Photo © by Brian Wiprud

# Match the Hatch for Shad

Do shad actually *eat* flies — or just react to them?

by Brian M. Wiprud

The title question does not have a definitive answer, but there is ample evidence and professional opinion to suggest that shad actually attempt to eat a fly or lure, rather than hitting at it defensively, or even out of some murky feeding instinct. If so, and the prey can be identified, fly fishermen should be able to effectively "match the hatch" and turn what is now potluck into something more akin to a science.

Boyd Kynard is a Fisheries Biologist at the Conte Anadromous Fish Research Center in Turners Falls, Massachusetts. An authority on shad migration, he leans toward the probability that shad are reacting to a feeding instinct.

"When adults enter the river in April-early May, there are few zooplankton. [It] would not be a good evolutionary strategy to delay migration and feed on these few zooplankton, but some shad could harbor an instinctive response to strike (attempt to feed) on a fast moving object. Based on the present information, a feeding response is most likely the root cause of the dart strike."

As to the premise of defensive or agonistic behavior, Boyd said, "No one has studied the behavioral interactions among individual shad. Do they have agonistic interactions to determine position in the school, etc.?...We don't know if they have an agonistic response toward anything." Much less a shad fly.

I contacted John Walter III of the Department of Fisheries Science, Virginia Institute of Marine Science, Gloucester Point, Virginia, and explored this issue. A marine biologist, he has studied shad feeding in the ocean, as well as shad migration.

"These questions bring up an unresolved issue of whether feeding during the spawning migration represents 'impulsive' or 'defensive' strikes rather than actual feeding behavior. Anadromous fishes — shads, salmonids, lampreys, etc. — have often been lumped into a single life history strategy called anadromy, and behavior patterns of one species have been wrongly attributed to other disparate species. Feeding behavior during the migration is a good example. Pacific salmonids and lampreys become non-trophic and lose the ability to digest food during the migration. These species also die after spawning. Atlantic salmon and shad do not lose the ability to feed and they may or may not die after spawning. The cessation of feeding during the migration is not irreversible and must be due to either a lack of suitable food due to a separation from oceanic food sources, a behavioral change either due to a focus on migrating or spawning, or a combination of the two."

But do shad actually recognize a fly or dart as something to eat, say, the same way a trout recognizes a mayfly, caddis or stonefly? John explained the shad marine diet.

## Does Size Matter?

"American shad consume some fish but feed mainly on planktonic crustaceans such as copepods, mysid shrimp and euphausids (krill). The size of shad prey is generally much smaller than the size of the lures commonly used. Copepods are