

References

- Amudhan, S., Prasada Rao, U. and Bentur, J. S. 1999. Total phenol profile in some rice varieties in relation to infestation by Asian rice gall midge *Orseolia oryzae* (Wood-Mason). *Current Science*. 76: 1577-1580.
- Behura, S. K., Nair, S., Sahu, S. C. and Mohan, M. 2000. An AFLP marker that differentiates biotypes of the Asian rice gall midge (*Orseolia oryzae*, Wood-Mason) is sex-linked and also linked to avirulence. *Molecular and General Genetics*. 263: 328-334.
- Bentur, J., Kalode, M. B. and Rao, P. S. P. 1994. Reaction of rice (*Oryza sativa*) varieties to different biotypes of rice gall-midge (*Orseolia oryzae*). *Indian Journal of Entomology*. 64: 419-420.
- Bentur, J. S. and Kalode, M. B. 1996. Hypersensitive reaction and induced resistance in rice against the Asian rice gall midge *Orseolia oryzae*. *Entomologia Experimentalis et Applicata*. 78: 77-81.
- Biradar, S. K., Sundaram, R. M., Thirumurugan, T., Bentur, J. S., Amudhan, S., Shenoy, V. V., Mishra, B., Bennett, J., and Sarma, N. P. 2004. Identification of flanking SSR markers for a major rice gall midge resistance gene *Gm1* and their validation. *Theoretical and Applied Genetics*. 109. 1468-1473.

- Catling, H. D., Alam, S. and Miah, S. A. 1978. Assessing losses in rice due to insects and diseases in Bangladesh. *Experimental Agriculture*. 14: 277-278.
- Chakravarthi, B. K. and Naravaneni, R. 2006. SSR marker based DNA fingerprinting and diversity study in rice (*Oryza sativa* L.). *African Journal of Biotechnology*. 5: 684-688.
- Chang, T.-T. 1976. The origin, evolution, cultivation, dissemination, and diversification of Asian and Africa rices. *Euphytica*. 25: 425-441.
- Charapok, P. 2006. Genetic diversity of rice gall midge, *Orseolia oryzae* (Wood-Mason) populations in Thailand. MSc Thesis (Entomology), Graduate School, Chiang Mai University, Chiang Mai, Thailand. 69p. (In Thai)
- Chase, M. W. and Hills, H. H. 1991. Silica gel: an ideal material for field preservation of leaf samples for DNA studies. *Taxon*. 40:215–220.
- Chaudhary, B. P., Srivastava, P. S. and Srivastava, M. N. 1986. Inheritance of resistance to gall midge in some cultivars of rice. *Rice genetics*. p. 523-528.
- Chen, X., Temnykh, S., Xu, Y., Cho, Y. G. and McCouch, S. R. 1997. Development of a microsatellite framework map providing genome-wide coverage in rice (*Oryza sativa* L.). *Theoretical and applied genetics*. 95: 553-567.
- Chiu, S.F. 1980. Integrated control of rice insect pests of China. In: Rice Improvement in China and other Asian Countries. International Rice Research Institute (IRRI) and Chinese Academy of Agricultural Sciences (pp 239–250). IRRI, Philippines.
- Den Hollender, J. and Pathak, P. K. 1981. The genetics of the "biotypes" of the rice brown plant hopper, *Nilaparvata lugens*. *Entomologia Experimentalis et Applicata*. 29: 76-86.

