

BULLETIN OF AMERICAN ODONATOLOGY

Update of The Odonata of Oregon

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Key words: Odonata, United States, Oregon, records, dragonflies, damselflies

Abstract

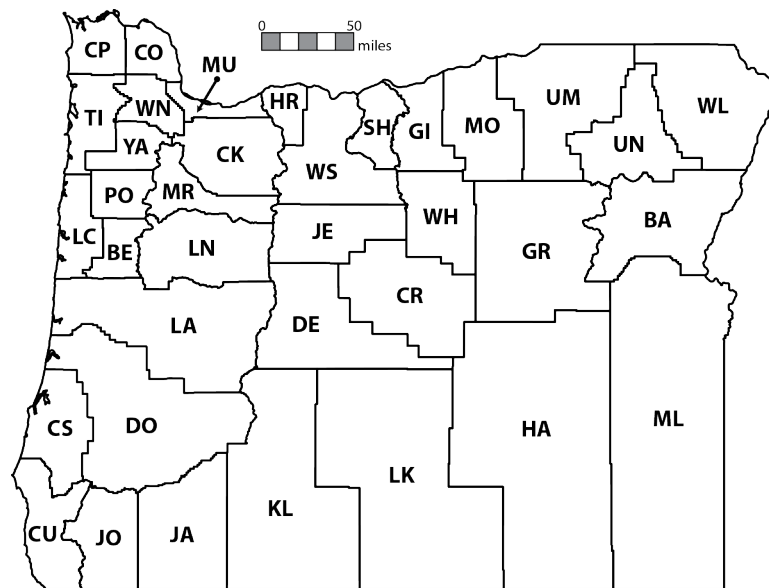
Ninety-two species are currently recorded in Oregon. Additional and updated records since Johnson & Valley (2005) are summarized for 28 species and one hybrid with some range maps updated. The current county records and early/late flight dates for all known species in Oregon are presented.

Introduction

Johnson and Valley (2005) reported 87 species of Odonata occurring in Oregon—26 Zygoptera and 61 Anisoptera, with a total of 1416 county records (however 1415 records were indicated in the introduction). Since then five species have been added for a total of 92 (29 Zygoptera and 63 Anisoptera). Four of these are additions to the known state fauna: *Aeshna tuberculifera* Walker, *Leucorrhinia proxima* Calvert, *Lestes forcipatus* Rambur, and *Ischnura barberi* Currie. A fifth species, *Lestes stultus* Hagen, was treated as

conspecific with *L. dryas* Kirby in Johnson & Valley (2005), but is currently treated as a valid species. We currently have 1591 county records total (178 additions and 3 removals; Appendix 2), and 60 species with updated early and/or late flight dates (Appendix 1) since Johnson & Valley (2005).

Some species maps which appeared in Johnson & Valley (2005) have been updated. New locations are indicated with open circles (○) and, in some cases, questionable records (previously indicated with a question mark) have been changed to solid dots to reflect current understanding; otherwise, the maps are as they appeared previously. Gray shaded areas depict the known and presumed range within Oregon based on records at the time of Johnson & Valley (2005); outlying records (populations or individuals) away from the primary range are indicated with black dots (●); question marks (?) indicate outlying records for which some doubt exists, either because reported specimens are not extant or because of the possibility that specimens were mislabeled.



| | | | |
|--------------|---------------|--------------|---------------|
| BA Baker | DO Douglas | LA Lane | SH Sherman |
| BE Benton | GI Gilliam | LC Lincoln | TI Tillamook |
| CO Columbia | GR Grant | LK Lake | UM Umatilla |
| CK Clackamas | HA Harney | LN Linn | UN Union |
| CP Clatsop | HR Hood River | ML Malheur | WH Wheeler |
| CR Crook | JA Jackson | MO Morrow | WL Wallowa |
| CS Coos | JE Jefferson | MR Marion | WN Washington |
| CU Curry | JO Josephine | MU Multnomah | WS Wasco |
| DE Deschutes | KL Klamath | PO Polk | YA Yamhill |

Figure 1. Oregon counties and their abbreviations.

Abbreviations

BG: Bugguide—number refers to image identifier at <<http://Bugguide.net/>>.

Co./Cos.: County/Countries

OC: OdonataCentral—number refers to the submission identifier at <<http://OdonataCentral.org/>>.

Name Changes

Enallagma cyathigerum (Charpentier) ⇨ *Enallagma annexum* (Hagen), the latter split from the former (Turgeon et al., 2005; Paulson, 2005).

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Sympetrum occidentale Bartenev ⇔ *Sympetrum semicinctum* (Say), the former synonymized with the latter (Pilgrim & von Dohlen, 2007; Paulson, 2007).

Errata

Anax junius (Drury). In Johnson & Valley (2005), a transcription error resulted in the abbreviation for Lake Co. (“LK”) listed twice—one of those should have been the abbreviation for Klamath Co. (“KL”).

