Mini data sheet on *Lissorhoptrus oryzophilus*

Added in 2005 – Deleted in 2009

Reasons for deletion:
Lissorhoptrus oryzophilus was selected in 2007 for an Expert Working Group for PRA but no particular interest was expressed. In 2009, it was therefore considered that sufficient alert has been given and the pest was deleted from the Alert List.

Lissorhoptrus oryzophilus (Coleoptera: Curculionidae) – rice water weevil

Why	*Lissorhoptrus oryzophilus* came to our attention because it was recently introduced into Italy, and is generally considered as a major rice pest.
Where	*L. oryzophilus* originates from America and was then accidentally introduced into Asia (first in Japan on infested rice straw in 1976, and then to other important rice-producing countries). **EPPO region:** Italy (Lombardia). **Asia:** China (Anhui, Beijing, Fujian, Guangdong, Guangxi, Hebei, Hunan, Jiangsu, Jilin, Liaoning, Tianjin, Shandong, Shanxi, Zhejiang), India, Japan, Korea Democratic Peoples' Republic, Korea Republic, Taiwan. **North America:** Canada, Mexico, USA. **Central America**: Cuba, Dominican Republic. **South America:** Colombia, Suriname, Venezuela
On which plants	*L. oryzophilus* is a pest of rice (*Oryza sativa*), but it also attacks many other wild grasses and sedges (Poaceae and Cyperaceae, e.g. *Agrotis, Axonopus, Cynodon, Cyperus, Echinochloa, Leersia, Panicum, Paspalum, Poa, Setaria*) which serve as alternative hosts for adult weevils in or near rice fields.
Damage	Adult weevils (3 mm long) feed on leaves making longitudinal scars on the upper leaf surface, but generally do not cause economic damage. Larvae (white, legless with light brown head) are responsible for the main damage as they feed on roots and prune them. Small larvae can feed inside the roots. Root pruning results in reductions in vegetative growth, tillering, grain number and grain weight. Severely attacked plants become yellow and stunted, with delayed maturity and reduced yield. Occasionally, root pruning is so severe that plants are no longer firmly attached to the soil, and when disturbed will float on water surface. The rice water weevil is reported as the most destructive insect pest of rice in the USA. Serious crop losses are reported in all countries where it occurs (e.g. yield losses of about 10 % in Arkansas, up to 25 % in Louisiana, up to 30% in California, up to 60% in Japan). Adults are semi-aquatic and can be found on or beneath the soil surface. They overwinter (diapause) in grasses, leaf litter and moist soil (1 to 5 cm deep). Adult fly from overwintering sites and begin to feed on host plants. Females lay eggs (singly) in submerged leaf sheaths above the plant crown. Larvae feed on leaf for a short period and then crawl down to the roots. There are 4 larval instars (last instar of about 8 mm long). Larvae have paired dorsal hooks to pierce the roots and obtain oxygen. The fourth larval instar forms a mud-coated cocoon attached to the roots. Adults then emerged either to enter into diapause or to re-infest rice. There is usually one generation per year but in some cases two generations may be observed (e.g. in Taiwan). In USA, both males and females occur, but in Asia (and in California) only parthenogenetic females are found.
Dissemination	Adults can fly between fields. Over longer distances infested plants or plant parts (e.g. hay) may transport the insect.
Pathway	Rice plants for planting (not really a traded commodity?), rice hay, soil from countries where the pest occurs. Rice grain is not a likely pathway as adults and larvae do not feed on seeds.
Possible risks	Rice water weevil is considered as a major pest of rice in all areas where it occurs. In USA and Asia, control mainly relies on insecticides, but resistance has appeared to some compounds. IPM strategies are being developed (trapping,

timing of flooding, use of resistant varieties, weed control, preventive treatment limited to field edges, use of biocontrol agents). Rice is cultivated in some EPPO countries (e.g. Italy, Russia, Spain, Portugal, Greece, France, Ukraine), and the introduction or spread of dangerous rice pests such as *L. oryzophilus* should be avoided. More data would be needed on the situation of *L. oryzophilus* in Italy and on its climatic requirements to better assess its potential of establishment in the EPPO region.

Source(s)

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INTERNET

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