- Department of Agriculture. 2003. Certified rice and temperate cereal varieties-30th anniversary, Department of Agriculture, Thailand. 229p. (In Thai)
- Doyle J. J. and J. L. Doyle. 1987. A rapid DNA isolation procedure for small quantities of fresh leaf tissue. *Focus* 12: 13-15.
- Edwards, C. A. 2000. Ecologically Based. *In* Insect pest management techniques for environmental protection. Eds. Jack E. and Nancy A. Rechigl. pp. 103-130. Lewis Publishers. United States of America.
- Flor, H. H. 1971. Current status of the gene-for-gene concept. *Annual Review of Phytopathology*. 9: 275-296.
- Ghariani, S., Trifi-Farah, N., Chakroun, M., Marghali, S. and Marrakchi, M. 2003. Genetic diversity in Tunisian perennial ryegrass revealed by ISSR markers. *Genetic Resources and Crop Evolution*. 50: 809-815.
- Gomez, K. A. and Gomez, A. A. 1984. Statistical Procedures for Agricultural Research. John Wiley and Sons. Inc. New York, USA p. 680.
- Harlan, J. R. 1992. Crop and Man. American Society Agronomy Crop Science, Wisconsin, USA.
- Harris, M. O., Stuart, J. J., Mohan, M., Nair, S., Lamb, R. J. and Rohfritsch, O. 2003. Grasses and gall midges: plant defense and insect adaptation. *Annual Review of Entomology*. 48: 549-577.
- Hidaka, T., Vungsilabutr, P. and Kadkao, S. 1974. Studies on ecology and control of the rice gall midge in Thailand. Tropical Agriculture Research Center Ministry of Agriculture and Forestry Japan, Tokyo. 112p.

- Himabindu, K., Sundaram, R., Neeraja, C., Mishra, B. and Bentur, J. 2007. Flanking SSR markers for allelism test for the Asian rice gall midge (*Orseolia oryzae*) resistance genes. *Euphytica*. 157: 267-279.
- International Rice Research Institute. 1996. Standard Evaluation System for rice. 4rd ed. P.O. Box 933, Manila, Philippines. 51p.
- Inthavong, S. 1999. Ecological studies and yield loss assessment of rice gall midge, *Orseolia oryzae* (Wood-Mason) in rainfed lowland rice ecosystem of Laos. MSc Thesis, Graduate School. University of the Philippines at Los Baños, Philipines, 118p.
- Inthavong, S., Schiller, J. M., Sengsoulivong, V. and Inthapanya, P. 2004. Status of gall midge in Lao PDR. *In* New approaches to gall midge resistance in rice. Eds. Bennett, J., Bentur, J. S., Pasalu, I. C. and Krishnaiah, K. pp. 77-87. Hyderabad, India 22-24 November 1998.
- IBPGR-IRRI Rice Advisory Committee. 1980. Descriptors for Rice *Oryza Sativa* L. International Rice Research Institute and International Board for Plant Genetic Resources.
- Jahn, G. C. and Bunnarith, K. 2004. Gall midge in Cambodian lowland rice. *In* New approaches to gall midge resistance in rice. Eds. Bennett, J., Bentur, J. S., Pasalu, I. C. and Krishnaiah, K.. pp. 71-76. Hyderabad, India 22-24 November 1998.
- Jain, A., Ariyadasa, R., Kumar, A., Srivastava, M. N., Mohan, M. and Nair, S. 2004. Tagging and mapping of a rice gall midge resistance gene, Gm8, and development of SCARs for use in marker-aided selection and gene pyramiding. *Theoretical and Applied Genetics*. 109: 1377-1384.

- Joshi, R. C. and Venugopal, M. S. 1984. Mechanism of resistance in rice to gall midge, *Orseolia oryzae* (Wood-Mason). *Indian Journal of Entomology*. 46: 479-481.
- Joshi, R. C. and Venugopal, M. S. 1985. Comparisons of morphological characters of rice gall midge, *Orseolia oryzae* of different locations in India. *Cecidologia Internationale*. 6: 63-68.
- Kalode, M. B. and Bentur, J. S. 1989. Characterization of Indian biotypes of the rice gall midge, *Orseolia oryzae* (Wood-Mason) (Diptera: Cecidomyiidae). *Insect Science Application*. 10: 219-224.
- Kartohardjono, A. 1979. Mass rearing of the rice gall midge in the greenhouse in Indonesia. *International Rice Research Newsletter*. 4: 8-9.
- Katiyar, S., Verulkar, S., Chandel, G., Zhang, Y., Huang, B. and Bennett, J. 2001. Genetic analysis and pyramiding of two gall midge resistance genes (*Gm-2* and *Gm-6t*) in rice (*Oryza sativa* L.). *Euphytica*. 122: 327-334.
- Katiyar, S. K., Chandel, G., Tan, Y., Zhang, Y., Huang, B., Nugaliyadde, L., Fernando, K., Bentur, J. S., Inthapanya, P., Constantino, S. and Bennett, J. 2000. Biodiversity of Asian rice gall midge (*Orseolia oryzae*, Wood Mason) from five countries examined by RFLP analysis. *Genome*. 43: 322-332.
- Katiyar, S. K., Tan, Y., Huang, B., Chandel, G., Xu, Y., Zhang, Y., Xie, Z. and Bennett, J. 2001. Molecular mapping of gene *Gm-6(t)* which confers resistance against four biotypes of Asian rice gall midge in China. *Theoretical and Applied Genetics*. 103: 953-961.