Plathemis lydia (Drury). In Johnson & Valley (2005), the late flight date for this species should have been 3 Oct, not 30 Oct.

Additional/Updated Records

Hetaerina americana (Fabricius). One female was observed 15 Jun 2005 on the Willamette River near the mouth of the Calapooia River, Albany, Linn Co. (Gordon & Kerst, 2005). Previously only historic records from the 1930s were known from the Willamette Valley north of Lane Co.

Lestes forcipatus Rambur. New state record for Oregon. Found at multiple sites in the Blue Mountains in 2009 (Johnson, 2009b): at shallow ponds about 15 miles north of Enterprise, Wallowa Co., 2 Aug (J. Johnson & C. Kerst collection; OC 314568); at a small borrow pit north of Elgin, Union Co., 3 Aug (J. Johnson collection; OC 314573; multiple records since); and Mud Lake, Clear Lake Ridge Preserve, Wallowa Co., 4 Aug (C. Kerst collection; OC 314741). Figure 2.

Lestes stultus Hagen. Treated as conspecific with *Lestes dryas* Kirby in Johnson & Valley (2005) based on a lack of morphological differences (Johnson, 2006), but because it has not yet been formally synonymized we currently treat the taxon as a valid species. Individuals matching this taxon were first found near Drain, Douglas Co., 21 Jul 2000 (Johnson et al., 2002); subsequently found near Eight Dollar Mountain, Josephine Co., 18 Jun 2003, 15 Jun 2007, and 29 Jun 2012 (J. Johnson collection), and near White City, Jackson Co., 13 Jun 2009 (S. Gordon collection; OC 314917). The elevations of these sites range from about 360 to 1375 feet.

Individuals appearing to be *Lestes stultus* were also collected at about 2855 feet elevation in the Coast Range at Fanno Meadows, Polk Co., 17 Sep 2000 (Johnson et al., 2002), however these became green after preservation using acetone, thus appearing very similar to *L. dryas*. These have narrow pale antehumeral stripes on the thorax which is more consistent with *L. stultus*. At this time we consider the identity of the Polk Co. individuals inconclusive, but if they are determined to be *L. stultus* they would be the northernmost individuals of the species found thus far, and at an uncharacteristically high elevation. Figure 3.

Lestes unguiculatus Hagen. An early flight date of 14 Mar was reported previously based on Oregon State Arthropod Collection specimen data, but this is considered highly unlikely for any *Lestes* in Oregon. We assume that the date is an error. The current earliest flight date for this species is 25 May.

Argia agrioides Calvert. Additional sites at Mickey Hot Spring, Harney Co., 28 Jul 2006 (D. Paulson collection; OC 7191), and Twentymile Creek, south of Adel, Lake Co., 5 Aug 2007 (J. Johnson collection; OC 262890; multiple records since) where the species flies with the extremely similar *Argia nahuana*. Figure 4.

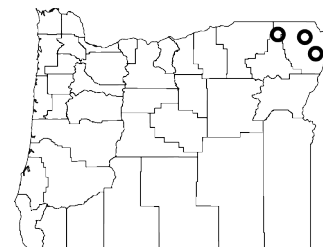


Fig. 2. *Lestes forcipatus*.

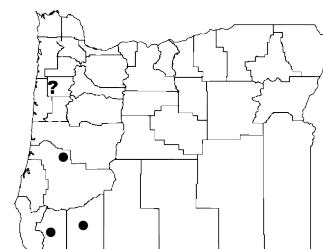


Fig. 3. *Lestes stultus*.

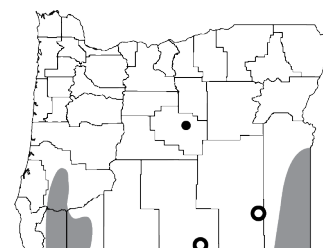


Fig. 4. *Argia agrioides*.

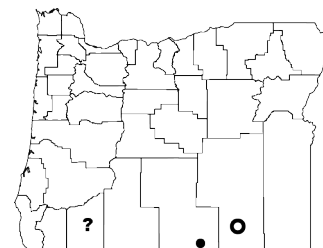


Fig. 5. *Argia nahuana*.

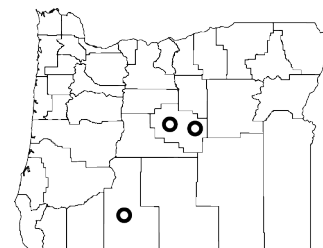


Fig. 6. *Enallagma anna* × *carunculatum*.

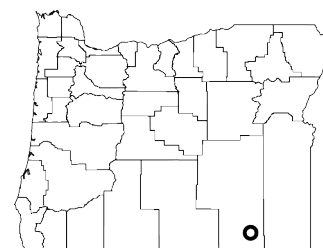


Fig. 7. *Ischnura barberi*.

Argia nahuana Calvert. Confirmed at a second location in Oregon where a single male was collected: Skull Creek, Harney Co., on 27 Jul 2010 (J. Johnson collection; OC 323301). Figure 5.

