

FLYING AGM FEMALES: WHEN AND HOW FAR ARE THEY FLYING?

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ABSTRACT

It is well known that females of the Asian gypsy moth (AGM) (*Lymantria dispar* L.) have flying ability, but there are no studies about their flying times and distances. We studied flight frequencies and distances of AGM females in two fields in Japan.

The two fields were in Norikura, Nagano, and in Misawa, Aomori. Norikura was in high mountains (1,300 m above sea level), but Misawa was near sea level. We collected 37 and 31 egg masses at Norikura and Misawa, respectively, and got adults for release. We released 69 virgin females at Norikura between August 9 and 14, 2007, and released 66 virgin females at Misawa between August 22 and 24, 2007. The females were numbered on the forewing by felt pen. At the same time, we released the same number of unmated males as released females at each site. After the releases, we checked mating time and places and oviposition time and places with GARMIN GPSMAP 60CSx. The GPS machine recorded the positions of the checked places on maps and recorded our paths to search for AGM females. We set a thermo recorder in the study field.

We searched for females in a 400 m × 300 m area in a playground at Norikura. At that site 30 of 69 females oviposited at release trees (43%). We were able to check the flight distances for 9 of the 39 females flying away. The distances were between 1 and 38 m. We set a video camera at 6:39 p.m. on August 12, 2007. The sunset was at 6:43 p.m. on that date at Norikura. The true dark began at 7:09 p.m. at a plain at Nagano. We observed a female flying at 7:09 p.m. and another female flying at 7:11 p.m. These females had not mated yet.

At Misawa, we searched for females in a 400 m × 150 m area. At Misawa, 29 of 66 females oviposited at release trees (44%). We were able to check the flight distances for 13 of the 37 females flying away. The distances were between 6 and 36 m.

In conclusion, about a half of AGM females flew to find mating or ovipositing places. AGM females flew both before and after mating. Flight distances were not far from emerging sites and may usually be less than 50 m.