

Arrow Clubtail

Stylurus spiniceps

Family - Gomphidae

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State Status:

Special Concern

Federal Status:

State Rank:

S1S2

New England Rank:

Global Rank:

G5

Reason for Rarity:

This species has declined as a result of impacts to water quality, loss of riparian habitat, and shoreline erosion.

Threats:

The primary threat to arrow clubtail populations is decline in water quality. Changes in water levels as a result of damming and water diversion projects or beaver damming are also a concern. Development in the upland areas along river systems, critical for feeding, resting and maturation, can also threaten habitat for adult clubtails.

Management Recommendations:**Conservation Considerations:**

Successful conservation of the Arrow Clubtail will require conservation of remaining undeveloped riparian areas along riverine habitats. Strategically regulating no wake zones and other forms of boater activity that threatens newly emerged, flightless dragonflies can improve survivorship to breeding age.

Habitat

Adult arrow clubtails inhabit riparian areas and surrounding uplands, while the nymphs inhabit swift-flowing, sandy-bottom rivers and large, wind-swept lakes.

Range:

This species ranges from Ontario and Quebec south to Georgia, Mississippi and Arkansas.

State Distribution:

The Arrow Clubtail has only been recorded in Franklin County

Global Distribution:

G5

General Description:

Clubtails are characterized by their "club" tail- a swelling at the end of its abdomen- and by eyes that are separated from each other. Like all dragonflies they are semi-aquatic, with the nymph aquatic and the adult terrestrial. Arrow clubtails are a "hanging clubtail", a member of the genus *Stylurus*, a group characterized by having moderately flared clubs and relatively short legs. The arrow clubtail is brownish with pale yellow to green body markings and bright green eyes. The top of the thorax (section behind the head) has thin pale yellow or green stripes. The sides of the thorax are mostly pale with narrow, dark lateral stripes. The abdomen, marked with

yellow spots on the dorsal surface and elongate yellow spots on the sides, is dark brown and longer than most other clubtail species. The face is dull yellowish-brown, and the legs are black. Adult arrow clubtails range from 2.1 to 2.55 inches in length and have a wingspan of 2.75 inches.

Phenology:

When mature, male arrow clubtail dragonflies patrol over swift flowing portions of water looking for females. After mating, females oviposit by flowing low over the water and periodically striking the surface with the tip of her abdomen to deposit her eggs. Nymphs hatch after an unknown time period and burrow in the sandy bottom. They are voracious predators and feed on a variety of aquatic life. After a year or more the nymphs crawl out onto exposed rocks, emergent vegetation, or sections of the riverbank and begin their transformation into adults (eclosion). After casting their skins (exuvia), the newly emerged adults (tenerals) fly into the adjacent uplands where they spend several days feeding and maturing before returning to their breeding habitats. Adult arrow clubtails typically perch high in the tree tops on the upper surface of leaves, in a vertical position.