Enallagma anna Williamson × *carunculatum* Morse. Individuals presumed to be hybrids of this species pair have been found on the Crooked River drainage in Crook Co. (Johnson, 2009a) on 10 Aug 1994 (K. Tennessen collection) and 25 Aug 2007 (J. Johnson collection); another individual was collected on the Sprague River near Chiloquin, Klamath Co., 25 Jul 2010 (J. Johnson collection). Figure 6.

Ischnura barberi Currie. New state record for Oregon. A single female was collected at Borax Lake, Harney Co., 18 Sep 2010 (Johnson, 2010; OC 323402). Thus far, no other individuals have been found. Figure 7.

Ischnura denticollis (Burmeister). Additional site on the west side of the Cascades at a pond near White City, Jackson Co., 17 Sep 2005 (J. Johnson collection; OC 6977). This supports a historic record from Canyonville, Douglas Co., which we previously questioned on ecological grounds, but which we now have no reason to doubt. A single male photographed at approximately 6400 feet elevation (Lost Lake, Newberry Caldera, Deschutes Co., 14 Aug 2010; J. Johnson collection; OC 323309) was a new county record and surpassed the previous known maximum elevation by 1900 ft. Figure 8.

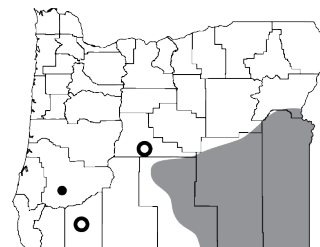
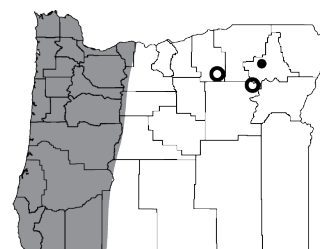
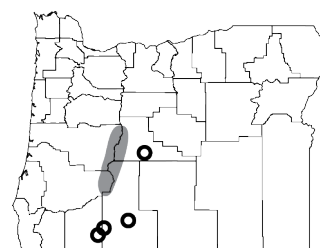
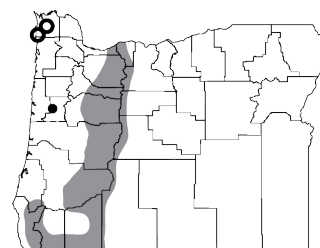
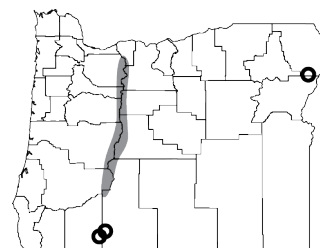
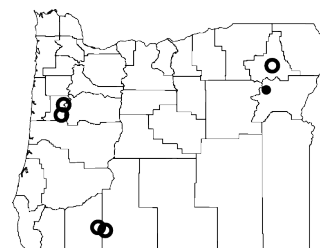
Ischnura erratica Calvert. Records from Grant (OC 7205) and Morrow (OC 7153) Cos. (multiple individuals at both areas; J. Johnson collection) indicate more widespread occurrence in the Blue Mountains. Previously only a single specimen was known from this region (Union Co.) Figure 9.

Nehalennia irene (Hagen). Additional sites in Jackson Co. (Beaver Pond Creek, 3 Jul 2005 [J. Johnson collection; OC 6319]), Klamath Co. (a wetland alongside Sprague River near Chiloquin, 25 Jul 2010 [J. Johnson collection; OC 322685] and Bull Swamp, 20 Aug 2010 [J. Johnson photo; OC 323335]), and Deschutes Co. (Lost Lake, Newberry Caldera, 14 Aug 2010 [J. Johnson photo; OC 323310]). Figure 10

Tanypteryx hageni (Selys). Previously, the only known Coast Range site was on Mary's Peak, Benton Co., but the species has not been observed there for many years and the exact location is not currently known. Now known from the Coast Range at two Clatsop Co. sites: Onion Peak where many individuals were seen and photographed on 27 Jul 2009 (M. Patterson photo; OC 314325) and 4 Aug 2011 (fide M. Patterson), and Saddle Mountain where one individual was photographed 29 Jul 2011 (M. Patterson photo; OC 330758). Figure 11.

Aeshna canadensis Walker. Previously known only from the Cascade Mountains south to Douglas Co. and northern Klamath Co.; additional sites in Jackson Co. (Beaver Dam Creek, 7 Aug 2005; J. Johnson collection; OC 6459), southern Klamath Co. (Lake of the Woods, 18 Sep 2005 and 20 Aug 2010; J. Johnson collection; OC 371565 & 372321; multiple records since), and the Wallowa Mountains, Wallowa Co. (Duck Lake, 31 Jul 2012, C. Kerst collection). Figure 12.

