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Authors: Leppla, Norman C., Denmark, Harold A., and Steck, Gary J.

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DR. HOWARD VINCENT WEEMS, JR.: A DYNAMIC PIONEER IN FLORIDA ENTOMOLOGY

NORMAN C. LEPLA^{1,*}, HAROLD A. DENMARK^{2,†} AND GARY J. STECK³

¹University of Florida, Institute of Food and Agricultural Sciences, Entomology and Nematology Department, Gainesville FL 32611, USA

²Bureau of Entomology, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Gainesville, FL 32614, USA

³Florida State Collection of Arthropods, Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville FL 32614, USA

*Corresponding author; E-mail: ncleppla@ufl.edu; <http://ipm.ifas.ufl.edu>

†Emeritus

Dr. Howard V. Weems, Jr. was unique among pioneering Florida entomologists in his personality, conduct and many valuable contributions to insect taxonomy. He was recognized most for his determination to build the Florida State Collection of Arthropods (FSCA) into one of the premier reference and research collections in the world. He was a tough-minded product of his Southern youth, intensely competitive and zealous in his work. As a consequence, he became an avid and accomplished arthropod collector, exacting curator, and expert journal editor. Dr. Weems insisted on excellence in his professional activities and considered life, and entomology in particular, a great adventure.

Howard Weems was born at Rome, Georgia in 1922 but grew up further south hunting and fishing in the wild lands near Sebring, Florida. At an early age, he had a determined nature that didn't change for the rest of his life. Against his father's wishes, he collected and kept a large assortment of snakes, some of which were poisonous. Howard was bitten and almost died one day when he attempted to collect a water moccasin. Consequently, while he was in the hospital recovering, his father got rid of his snake collection. Howard defiantly began collecting snakes again as soon as he was released from the hospital.

Howard's father, a physician, sent him to Emory University as a young man to study medicine but Howard continued to love nature and took a different path. While at Emory University, he majored in journalism and participated in wrestling and the Glee Club. He soon met P. W. Fattig, an entomologist and head curator of the Emory University Museum of Natural History, who published the *Scarabaeidae* of Georgia. Through his relationship with Mr. Fattig, Howard became interested in entomology and began collecting insects. Typical of Howard, the Atlanta police had to ask him repeatedly to come down from the top of street light poles where he was collecting insects attracted to the lights. Howard's father learned

about these activities in the absence of pre-medical studies and discontinued Howard's financial support.

World War II interrupted Howard's undergraduate studies at Emory University. He enlisted in the Army in 1944 and was stationed at the University of Minnesota to study the Japanese language in preparation for the invasion of Japan. While playing football, he was tackled in the end zone after catching a pass and his neck was broken. Howard was discharged after a long and difficult hospitalization and his right hand shook uncontrollably for the rest of his life. He returned to Emory University to complete his B.S. degree in 1946.



Fig. 1. Howard Weems in mid-career.

TABLE 1. WEEMS PATRONYMS.

Genus- Species- Author- Date	Order: Family
<i>Geron weemsi</i> Hall & Evenhuis, 2003	Diptera: Bombyliidae
<i>Palpomyia weemsi</i> Grogan & Wirth, 1979	Diptera: Ceratopogonidae
<i>Allohelea weemsi</i> Wirth, 1991	Diptera: Ceratopogonidae
<i>Forcipomyia weemsi</i> Wirth & Spinelli, 1993	Diptera: Ceratopogonidae
<i>Probezzia weemsi</i> Wirth, 1994	Diptera: Ceratopogonidae
<i>Craspedochaeta weemsi</i> Lonsdale & Marshall, 2006	Diptera: Clusiidae
<i>Czernyola weemsi</i> (Lonsdale & Marshall, 2006)	Diptera: Clusiidae
<i>Physoconops weemsi</i> Camras, 2007	Diptera: Conopidae
<i>Gymnopternus weemsi</i> Robinson, 1964	Diptera: Dolichopodidae
<i>Phyllomydas weemsi</i> Wilcox, 1978	Diptera: Mydidae
<i>Mydas weemsi</i> Wilcox, Papavero & Pimentel	Diptera: Mydidae
<i>Scenopinus weemsi</i> Kelsey, 1969	Diptera: Scenopinidae
<i>Leptocera weemsi</i> Sabrosky, 1956	Diptera: Sphaeroceridae
<i>Chrysogaster weemsi</i> Sedman, 1966	Diptera: Syrphidae
<i>Sphaerophoria weemsi</i> Knutson, 1972	Diptera: Syrphidae
<i>Ceriana weemsi</i> Thompson, 1981	Diptera: Syrphidae
<i>Orthonevra weemsi</i> (Sedman, 1966)	Diptera: Syrphidae
<i>Esenbeckia weemsi</i> Philip, 1966	Diptera: Tabanidae
<i>Silvius gigantulus</i> subsp. <i>weemsi</i> Fairchild, 1975	Diptera: Tabanidae
<i>Epeolus weemsi</i> Mitchell, 1962	Hymenoptera: Apidae
<i>Lasioglossum weemsi</i> (Mitchell, 1960)	Hymenoptera: Halictidae
<i>Opius weemsi</i> Fischer, 1964	Hymenoptera: Braconidae
<i>Chromocryptus weemsi</i> Porter 1995	Hymenoptera: Ichneumonidae
<i>Trachysphyrus weemsi</i> Porter 1974	Hymenoptera: Ichneumonidae
<i>Bocchus weemsi</i> Olmi 1992	Hymenoptera: Dryinidae
<i>Pterocormus weemsi</i> Heinrich 1972	Hymenoptera: Dryinidae
<i>Brachymeria weemsi</i> Burks 1960	Hymenoptera: Chalcididae
<i>Eratoneura weemsi</i> Hepner, 1967	Homoptera: Cicadellidae
<i>Parthenicus weemsi</i> Henry, 1982	Hemiptera: Miridae
<i>Arvechambus weemsi</i> Causey, 1963	Diplopoda: Parajulidae

