

THE DRAGONFLY, TACHOPTERYX THOREYI,
RECORDED FOR OHIO, WITH NOTES ON
ITS NEAR RELATIVES.

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From time to time we have reported additions to the list of Ohio dragonflies enumerated in Dr. Kellicott's paper published by the Ohio Academy of Science in March, 1899. The last published addition appeared in the *Ohio Journal of Science*, Volume XIV, page 219, and recorded the capture of *anax longipes*, at Sandusky, Ohio, by Mr. Rees Philpott.

An interesting addition to the known odonat fauna of the State is known to Science as *Tachopteryx thoreyi* Selys. Three specimens have been procured. A female was taken at Ira, Summit County, Ohio, June 20, 1921, by my daughter, Dorothy, who found it resting on the side of a building. A second female was taken in the same locality and by the same collector on July 20, of the same year. This latter specimen was first observed flying about a pool of slack water in a small creek and attempted to alight on the collector, but being prevented from doing so, came to rest on the trunk of a beech tree near by, where it was procured very easily with the aid of an insect net. On August 11, 1923, I was walking along a highway near Sugar Grove, in Fairfield County, when a male specimen was observed flying leisurely before me. It soon alighted on bare ground and I succeeded in capturing it with a net without great effort.

The species has been considered as a likely member of Ohio's fauna for a long time, for Williamson procured it in both Pennsylvania and Indiana nearly twenty-five years ago. Special significance attaches to the species, for it is considered as one of the members of a primitive group, which is supposed to have had numerous representatives in both species and individuals widely distributed over the world. More recently conditions seem to have been less favorable for their requirements for a once dominant group is now reduced to a few scattered species, apparently with a somewhat limited number of individuals belonging to each.

If all specimens of the subfamily are as easily procured as those taken in Ohio, surely they cannot be considered wary, and perhaps a suggestion is evident as to why the group is declining and possibly in danger of becoming extinct.

Tachopteryx thoreyi Selys is classified in the subfamily Petalurinae, which includes nine known species, distributed in five genera.

PETALURA Leach is known only from Australia and contains three species, *gigantea* Leach, *ingentissima* Tillyard, and *pulcherrima* Tillyard. The second species has been mentioned as the largest dragonfly in the world, and if it does not hold this record, it approaches it closely, for some specimens have an expanse of six and one-half inches and a total length of five inches.

UROPETALA Selys is peculiar to New Zealand, so far as known, and contains two species, *carovei* White and *chiltoni* Tillyard. The species of this genus have an expanse of about four inches.

TACHOPTERYX Selys, as now restricted, contains only one species, *thoreyi* Selys. It is not known to occur beyond the limits of the United States, but has been collected in New York, Pennsylvania, Maryland, Kentucky, Indiana, Ohio, North Carolina, Texas and Florida.

TANYPTERYX Kennedy is a generic name proposed a few years ago in a valuable paper entitled "Notes on the Life History and Ecology of the Dragonflies (Odonata) of Central California and Nevada," by Dr. C. H. Kennedy, for the reception of *hageni* Selys from Western United States, and *pryeri* Selys from Japan.

The type locality for *hageni* is Nevada, but specimens are known also from Washington and California.

PHENES Rambur contains only one species, *raptur* Rambur, from Chile. Very little literature concerning this species has appeared.

The widely scattered distribution of the few existing species is advanced as one of the proofs that the Petalurinae formerly was an important factor in the dragonfly fauna of the world, but has declined, so that the representatives of the group now known may be considered as remnants that have become pocketed in these isolated localities.

The well known authority on dragonflies, E. B. Williamson, was the first to publish regarding the metamorphosis of a

member of the subfamily. In his paper in *Entomological News*, Volume XII, page 1, he records the capture of a nymph of *Tachopteryx thoreyi* and gives a full description and a figure of the specimen from which an adult female was reared.

Later Dr. R. J. Tillyard, of New Zealand, formerly of Australia, made a notable contribution to the knowledge of life histories of dragonflies when he published the results of his work on *Petatura gigantea* in the Proceedings on the Linnaen Society of New South Wales, in 1909 and 1911. He succeeded in finding nymphs of various sizes and ages in plentiful numbers. They burrow in the mud of swamps, where but little water is standing. The burrows were observed to go down two or three feet in depth and to be connected with cross burrows in such a way as to form a complex which several nymphs use as a retreat. Tillyard concluded that these nymphs probably leave the burrows at night to procure food and possibly when they change from one instar to the next.

The latter observer in a paper in the Transactions of the New Zealand Institute for 1921 gives the reproduction of a photograph of the nymph of *Uropetala carovei* and a few notes concerning the species.

Previous observations have associated the species of this subfamily studied, with marshy areas where not much water stands, such as are found surrounding the outlet of springs that issue at a level somewhat higher than an adjacent stream bed, but where the flow of water is more or less retarded by the lay of the land and by the growth of vegetation and the collection of derived material. It is very likely that where such an area is available for breeding grounds, *Tachopteryx thoreyi* may be found flying in season in the vicinity. It is like many other species of animals with a particular habitat. They are plentiful enough when one knows where to look for them.