Aeshna constricta Say. Previously only a historic record from Baker Co. (location of specimen unknown); several additional sites found, most notably Rainbow Bay, Lake of the Woods, Klamath Co., where multiple individuals were collected 7 Aug 2005 (Gordon & Kerst, 2006; OC 6465), and multiple individuals have been collected or photographed most years since. Singles were also found at Jack Springs, Jackson Co., 2 Aug 2009 (N. Barrett photo; OC 315773), at two locations in the Corvallis vicinity,

Fig. 8. *Ischnura denticollis*.Fig. 9. *Ischnura erratica*.Fig. 10. *Nehalennia irene*.Fig. 11. *Tanypteryx hageni*.Fig. 12. *Aeshna canadensis*.Fig. 13. *Aeshna constricta*.

Benton Co., 5 Jul 2009 and 15 Jul 2011 (J. Simmons & H. Herlyn photos; OC 320622, 330060, 330250), and Ladd Marsh Wildlife Area, Union Co., 11 Aug 2011 (Lyons, 2011; M. Kaplan photo; OC 331857). The previously reported Baker Co. record, included but questioned by Johnson & Valley (2005), is now assumed to be valid although the location of the specimen is still unknown. Figure 13.

Aeshna subarctica Walker. Additional site at Camas Prairie, Wasco Co., where first discovered 9 Sep 2007 (J. Johnson collection; OC 262893); large population present with many adults, nymphs, and exuviae collected or photographed most years since. Figure 14.

Aeshna tuberculifera Walker. New state record for Oregon. Several were collected at a small, but well-vegetated borrow pit near Fry Meadow north of Elgin, Union Co., 3 Aug 2009 (Johnson, 2009b; OC 314572). Individuals subsequently collected at that site on 5 Aug 2009, 15 Aug 2011 and 2 Aug 2012 (C. Kerst collection). A single female was photographed at a small pond east of Medford, Jackson Co., 19 Aug 2012 (N. Barrett photos; OC 381248). The few dates of collection undoubtedly do not reflect this species' complete flight season in Oregon. Figure 15.

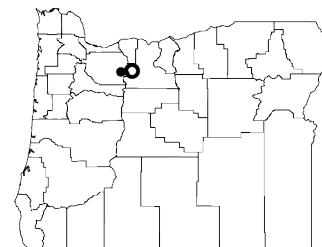
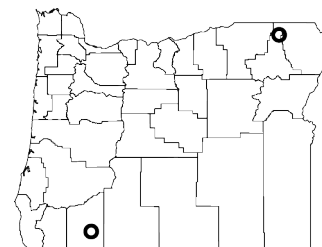
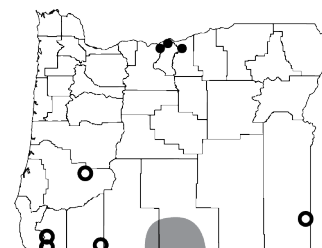
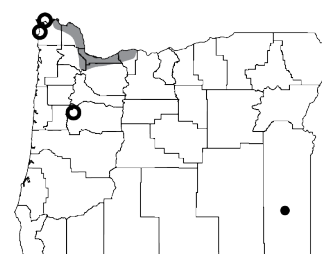
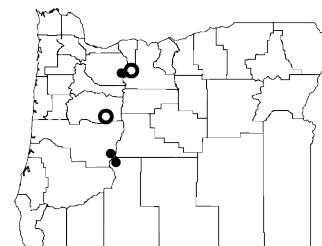
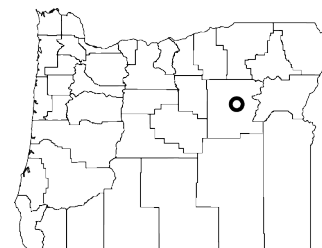
Aeshna walkeri Kennedy. Previously unknown from west of the Cascades crest. Found in Douglas Co. (near Steamboat Creek, 24 Jul 2003 [J. Balaban photo; BG 13206–13208; OC 334596]), Jackson Co. (Jenny Creek, 6 Aug 2005 [J. Johnson collection; OC 6461; multiple records since]), and Josephine Co. (a small tributary of Josephine Creek, 14 Sep 2008 [C. Kerst collection; OC 283921] and West Fork Illinois River near O'Brien, 16 Oct 2010 [J. Johnson collection; OC 372353]). Also recorded well east of the Cascades at Three Forks on the Middle Fork Owyhee River, Malheur Co., 27 Jul 2012 (J. Johnson collection; OC 378205). Figure 16.

Stylurus olivaceus (Selys). Found as far up the Willamette Valley as Freeway Lakes, Albany, Linn Co., 17 Jul 2008 (P. Yechout photo; OC 312613), but records between that location and the mouth of the Clackamas River are lacking—presumably due to lack of survey effort. On the Oregon side of the Columbia River, exuviae have been found as far west as Alderbrook Lagoon, Astoria, Clatsop Co., 5 Aug 2011 (M. Patterson photo; OC 331044); however, exuviae have been found even closer to the Pacific Ocean on the Washington side of the Columbia at Chinook, Pacific Co. (OC 331080). One adult was photographed in Seaside, Clatsop Co., 1 Sep 2011 (D. Bailey photo; OC 334602), about 12 mi. south of the Columbia River. It is unknown whether this individual wandered from the Columbia River or if it emerged from a more local stream or estuary. Figure 17.

