

TARC Notes

Host species of two hymenopterous parasites to rice gall midge observed in Thailand

In the process of the field census carried out to study population dynamics of rice gall midge, *Orseolia oryzae* (Wood-Mason), the parasitic activities of two hymenopterous parasites, *Neanastatus grallaria* (Masi) and *Obtusiclava oryzae* Subba Rao, were observed in a field of wild rice, *Oryza perennis* Moench, which was transplanted in a lowland rice field in July, 1975, although these parasites were found to be very few in experimental paddy fields, where cultivated rice was grown, over the observation period of three years from 1973 to 1975. Therefore the authors carried out a continuous observation on host species and their stages parasitized by these parasites of immature stages in the wild rice field from July 1975 to December 1976.

Neanastatus grallaria (Masi) has been re-

ported as a parasite to rice gall midge Hidaka et al., Yasumatsu et al., 1975) and *Obtusiclava oryzae* Subba Rao has also been described as a parasite to rice gall midge (Subba Rao, 1973).

Host species of *Neanastatus grallaria* are given in Table 1, which shows that out of the total number of 120 of the parasite at the larval and pupal stages observed on host insects, 67% was found on larvae and pupae of the rice gall midge, 27% on the larvae of rice gall midge, which were already parasitized by *Platygaster oryzae* (Cameron), a major hymenopterous parasite of the rice gall midge, and the mummies of rice gall midge in which the pupae of *Platygaster oryzae* were contained, and 7% on the larvae and pupae of *Obtusiclava oryzae*. It can be considered from this result that *Neanastatus grallaria* (Masi) is external, larva-pupal parasite of the rice gall midge but not host-specific in its parasitic behavior, because of its occasional attacks on the mummies of the rice gall midge or the pupae of *Obtusiclava oryzae*, as the secondary or tertiary parasite.

A result of observation on *Obtusiclava*

Table 1. Host species of *Neanastatus grallaria* (Masi), a hymenopterous parasite, observed in wild rice field

Total No. of <i>N. grallaria</i>	Parasitized host species and their stages								
	<i>Orseolia oryzae</i>			<i>Platygaster oryzae</i>			<i>Obtusiclava oryzae</i>		
	Larva	Pupa	Total	Larva*	Mummy**	Total	Larva	Pupa	Total
120	7	73	80	7	25	32	2	6	8
(100%)			(66.6%)			(26.6%)			(6.6%)

* The third instar larva of rice gall midge parasitized by *Platygaster oryzae*.

** Mummy of rice gall midge which contains pupa of *Platygaster oryzae*.

Table 2. Host species of *Obtusiclava oryzae* Subba Rao, a hymenopterous parasite, observed in wild rice field

Total No. of <i>O. oryzae</i>	Parasitized host species and their stages							
	<i>Platygaster oryzae</i>			<i>Orseolia oryzae</i>				
	Larva*	Mummy**	Total	Larva	Prepupa	Pupa	Total	
137	14	112	126	2	2	7	11	
			(91.9%)				(8.0%)	

* The third instar larva of rice gall midge parasitized by *Platygaster oryzae*.

** Mummy of rice gall midge which contains pupa of *Platygaster oryzae*.

oryzae is shown in Table 2. Of 137 parasite larvae and pupae observed on host insects, about 90% was found on the mummies of the rice gall midge in which the pupae of *Platygaster oryzae* were contained, and only 8% was found on the larvae or pupae of the rice gall midge. The result suggests that *Obtusiclava oryzae* Subba Rao is rather regarded as a secondary parasite which parasitizes the pupae of *Platygaster oryzae* (Cameron), although it parasitizes rice gall midge to some extent.

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