Opportunistic Feeding Examples in Brown Trout

by Alpa Wintzer

Adult brown trout prey mainly on fishes, but have been known to exploit both terrestrial insects and emerging aquatic insects (Moyle 2002). During our Green River study, I was able to document both of these types of opportunistic feeding through gut content analyses of prey items within the alimentary canal.

1) Mormon Crickets - As we arrived at Winnie’s Rapid (RM 240), the hundreds of large mormon crickets walking across the sand immediately grabbed our attention. The reason behind this type of mass migration is poorly understood, but is hypothesized to be related to food shortages (Lorch and Gwynne 2000). The crickets jumped into a small channel and swam across it to a steep rock wall, where they continued their journey. Several large fishes were observed in the channel and the gut contents analysis of a brown trout measuring 360mm contained 5 crickets and no other prey types.

2) Stoneflies – Near Kolb campground (RM 234.5) we encountered an emergence of perlodid stoneflies (Fig. 2). Their abundance was so great that they gave the appearance of snow flurries in some areas. This emergence is part of the change between the aquatic nymph and terrestrial adult phases for these insects. Gut contents from a brown trout measuring 412mm from this area included several dozen perlodid stoneflies, along with terrestrial beetles, snails, and ants in lower abundances.
These examples of opportunistic feeding by brown trout on high density invertebrate prey illustrate how this species can acquire a large nutritional gain without expending much energy searching for prey. Other species of fish may also exploit this energetic advantage. For example the guts of a rainbow trout (380mm) and a channel catfish (375mm) both caught near Winnie’s Rapid contained 11 and 12 mormon crickets, respectively.

References:
