

Johnny L. Bernhardt

Research Assistant Professor
Rice Research and Extension Center, Stuttgart, AR



Current Appointment: 75% Research; 25% Service.

Education

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| B.S. | 1966. | East Carolina University, Greenville, North Carolina | Biology |
| M.S. | 1978. | East Carolina University, Greenville, North Carolina | Biology |
| Ph.D. | 1979 | Clemson University, Clemson, South Carolina | Entomology |

Professional Experience

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| University of Arkansas, Fayetteville, Department of Entomology | Research Assistant Professor | 2002-present |
| University of Arkansas, Rice Res. & Ext. Ctr., Stuttgart | Research Associate | 1986-2001 |
| University of Arkansas, Fayetteville, Department of Entomology | Research Associate | 1979-1985 |

Awards and Honors

John W. White Award for Outstanding Team Contribution in Research. 2004. University of Arkansas, Division of Agriculture.

Areas of Research

Primary area of research is providing management options for rice insects. The major rice insect pests are rice stink bug, *Oebalus pugnax*, rice water weevil, *Lissorhoptrus oryzophilus*, and grape colaspis, *Colaspis brunnea*. Current research is the development of an IPM program for rice water weevils based on adult monitoring with the Arkansas aquatic barrier trap. Field research efforts have been in cooperation with county agents and other extension personnel. The objective is to have an improved management program based on adult sampling rather than using the often-inaccurate leaf-scar sampling method for rice water weevils. Long-term field plots were established in 2001 to investigate the impact of tillage systems on infestation and damage by several insect pests, including the rice water weevil, rice stalk borer, and grape colaspis. Field work will commence on this project in 2006. An on-going project is a yearly screening of rice lines in Arkansas rice breeding program for susceptibility to kernel discolorations. The rice stink bug is a major contributor to the amount of discolored kernels. Breeders use the data for selection of lines for further tests and eliminate lines that are clearly susceptible to damage. Because rice varieties are used as checks, information of susceptibility to rice stink bug can be communicated to farmers and be an aid in variety selection. Insecticides to aid in the management of rice pests are tested with the cooperation and support of the chemical industry.

Publications

Author or co-author of 55 referred and non-referred articles, 16 abstracts published in conference proceedings, 11 extension publications, and author of 26 reports of insecticide efficacy tests. Presentations include 22 contributed papers at national meetings, 6 posters at national meetings, and 22 invited presentations at state meetings.

Selected Publications

Rashid, T. D.T. Johnson and J.L. Bernhardt. 2006. Sampling rice stink bugs (Hemiptera: Pentatomidae) in and around rice fields. *Environmental Entomology* 35:102-111.

Rashid, T., D.T. Johnson and J.L. Bernhardt. 2005. Rice stink bug development relative to temperature. *Southwestern Entomol.* 30:215-221.

- Rashid, T., D.T. Johnson and J.L. Bernhardt. 2005. Feeding preference, fecundity and egg hatch of rice stink bug on artificial diet, rice and alternate host grasses. *Southwestern Entomol.* 30:257-226.
- Rutger, J.N., R.J. Byrant, J.L. Bernhardt and J.W. Gibbons. 2005. Registration of nine indica germplasms of rice. *Crop Science.* 45:1170-1171.
- Hix, R., D. T. Johnson, and J. L. Bernhardt. 2003. Antennal Sensory Structures of *Lissorhoptrus oryzophilus* (Coleoptera: Curculionidae) with Notes on Aquatic Adaptations. *Coleopterists Bull.* 57(1): 85-94.
- Dennett, James A., John L. Bernhardt and Max V. Meisch. 2003. Effects of Fipronil and lambda - cyhalothrim against *Anopheles quadrimaculatus* (Diptera: Culicidae) larvae and non-target aquatic mosquito predators in Arkansas small riceplots. *Journal of American Mosquito Control Association.* 19 (1) 23:25.
- Gravois, K.A. and J.L. Bernhardt. 2000. Heritability and genotype by environment interactions for discolored rice kernels. *Crop Science.* 40:314-318.

Contracts and Grants

During the period 2002-2005, principal or co-investigator on 8 grants totaling \$489,439. Funding agencies include: Arkansas Rice Research and Promotion Board and the CSREES Special Grants program. Principal investigator on grants from the chemical industry totaling \$34,500.

Professional Service

USA Rice Federation Environmental Subcommittee, Coleopterists Society, S.C. Entomological Society, Society of Southwestern Entomologists, North Carolina Academy of Sciences, and Entomological Society of America

Teaching Experience

I have served as co-advisor to 1 M.S. student and 3 Ph.D. students and currently am co-advisor to 1 M.S. student.