Immediately after graduating from Emory University, Howard (Fig. 1) enrolled in a Master’s program at the University of Florida, Entomology and Nematology Department. Dr. John T. Creighton, the department head, steered students toward careers in pest control (Wright, 2004; Weems, 1980). Howard would not be deterred, however, insisting on studying taxonomy. He worked hard, attending class during the day and collecting and pinning insects at night. He proudly made one of the most extensive and well-curated student insect collections, and Dr. Creighton insisted that it be left in the department. Howard planned to leave a synoptic collection but refused to donate all of his specimens. Dr. Creighton informed him that he would not graduate if he did not donate the entire collection. Howard responded that if necessary he would take the case to the president of the University of Florida. Consequently, Dr. Creighton accepted the synoptic collection and Howard graduated.

Howard served as an instructor in the Biology Department at the University of Mississippi in 1948-49 before pursuing his Ph.D. degree in

entomology at The Ohio State University. During the summer break, he and Camilla Bartley Vail were married in Sebring and promptly moved to Ohio. Howard continued to collect syrphids and study under eminent Ohio State Professors, such as Donald Borrer, Dwight Delong, and Charles Triplehorn. Their popular book, “An Introduction to the Study of Insects,” was first published in 1954 after Howard completed his degree. Camilla typed his Ph.D. dissertation entitled “The Syrphid Flies of Southeastern United States (Diptera: Syrphidae).” It was reputed to have been one of the largest at that time. Howard subsequently named a syrphid fly for her, *Myolepta camillae*. According to Chris Thompson, that species is undoubtedly the prettiest in the Nearctic Region, being a wonderful shade of reddish pink.

Dr. Weems returned to Florida in 1953 and began his career as a professional entomologist with the State Plant Board of Florida (SPB). He became the Chief Entomologist in 1956 when George Merrill retired (FES president 1920, 23, 24). Howard tirelessly began building a first class research and reference arthropod collec-



Fig. 2. Howard Weems at retirement.

tion. He continued to be an avid insect collector, travelling widely in the New World, oftentimes accompanied by Camilla and their children. He collected all taxonomic orders, especially Diptera and Lepidoptera, and his specimens are noted for their meticulous preparation. Howard took great effort to send specimens to taxonomic specialists around the country. As a result, there are numerous patronyms in the insect taxonomic literature honoring his contributions (Table 1).

The SPB was created in 1915 by the Florida Plant Act to inspect incoming ships and trains. The SPB was responsible for port inspections in Florida until 1958. It was administered by the Board of Control of the University of Florida and furnished office space on the sixth floor of Anderson Hall. Anderson Hall, formerly Language Hall, was built in 1913 and served as the main administration building until Tigert Hall was completed in 1950. Subsequently, the SPB moved to the fifth and sixth floors of the Seagle Building in downtown Gainesville. The Plant Board became the Florida Department of Agriculture and Consumer Services, Division of Plant Industry (DPI) in 1960.

As Chief Entomologist of the SPB of Florida, Howard had a novel idea that could have accelerated growth of the insect collection. The statewide network of light traps maintained by the Florida Bureau of Entomology, State Board of Health cap-

tured many kinds of insects in addition to mosquitoes. Howard asked the Chief Entomologist, John A. Mulrennan (FES president 1950), to have the excess insects sent to the SPB. When Mr. Mulrennan refused, Howard continued to insist until Mr. Mulrennan wrote a letter complaining about him to the Agricultural Commissioner, Ed L. Ayers Sr. Howard was summarily reassigned to the position of Head Curator for the SPB insect collection.