Cordulegaster dorsalis Hagen. Found on additional streams in the Basin and Range province: Stonehouse Creek on the east slope of Steens Mountain (J. Johnson collection) and Arizona Creek on the east slope of Pueblo Mountains (J. Johnson, S. Valley, C. Kerst, observations) in Harney Co.; Little Whitehorse Creek, Trout Creek Mountains (C. Kerst, observation) in Malheur Co. In this region, previously known only from Little Cottonwood Creek, Pueblo Mountains (see discussion of this stream's name under *Palaethemis lineatipes*).

Somatochlora walshii (Scudder). Found at two additional sites in the Cascade Mountains: Gordon Lakes, Linn Co. 2 Sep 2006 (J. Johnson collection; OC 7382) and Camas Prairie, Wasco Co., 9 Sep 2007 (J. Johnson collection; OC 262895; multiple records since that date). Figure 18.

Leucorrhinia budsonica (Selys). Previously reported as occurring in Polk, Washington, and Yamhill Cos., but these are considered most likely misidentified *L. intacta* (Hagen). These areas are outside of the ecoregions that are known to be inhabited by *L. budsonica*.

Fig. 14. *Aeshna subarctica*.Fig. 15. *Aeshna tuberculifera*.Fig. 16. *Aeshna walkeri*.Fig. 17. *Stylurus olivaceus*.Fig. 18. *Somatochlora walshii*.Fig. 19. *Leucorrhinia proxima*.

Leucorrhinia proxima Calvert. New state record for Oregon. Found at Magone Lake, Grant Co., 30 Jul 2008 (Vlach, 2008; S. Gordon collection; OC 283459); subsequently collected at that location 31 Jul 2008, 2 Jul 2009, and 21 Jun 2011 (J. Johnson collection; final instar nymphs only on the last date). Figure 19.

Libellula nodisticta Hagen. Additional sites in the southern Oregon Cascades at Klamath River Canyon, Klamath Co., 13 Jun 1987 (S. Summers collection; OC 6978), and at two sites in the vicinity of Willow Lake, Jackson Co., 10 Jul 2009 (G. Shaffer photos; OC 318826 & 318827). Figure 20.

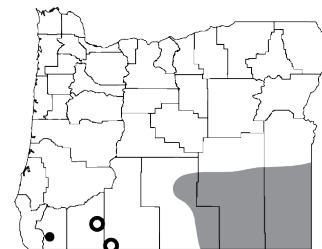
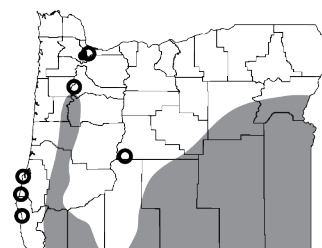
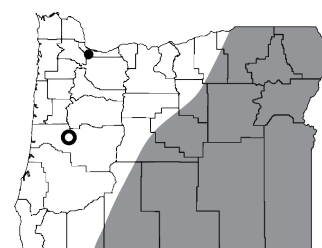
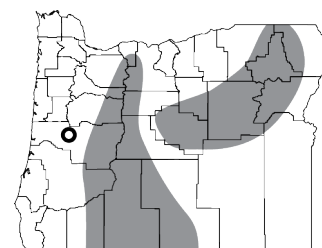
Libellula saturata Uhler. Now known from southern coastal areas, north at least to Shore Acres State Park, Coos Co., 18 Sep 2005 (D. Hull photo; OC 6976); also found at Storm Ranch, New River, Curry Co., 29 Aug 2007 (Lyons, 2012) and 11 Jul 2012 (R. Lyons, pers. comm.), and Arizona Beach State Park, Curry Co., 23 Aug 2010 (C. Kerst collection; OC 322632). A record at Wickiup Reservoir, Deschutes Co., 8 Aug 2009 (D. Deck photo; OC 315774), suggests possible expansion into the Deschutes River drainage where the species is otherwise unrecorded. Additional records from the northern Willamette Valley: Salem, Marion Co., 2 Aug 2006 (M. Kleinbaum photo; OC 7383) and 24 Jul 2007 (M. Kleinbaum photo; BG 130248), and southwest Portland, Multnomah Co., 1 Aug 2009 (S. & G. Davidson photo; OC 321973). All of the above records involved singles during the latter part of the season (mostly August and later) and it seems likely that they were wanderers rather than from locally established populations. Figure 21.

Paltothermis lineatipes Karsch. Previously reported as occurring on “Cottonwood Creek” in Harney Co.—the only known location in the state. The stream’s name is actually “Little Cottonwood Creek” (USGS, Tumtum Lake 7.5-minute topographic quad), however the former name is commonly used. This species has not been observed at that location (or anywhere in Oregon) since 16 Jun 2003 (E. Coombs, pers. comm.; Johnson, 2011).

