of the red drum, *Sciaenops ocellata*, from Mississippi Sound. *Gulf Research Reports* 6(2):131–135. GS=100; WoS=45

Bush, A.O., **R.W. Heard**, and R.M. Overstreet. 1993. Intermediate hosts as source communities. *Canadian Journal of Zoology* 71:1358–1363. GS=93, WoS=65

Rakocinski, C.F., S.S. Brown, G.R. Gaston, **R.W. Heard**, W.W. Walker, and J.K. Summers. 2000. Species–abundance–biomass responses by estuarine macrobenthos to sediment chemical contamination. *Journal of Aquatic Ecosystem Stress and Recovery* 7:201–214. GS=83; WoS=0

Overstreet, R.M. and **R.W. Heard**. 1978. Food of the Atlantic croaker, *Micropogon undulatus*, from Mississippi Sound and the Gulf of Mexico. *Gulf Research Reports* 6(2):145–152. GS=68; WoS=41

Overstreet, R.M. and **R.W. Heard**. 1982. Food contents of six commercial fishes from Mississippi Sound. *Gulf Research Reports* 7(2):137–149. GS=68; WoS=28

Stickney, R.R., G.L. Taylor, and **R.W. Heard**. 1974. Food habits of Georgia estuarine fishes I. Four species of flounders (Pleuronectiformes: Bothidae). *Fishery Bulletin* 72:515–525. GS=59; WoS=33.

Gaston, G., A.P. McAllister, J. Bartlett, and **R.W. Heard**. 1996. Biomass variations of estuarine macrobenthos preserved in ethanol and formalin. *Estuaries* 19:674–679. GS=55; WoS=35

Heard, R.W. and R.M. Overstreet. 1983. Taxonomy and life histories of two North American species of *Carneophallus* (=Microphallus) (Digenea: Microphallidae). *Proceedings of the Helminthological Society of Washington* 50:170–174. GS=54; WoS=34

Nickol, B.B., **R.W. Heard**, and N.F. Smith. 2002. Acanthocephalans from crabs in the southeastern U. S. with the first intermediate hosts known for *Arhythmorhynchus frassoni* and *Hexaglandula corynosoma*. *Journal of Parasitology* 88:79–83. GS=54; WoS=39

3,728 times according to Google Scholar (GS) and 1,556 times according to the Web of Science (WoS; the discrepancy is due to the WoS tracking of “core” journals). One of his most cited works, with 168 citations, is his *Guide to Common Tidal Marsh Invertebrates of the Northeastern Gulf of Mexico* (Heard 1982), a popular resource for students and teachers

of estuarine and marine invertebrate zoology. Between 1982 and 2022, Richard published 43 articles describing new species within the crustacean Order Tanaidacea, a group for which he was regarded as an international expert.

Richard's first peer-reviewed article was the description of a new species of microphallid trematode (*Levinseniella carteretensis*) (Coil and Heard 1966) and his final taxonomic work described a new genus and species within the tanaid family Apsseudidae (*Pseudobunakenia anablensis*) and a new species of the apsseudid genus *Bunakenia* (*B. hamata*) (Drumm and Heard 2022) – over 50% of his 275 works were descriptions of new taxa or redescrptions of species. He published more than 90 articles specifically in the field of taxonomy with most of these works appearing in *Proceedings of the Biological Society of Washington* (38), *Zootaxa* (27), *Journal of Crustacean Biology* (10), *Transactions of the Helminthological Society of Washington* (7), and *Transactions of the American Microscopical Society* (6). As a steadfast contributor to the scientific journal published by the Gulf Coast Research Laboratory, he published 51 articles in *Gulf Research Reports* (36) /*Gulf and Caribbean Research* (15). Richard was sole or first author of 55 articles or chapters. Two of his long-time colleagues at GCRL with whom he was most often a co-author were Dr. Robin Overstreet (12) and Dr. Chet Rakocinski (13).

Over the course of his career, Richard was author or co-author on papers describing a total of 166 new taxa at many levels within the taxonomic hierarchy (see [taxa](#)). These include 4 new families (2 fossil) and one new subfamily of tanaids, 2 new genera of trematodes, 24 new genera of crustaceans (one fossil), one new subgenus of tanaid, 14 new species of trematodes, and 119 new species of crustaceans (one fossil). In addition, 2 genera and 30 species were named for him (Table 2), honoring his many contributions to marine invertebrate taxonomy and biology.

