

Queen of sky spins a catchy web

By KEVIN SHORT

Out for an autumn hike in low mountains or countryside forests, one is sure to encounter a massive spider web, sometimes so large as to completely block the path.

This web can only belong to the *zorô-gumo* (literally "court-maiden spider," *Nephila clavata*), one of Japan's largest and most conspicuous spiders.

The spider itself is unmistakable: large oval body with alternating bright yellow and gray markings; brilliant red area on underside of abdomen; and black and yellow leg stripes.

In fact, the *zorô-gumo* is so common, and such an outstanding feature of the October and November landscape, that it has earned the nickname *aki no sora no jôô*, queen of the autumn sky.

The *zorô-gumo* belongs to the family Araneidae, or rob-

ber spiders. These spiders have perfected the techniques of web building, and the web of the *zorô-gumo* is truly an engineering masterpiece.

The bridge line that anchors the top of the web may be 3 or 4 meters long, running right across a narrow road, or reaching from some temple eaves out to a convenient tree or pole. Thick "radii" run from the center out to the support lines, like the spokes of a bicycle wheel. The radii and support lines are not sticky, and are used by the spider to move around on the web.

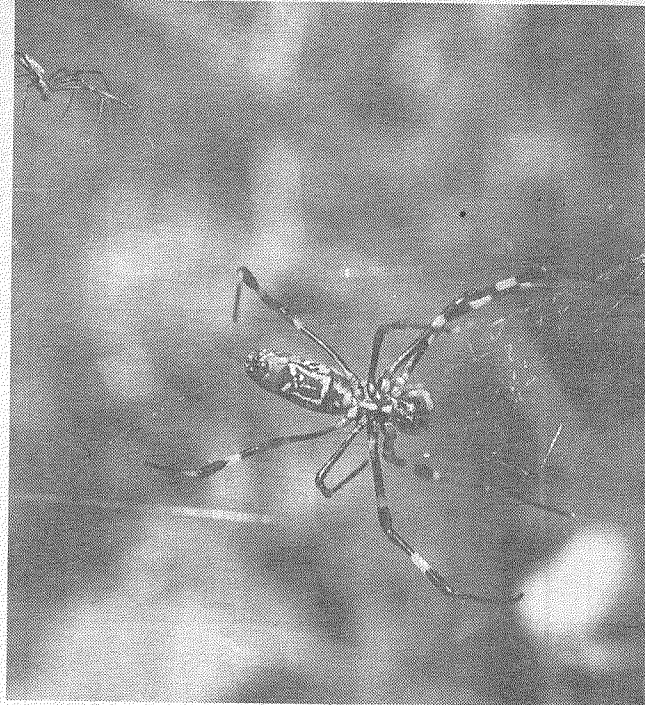
Between the radii are the sticky spirals, which actually trap the prey. The *zorô-gumo* spins these close together, forming a fine mesh capable of trapping even powerful dragonflies. The main web is often bracketed on both sides by extra supports, giving a three-dimensional or triple-layered effect.

The *zorô-gumo* is usually found waiting near the center of her web. When an insect hits the net and becomes entangled, vibrations tell the spider precisely where the action is. She rushes to the scene and quickly bites the trapped victim.

Like most spiders, the *zorô-gumo* is equipped with a pair of formidable fangs, called chelicerae. These fangs are designed to pinch inward from both sides, like a pair of tongs. They are powerful enough to pierce an insect's tough exoskeleton, but are hollowed out to form a duct for injecting the spider's poison, which immobilizes the victim.

While the *zorô-gumo* may look ferocious, it is in no way dangerous to humans. Indeed, Japan is fortunate in not having any highly poisonous spiders. The most dangerous spider here is the *kobakigumachi-gumo*, a small nocturnal Clubionid spider that spends the daytime in nests made of reeds and grasses. A bite from this spider is extremely painful, but not life-threatening.

If you look closely at the edges of the *zorô-gumo* web, you should find one or more tiny spiders. These may ap-



THE ZORÔ-GUMO, a master web-builder, sits pretty in her fine mesh home. The spider at upper right is the male, who is sometimes eaten by the larger female during mating.

PHOTO BY KEVIN SHORT

pear to be separate species, but are actually the *zorô-gumo* males! Mating is a hazardous undertaking, which may result in the male being eaten by his much larger mate.

The *zorô-gumo* lays batches of eggs on tree trunks, the sides of buildings, or on the underside of thick broadleaf evergreen leaves. The eggs remain dormant throughout the winter, and hatch out the following April or May. The adults will die as autumn deepens into winter and in-

sect prey vanishes.

Spiders of the genus *Nephila* are primarily tropical in distribution. They are among the largest of web-building spiders, and some even trap small birds. Japan's *zorô-gumo*, which can be found from Okinawa up to the Tohoku region, is thought to represent the northernmost limit of the genus.

Look for this spider not only in forests, but around temples, shrines and farmhouses, and even in urban parks and gardens.