Regardless of this conflict, Howard and the Florida Entomological Society Honors and Awards Committee he chaired selected John Andrew Mulrennan to receive the prestigious "Florida's Man of the Year in Entomology" award in 1974 (Hetrick et al., 1975). The write-up begins, "John is a bulldozer- not a sports car." John Mulrennan led the monumental effort from 1941 to 1948 that eliminated indigenous malaria from Florida. Then, as the first bureau chief of the Florida State Board of Health, he established the Pest Control Enforcement Division to enforce performance standards for the pest control industry in Florida. This was mandated by the Structural Pest Control Act of 1947 (Wright, 2004; Sapp, 2012).

As Head Curator, Howard served as editor of the Arthropods of Florida and Neighboring Land Areas, and Occasional Papers of the Florida State Collection of Arthropods (Fig. 2). He also was responsible for identifying and curating adult higher Diptera (suborder Brachycera) and miscellaneous smaller arthropod groups. Additionally, he identified Coleoptera, Hymenoptera, millipeds, and centipeds until specialists in these groups were eventually added to the staff. His specialty, however, remained the family Syrphidae (Table 2) but he also wrote numerous widely-cited circulars on tephritid fruit flies and other arthropods. Through the efforts of Howard and his colleagues, the collection grew rapidly and the insect cabinets became too heavy for the Seagle Building floors to support. The Plant Board Commissioner, Ed Ayres, told Harold Denmark that he would ask Doyle Conner, the Commissioner of Agriculture, to fund a building if appropriate land could be secured. The University of Florida ultimately provided 10 acres of land on the west side of the campus and DPI moved to the new Doyle Conner building in 1967.

The Center for Arthropod Systematics was established cooperatively in 1983 by the University of Florida and Florida Department of Agriculture and Consumer Services to encourage research on the diversity, systematics, biology, evolution, and identification of insects and other arthropods. It consolidated the major state-supported insect collections in Gainesville, Florida: the Florida Museum of Natural History (then known as the Florida State Museum), the collections of the University of Florida, and the FSCA. FSCA was designated as the central repository for terrestrial and non-marine arthropods for the State of Florida with

TABLE 2. TAXONOMIC CONTRIBUTIONS OF HOWARD WEEMS (NEW SPECIES NAMES FROM *SYSTEMA DIPTERORUM*, ALL DIPTERA: SYRPHIDAE)*.

New Species and Names	
• <i>Myolepta camillae</i> Weems, 1956: 5. TL: USA. Florida: Highlands Hammock State Park (HT M AMNH).	
• <i>Myolepta schreiteri</i> Fluke & Weems, 1956: 11. <i>nomen nudum</i> . 39.	
• <i>Xylota cascadiensis</i> Weems, 1965: 607. New name <i>Xylota pigra</i> Lovett.	
• <i>Rhopalosyrphus ramulorum</i> Weems & Deyrup, 2003: 189. TL: USA. Florida: Highlands Co., Lake Placid, Archbold Biological Station, Trail 1 SSo (HT M USNM).	
Taxonomic Publications (Oldest To Newest)	
• Weems, H. V., Jr. 1951. Check list of the syrphid flies (Diptera: Syrphidae) of Florida. Florida Entomologist. 34:89-113.	
• Weems, H. V., Jr. 1953. Notes on collecting syrphid flies (Diptera: Syrphidae). Florida Entomologist. 36:91-98.	
• Fluke, C. L. and H. V. Weems, Jr. 1956. The Myoleptini of the Americas (Diptera, Syrphidae). American Museum Novitates. 1758, 23 pp.	
• Triplehorn, C. A. and Weems, H. V., Jr. 1964. Notes on Two Rare Darkling Beetles from Florida (Coleoptera: Tenebrionidae). Florida Entomologist. 47: 265-267.	
• Wirth, W. W., Y. S. Sedman and Weems, H. V., Jr. 1965. Family Syrphidae. A Catalog of the Diptera of America North of Mexico: 557-625.	
• Philip, C. B. and Weems, H. V., Jr. 1966. Rediscovery of Chrysops (Liochrysops) Hyalinus and New Records of C. Abatus (Diptera: Tabanidae). Florida Entomologist 49: 115-117.	
• Genung, W. G. and H. V. Weems, Jr. 1974. A Grass Stem Investing Otitid Fly. (Diptera: Otitidae). Florida Entomologist 57: 308.	
• Weems, H. V., Jr., F. C. Thompson, G. Rotheray and M. A. Deyrup. 2003. The genus <i>Rhopalosyrphus</i> (Diptera: Syrphidae). Florida Entomologist. 86:186-193.	