In conjunction with his research, Richard was Principal Investigator or Co-principal Investigator on various large multi-year funded projects focusing on the effects of environmental perturbations (anthropogenic or natural) on regional invertebrate communities. These included projects funded by the National Park Service (NPS) and the US Environmental Protection Agency (EPA), as well as various other agencies and organizations. His NPS funded projects concentrated on the effects of an oil spill on the benthic macroinvertebrates of Horn Island, MS; the recovery of the sandy beach fauna from the effects of beach renourishment using dredge spoil at Perdido Key, FL; the effects of Hurricanes Erin and Opal on the benthic invertebrates within the eastern district of the Gulf Islands National Seashore (GUIS); and the effects of a coal spill on the invertebrate community of an old bay channel near Fort Pickins, Santa Rosa Island, FL. He also

TABLE 2. Patronyms honoring Dr. Richard W. Heard (32 taxa: 2 genera, 30 species).

Genus:

Heardlevinsiella Yamaguti, 1972 (Platyhelminthes: Digenea)

Heardaxius Sakai, 2011 (Crustacea: Decapoda)

Species:

Alloleptochelia heardi Gutu, 2016 (Crustacea: Tanaidacea)

Americorchestia heardi Bousfield, 1991 (Crustacea: Amphipoda)

Americuma heardi (Bacescu 1979) (Crustacea: Cumacea)

Ancyracanthopsis heardi Wong & Anderson 1990 (Nematoda)

Axianassa heardi (Anker, 2011) (Crustacea: Decapoda)

Calozodion heardi Gutu 2002 (Crustacea: Tanaidacea)

Campylaspis (Bacescu) *heardi* Muradian—Ciamician 1980 (Crustacea: Cumacea)

Campylaspis heardi Petrescu, 2018 (Crustacea: Cumacea)

Carpopseudes heardi Hansknecht & dos Santos 2008 (Crustacea: Tanaidacea)

Colomastix heardi LeCroy 1995 (Crustacea: Amphipoda)

Dantya heardi Kornicker 1986 (Crustacea: Ostracoda)

Ekleptostylis heardi McLelland & Meyer 1998

Floridatrema heardi Kinsella & Deblock 1994 (Platyhelminthes: Digenea)

Gymnophalloides heardi Ching 1995 (Platyhelminthes: Digenea)

Heteroleucon heardi Bacescu 1979 (Crustacea: Tanaidacea)

Lepidophthalmus richardi Felder and Manning, 1997 (Crustacea: Decapoda)

Levenseniella heardi Canaris 1971 (Platyhelminthes: Digenea)

Maritrema heardi (Kinsella & Deblock 1994) (Platyhelminthes: Digenea)

Nannosquilla heardi Camp and Manning, 1982 (Crustacea: Stomatopoda)

Neomegamphopus heardi Barnard and Thomas, 1987 (Crustacea: Amphipoda)

Parvitaenia heardi Schmidt & Courtney 1973 (Platyhelminthes: Cestoda)

Pinnixulula heardi Felder and Theil, 2020 (Crustacea: Decapoda)

Probopyrinella heardi Adkison, 1984 (Crustacea: Isopoda)

Pseudoarthrura heardi Larsen 2005 (Crustacea: Tanaidacea)

Pseudomma heardi Stuck, 1981 (Crustacea: Mysida)

Rudilemboides heardi Ortiz & Lalana 1996 (Crustacea: Amphipoda)

Sphaeromopsis heardi Kensley & Schotte 1994 (Crustacea: Isopoda)

Styloptocuma heardi (Bacescu 1979) (Crustacea: Cumacea)

Synalpheus heardi Dardeau 1984 (Crustacea: Decapoda)

Vemacumella heardi Petrescu 2001 (Crustacea: Cumacea)

and the other funded by a National Science Foundation RAPID grant to add invertebrate material obtained from throughout the GUIS just prior to the spill to the GCRL Museum collections, thus making the material available to researchers intent on examining the effects of the spill and other future disturbances. Richard's extensive knowledge of marine invertebrate biology was integral to the success of these and many other projects.