Pantala flavescens (Fabricius). Multiple individuals, including copulating and ovipositing pairs, were observed at Sandpiper Pond, Eugene, Lane Co., 13 Aug 2005 (Gordon & Kerst, 2005), through 1 Sep 2005 (C. Kerst, pers. comm.) Previous records were of individuals only. No records since 2005.

Sympetrum corruptum (Hagen). Previously flight dates ranged 15 Feb to 23 Oct, but now recorded every month of the year and current early/late flight dates (Appendix 1) may not be truly representative for the species. Particularly notable are December, January, and early February records in recent years (Table 1). Whether the species is able to successfully overwinter in the state is speculative, but multiple individuals observed in Waldport, Lincoln Co., from December 2011 to February 2012 suggest that it is likely.

Sympetrum internum Montgomery. A single male was collected in Eugene, Lane Co., 7 Sep 2005, at about 400 ft elevation (C. Kerst; OC 6641; specimen in J. Johnson col-

Fig. 20. *Libellula nodisticta*.Fig. 21. *Libellula saturata*.Fig. 22. *Sympetrum internum*.Fig. 23. *Sympetrum obtrusum*.Table 1. Winter records of *Sympetrum corruptum* in Oregon.

| Date | Location | Source | Comment |
|---------------------|---------------------------|--------------------------|---|
| 18 Jan 2005 | Eugene, Lane Co. | M. Benotsch, pers. comm. | one observed; unidentified, presumed to be this species |
| 08 Jan 2006 or 2007 | Eugene, Lane Co. | vide S. Gordon | one observed |
| 11 Jan 2008 | Corvallis, Benton Co. | J. Young, pers. comm. | one collected |
| 01 Feb 2010 | Lookingglass, Douglas Co. | E. Pugh, pers. comm. | one observed |
| 01 Dec 2011 | Waldport, Lincoln Co. | R. Wescott, pers. comm. | multiple observed |
| 09 Dec 2011 | Waldport, Lincoln Co. | R. Wescott, pers. comm. | multiple observed, two photographed |
| 03 Jan 2012 | Corvallis, Benton Co. | L. Millbank, pers. comm. | one observed |
| 07 Jan 2012 | Waldport, Lincoln Co. | R. Wescott, pers. comm. | one observed |
| 06 Feb 2012 | Waldport, Lincoln Co. | R. Wescott, pers. comm. | three observed |

lection). This is outside of areas known to be inhabited by the species (primarily non-forested areas east of the Cascades above about 2500 ft elevation) and is considered a wanderer (similar to situation of *S. obtrusum* below). Figure 22.

Sympetrum obtrusum (Hagen). A single male was collected in Eugene, Lane Co., 20 Sep 2005, at about 400 ft elevation (C. Kerst; OC 371572; specimen in J. Johnson collection). This is outside of areas known to be inhabited by the species (the Cascade and Blue Mountains above about 3000 ft elevation) and is considered a wanderer (similar to situation of *S. internum* above). Figure 23.

Acknowledgements

We thank Ken Tennessen and two anonymous reviewers for many very helpful comments on our manuscript. We also appreciate the many people who have submitted reports, directly and indirectly, which contribute to our understanding of the state's fauna.

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Appendix 1. Early and late flight dates of Odonata in Oregon as of 21 August 2012. Dates in italicized bold typeface supersede the corresponding early or late flight date reported in Johnson and Valley (2005).

Calopterygidae

| | |
|------------------------------|-----------------|
| <i>Calopteryx aequabilis</i> | 15 May – 14 Sep |
| <i>Hetaerina americana</i> | 02 May – 03 Oct |

Lestidae

| | |
|---------------------------------|------------------------|
| <i>Archilestes californicus</i> | 18 Jun – 14 Nov |
| <i>Lestes congener</i> | 22 May – 24 Nov |
| <i>Lestes disjunctus</i> | 30 May – 17 Oct |
| <i>Lestes dryas</i> | 11 May – 03 Nov |
| <i>Lestes forcipatus</i> † | 02 Aug – 10 Sep |
| <i>Lestes stultus</i> † | 15 Jun – 21 Jul |
| <i>Lestes unguiculatus</i> | 25 May – 06 Oct |

