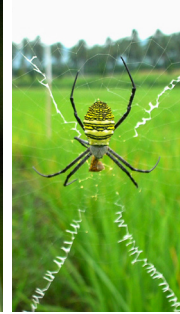


NATURAL ENEMIES



NATURAL ENEMIES



Mirid bug

NATURAL ENEMIES

Mirid bug

Pilipino Name	Berdeng atangya
Characteristics	Adults and nymphs are both green with long antennae. However, adults have long folded wings, while the nymphs have short wings. They have a black spot on the back.
Food	They prefer eggs of brown planthoppers and striped stem borers. They also eat young nymphs of planthoppers and leafhoppers. Each mirid bug consumes 7-10 eggs or 1-5 nymphs a day.



PHOTO: INTERNATIONAL RICE RESEARCH INSTITUTE

Ground beetle

NATURAL ENEMIES

Ground beetle

Pilipino Name	Tigreng salagubang
Characteristics	Adults are guitar-shaped and reddish brown with long thin necks. Larvae are black and shiny; they go into the soil before pupation.
Food	They eat planthoppers and leafhoppers. Others prey on hairy caterpillars, semiloopers, and newly hatched larvae of stem borers. They feed inside the folded leaves made by leafroller larvae. They can eat 3-5 larvae per day.



Lady beetle

NATURAL ENEMIES

Lady beetle

Pilipino Name	Pagung-pagongan
Characteristics	Adults are oval in shape, and mostly orange with or without spots on the wings. Larvae or the grubs are dark grey to brown, wingless, and resemble a crocodile.
Food	They prefer to feed on the nymphs of planthoppers than leafhoppers as planthopper nymphs are slow-moving. Also, they feed on newly hatched larvae of leafhoppers and stem borers, and on exposed eggs of harmful organisms.



Damselfly

NATURAL ENEMIES

Damselfly

Pilipino Name	Tutubing karayom
Characteristics	They are visible during the early morning sitting on the leaf tips. Adults can only fly short distances, while the nymphs do not have fully developed wings; they often attach themselves to the lower part of the rice tillers.
Food	They eat on adults and nymphs of planthoppers, leafhoppers, and leaffolder adults.



Dragonfly

NATURAL ENEMIES

Dragonfly

Pilipino Name	Tutubi
Characteristics	Their wings are bigger than those of the damselfly, and can fly long distances. Nymphs lack fully developed wings, and are often attached to lower parts of the rice tillers.
Food	They prey on adult nymphs of planthoppers, leafhoppers, and moths.



Cricket

NATURAL ENEMIES

Cricket

Pilipino Name	Itim na kagaykay, kantitit, kuliglig
Characteristics	They are light to dark brown and air-borne, with antennae that are longer than the body. Smaller than long-horned grasshoppers.
Food	They devour eggs of striped stem borers, dark-headed stem borers, leaffolders, armyworms, whorl maggots, and nymphs of planthoppers and leafhoppers.



Long-horned grasshopper

NATURAL ENEMIES

Long-horned grasshopper

Pilipino Name	Tipaklong sa kaparangan
Characteristics	They are green and air-borne with antennae are longer than the body. Female egg-layers are often very long and curved. Nymphs do not have well-developed wings.
Food	They feed on egg masses of stemborers, including those covered with hairs and eggs of leaffeeders, and rice bugs. Also, they eat nymphs of planthoppers and leafhoppers. One grasshopper can consume 3-4 yellow stem borer egg masses in a day with an average predation potential of 46 percent.

