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ODONATA NEW TO THE WISCONSIN STATE LIST

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The only extensive paper dealing primarily with the Odonata of Wisconsin is that of Muttkowski (1908), in which he included not only 78 species taken but 30 to be expected in the state. Subsequent records and corrections leave a total of 103 species for which definite evidence has been published (Ries, 1967:113).

The following account of new records of Anisoptera and Zygoptera taken during five seasons of collecting in the northern part of Wisconsin confirms the presence of four of the expected species mentioned by Muttkowski, and includes eleven others, making a total of 15 additions to the state list. As 12 of these species also occur in the Upper Peninsula of Michigan (Hebard, 1910; Combs, 1917; Byers, 1927; and Kormondy, 1958) few of the records are surprising. Rather, they are the result of the first intensive collecting in the area. Most of them extend the known range of the species concerned, some to a considerable degree. Unless otherwise specified, all these new records are from near Sayner in Vilas County, an area in which I have collected 73 species.

In addition to specimens listed below, several males of most of the species were sent to Dr. Robert W. Cruden, now at the University of Iowa, Iowa City, for chromosome counts (Cruden, 1968); these remain in his possession.

NEW RECORDS FOR THE STATE

Species marked with an asterisk (*) were predicted by Muttkowski.

1. *Cordulegaster maculata* Selys. Eighteen males have been taken on Plum Creek from about June 9, when individuals were already mature, through July 23, and numerous others have been seen each year. Unlike Combs, who found *Cordulegaster maculata* "only patrolling roadways thru the forest", I have so far found it only patrolling long stretches of the stream itself.

2. *Ophiogomphus aspersus* Morse. I am indebted to Dr. Paul D. Harwood of Ashland, Ohio, for one male of this species captured by him at Siren, Burnett Co., Wisconsin on June 12, 1952. He reports that this specimen was "taken on the main street of the village much to the amusement of the natives." This specimen has been returned to Dr. Harwood to remain in his collection.

3. *Stylurus scudderi* (Selys). This species was collected during August 1963 and August 1965 on Plum Creek, an excellent trout stream about 4½ miles long. Seven mature males are in my collection and a number of others were seen although they never seemed numerous.

*4. *Cordulia shurtleffi* Scudder was not included in any of Muttkowski's work on the dragonflies of Wisconsin other than the statement (1908:103): "The species may be expected in Wisconsin, since it is found in Transitional regions." The expeditions to northern Wisconsin conducted by the Milwaukee Public Museum in 1905 and 1907, which resulted in most of Muttkowski's northern records, apparently failed to find this species although they were well within its season of greatest abundance. In the vicinity of Sayner it usually seems to

be everywhere, around lakes, streams, bogs, and roadways; so common in fact that I cannot understand how it has escaped previous notice. In most years it is one of the most widespread and easily caught of the Anisoptera of the area. Forty-four males and fifteen females have been collected from June 3 through July 19 and one mating pair on June 19. Many more have been netted but released.

5. *Somatochlora forcipata* (Scudder). Judged by the few specimens in collections this species is rare as far west as northern Michigan. The distribution map in Walker's excellent monograph on the genus (1925:140) barely indicated any expectation that the species might be found on the extreme northern edge of Wisconsin.

There is in my collection a male, badly damaged and slightly teneral but readily recognized as *S. forcipata* by its abdominal appendages. The specimen was taken on June 19, 1964 along Razorback Road near the Forest Genetics Station lane. This record is about a hundred miles west of the most northwestern one reported by Kormondy (1958:26), for Dickinson and Marquette Counties of the Upper Peninsula of Michigan.

6. *Somatochlora kennedyi* Walker. So far in my collecting, Somatochlores as a group have seemed very scarce. A female of *kennedyi* was taken on July 12, 1965 at Harer's Landing near the south end of Razorback Lake. Walker's map (1925:132) indicated the probable occurrence of this species in Wisconsin.

7. *Somatochlora walshii* (Scudder). The occurrence of this species in Wisconsin was clearly forecast on the distribution map in Walker's monograph (1925:32). One male was collected on July 12, 1962 at Aurora Creek where it crosses under Razorback Road.

8. *Leucorrhinia frigida* Hagen was included in the key in Muttkowski's paper on the dragonflies of Wisconsin (1908:112) but was not listed otherwise. Recently its occurrence in Minnesota has been reported (Hamrum, Carlson, and Glass, 1965:25).