- Kobayashi, M. and Kudagamage, C. 1994. Hymenopterous parasitoids of the rice gall midge, *Orseolia oryzae* (Wood-Mason) in the Maha season in Sri Lanka. *Japan Agricultural Research Quarterly*. 28: 112-116.
- Kudagamage, C., Mangalika, H. and Sandanayake, C. A. 1988. Yield loss due to rice gall midge (GM). *International Rice Research Newsletter*. 13: 39.
- Kumar, A., Bhandarkar, S., Pophlay, D. J. and Shrivastava, M. N. 2000. A new gene for gall midge resistance in rice accession Jhitpiti. *Rice Genetics Newsletter*. 17: 83-84.
- Kumar, A., Jain, A., Sahu, R. K., Shrivastava, M. N., Nair, S. and Mohan, M. 2005. Genetic Analysis of Resistance Genes for the Rice Gall Midge in Two Rice Genotypes. *Crop Science Society of America*. 45: 1631-1535.
- Kumar, A., Shrivastava, M. N. and Sahu, R. K. 1999. Genetic analysis of ARC 5984 for gall midge resistance-a reconsideration. *Rice Genetics Newsletter*. 15: 142-143.
- Kumar, A., Shrivastava, M. N. and Shukla, B. C. 2000. Genetic analysis of gall midge (*Orseolia oryzae*) biotype1 resistance in the rice cultivar RP2333-156-8. *Oryza*. 37: 79-80.
- Kumar, V. L., Chakravarthy, A. K., Muniswamy Gowda, K. N. and Thyagaraj, N. E. 2008. Economic threshold level of Asian rice gall midge, *Orseolia oryzae* (Wood-Mason) (Diptera : Cecidomyiidae) in Coastal Karnataka. *Current Biotica*. 2: 146-153.
- Lakshmi, P. V., Amudhan, S., Hima Bindu, K., Cheralu, C. and Bentur, J. S. 2006. A new biotype of the Asian rice gall midge *Orseolia oryzae* (Diptera: Cecidomyiidae) characterized from the Warangal population in Andhra

- Pradesh, India. *International Journal of Tropical Insect Science*. 26: 207-211.
- Lai, K. C., Tan, Y. J. and Pan, Y. 1984. Rice gall midge (GM) (*Orseolia oryzae*, Wood-Mason) biotypes in Guangdong Province. *International Rice Research Newsletter*. 9: 17-18.
- Majumder, A. B.; Chaudhuri, N. and Senapati, S. K. 2003. Seasonal incidence of rice gall midge, *Orseolia oryzae* (Wood-Mason) in different rice varieties at Terai Region of West Bengal. *Environment and Ecology*. 21: 842-845.
- Massawe, F. J., Roberts, J. A., Azam-Ali, S. N. and Davey, M. R. 2003. Genetic diversity in bambara groundnut (*Vigna subterranea* (L.) Verdc) landraces assessed by Random Amplified Polymorphic DNA (RAPD) markers. *Genetic Resources and Crop Evolution*. 50: 737-741.
- Mathur, K. C. and Krishnaiah, K. 2004. Rice gall midge: pest status, distribution and yield losses. In *New approaches to gall midge resistance in rice*. Eds. Bennett, J., Bentur, J. S., Pasalu, I. C. and Krishnaiah, K. pp. 63-70. Hyderabad, India 22-24 November 1998.
- Meesin, S. 2003. The structure of genetic diversity in a local Thai rice germplasm. MSc Thesis (Agronomy). Graduate School, Chiang Mai University, Chiang Mai, Thailand, 142 p. (In Thai)
- Mohan, M., Nair, S., Bhagwat, A., Krishna, T. G. and Yano, M. 1997. Genome mapping, molecular markers and marker-assisted selection in crop plants. *Molecular Breeding*. 3: 87-103.
- Mohan, M., Sathyanarayanan, P. V., Kumar, A., Srivastava, M. N. and Nair, S. 1997. Molecular mapping of a resistance-specific PCR-based marker linked to a

gall midge resistance gene (*Gm4t*) in rice. *Theoretical and Applied Genetics*. 95: 777-782.