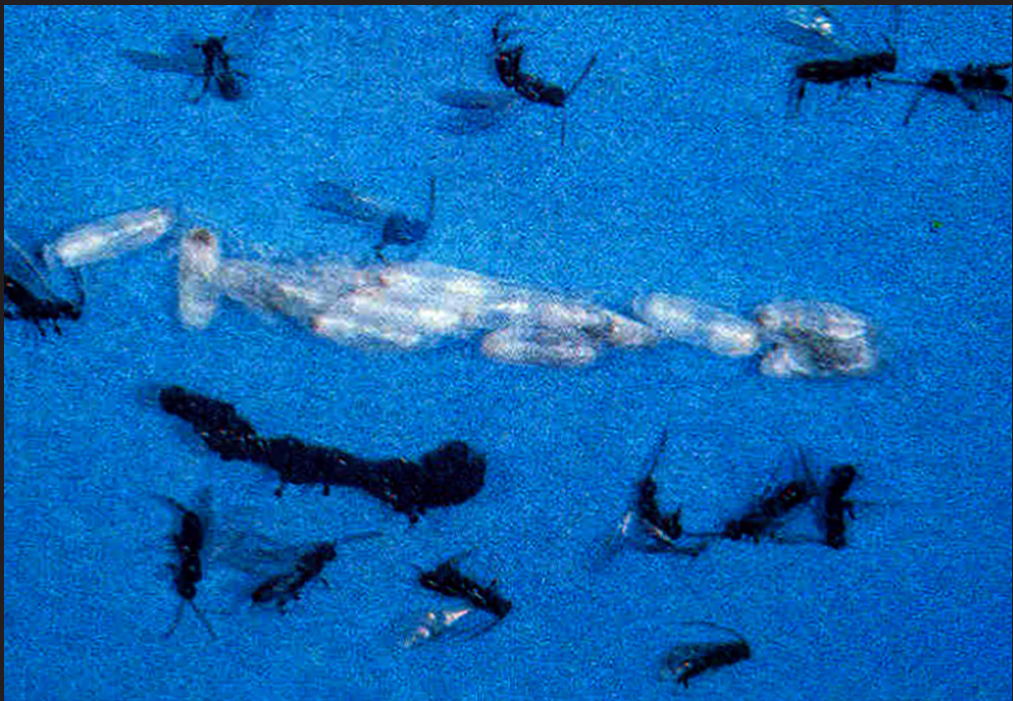


Small wasp

NATURAL ENEMIES

Small wasp

Pilipino Name	Maliit na putakti
Characteristics	Very tiny and almost microscopic, small ant-like with four well-developed wings. Adults are black, brown, dark yellow brown, or metallic blue-green.
Food	They eat eggs of leaffolders, skippers, short-horned grass-hoppers, armyworms, green semiloopers, whorl maggots, stem borers, planthoppers, leafhoppers, black bugs, and seed bugs



Big wasp

NATURAL ENEMIES

Big wasp

Pilipino Name	Malaking putakti
Characteristics	They are very visible to the plain eye. Adults are red, black, brown, dark yellow brown, or metallic blue-green with well-developed wings, and are air-borne. Its abdomen has a long needle-shaped projection for laying eggs on larvae and pupae of harmful organisms.
Food	Larvae and pupae of leaffolders, skippers, armyworms, green semiloopers, whorl maggots, and stem borers.



Tachinid fly

NATURAL ENEMIES

Tachinid fly

Pilipino Name	Langaw
Characteristics	Resemble a housefly. Adults are gray or black. The body is covered with spines.
Food	Larvae of leaffolders, skippers, armyworms, and stem borers.



Ripple bug

NATURAL ENEMIES

Ripple bug

Pilipino Name	
Characteristics	They are dark brown to black, broad-shouldered, and minute. They can be observed on the water surface. They also sting.
Food	They kill planthopper and leafhopper nymphs that fall into the water. They also eat newly hatched larvae of stem borers. One ripple bug can prey on 4-7 hoppers per day.



Wolf spider

NATURAL ENEMIES

Wolf spider

Pilipino Name	Gagambang lobo
Characteristics	They have an oval-shaped abdomen with long and tapered legs. The colors are usually dull with gray, brown, and black predominating. They do not build webs, instead they catch their prey directly.
Food	The wolf spider can eat 7-45 hoppers per day. They are the major predators of planthoppers and leafhoppers. Spiderlings also attack planthopper and leafhopper nymphs. They are aggressive hunter that patrol plant and water surface for prey that include caseworms, leafhoppers, whorl maggots, and newly hatched larvae and moths of stem borers.



Lynx spider

NATURAL ENEMIES

Lynx spider

Pilipino Name	Gagambang may tinik
Characteristics	They vary in size with long, spiny legs, and an oblong-to-oval long abdomen that tapers towards the back end of the body. They do not make webs, and are wanderers. They catch their prey by stalking and pouncing on them. The male is much smaller and more slender.
Food	They feed on planthoppers, leafhoppers, caseworms, leaffolders, stem borer moths, rice seed bugs, and whorl maggots. They consume 2-3 moths a day.



Jumping spider

NATURAL ENEMIES

Jumping spider

Pilipino Name	Gagambang lumulundag
Characteristics	A jumping spider measures 5-9mm in length with compact body and powerful stout legs, enlarged eyes with large front legs. They are not quick to move. They do a cat-like way of catching prey. They do not construct webs but spin cocoons for their egg sacs or for enclosing itself during molting. Their bodies are with or without hairs.
Food	They prey on planthoppers, leafhoppers, adult flies and other small insects. They can consume 2-8 preys a day.



Long-jawed spider

NATURAL ENEMIES

Long-jawed spider

Pilipino Name	Gagambang pangahan
Characteristics	A web-forming long-bodied spider with long legs commonly seen lying outstretched along a rice leaf. Their egg masses are laid on the upper half of the rice plant, and are enclosed in a cottony silk.
Food	Adult nymphs of planthoppers, leafhoppers, and adults of whorl maggots trapped in the web are quickly wrapped with silk. One spider kills 2-3 preys a day.