In northern Wisconsin this is the commonest species of *Leucorrhinia* during the early part of the season, starting as early as June 6 and still to be found as late as August 19 at almost any bog or swampy lake. Between these dates seventy-five males and eighteen females have been collected. Many more have been netted and released. Twenty-seven mating pairs were caught between June 7 and August 14. In addition one male was found in a small sundew plant where apparently it had been caught and held until death.

*9. *Leucorrhinia proxima* Calvert. Perhaps some of the early Wisconsin records of *Leucorrhinia*, ascribed originally to other species by sight or from nymphal material, may on re-examination turn out to be this species or perhaps *frigida*. Muttkowski stated (1908:113) only that it is "quite probable that it occurs within the borders of the state." *L. proxima* has also recently been recorded from Minnesota (Hamrum, Carlson, and Glass 1965:25).

This species is common from June 10 until August 16 at such locations as Stella Creek, Aurora Lake and Creek, Lone Tree Swamp, Bear Springs, and "Texakeck Bog," occurring in greater numbers where conditions are muddier and more swampy than a typical sphagnum bog. In the latter locale *L. glacialis* tends to be more numerous though the two species often fly together and are indistinguishable on the wing. Twenty-six males and six pairs have been collected, the latter between June 22 and August 10.

10. *Nannothemis bella* (Uhler). One or two individuals of this species have been collected at nearly every bog lake visited frequently but it is usually common only at a small unnamed bog and lake on the east side of Old White Birch Road, located in the Town of Plum Lake--East, or Sec. 8 T 41 N Range 9 E on the Boulder Junction quadrangle of the U.S. Geological Survey. The bog is listed as No. 8-3 in the "Surface Water Resources of Vilas County" (Black, Andrews, and Threinen 1963:292) but for convenience I refer to this interesting spot as "Nannothemis Bog" because of the predominant species found there.

Nannothemis has been seen as early as June 13, when females were teneral, and as late as August 3. Collected specimens number twenty-five males, nine females, and four pairs. Many more individuals were observed.

It is probably not surprising that *Nannothemis bella* so often escapes detection that it is seldom reported. In my experience adults have always been found close to the shrubs and other vegetation at the wettest and most quivering edge of the bog lake where few people venture, never near dry land.

This record is a little south and west of the one for Baraga Co., Michigan (Kormondy 1958:37).

*11. *Lestes congener* Hagen. This species was one of two *Lestes* included by Muttkowski in his key (1909:69) with the statement "two others may also be found in Wisconsin, but they have not been recorded thus far." Distribution of the species has usually been so generally stated that its presence in Wisconsin might be inferred but so far as I can ascertain specimens have still not been actually reported. In Vilas County it is widely distributed late in the season from about August 8, when pairs were already mating, until September 1 when mating was still common, and perhaps even later if there are no heavy frosts. In my collection are twenty-seven males, four females, and fifteen pairs from Aurora Lake and the small bog west of Frank Lake Road as well as various other small swampy pools.

12. *Anomalagrion hastatum* (Say) has never been reported from either Michigan or Wisconsin. Yet on August 30, 1962 a teneral male was taken at the small bog on the west side of Frank Lake Road. Intensive search then and since has failed to produce further specimens. The bog is small and entirely surrounded by forest; the specimen was so soft that it is inconceivable that it could have been carried there from any great distance by the wind.

This tropical and subtropical species has been reported from northern Illinois by Needham and Heywood (1929:358), and in Iowa from Fairport by Wilson (1920:235), as far west as Des Moines by Elrod (1898:8), and as far north as Waterloo by Miller (1906:360). Finding it in Vilas County is not only a northern extension of the western part of its range, but of its entire range as it is farther north than any definite record for Maine (Borrer 1944:140) or any records for Canada (Walker 1953:275).

13. *Coenagrion interrogatum* (Hagen). Walker (1953:181) summarized the range of this species as entirely Canadian except for the state of Maine. Kormondy (1958:18) added a record for Isle Royale but the species apparently has not been reported from the mainland portion of the Upper Peninsula of Michigan or from Wisconsin.

In 1962, 1965, and 1966 a number of individuals were collected in and near three sphagnum bogs in Vilas County: "Texakeck Bog" at the end of Camp

Highlands Road across the road from the camp entrance, "Nannothemis Bog" on Old White Birch Road, and from the floating mat beside the fishermen's landing on Aurora Lake. A total of nine single males and two mating pairs were collected between June 7 and 25. The earliest specimen was netted on the far side of the wooded hillside surrounding "Texakeck Bog." Later in the season specimens were always found deep among the leatherleaf, cranberry, and other bog plants at the edge of the water. One mating pair was caught by hand on June 13 and another by net on June 25. No single females were sighted or collected and individuals always seemed scarce.