Richard was a well-known and respected member of the national and international crustacean research communities. During his career, he supported 4 post-doctoral scholars from other countries (2 from Argentina, one from Poland and one from Denmark) and hosted 11 international visiting colleagues from many countries and regions around the globe (e.g., Argentina, Costa Rica, Denmark, Germany, Poland, Puerto Rico, Romania). In return, he collaborated with many of these scientists by visiting their laboratories and coauthoring papers on their joint research interests. He was also frequently invited to participate in workshops as an instructor or taxonomic expert on crustacean and salt-marsh invertebrate taxonomy, both in the United States and abroad. These activities included a mysid workshop in Ocean Springs, MS in 1987; numerous workshops on Florida invertebrates (cumaceans, tanaids, decapods, saltmarsh and mangrove fauna, hydrobiid snails, etc.) hosted by the Florida Association of Benthologists between 1989 and 2010; a State of the Knowledge of Crustacea workshop in Mexico City, Mexico in 1995; an international peracarid workshop in Coquimbo, Chile in 2002; 2 Alabama–Mississippi Rapid Assessment Team workshops in 2003 (Dauphin Island, AL) and 2004 (Ocean Springs, MS); 2 crustacean workshops (decapods, 2004; amphipods, 2005) hosted by the Southeastern Regional Taxonomic Center in Charleston, SC; and the Marine Geo Texas Bioblitz at Corpus Christi and Port Aransas, TX in 2019. These activities also resulted in the presentation of 2 awards honoring his contributions: the Science Merit Award, presented by the Romanian Museum d'Histoire Naturelle 'Grigore Antipa' in 1999 and an award in Recognition of Contributions to Florida Benthic Ecology, presented by the Florida Association of Benthologists in 2007.

Richard was an incomparable naturalist and field biologist, widely known for his road trips undertaken to expand his knowledge of the biology and distribution of regional species and to collect undescribed taxa for study (and because he just liked road trips). During his career, he collected in every coastal state in the southern and eastern U.S. from Texas to Massachusetts, often in conjunction with local biologists. His extensive international field work included studies of the benthic crustacean fauna of Tobago, the Turks and Caicos Islands, the Cayman Islands, Costa Rica (Caribbean and Pacific

led a comprehensive NPS project to provide an inventory of the marine invertebrate fauna from several habitat types throughout the GUIS to serve as a baseline in the event of future environmental disturbances. At the same time, Richard led a large-scale project for the US EPA Environmental Monitoring and Assessment Program (EMAP) quantifying macrofaunal communities from estuaries falling within the EMAP Louisiana Province in the northern Gulf of Mexico, followed by a second similarly focused project within the EMAP West Indies Province in Florida Bay. Richard also led 2 projects pertaining to the Deepwater Horizon (DWH) oil spill; one funded by BP and aimed at identifying planktonic crustaceans from samples taken in the vicinity of the spill,



FIGURE 1. Richard W. Heard using a kicknet to sample freshwater pond macrofauna in the Cayman Islands.

ic coasts), Mexico (Yucatan), and Chile, as well as a survey of the fresh water pond fauna of the Cayman Islands (Figure 1). Many of these faunal inventories resulted in descriptions of new taxa and the deposition of specimens in museum collections, most often the collections of the U.S. National Museum of Natural History in Washington, D.C. and the GCRL Museum, but also those of other institutions worldwide.

Richard often took students and technicians with him on his collecting trips and a field trip with him was always a uniquely memorable experience. He not only knew which taxa were likely to occur in any habitat, but he could tell you who described them and when, who was currently working on the group, what other taxa they were related to, what they ate, what ate them, what parasites they harbored, the type of refuge they occupied, how they reproduced and during what season, when they were active, the best way to collect them

and many other assorted tidbits of fascinating information. All of this knowledge was imparted with boundless enthusiasm to anyone who was interested. Armed with a kicknet (his favorite piece of collecting gear and always present in his car) and a yabby pump, Richard could, and regularly did, extract more taxa from a given location than any accompanying team of a dozen biologists! He was constantly seeking something he did not yet know to add to his already encyclopedic grasp of invertebrate natural history.

In addition to his many talents in the scientific sphere, Richard was a gifted artist, illustrating most of his publications himself with beautiful precise drawings of the animals he was describing (Figure 2). Among his many other interests, he enjoyed listening to folk and classical music, watching old movies, writing science fiction and short stories, engaging in long discussions on everything from current politics

