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Author(s): Foy, Bernard R.
Hathcock, Charles Dean

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Three Species of Odonata Observed at TA-3 in September 2015

Bernard R. Foy, ISR-2
Charles D. Hathcock, EPC-ES
Los Alamos National Laboratory
Los Alamos, NM 87545

The spatial distribution of Odonates (dragonflies and damselflies) in northern New Mexico is only partly known. Information about the occurrence of species is currently being accumulated by professional and amateur biologists. Los Alamos National Laboratory has a considerable amount of suitable habitat for Odonates. With effort, it is likely that many species will be discovered in Los Alamos County that have yet to be documented, which would aid in general knowledge about Odonate distribution and habitat needs.

We report the occurrence of three species of Odonates at Los Alamos National Laboratory in the autumn season of 2015. Foy visited the location on 2 September 2015 and discovered two Black Meadowhawk dragonflies (*Sympetrum danae*). The authors returned on 10 September 2015 and photographed one individual. We also photographed a Striped Meadowhawk (*Sympetrum pallipes*) and a Black-fronted Forktail (*Ischnura denticollis*), the latter being a damselfly.

The location with these Odonates was a small pool of water, approximately 11m X 3m, adjacent to a parking lot in Technical Area 3 (TA-3) at LANL (Fig. 1). The coordinates are lat 35.874224, long -106.330883 degrees (WGS84 datum). The elevation is approximately 2282 m (7488 ft). This pool is kept wet by stormwater drainage from a large paved parking lot near the Laboratory's Wellness Center. The drainage basin was constructed in 2003, at a time when the parking lot was substantially enlarged in size. At the time of our visit in 2015, it contained broadleaf cattails (*Typha latifolia* L.) approximately 2 m in height. The basin was constructed with the express purpose of slowing stormwater as it moves down toward Two-mile Canyon, helping to control erosion at the site.

The Odonate individuals were identified using information in the book by Paulson [1]. Figure 2 shows one of at least two individuals of Black Meadowhawk that we located that day. Identification is relatively straightforward, since there is only one species of *Sympetrum* that is almost completely black in color (in the male of the species). Figure 3 shows a Striped Meadowhawk that we photographed in the same location. Identification of this individual is also straightforward. Among the handful of species with bright red coloration, only *Sympetrum pallipes* has bold light-colored stripes on the thorax. Figure 4 shows a female damselfly that we also found at the pool on this date. These Odonates can be extremely difficult to identify,

sometimes requiring examination under a microscope. However, the photograph is high quality, and shows details of the prothorax and mesostigmal plate that are consistent only with Black-fronted Forktail [Robert Larsen, pers. comm.]. The two meadowhawks were observed again at this spot until 1 October 2015.



Fig. 1. Aerial photograph of the location in TA-3, LANL. The pool location is indicated by the red arrow. Image from Google Maps.



Fig. 2. Black Meadowhawk, male. Photograph by C. Hathcock.



Fig. 3. Striped Meadowhawk, male. Photograph by C. Hathcock.



Fig. 4. Black-fronted Forktail, female. Photograph by C. Hathcock.

According to the range maps in Ref. 1, all three odonates that we report here are within their known ranges. The location is at the extreme southern edge of the range for Black Meadowhawk. Our observations are significant, however, based on other records posted on the website Odonata Central [2], one of the best-known publicly-available compilations of odonata information. As of September 2015, there were no previous records of Black Meadowhawk or Black-fronted Forktail in Los Alamos County, NM. There was only one previous record of Striped Meadowhawk in Los Alamos County, reported by Mark Bjorklund.

These three records demonstrate that much remains to be learned about dragonflies and damselflies in Los Alamos County. It is likely that more exploration within the boundary of LANL will reveal many important records for the county, and these efforts will be of great value to the expansion of knowledge of odonates in the southwestern United States.

Acknowledgements

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References

1. Dennis Paulson, *Dragonflies and Damselflies of the West*, Princeton Field Guides, Princeton University Press, Princeton, NJ, 2009.
2. Abbott, J.C. 2006-2016. OdonataCentral: An online resource for the distribution and identification of Odonata. Available at <http://www.odonatacentral.org>. (Accessed: September 10, 2015).