* A list of Florida Department of Agriculture and Consumer Services; Bureau of Entomology, Nematology and Plant Pathology; Entomology Section Circulars, including those of Howard Weems, is at <http://www.freshfromflorida.com/pi/enpp/ento/entocirc-no.htm>. Additional publications are: 1954, Ohio J. Science 54:45-54; 1958, Science 128:990-992; 1959 and 1960, State Plant Board Miscellaneous Publications.

the mission “to continue to build and maintain the best possible worldwide collection of terrestrial and aquatic arthropods for research, education, and support of the regulatory functions of the Florida Department of Agriculture and Consumer Services” and a variety of associated functions (<http://www.fsca-dpi.org/overviewtext.htm>). Howard devoted much of his professional career to developing the FSCA and its Research Associate Program. The collection of arthropods had about 30,000 specimens when Howard arrived in 1953. Today, it is one of the premier collections in North America with more than nine million well-curated specimens (Table 3). A large part of the phenomenal growth of FSCA has been due to the Research Associate Program.

At least since the 1950s, entomologists who collect arthropods in Florida and study their systematics have always belonged to a special community. As a member of this fraternity, Howard cultivated professional relationships with many entomologists throughout the country, and they in turn proved an extremely valuable source of ex-

pertise, specimens and taxonomic literature. One of these entomologists, Bill McGuire, an FSCA Research Associate, along with his wife, Nadine, ultimately donated generous private funding for the McGuire Center for Lepidoptera and Biodiversity at the University of Florida (Miller et al., 2008). Howard encouraged several leading North American entomologists to retire in Gainesville and continue their studies as FSCA Research Associates.

Howard led the FSCA Research Associate program to national prominence. Since it formally began in 1963, the program has grown to more than 350 members throughout the United States and 15 foreign countries. FSCA Associates conduct studies in the systematics of arthropods, contribute to knowledge about arthropods, and increase the ability to control agricultural, livestock, and human pests (<http://www.fsca-dpi.org/OverviewFrame.htm>). The taxonomic library is one of the most complete in North America, containing both American and European journals. FSCA is the charter institution and host for the

TABLE 3. GROWTH OF FLORIDA STATE COLLECTION OF ARTHROPODS.

Date	Increase
1915-1943 1953	State Plant Board created; 1 st entomologist hired, E. W. Berger; collection grew to 30,000 specimens. Howard Weems, Harold Denmark, and Frank Mead hired.
1956	Collection grew to 120,000 specimens with acquisition of Florida Museum of Natural History and University of Florida Experiment Station collections.
1958	Bob Woodruff hired.
1962	Collection grew to 230,000 specimens.
1963	Florida State Collection of Arthropods Research Associate program initiated.
1953-1993	Accessions averaged ca. 185,000 specimens per year.
1995	Collection grew to 7.7 million specimens, 6th largest in North America, ca. 15,200 total drawers.
Current	Collection grew to about 9 million specimens; 22,500 drawer capacity.

Center for Systematic Entomology (CSE), and its journal *"Insecta Mundi"*. Publications sponsored by the FSCA include the *"Arthropods of Florida and Neighboring Land Areas"* series, the *"Occasional Papers of the Florida State Collection of Arthropods"*, and the *"Entomology Circular Series"* published in conjunction with the Entomology Section of the DPI. The Entomology Circulars are included in the bi-monthly Tri-ology series also published by DPI. These FSCA resources are available to the DPI staff, University of Florida faculty and students, and cooperators. Additionally, the CSE provides yearly grants to taxonomic researchers to help support research on arthropods.

Howard served as president of the Florida Entomological Society in 1976 and Norm Leppla was the volunteer Business Manager. They inherited a difficult situation; FES was insolvent and could not pay for the next printing of the Florida Entomologist. Howard assembled an excellent Executive Committee of dedicated colleagues and together they instituted effective business practices that were continued by subsequent Business Managers, including Del Delfosse (University of Florida graduate, Entomological Society of America president, chair Michigan State University Entomology Department), Jan Calkins, Dan Wojcik, Ann Knapp, and Teresa DuChene. Howard conducted several Executive Committee meetings during the year and insisted on all committee reports being presented at the annual meeting. If a committee chair was not prepared to present a report, Howard would tell one of his monotonous stories until the chair thought of something reasonable to present. Howard's endless stories were a real incentive!

Howard retired in 1991 with over 38 years of service during which he led FSCA to international distinction. He continued his prolific correspon-

dence, served as a Florida Department of Agriculture and Consumer Services, DPI entomologist emeritus, and remained active in the community with Camilla, his wife of 61 years. Their many societal contributions included the Gainesville Quarterback Club that funds student athletic scholarships, Gainesville and state garden club judging, Board of Directors of the Alachua County Boys and Girls Clubs, Board of Directors for the Center for Systematic Entomology, Gainesville Hospice House, University of Florida Chapter of Chi Phi Fraternity Board of Directors, and offices of the United Methodist Church. Howard passed away in 2011.

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