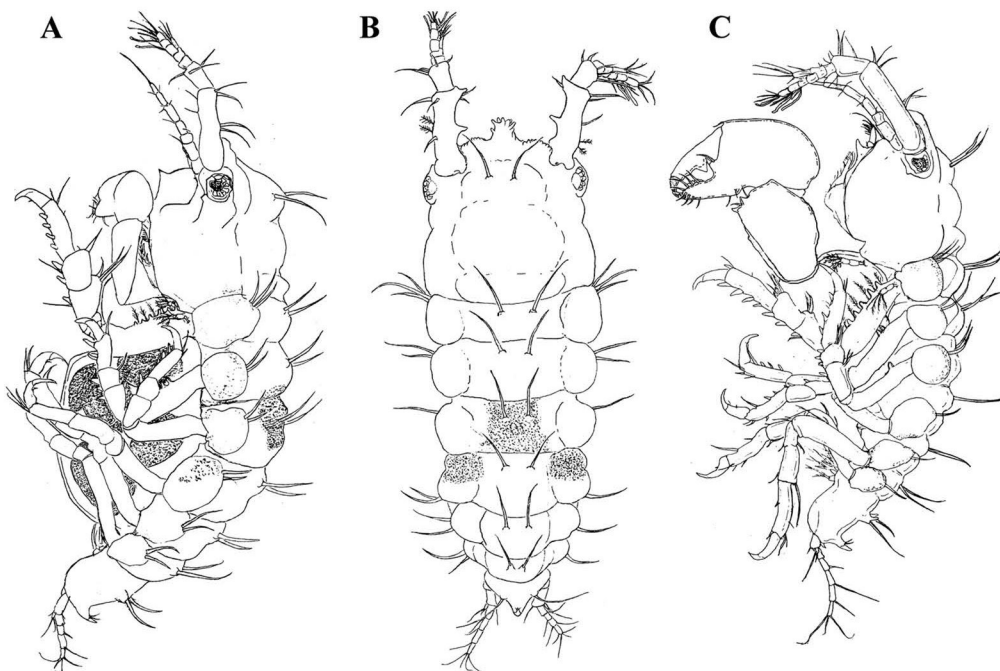


FIGURE 2. *Cryptapseudes leroyi* David and Heard, 2015. A, B: Ovigerous female. C: Adult male. Scale = 0.4 mm. Illustrations by Richard W. Heard. (Modified from David and Heard 2015).

to the philosophy of science and religion to space travel and beyond, listening to books on tape on a wide variety of topics, and cooking “field meals.” Most of his graduate students and colleagues enjoyed Richard’s version of shrimp and rice or succotash and many also joined him in improving their vocabularies on long road trips via a taped vocabulary series. Richard was continually expanding his horizons!

Richard was a truly remarkable individual and he will be sorely missed by all who knew him. He is survived by his wife of 21 years, Pamela Lichtenberg Heard and their daughter, Sarah Elizabeth Heard of Ocean Springs, MS; his son, Erik Richard Heard (Amanda) of Manor, TX; his daughter, Stacia Jeanne Heard Weed of Yorktown, VA; his grandchildren, Theodore Richard Heard of Wharton, TX, Maxwell Michael Weed and Connor Matthew Weed of Yorktown, VA, Xavier Patrick Heard and Averie Jane Graham of Manor, TX; his siblings, Mary Sturdivant Heard DeGennaro (Pasquale) of

Savannah, GA, Keith Read Heard (Betty) of Savannah, GA, and Shelley Read Heard (Elise) of Huntsville, AL; his father-in-law, Ralph E. Lichtenberg of Long Beach, MS; his brother-in-law and sister-in-law, Michael and Lynda Van Winkle of Biloxi, MS; his nieces Joanna Heard Suarez (Adolfo) of Jefferson, GA and Marsha Read Heard (David Greenebaum) of Fayetteville, GA; his nephews, Blake Van Winkle of Carret, VA, and Derek Van Winkle of Hattiesburg, MS; and numerous great nieces and nephews. Additional obituaries for Dr. Heard can be found at <https://www.riemannfamily.com/obituaries/richard-heardi> and <https://travaux.pensoft.net/article/99011>.

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LITERATURE CITED

- Coil, W.H. and R.W. Heard. 1966. *Levinseniella cartertensis* sp. nov., a microphallid trematode from the Wilson plover, *Charadrius wilsonia*. Proceedings of the Helminthological Society of Washington 33:54–56.
- David, S.E. and R.W. Heard. 2015. *Cryptapseudes leroyi*, a new species of apseudomorphan tanaidacean (Crustacea: Peracarida: Metapseudidae) from the Hawaiian Archipelago. Pacific Science 69:281–294.
- Drumm, D.T. and R.W. Heard. 2022. A new genus and species of Apseudidae, and a new species of *Bunakenia* (Crustacea: Tanaidacea: Apseudomorpha) from the Northwest Atlantic and Gulf of Mexico. Zootaxa 5175:31–54. <https://doi.org/10.11646/ZOOTAXA.5175.1.2>
- Heard, R.W. 1982. Guide to common tidal marsh invertebrates of the northeastern Gulf of Mexico. Mississippi–Alabama Sea Grant Consortium No. MASGP–79–004, 82 p.
- Rakocinski, C.F., S.E. LeCroy, K.E. VanderKooy, and R.W. Heard. 2023. Establishing a benthic macrofaunal baseline for the sandy shoreline ecosystem within the Gulf Islands National Seashore in response to the DWH oil spill. Frontiers in Environmental Science 10:951342. <https://doi.org/10.3389/fenvs.2022.951341>