

Entom

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1. Accession 0216587	Agency Identification No. 2. CSREES 3. LA.B	5. Work Unit/Project No. LAB93943	6. Status Annual Report
7. Title Systematics Research in the Louisiana State Arthropod Museum (LSAM)			
12. Investigator Name(s) (Last Name and Initials) Carlton, C.			
20. Termination Date 09/30/2013		40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011	
Outputs: A. Identification and diagnostic service activities for the Louisiana State Arthropod Museum (LSAM): 75 cases handled (approximate), 11 previously unrecorded species documented for Louisiana, 1 new family documented for Louisiana, identifications (specimens/species, approximate): 4000/600, mainly for USDA Forest Service. B. Publications and presentations: 6 refereed journal articles, 6 presentations at professional meetings, 4 presentations at outreach activities, 3 formal descriptions of species new to science. C. Online LSAM database 1617 online spider database records, 122,000 online insect database records, 373 images in database. Information about service and research conducted at the LSAM was disseminated to the general public via presentations during the AgCenter's AgMagic annual event and through public presentations at "Insect Day at the Arboretum" at Chicot State Park, LA and evening events at Baton Rouge's Bluebonnet Nature Park. Dissemination via the Internet was accomplished through articles and instructional webpages posted on the LSUAgCenter.com and LSUinsects.org websites. Information about the LSAM was widely distributed via print and online media through articles and video documentation.			
Outcomes/Impacts: Insect identification and diagnostic services provided by the Louisiana State Arthropod Museum (LSAM) fill the gap between the specialized field of entomological systematics and stakeholders' needs for practical information about insect diversity, life history, and potential impacts on human affairs. Identification of red flour beetles that had been misidentified as powderpost beetles by a pest control operator prevented expensive and unnecessary fumigation. Identification of sap beetles inside a home was associated with the presence of a honey bee hive. The constant flow of agricultural and industrial products from exotic ports and large-scale production of subtropical crops insures that Louisiana will continue to be challenged by new and taxonomically difficult potential pests. The potential for intentional and malicious importation of exotic and highly destructive pests or vectors of animal or plant diseases adds an additional level of threat that could easily be implemented by bioterrorists. The rational first step in identifying and dealing with these threats is to have an effective early warning system in place, and the LSAM fills this role. Contributions to the morphology of previously unknown species and life stages (e.g., larval descriptions) provided novel data for studies of phylogenetic relationships among related taxa. This research allows more rigorous hypotheses of species relationships and improves predictions about how related pests or biological control prospects will perform under a given set of environmental circumstances. Specimens deposited in the LSAM constitute the library, and taxonomy experts are the gatekeepers for information and diagnostic assessment of potential pests and beneficial insects. Continued discoveries of new taxa are the result of the LSAM's involvement in research initiatives for Louisiana and elsewhere, including global studies of selected beetle families (Staphylinidae, Histeridae, Nitidulidae, and Phalacridae).			
Publications: Carlton, C. and V. Bayless. 2011. A case of <i>Xylosandrus mutilatus</i> (Blandford) females damaging plastic fuel storage containers in Louisiana (Curculionidae: Scolytinae: Xyleborini). <i>The Coleopterists Bulletin</i> 65: 290-291. Ferro, M. L., and C. E. Carlton. 2011. A practical emergence chamber for collecting Coleoptera from rotting wood, with a review of emergence chamber designs to collect saproxylic insects. <i>The Coleopterists Bulletin</i> 65: 115-124. Gimmel, M.L. 2011. World catalogue of Propalticidae, with a replacement name for <i>Discogenia</i> Kolbe (Coleoptera: Cucujoidea). <i>Insecta Mundi</i> 0155: 112.			

Gimmel, M.L. 2011. Review of the species described in *Leptostilbus* Casey in North America (Coleoptera: Phalacridae: *Xanthocomus* Guillebeau). *Insecta Mundi* 188: 1-8.

Park, J.-S., and C. E. Carlton. 2011. Revision of the New Zealand Genus *Exeirarthra* (Coleoptera: Staphylinidae: Pselaphinae: Faronitae). *Annals of the Entomological Society of America* 104: 1170-1182.

Park, J.-S., Y.-H. Kim, and K.-J. Ahn. 2011. Three staphylinid species (Coleoptera: Staphylinidae) in South Korea. *Entomological Research* 41: 75-80.

Participants:

Christopher E. Carlton, (PI), Victoria Bayless, Stephanie Gil, Igor Sokolov, Michael Ferro, Matthew Gimmel, Jong-Seok Park, Eugene Reagan and Natalie Hummel, LSU AgCenter; Organizations: Discover Life in America, Inc, non-profit organization; U.S. National Park Service. U.S. National Science Foundation. Richard Leschen. Publication and grant proposal collaborator. William White, USDA-ARS.

Target Audiences:

Scientists: taxonomists and systematists, especially beetle specialists; conservation biologists; biogeographers; ecologists; economic and/or commodity oriented entomologists; other AgCenter research and extension faculty. Private citizens: amateur insect collectors and natural history enthusiasts; curious and/or concerned citizens. Private service providers: pest control operators; horticulturists and landscapers. Government agencies: USDA quarantine and pest monitoring personnel; U.S. National Park Service; Louisiana Department of Wildlife and Fisheries; Louisiana Department of Agriculture.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		