

Record of the jumping spider *Pelegrina* cf. *aeneola* (Araneae: Salticidae) feeding on insect eggs

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Abstract. A jumping spider (*Pelegrina* cf. *aeneola*) was observed feeding on insect eggs in Missoula, Montana.

Key words. Gray Swordgrass Moth, jumping spider, Montana, Noctuidae, oophagy, *Xylena cineritia*

With the onset of spring and with nighttime temperatures beginning to stay above freezing, I typically resume my habit of leaving the front porch light on for the evening to observe light-attracted moths and other insects and arthropods at my home in Missoula, Montana, USA. At approximately 6:08 AM on April 2, 2019 I inspected the area around my front door and found a Gray Swordgrass Moth, *Xylena cineritia* (Grote 1874) near two new clusters of eggs on the doorframe (Figure 1), both deposited since the previous evening. *X. cinerita* is a widely distributed noctuid moth that overwinters as an adult, ranging from the northern United States and southern Canada to Alaska (Rockburne & Lafontaine 1976; Wagner et al. 2003; Landholt et al. 2007). Although this moth was near both egg clusters, I cannot be certain that it deposited either egg cluster. In one cluster (Figure 1, upper right) the eggs were deposited in two regular rows. In the other cluster, eggs were deposited in a single space-filling layer but not in rows.



Figure 1. A female Gray Swordgrass Moth, *Xylena cineritia*, near two clusters of recently-laid eggs. The cluster at top right was later attacked by a female *Pelegrina* cf. *aeneola* (Figures 2-5).

Approximately 54 hours later, on April 4, 2019 at 12:15 PM, I observed that a female salticid spider, identified as *Pelegrina* cf. *aeneola* (Curtis 1892) (Maddison, pers. comm.), had approached one of these egg clusters and appeared to be consuming one of the eggs (Figure 2). Three hours later, this spider was still present, with evidence that it had already consumed a number of moth eggs, based on the empty eggshells left behind (Figure 3). One hour later, this spider was observed feeding on her tenth and final egg in the cluster (Figures 4-5). In total, this spider consumed 10 of 35 eggs in the cluster (Figures 6-8). At least one of the eggs that was not eaten may have been bitten (#28 in Figure 7). The brown color of the remaining eggs in this cluster on April 6 (Figures 6, 8) may represent normal development, indicating that these eggs were not harmed by the *Pelegrina*. Eggs in the second cluster retained their original white color and showed no signs of either development or attack two days later. Although both egg clusters were deposited in the same time-frame, the observed difference in their color on April 6 could be due to the fact that the upper cluster was closer to a porch light that provided more heat. But the difference in egg deposition pattern (pairs in two rows versus single-layer mass) suggests that these were deposited by two different species. These may have been noctuid moths as either of these patterns can be found in a number of different species in the family Noctuidae (Peterson 1964).

Many salticids are known to prey on insect eggs and a list of related records has been published (Ahmed et al. 2018). Six species of *Pelegrina*, including *P. aeneola*, have been reported from Montana (Maddison 1996; Richman et al. 2012). Two species of *Pelegrina*, *P. flavipes* (Peckham & Peckham 1888) and *P. galathea* (Walckenaer 1837), were previously observed feeding on insect eggs (Nyffeler et al. 1990).



Figures 2-5. Female *Pelegrina* cf. *aeneola* feeding on one cluster of the insect eggs. **2**, Approaching and consuming the first egg. **3**, Consuming her ninth egg. Notice the empty eggshells left behind. **4-5**, Consuming the last of 10 eggs in total that were eaten.



Figure 6. Two days later most of the uneaten eggs in the top cluster were brown, suggesting that they were developing normally. Eggs in the cluster at lower left, not attacked, were still white.



Figures 7-8. Comparison of intact eggs (7, detail from Figure 1) with eggs after feeding by *Pelegrina* (8, detail from Figure 6). For reference eggs in this cluster are numbered. The 10 eggs eaten by this spider are highlighted (numbers in dark red circles: 2, 6, 8, 18, 22-23, 32-35). Assuming that the brown color of most eggs in (8) represents normal development, egg #28 may also have been bitten, although there was no sign of feeding.

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