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The Saffron-winged Meadowhawk (*Sympetrum costiferum*) in Oklahoma

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Adults of many meadowhawk (*Sympetrum*) species are notoriously late-season fliers, so much so that in northerly regions various meadowhawks typically are among the last species active before the onset of winter. This situation differs slightly on the southern Great Plains; in some years, late autumn brings northerly meadowhawks into the state, with the Cherry-faced Meadowhawk (*S. internum*) being the principal sporadic “invader” (Smith-Patten and Patten, 2013), and the White-faced Meadowhawk (*S. obtrusum*; Smith-Patten and Patten, 2013) and Striped Meadowhawk (*S. pallipes*; OC #426895) have appeared once each during those “invasion” years.

To these species we may now add the Saffron-winged Meadowhawk (*S. costiferum*). On 15 October 2014, we discovered three ♂ at Lake Ponca in Kay County, in the north-central part of Oklahoma ~30 km south of the Kansas state line (Fig. 1). We photographed one (OC #427449) and collected two (Smith-Patten/Patten Collection #1453 and #1454). All three individuals occupied a small, spring-like pond at the southern edge of the main lake. Later that same day we observed, but could not document, another ♀ at Legion Park in Blackwell, Kay Co. We traveled back to Norman that evening secure in the knowledge that we had discovered a first state record.

But things are never so simple. Two days later, after our specimens were processed and ready to be filed, MAP decided to examine the hamules in direct comparison to

those of the Autumn Meadowhawk (*S. vicinum*), chiefly as a learning experience, and because one could argue that in North America this is the species most likely to be confused in the field with *S. costiferum*. We are happy to report that the hamules of our specimens confirmed the identification as *S. costiferum*. We are chagrined to report that ours was not actually a first for the state, as MAP noticed that three specimens donated to us by Jason R. Heinen as *S. vicinum* did not appear to be that species. These specimens were a ♂ and ♀ from Three Lakes, in neighboring Grant County, 11 October 2012 (SP 507, SP 508), and a ♂ from Legion Park in Blackwell, 15 October 2012 (SP 509). MAP quickly determined that each specimen was indeed *S. costiferum*. Photographs of the two ♂ had been submitted to OdonataCentral (Grant: OC #382090; Kay: OC #382107) and confirmed as *S. vicinum*, but the photos clearly show ♂ *S. costiferum*, and so we have corrected the identification of those individuals.

Remarkably, the very next day, 18 October 2014, MAP visited the city reservoir in Altus, Jackson County, in the southwestern corner of the state (hence, quite far from the previous records; Fig. 1), where he was surprised to discover a single ♂ *S. costiferum* (SP 1459; OC #427492) among the numerous Variegated Meadowhawks (*S. corruptum*). This record suggests to us that the species may occur anywhere in the state during its incursions. Moreover, the Jackson County record (34.66°N latitude) is likely the southernmost ever for the species. In the literature it is bested only by

a report from Eddy County, New Mexico (32.46°N; Evans, 1995; Donnelly, 2004; Abbott, 2005; Paulson, 2009), but as James N. Stuart noted in comments on the dot map entry on OC (#252757), the claim “is apparently based on specimen(s) in [the] Colorado State University collection... [yet] Bill Prather (pers. comm., 24 Sep 2013) notes that in the CSU collection ‘there is a [♀] specimen (in bad shape) labeled *Sympetrum costiferum* from Eddy County, NM, that has an obvious *S. vicinum* subgenital plate remaining.’ A verified record of this species for Eddy Co. and for New Mexico may be lacking.” Stuart affirmed this point via e-mail (pers. comm., 30 December 2014), and so we feel that the species ought to be removed from the New Mexico state list.

We have a sample size of only two years, but nevertheless we wish to highlight that both years *S. costiferum* reached Oklahoma coincided with small incursions of *S. internum*, a species not recorded annually in the state. We posit that northerly meadowhawk species co-occur, such that the rarer species—*S. costiferum*, *S. obtrusum*, *S. pallipes*—appear when prevailing weather conditions favor an incursion of *S. internum*. Data across future years will be needed to test this hypothesis, but it would be wise to watch for Ruby (*S. rubricundulum*), Black (*S. danae*), and perhaps Red-veined (*S.*

madidum) Meadowhawks during flight years of *S. internum*.

Acknowledgments

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Figure 1. Records of the Saffron-winged Meadowhawk (*Sympetrum costiferum*) for Oklahoma.