

Beneficial Species Profile



Photo credit: (Left) Lyle J. Buss, University Of Florida; (Right) James Castner, University of Florida

Common Name: Dobsonfly

Scientific Name: *Corydalus* spp.

Order and Family: Neuroptera (Suborder: Megaloptera), Corydalidae

Size and Appearance:

	Length (mm)	Appearance
Egg	≥ 1.5 mm	Eggs are gray and cylindrical in shape. The eggs are laid in clusters that are two centimeters in diameter with an average of 100-1,000 eggs laid per a cluster. The egg mass is arranged in three layers and covered by a clear fluid that is brushed on by the female's abdomen. This fluid turns white when it dries, and the egg mass resembles bird droppings.
Larva/Nymph	20-80 mm	The larval stage is aquatic and are also known as hellgrammites. The larvae are dusky brown or blackish in coloring. The abdomen contains eight pairs of non-segmented lateral slender, thread-like structures (filaments). Abdominal segments one to seven contain ventral gill tufts at the base of the lateral filaments. Larvae also contain a pair of fleshy hooked anal legs that are known as prolegs. The larvae mandibles are powerful and hardened.
Adult	25-80 mm	Adults are large soft-bodied insects. The wings fold flat over the back when at rest and have a glassy appearance with smoky blotches. The fourth segment of the tarsi is rounded, and the simple eyes (ocelli) are present. Male dobsonflies have enlarged mandibles that are about three times the length of the head.
Pupa (if applicable)		Pupae are yellow-orange in color and have dark splotches on the abdomen. The pupa is exarate, meaning that the developing wings, legs, antennae, and mouthparts are attached only at the base end. The male pupa has a small tubercle (knob-like structure) on the sternum of the thorax. The head of the male also has slightly larger mandibles and a wider head than females.

Type of feeder (Chewing, sucking, etc.): The larvae and female adults have well developed chewing mouthparts. Larvae feed on the prey's body fluids through a blood groove on their mandibles. Adult males have enlarged sickle-shaped mandibles used for competition for mates. It is important to note that adult males are incapable of biting people whereas the female adult and the larval stage can inflict a painful bite.

Host/s: The larval stage feeds on aquatic invertebrates, including blackfly larvae, caddisfly larvae, mayfly nymphs, annelids, and mollusks. Dobsonfly larvae also have been known to feed on tadpoles and small fish. The adult stage does not feed.

Description of Benefits (Pollinators, parasitoids, predators): Dobsonfly larvae play important role as predators in the food web by controlling populations of other aquatic invertebrates. They are also considered prey for other invertebrates, fish, and some terrestrial vertebrates. Predatory fish are the main natural enemy to dobsonflies, and for this reason, fishermen use the larval stage as bait. The aquatic larval stage is considered an important indicator of excellent stream health in bio-monitoring surveys, for they tend to be found in relatively unpolluted water.

References:

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