Of the eleven male specimens, two have complete antehumeral stripes instead of the interrupted stripe more characteristic of *C. interrogatum*. Also from the same areas, males of *C. resolutum* (Hagen) were occasionally found with the antehumeral stripe interrupted instead of complete. However, both species are readily identified by other characters.

*14. *Enallagma aspersum* (Hagen) has not definitely been reported from the Upper Peninsula of Michigan nor from Wisconsin although Muttkowski (1908:75) included the species in his table of *Enallagma* "species that have been taken in Wisconsin or are likely to be found" and stated that it belongs in the Upper Austral Life Zone (1908:77). In his North American Catalogue (1910:55) he listed the distribution of *aspersum* as "Carolinian, N.Y. & N.C. to Mo. & Wisc." Probably on the basis of this report Needham & Heywood (1929:339) listed the species from Wisconsin.

Enallagma aspersum is common in the Boreal Zone of northern Wisconsin during the latter half of the summer. It is numerous around sphagnum bog lakes but it is not restricted to these. I found it also around a number of shallow lakes with sandy bottoms and gently sloping, damp sand beaches such as Weber Lake, Vandercook Lake, and Little John Jr. The last is a particularly interesting locality. There *Enallagma aspersum*, when disturbed, arose from the grass in clouds thicker than I have ever observed with any damselfly anywhere. Flying with it were a few *Enallagma hageni* (Walsh). Forty-one males were collected between July 9 and August 31 and ten pairs between July 9 and August 14. Many more were seen.

The present record is the most northwestern one for the species, the nearest ones to it being Chicago, Illinois (Hagen 1861:97) and Fairport, Iowa (Wells 1917:330). It is within less than half a degree latitude of the northern record for the species, namely that of Robert (1953:318) in the Province of Quebec, Canada.

15. *Enallagma cyathigerum* (Charpentier). This circumboreal or holarctic species has been known from Michigan's Lower Peninsula for many years but has apparently not yet been reported from the Upper Peninsula. It was not included by Muttkowski in his list of *Enallagma* species likely to be found in Wisconsin. Nevertheless, it is common around most bog lakes during the first half of the season. It decreases in numbers as *E. aspersum* appears and gradually disappears entirely. Disregarding single females my collection includes thirty-three males collected from June 10 to August 8 and fourteen mating pairs from June 15 to July 17.

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The material upon which this paper is based will be deposited in the collections of the Illinois Natural History Survey, the University of Michigan (Museum of Zoology), the U.S. National Museum, and the University of Wisconsin.

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While the above paper was in press the Editor was informed of the death of Mrs. Mary Davis Ries on December 16, 1968.

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**A NEW SPECIES OF *XIPHOSOMELLA*
(HYMENOPTERA: ICHNEUMONIDAE)**

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The genus *Xiphosomella* belongs in the subfamily Cremastinae. This genus and *Pristomerus* differ from other genera of the subfamily in having a distinct thyridium on the second tergite. In *Xiphosomella* the thyridium is some distance from the base of the second tergite, while in *Pristomerus* the thyridium is very close to the base. Both genera may or may not have a spine on the under side of the hind femur. *Xiphosomella* may have an areolet. Most species of *Xiphosomella* are Neotropic. One species (*dubia*) has been described from the United States. This paper adds a second species.

Unless otherwise stated, all specimens are in the Townes collection, Ann Arbor, Michigan.

KEY TO THE TWO NEARCTIC SPECIES OF *XIPHOSOMELLA*

1. Hind femur without a spine. Flagellum with 28 to 32 segments. Nervellus weakly inclivous to vertical *X. setoni*, new species
- Hind femur with a spine on its distal, ventral surface. Flagellum with 33 to 36 segments. Nervellus strongly inclivous *X. dubia* Brues

Xiphosomella setoni, new species

♂ and ♀ : Body 4.5 to 6.1 mm. long; front wing 3.0 to 3.75 mm. long; flagellum possessing 28 to 32 segments; basal transverse carina of propodeum not obviously raised at middle to form a ridge; areola mat textured; distal, ventral surface of hind femur without a spine.

Coloration: The ground color of the entire insect is fulvous. Face, cheeks, clypeus, mandibles, and temples can be whitish yellow. First coxa and trochanters and second coxa and trochanters can be white. Vertex, post-occiput, median lobe of mesoscutum, scutellum, postscutellum, basal area of propodeum, dorsal edges of the first lateral areas, areola, and the petiolar area of propodeum often darkened to a dark brown. The dorsal surface and entire distal part of the petiole, the second tergite, and the basal one-half of the remain-