Montllor, C. B., Campbell, B. C., Mittler, T. E. 1983. Natural and induced differences in probing behavior of two biotypes of the greenbug, *Schizaphis graminum*, in relation to resistance in sorghum. *Entomologia Experimentalis et Applicata*. 34: 99-106.

Nacro, S., Barro, S. A., Sawadogo, L., Gnamou, A. and Tankoano, H. 2006. The effect of planting date on the African rice gall midge *Orseolia oryzivora* (Diptera: Cecidomyiidae) damage under irrigated conditions in Boulbi, central Burkina Faso. *International Journal of Tropical Insect Science*. 26: 227-232.

Nacro, S., Heinrichs, E. A. and Dakouo, D. 1996. Estimation of rice yield losses due to the African rice gall midge, *Orseolia oryzivora* Harris and Gagne. *International Journal of Pest Management*. 42: 331-334.

Nair, S., Kumar, A., Srivastava, M. N. and Mohan, M. 1996. PCR-based DNA markers linked to a gall midge resistance gene, *Gm4t*, has potential for marker-aided selection in rice. *Theoretical and Applied Genetics*. 92: 660-665.

Nei, M. 1973. Analysis of gene diversity in subdivided populations. *Proceedings of the National Academy of Sciences of the USA*. 70: 3321-3323.

Nei, M., Tajima, F. and Tatenno, Y. 1983. Accuracy of estimated phylogenetic trees from molecular data. *Journal of Molecular Evolution*. 19: 153-170.

Nei, M. and Kumar, S. 2000. *Molecular Evolution and Phylogenetics*. Oxford University press. London.

- Nwilene, F. E., Nwanze, K. F., and Okhidievbie, O. 2006. African Rice Gall Midge: Ecology and Control-Field Guild and Technical. African Rice Center (WARDA), Cotonou, Benin. 24p.
- Nwilene, F. E., Williams, C. T., Ukwungwu, M. N., Dakouo, D., Nacro, S., Hamadoun, A., Kamara, S. I., Okhidievbie, O., Abamu, F. J. and Adam, A. 2002. Reactions of differential rice genotypes to African rice gall midge in West Africa. *International Journal of Pest Management*. 48: 195-201.
- Omoloye, A. A. and Odebiyi, J. A. 2001. Endogenously entrained emergence and oviposition rhythm in the African rice gall midge, *Orseolia oryzivora* H. and G. (Dipt., Cecidomyiidae). *Journal of Applied Entomology*. 125: 105-107.
- Omoloye, A. A., Odebiyi, J. A., Singh, B. N., and Williams, C. 1999. Trichome density and non-preference of rice cultivars for oviposition by the African rice gall midge, *Orseolia oryzae*. *Indian Journal of Entomology*. 61. 134-143.
- Omoloye, A. A., Odebiyi, J. A., Williams, C. T. and Singh, B. N. 2002. Tolerance indicators and responses of rice cultivars to infestation by the African rice gall midge, *Orseolia oryzivora*. *Journal of Agricultural Science*. 139: 335-340.
- Omoloye, A. A. and Vidal, S. 2007. Abundance of 24-methylenecholesterol in traditional African rice as an indicator of resistance to the African rice gall midge, *Orseolia oryzivora* Harris & Gagné. *Entomological Science*. 10: 249-257.

