

## Preface

When an exotic organism is introduced into an area that has no factors to control its population, such as predators and/or diseases, the organism can have drastic severe effects on native flora and fauna and simultaneously widen its distribution range very quickly. If the organism attacks economically important plants or animals, its invasion can develop into a serious nationwide problem. This is the case with the chestnut gall wasp *Dryocosmus kuriphilus* Yasumatsu (Hymenoptera: Cynipidae), one of the most dangerous pests attacking chestnut trees (*Castanea* spp.) worldwide.

The gall wasp originated on the mainland of China and was accidentally introduced into Japan (1941), followed by South Korea (1958), USA (1974) and Nepal (1999). After a long period of disruption because of World War II, Japanese researchers discovered that the gall wasp was present in China but there were hardly any gall outbreaks there, strongly suggesting an attempt at biological control of the wasp. A parasitoid wasp, *Torymus sinensis* (Hymenoptera: Torymidae), reared from Chinese galls, was introduced into Japan in the late 1970s through the courtesy of the Government of China. The parasitoid wasp was released in the fields in 1982 and effectively controlled the gall wasps, and this sequence of events is now regarded as a typical example of classical biological control in Japan.

In 2002, *D. kuriphilus* was recorded for the first time in Italy. Because of its invasive characteristics it was added to the European and Mediterranean Plant Protection Organization (EPPO) A2 Action list in 2003. The severity of the pest problem in already infested areas of Italy urged researchers to take quick action to prevent possible damage. Given the success of biological control in Japan, measures to support the introduction of the parasitoid *T. sinensis* were started in Italy in 2003 by contacting Japanese researchers. It is common that a biological control agent is imported from the place of its origin, in this case China; however, partly because of some administrative difficulties in China, Japan-sourced *T. sinensis*, which has been studied for more than 20 years in Japan, was selected and imported to Italy.

Since Japan is presently the only country where *T. sinensis* has been successfully introduced and propagated for biological control, knowing about Japanese experiences with *T. sinensis* is necessary for the success of a trial in Italy. Exchanging information such as how to effectively propagate and distribute the introduced parasitoids is indispensable to accelerate the biological control program in Italy. On the other hand, there exist almost no early detailed records of the invasion and spread of *D. kuriphilus* in Japan due to the intervention of World War II, even though we have already succeeded in its biological control. Observations in Italy, where the invasion has just occurred, would provide us valuable data to elucidate the Japanese early history of *D. kuriphilus*. Therefore, holding the Joint International Symposium will give Japanese researchers the historical perspectives on the invasion and spread of *D. kuriphilus*. Furthermore, this collaboration will be a foundation for future collaborative studies among Asian, American and

European countries, since the chestnut gall wasp is now a global pest of chestnut trees.

The Joint International Symposium was hosted by the National Agricultural Research Center, NARO. Thanks go to the members of the Insect Pest Management Research Team, NARC, who helped us and organized the symposium. This publication was supported in part by a Grant-in-Aid for Scientific Research (B) (No. 19380037) from JSPS.

Seiichi Moriya  
National Agricultural Research Center  
Tsukuba, Japan  
January 2010



Females of *Torymus sinensis* ovipositing on the galls of *Dryocosmus kuriphilus* in April.



Galls of *Dryocosmus kuriphilus* formed on a chestnut shoot.