Orb spider

NATURAL ENEMIES

Orb spider

Pilipino Name	Gagambang pari; Gagambang gumagawa ng sapot na bilog
Characteristics	Highly colorful spiders with curved legs and large and swollen abdomen. They hang head down from the center of the webs, and rely on their webs to catch their prey by making a strong, sticky, and highly specialized vertical orb web trap. This web structure makes it more efficient in sharing their preys.
Food	They feed on planthoppers, leafhoppers, caseworms, whorl maggots, stem borer adults, large butterflies, and grasshoppers.

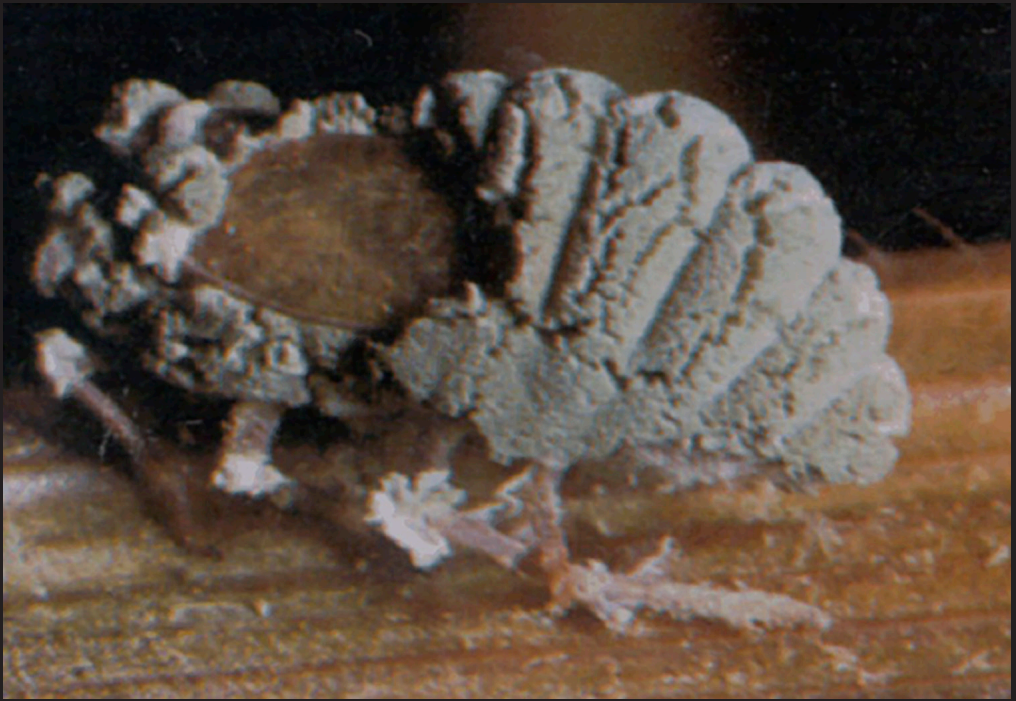


Dwarf/Space-web spider

NATURAL ENEMIES

Dwarf/Space-web spider

Pilipino Name	
Characteristics	A dwarf spider is only 1.5-2.3mm short, and is often confused as a spiderling having an oval or globular abdomen with a double row of oval to triangular dark spots running lengthwise.
Food	They feed on planthopper and leafhopper nymphs, whorl maggots, and springtails; consume 4-5 nymphs a day.