- Panaud, O., Chen, X. and McCouch, S. R. 1996. Development of microsatellite markers and characterization of simple sequence length polymorphism (SSLP) in rice (*Oryza sativa* L.). *Molecular and General Genetics*. 252: 597-607.
- Panda, N., and Khush, G. S. 1995. Host plant resistance to insects. International Rice Research Institute, Philippines. 431p.
- Pasalu, I. C., Huang, B. C., Zang, Y. and Tan, Y. J. 2004. Current status of rice gall midge biotypes in India and China. In New approaches to gall midge resistance in rice. Eds. Bennett, J., Bentur, J. S., Pasalu, I. C. and Krishnaiah, K. pp. 131-138. Hyderabad, India 22-24 November 1998.
- Pathak, M. D. and Saxena, R. C. 1976. Insect resistance in crop plants. *Current Advances in plant Science*. 8: 1233-1252.
- Patnaik, N. C. and Satapathy, J. M. 1985. Influence of biotic and abiotic factors on the distribution and abundance of rice gall midge, *Orseolia oryzae* (Wood-Mason) (Diptera: Cecidomyiidae). *Journal of Entomological Research*. 9: 122-128.
- Paul, S., Wachira, F. N., Powell, W. and Waugh, R. 1997. Diversity and genetic differentiation among populations of Indian and Kenyan tea (*Camellia sinensis* (L.) O. Kuntze) revealed by AFLP markers. *Theoretical and Applied Genetics*. 94: 255-263.
- Phattarakul, N. 2008. Genotypic variation in tolerance to acid soil in local upland rice varieties. Ph.D. Thesis, Graduate School. Chiang Mai University, Chiang Mai, 185p.

- Pintasen, S., Prom-u-thai, C., Jamjod, S., Yimyam, N. and Rerkasem, B. 2007. Variation of grain iron content in a local upland rice germplasm from the village of Huai Tee Cha in northern Thailand. *Euphytica*. 158: 27-34.
- Porchit, W., Rerkasem, B., Jamjod, S. and Rerkasem, K. 2005. Effect of crop diversity on gall midge infestation and productivity of lowland rice. *In* Diversity, Management, Protection and Utilization of Local Rice Germplasm. Chiang Mai, Thailand 1-2 August 2005.
- Power, L.E. and McSorley, R. 2000. Ecological Principles of Agriculture. Delmar. Thomson learning. 433 p.
- Rajyashri, K. R., Nair, S., Ohmido, N., Fukui, K., Kurata, N., Sasaki, T. and Mohan, M. 1998. Isolation and FISH mapping of Yeast Artificial Chromosomes (YACs) encompassing an allele of the *Gm2* gene for gall midge resistance in rice. *Theoretical and Applied Genetics*. 97: 507-514.
- Ratcliffe, R. H., Cambron, S. E., Flanders, K. L., Bosque-Perez, N. A., Clement, S. L. and Ohm, H. W. 2000. Biotype composition of Hessian fly (diptera: cecidomyiidae) populations from the southeastern, midwestern, and northwestern United States and virulence to resistance genes in wheat. *Journal of Economic Entomology*. 93: 1319-1328.
- Rajamani, S., Pasalu I. C., Mathur, K. C. and Sain, M. 2004. Biology and ecology of rice gall midge. *In* New approaches to gall midge resistance in rice. Eds. Bennett, J., Bentur, J. S., Pasalu, I. C. and Krishnaiah, K. pp. 7-15. Hyderabad, India 22-24 November 1998.

- Rerkasem, B. 2005. The Local Rice Germplasm in Thailand's Changing Rice Farming Systems. *In Diversity, Management, Protection and Utilization of Local Rice germplasm*. Chiang Mai, Thailand 1-2 August 2005. pp. 21-26.
- Rice Department. 2009. Rice Knowledge Bank. http://www.ricethailand.go.th/rkb/data_002/a1/rice_xx2-03_ricebreed_RD6.html. (Retrieved February 20, 2009).
- Sankpal, V. B. and Dumbre, R. B. 1980. Reaction of rice cultivars to gall midge. *International Rice Research Newsletter*. 5: 6.
- Sardesai, N., Kumar, Kumar, A., Rajyashri, Rajyashri, K., Nair, Nair, S. and Mohan, M. 2002. Identification and mapping of an AFLP marker linked to *Gm7*, a gall midge resistance gene and its conversion to a SCAR marker for its utility in marker aided selection in rice. *Theoretical and Applied Genetics*. 105. 691-698.
- Sardesai, N., Rajyashri, K. R., Behura, S. K., Nair, S. and Mohan, M. 2001. Genetic, physiological and molecular interactions of rice and its major dipteran pest, gall midge. *Plant Cell, Tissue and Organ Culture*. 64: 115-131.
- Satyanarana, E., Shastry, S. V. S. and Reddy, P. R. R. 1987. Relationship of resistance to rice gall midge (*Pachydiplosis oryzae* Wood-Mason) with tiller number, plant height and pigmentation in rice. *Annals of Agricultural Research*. 8: 4-7.
- Schellhorn, N. A., Harmon, J. P., and Andow, D. A. 2000. Using Cultural Practices to Enhance Insect Pest Control by Natural Enemies. *In Insect pest management techniques for environmental protection*. Eds. Jack E. and

