

A Survey of the Zygoptera of UNDERC

Kurt Shubert  
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w/ Dr George Craig  
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## Introduction

In an area constantly undergoing different types of research projects, it is important to know as much as possible about the different types of organisms present in the area. This is not as easy as it seems. The diversity of life is so incredible, it may in some cases be impossible to list all the species of organisms in ones lifetime. At the University of Notre Dame's Environmental Research Center, such a problem exists. UNDERC is an excellent place to study both terrestrial and aquatic ecosystems, therefore it is important to know what species of organisms are present.

A study was done in the summer of 1989 examining one small part of UNDERC's vast fauna. This was a survey of the area's Zygoptera. The survey was a continuation of previous studies attempting to expand the number of known species on the property.

## Materials and Methods

The procedure used in obtaining the damselflies was very simple. Nets were used to catch the damselflies in flight and to sweep the vegetation to get the ones resting. Sweeping the vegetation proved to be the most productive method. This method was even upgraded by using a moving vehicle. By driving slowly along the road side and dragging the net through the high grass on the side of the road, Damselflies could be easily obtained with minimal effort. Territory stalking was also an effective method especially for the large *Calopteryx* along streams.

The insects were killed in jars containing ethyl acetate. This was very effective, but if left too long the wings (a main key character) would stick together and the color would fade. After killing the insects, they were pinned and spread for drying. By placing the insects in the freezer during the drying period, rodents and insect damage was avoided and more of the color could be retained. The final step was the use of keys to determine the species of each individual.

## Results

Many different species were collected on the property. They included species from the three families existing in the area. The species identified were as follows:

Family Calopterigidae

Calopteryx maculatum

Calopteryx aequabile

Family Lestidae

Lestes rectangularis

Lestes disjunctus

Family Conagrionidae

Chromagrion conditum

Coenagrion resolutum

Enallagma boreale

Enallagma carunculatum

Enallagma ebrium

Enallagma hageni

Enallagma vernale

Ischnura posita

Ischnura verticalis

Nehalennia gracilis

Nehalennia irene

Many of the species found in this survey were not identified in previous surveys. Some had been identified and other species found before had not been found this time.

## Discussion

This study proved to be very successful as can be seen by the number of new species identified. The other noticeable difference between this and the previous studies was in the species of Lestidae found. The two species which were found in this study, Lestes rectangularis and Lestes disjunctus, were different from the two previously identified, Lestes dryas and Lestes forcipatus.

The collections consisted primarily of males. One reason for this was the selection of collecting sites. The roads and streams are used by the males to stake out territories and this led to the male weighted samples.

The use of the keys was another problem encountered when typing the samples. The keys are fairly good although slightly outdated. Some of the names have changed which caused great confusion when different keys were used for genus and species. The genus key that was used did not have definite endings for example they would end the key with (Ischnura (in part)) or (Coenagrion or Enallagma.) In the species key, many of the female key characters were very vague especially for the female Enallagma.

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## References

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