Coenagrionidae

| | |
|--------------------------------|------------------------|
| <i>Amphiagrion abbreviatum</i> | 24 Apr – 24 Aug |
| <i>Argia agrioides</i> | 15 Jun – 19 Sep |
| <i>Argia alberta</i> | 30 Apr – 18 Sep |
| <i>Argia emma</i> | 22 May – 23 Sep |
| <i>Argia lugens</i> | 15 Jun – 17 Oct |
| <i>Argia nahuana</i> | 26 Jul – 25 Sep |
| <i>Argia vivida</i> | 06 May – 17 Oct |
| <i>Coenagrion resolutum</i> | 27 May – 28 Aug |
| <i>Enallagma anna</i> | 07 Jun – 05 Oct |
| <i>Enallagma annexum</i> | 17 May – 17 Oct |
| <i>Enallagma boreale</i> | 01 May – 04 Nov |
| <i>Enallagma carunculatum</i> | 06 Apr – 17 Nov |
| <i>Enallagma civile</i> | 26 May – 18 Oct |
| <i>Enallagma clausum</i> | 26 May – 18 Sep |
| <i>Ischnura barberi</i> † | 18 Sep |
| <i>Ischnura cervula</i> | 30 Jan – 28 Oct |
| <i>Ischnura denticollis</i> | 30 Apr – 13 Oct |
| <i>Ischnura erratica</i> | 13 Mar – 26 Aug |
| <i>Ischnura perparva</i> | 06 Apr – 02 Nov |
| <i>Nehalennia irene</i> | 27 Jun – 27 Aug |

Petaluridae

| | |
|--------------------------|-----------------|
| <i>Tanypteryx hageni</i> | 24 May – 07 Sep |
|--------------------------|-----------------|

Aeshnidae

| | |
|---------------------------------|------------------------|
| <i>Aeshna canadensis</i> | 22 Jun – 07 Oct |
| <i>Aeshna constricta</i> | 05 Jul – 13 Sep |
| <i>Aeshna interrupta</i> | 30 May – 08 Oct |
| <i>Aeshna juncea</i> | 12 Jul – 07 Oct |
| <i>Aeshna palmata</i> | 21 Jun – 13 Nov |
| <i>Aeshna sitchensis</i> | 21 Aug – 17 Sep |
| <i>Aeshna subarctica</i> | 24 Jun – 07 Oct |
| <i>Aeshna tuberculifera</i> † | 02 Aug – 19 Aug |
| <i>Aeshna umbrosa</i> | 28 May – 10 Dec |
| <i>Aeshna walkeri</i> | 15 Jul – 18 Oct |
| <i>Anax junius</i> | 27 Apr – 08 Dec |
| <i>Rhionaeschna californica</i> | 15 Apr – 09 Sep |
| <i>Rhionaeschna multicolor</i> | 23 May – 18 Oct |

Gomphidae

| | |
|---------------------------------|------------------------|
| <i>Erpetogomphus compositus</i> | 19 Jun – 13 Sep |
| <i>Gomphus kurilis</i> | 15 May – 04 Sep |

| | |
|--------------------------------|------------------------|
| <i>Gomphus lynnae</i> | 17 Jun – 17 Aug |
| <i>Octogomphus specularis</i> | 29 May – 02 Sep |
| <i>Ophiogomphus bison</i> | 02 Jun – 03 Aug |
| <i>Ophiogomphus morrisoni</i> | 31 May – 23 Sep |
| <i>Ophiogomphus occidentis</i> | 01 Jun – 13 Aug |
| <i>Ophiogomphus severus</i> | 15 May – 15 Aug |
| <i>Stylurus olivaceus</i> | 24 Jul – 18 Oct |

Cordulegastridae

| | |
|-------------------------------|-----------------|
| <i>Cordulegaster dorsalis</i> | 01 Jun – 20 Sep |
|-------------------------------|-----------------|

Macromiidae

| | |
|---------------------------|------------------------|
| <i>Macromia magnifica</i> | 12 Jun – 26 Aug |
|---------------------------|------------------------|

Corduliidae

| | |
|------------------------------------|------------------------|
| <i>Cordulia shurtleffii</i> | 08 Apr – 06 Sep |
| <i>Epitheca canis</i> | 05 May – 28 Jul |
| <i>Epitheca spinigera</i> | 18 Apr – 26 Aug |
| <i>Somatochlora albicincta</i> | 21 Jun – 14 Sep |
| <i>Somatochlora minor</i> | 27 Jun – 12 Aug |
| <i>Somatochlora semicircularis</i> | 19 Jun – 22 Sep |
| <i>Somatochlora walshii</i> | 24 Jun – 22 Sep |