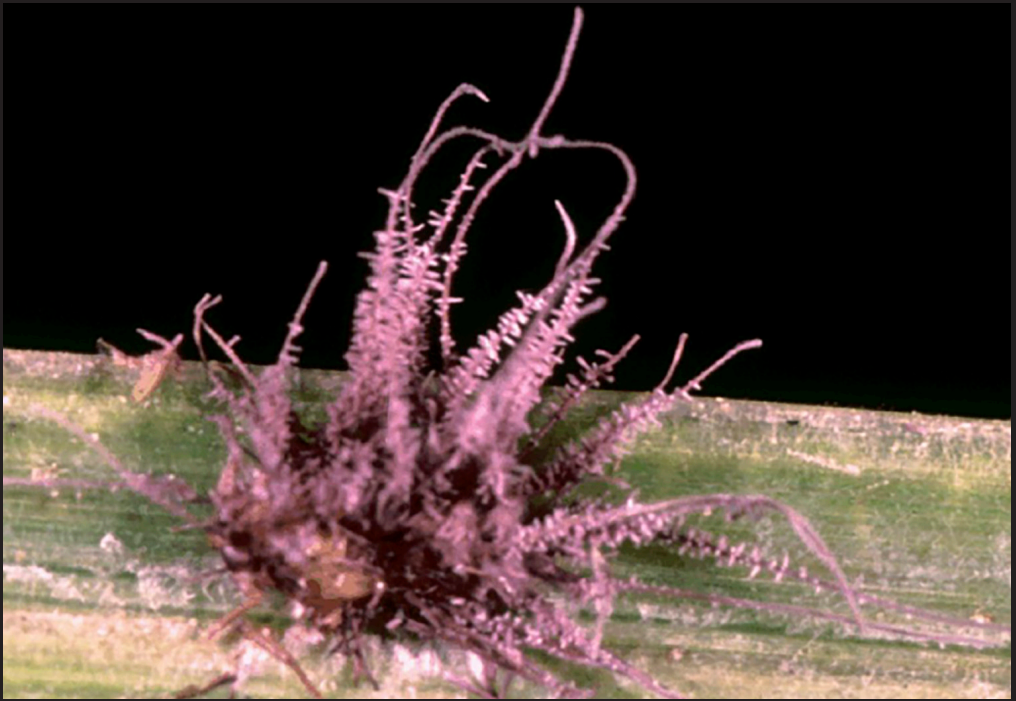


Green fungus

NATURAL ENEMIES

Green fungus

Pilipino Name	Amag
Characteristics	Change color from white to green and without any projection on the dead harmful organism.
Food	Infect planthoppers, leafhoppers, black bugs, and earhead bugs.

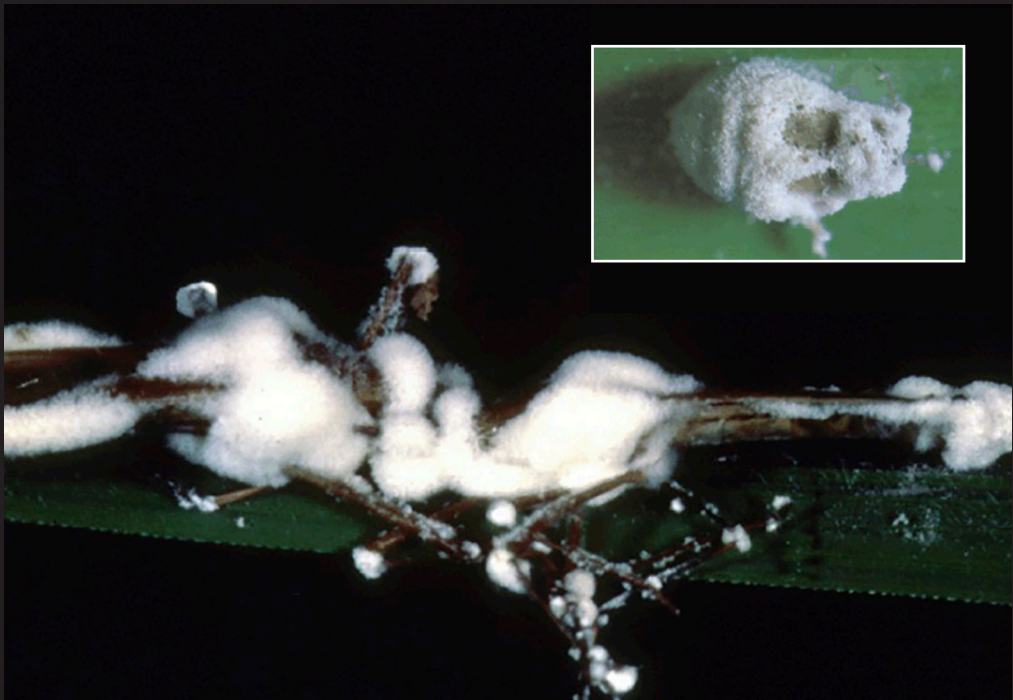


Light brownish fungus with projections

NATURAL ENEMIES

Light brownish fungus with projections

Pilipino Name	Amag
Characteristics	They have protruding structures from the infected harmful organisms.
Food	Infect planthoppers and leafhoppers



White fungus

NATURAL ENEMIES

White fungus

Pilipino Name	Amag
Characteristics	Fungus color remains white throughout, and there are no projections.
Food	Infect planthoppers and leafhoppers, stem borers, leaffolders, skippers, earhead bugs, and black bugs.



Virus

NATURAL ENEMIES

Virus

Pilipino Name	Bayrus
Characteristics	Larvae become sluggish and stop feeding further on the plant canopy. Brown fluid oozes out of the larvae. The larvae hang with their head capsule upside down from the canopy.
Food	Infect armyworms, leaffolders, and hairy caterpillars.