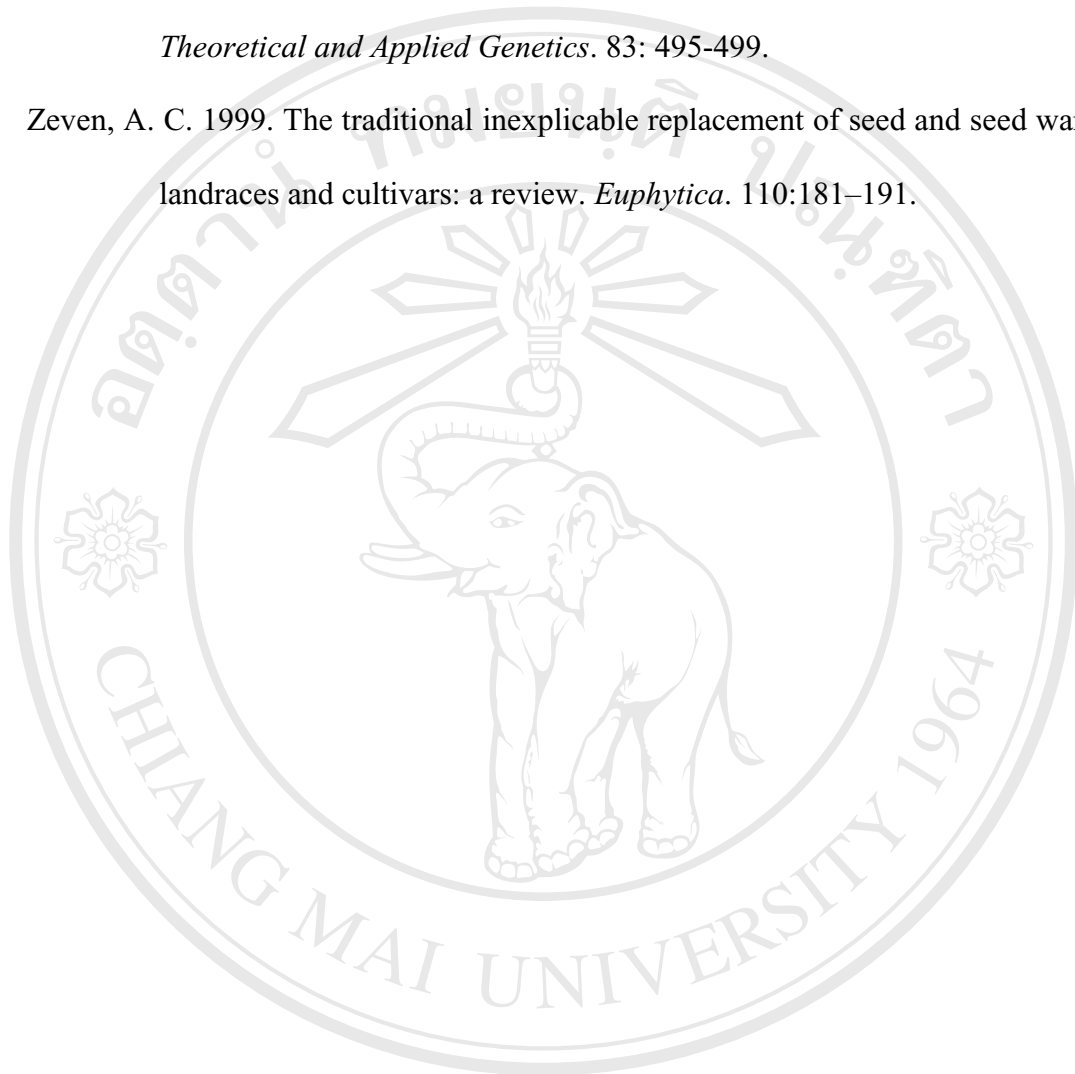
- Nancy A. Rechigl. pp. 147-170. Lewis Publishers. United States of America.
- Shrivastava, M., Kumar, A., Bhandarkar, S., Shukla, B. and Agrawal, K. 2003. A new gene for resistance in rice to Asian rice gall midge (*Orseolia oryzae*, Wood Mason) biotype 1 population at Raipur, India. *Euphytica*. 130: 143-145.
- Shrivastava, M. N., Kumar, A., Shrivastava, S. K. and Sahu, R. K. 1994. A new gene for resistance to gall midge in rice variety Abhaya. *Rice Genetics Newsletter*. 10. 79-80.
- Srivastava, S. K. 1986. Role of wild rice as an alternative host to rice gall midge. *Entamon*. 11. 243-244.
- Supamongkol, P. 2006. Genetic diversity of local rice cv. Muey Nawng. MSc Thesis (Agronomy). Graduate School, Chiang Mai University, Chiang Mai, Thailand, 94 p. (In Thai)
- Tan, Y., Pan, Y., Zhang, Y., Lixia, Z. and Xu, Y. 1993. Resistance to gall midge (GM) *Ozeolia oryzae* in chinese rice varieties compared with varieties from other countries. *International Rice Research Newsletter*. 18: 13-14.
- Tayathum, C., Attathom, T., Thongphak, D. and Sripongpankul, K. 2004. Rice gall midge in Thailand: current status and biotype characterization. In New approaches to gall midge resistance in rice. Eds. Bennett, J., Bentur, J. S., Pasalu, I. C. and Krishnaiah, K. pp. 89-97. Hyderabad, India 22-24 November 1998.
- Tayathum, C., Junseesommaei, N. and Srirattanasak, V. 1995. Biotypes of rice gall midge, *Orseolia oryzae* (Wood-Mason) in Thailand. In Conference