Libellulidae

| | |
|---------------------------------|------------------------|
| <i>Erythemis collocata</i> | 30 Apr – 09 Oct |
| <i>Ladona julia</i> | 31 May – 06 Sep |
| <i>Leucorrhinia glacialis</i> | 04 Jun – 13 Sep |
| <i>Leucorrhinia hudsonica</i> | 12 May – 14 Sep |
| <i>Leucorrhinia intacta</i> | 01 May – 04 Sep |
| <i>Leucorrhinia proxima</i> † | 02 Jul – 31 Jul |
| <i>Libellula comanche</i> | 26 May – 18 Sep |
| <i>Libellula composita</i> | 27 May – 18 Sep |
| <i>Libellula forensis</i> | 01 May – 23 Oct |
| <i>Libellula luctuosa</i> | 06 Jun – 17 Oct |
| <i>Libellula nodisticta</i> | 24 May – 24 Aug |
| <i>Libellula pulchella</i> | 30 May – 08 Oct |
| <i>Libellula quadrimaculata</i> | 12 May – 19 Sep |
| <i>Libellula saturata</i> | 23 May – 20 Oct |
| <i>Pachydiplax longipennis</i> | 14 May – 13 Oct |
| <i>Paltothemis lineatipes</i> | 16 Jun – 26 Aug |
| <i>Pantala flavescens</i> | 07 Jun – 01 Sep |
| <i>Pantala hymenaea</i> | 18 May – 28 Aug |
| <i>Plathemis lydia</i> | 01 May – 03 Oct |
| <i>Plathemis subornata</i> | 19 May – 17 Sep |
| <i>Sympetrum corruptum</i> * | 03 Jan – 09 Dec |
| <i>Sympetrum costiferum</i> | 03 Jul – 06 Nov |
| <i>Sympetrum danae</i> | 25 Jun – 08 Oct |
| <i>Sympetrum illotum</i> | 26 Mar – 04 Nov |
| <i>Sympetrum internum</i> | 08 Jul – 18 Sep |
| <i>Sympetrum madidum</i> | 14 May – 17 Sep |
| <i>Sympetrum obtrusum</i> | 14 Jul – 14 Oct |
| <i>Sympetrum pallipes</i> | 06 Jun – 22 Nov |
| <i>Sympetrum semicinctum</i> | 20 Jun – 03 Oct |
| <i>Sympetrum vicinum</i> | 04 Aug – 10 Dec |
| <i>Tramea lacerata</i> | 14 May – 20 Oct |

* overwintering is possible; early/late flight dates may not be representative

† species not reported in Johnson & Valley (2005); dates are not considered representative due to limited records

Appendix 2 continued . . .

| Species | BA | BE | CK | CP | CO | CS | CR | CU | DE | DO | GI | GR | HA | HR | JA | JE | JO | KL | LK | LA | LC | LN | ML | MR | MO | MU | PO | SH | TI | UM | UN | WL | WS | WN | WH | YA | C/S | | |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|---|----|
| <i>Ophiogomphus bison</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| <i>Ophiogomphus morrisoni</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| <i>Ophiogomphus occidentis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| <i>Ophiogomphus severus</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 23 |
| <i>Stylurus olivaceus</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| <i>Condolegaster dorsalis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 22 |
| <i>Macromia magnifica</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| <i>Condulia shurtleffi</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 24 |
| <i>Epitheca canis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| <i>Epitheca spinigera</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| <i>Somatochlora albicincta</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 |
| <i>Somatochlora minor</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| <i>Somatochlora semicircularis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 23 |
| <i>Somatochlora walshii</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| <i>Erythemis collocata</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 |
| <i>Ladona julia</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| <i>Leucorrhinia glacialis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| <i>Leucorrhinia hudsonica</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| <i>Leucorrhinia intacta</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 27 |
| <i>Leucorrhinia proxima*</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| <i>Libellula comanche</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| <i>Libellula composita</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| <i>Libellula forensis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 36 |
| <i>Libellula luctuosa</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| <i>Libellula nodisticta</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| <i>Libellula pulchella</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 34 |
| <i>Libellula quadrimaculata</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 32 |
| <i>Libellula saturata</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| <i>Pachydiplax longipennis</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 32 |
| <i>Palaethemis lineatipes</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| <i>Pantala flavescens</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| <i>Pantala hymenaea</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| <i>Plathemis lydia</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 35 |
| <i>Plathemis subornata</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| <i>Sympetrum corruptum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 36 |
| <i>Sympetrum costiferum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| <i>Sympetrum danae</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| <i>Sympetrum ilotum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 |
| <i>Sympetrum inermum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| <i>Sympetrum madidum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 22 |
| <i>Sympetrum obtusum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| <i>Sympetrum pallipes</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 36 |
| <i>Sympetrum semicinctum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 21 |
| <i>Sympetrum vicinum</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 22 |
| <i>Tramea lacerata</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 28 |
| Species per county | 49 | 49 | 52 | 35 | 26 | 43 | 43 | 31 | 59 | 68 | 32 | 50 | 60 | 31 | 65 | 41 | 55 | 66 | 56 | 66 | 34 | 59 | 49 | 53 | 38 | 38 | 35 | 27 | 16 | 41 | 45 | 40 | 45 | 29 | 41 | 24 | | | |

BA = Baker, BE = Benton, CK = Clackamas, CP = Clatsop, CO = Columbia, CS = Coos, CR = Crook, CU = Curry, DE = Deschutes, DO = Douglas, GI = Gilliam, GR = Grant, HA = Harney, HR = Hood River, JA = Jackson, JE = Jefferson, JO = Josephine, KL = Klamath, LK = Lake, LA = Lane, LC = Lincoln, LN = Linn, ML = Malheur, MR = Marion, MO = Morrow, MU = Multnomah, PO = Polk, SH = Sherman, TI = Tillamook, UM = Union, UN = Umatilla, WH = Washington, WN = Wasco, WL = Wallowa, WS = Wheeler, YA = Yamhill, C/S = total number of counties per species.