- Entomology and Zoology group. Ministry of Agriculture and cooperative Bangkok Thailand. pp. 160-172. (*In Thai*)
- Taylor, D. R., Fomba, S. N., Fannah, S. J. and Bernard, H. M. 1995. African rice gall midge pest in Sierra Leone. *International Rice Research Newsletter*. 20: 27.
- Temnykh, S., Park, W. D., Ayres, N. M., Cartinhour, S., Hauck, N., Lipovich, L., Cho, Y. G., Ishii, T. and McCouch, S. R. 2000. Mapping and genome organization of microsatellite sequences in rice (*Oryza sativa* L.). *Theoretical and applied genetics*. 100: 697-712.
- Thongphak, D., Attathom, T. and Tayathum, C. 1999. Determination of the genetic relatedness of the rice gall midge, *Orseolia oryzae* in Thailand using RAPD-PCR marker. *Thai Journal of Agriculture Science*. 32: 409-421.
- Ukwungwu, M. N. 1990. Efficacy of granular isazofos against rice gall midge in Nigeria. *Crop Protection*. 9: 252-254
- Ukwungwu, M. N. and Joshi, R. C. 1992. Distribution of the African rice gall midge *Oseolia oryzivora* Harris and Gang and Its parasitoids in Nigeria. *Tropical Pest Management*. 38: 241-244.
- Wongsirii, T., Vongsilabutr, P. and Hidaka, T. 1971. Study on ecology of the rice gall midge in Thailand. *In* Symposium on rice insects. Proceedings of a Symposium on Tropical Agriculture Researches. Rice Department, Bangkok, Bangkok, Thailand 19-24 July 1971. pp. 267-290.
- Yang, Z., Tan, Y., Huang, B., Chen, J., Zhao, L. and Xu, Y. 1997. The inheritance of resistance to gall midge in Duokang 1 of rice variety. *Rice Genetics Newsletter*. 14: 67-69.

Zhang, Q., Maroof, M. A. S., Lu, T. Y. and Shen, B. Z. 1992. Genetic diversity and differentiation of indica and japonica rice detected by RFLP analysis.

Theoretical and Applied Genetics. 83: 495-499.

Zeven, A. C. 1999. The traditional inexplicable replacement of seed and seed ware of landraces and cultivars: a review. *Euphytica*. 110:181-191.



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