

New finds of 'critical' species of Odonata in Armenia – *Onychogomphus assimilis* and *Libellula pontica*

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The latest review of the Odonatofauna of Armenia (TAILLY ET AL., 2004) has briefly outlined both past and recent research on the dragonflies of the country and has presented an updated checklist for the country. Two species in the checklist - *Onychogomphus assimilis* and *Libellula pontica* - were lacking recent records and had not been observed in Armenia since their last observation half a century ago. Both species have a West Asiatic biogeographic affinity (AKRAMOWSKI, 1948, 1964; DUMONT ET AL. 1992). *Onychogomphus assimilis* is distributed from the eastern Mediterranean coast eastwards

through the Caucasus and Iran to Turkmenistan. The species inhabits mountain streams, often in wooded environment (DUMONT ET AL., 1992; BOUDOT, 2006; DIJKSTRA & LEWINGTON, 2006). *Libellula pontica* has a similar distribution pattern, but is reaching farther south to Israel and Jordan and east to Kyrgyzstan. It is found in river valleys with slow flowing waters of natural and artificial origin richly fringed with reed (DUMONT 1991; DIJKSTRA & LEWINGTON 2006; KALKMAN 2006).

Published data of *Onychogomphus assimilis* from Armenia comprise two records from Syunik

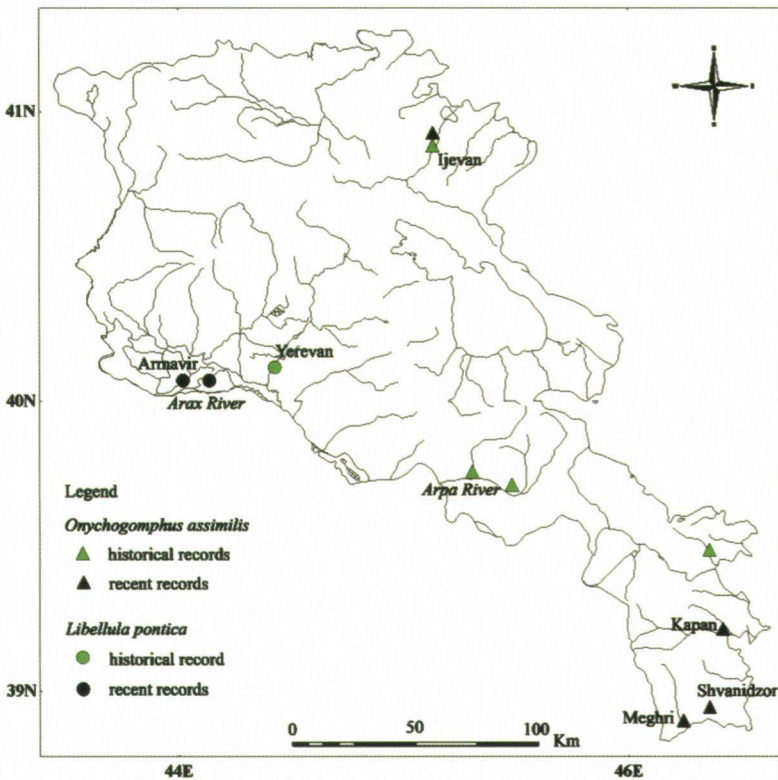


Figure 1. Map showing locations mentioned in the text with historical and recent records of *Onychogomphus assimilis* and *Libellula pontica* from Armenia.

Table 1. Records of *Onychogomphus assimilis* and *Libellula pontica* from Armenia. For each record, the number of individuals, the date, the location with coordinates, the altitude, the kind of habitat and the source is given. Legend: - no information is available, * years of collection not specified in the source.

Species	Number recorded	Date	Location	Province	Coordinates (decimal degrees)	Altitude (m a.s.l.)	Habitat	Source
<i>Onychogomphus assimilis</i>	1 male, 2 females	6-9.vii.*	Vaik town	Vayots Dzor	39.69N, 45.47E	1240	Arpa River	Akramowski 1948
<i>Onychogomphus assimilis</i>	1 male	13.vi.*	Getap vill.	Vayots Dzor	39.76N, 45.31E	1130	-	Akramowski 1948
<i>Onychogomphus assimilis</i>	-	10.vi.1954	Karahunj vill.	Syunik	39.48N, 46.36E	1230	-	Akramowski 1958
<i>Onychogomphus assimilis</i>	-	13.vii.1954	Ijevan town	Tavush	40.87N, 45.15E	710	-	Akramowski 1958
<i>Onychogomphus assimilis</i>	1 male	31.v.2010	Meghri town	Syunik	38.90N, 46.24E	630	brook in orchards	This study
<i>Onychogomphus assimilis</i>	2-3 males	31.v.2010	Shvanidzor vill.	Syunik	39.93N, 46.37E	650	seasonal brook	This study
<i>Onychogomphus assimilis</i>	2 males	3.vi.2010	Kapan town	Syunik	39.21N, 46.41E	770	brook	This study
<i>Onychogomphus assimilis</i>	24-27 (incl. 10 males and a putative female)	6.vii.2011	Yenokavan vill.	Tavush	40.91N, 45.10E	800	Khachaghbyur River	This study
<i>Libellula pontica</i>	1 teneral female	8.vi.1962	Darakert vill.	Ararat	40.11N, 44.41E	844	small river	Akramowski 1964
<i>Libellula pontica</i>	1 male	3.vi.2011	Arevik vill	Armavir	40.10N, 44.09E	856	drainage pond	This study
<i>Libellula pontica</i>	1 female/ immature male	3.vi.2011	Janfida vill.	Armavir	40.04N, 44.02E	868	drainage pond	This study



Figure 2. Male *Onychogomphus assimilis*, 31 May 2010, Shvanidzor village, Syunik province, Armenia (Photo: Vasil Ananian).



Figure 3. Male *Onychogomphus assimilis*, 6 July 2011, Yenokavan village, Tavush province, Armenia (Photo: Vasil Ananian).



Figure 4. Habitat of *Onychogomphus assimilis*, 6 July 2011, Yenokavan village, Tavush province, Armenia (Photo: Vasil Ananian)..



Figure 6. Habitat of *Libellula pontica*, 3 June 2011, Arevik village, Armavir province, Armenia (Photo: Vasil Ananian).

and Tavush provinces and a report of four specimens from one general area in Vayots Dzor province (AKRAMOWSKI 1948, 1958). *Libellula pontica* continues to be cited as occurring in Armenia in recent publications (E.G. KALKMAN ET AL. 2004, KALKMAN 2006). In fact, this statement is based on a single record of an immature female collected in 1962 near Yerevan (AKRAMOWSKI 1964). The historical records for both species are shown on the map in Figure 1. In 2010 and 2011, all historical locations (with one exception) for both species were revisited and additional appropriate sites and habitats were surveyed.

Recent observations and discussion

An overview of the recent records for *Onychogomphus assimilis* and *Libellula pontica* in Armenia is given in Table 1. A map of the visited localities is given in Figure 1.

Onychogomphus assimilis

In Syunik province, a male was found, on 31 May 2010, in an orchard in the town of Meghri. On the same day, two-three males were seen at a shallow seasonal brook in the village of

Shvanidzor (Figure 2). At the latter site, the males were patrolling and occasionally chasing each other over a 20-25 m stretch of the brook. A few days later, two males exhibiting similar behaviour were found in the town of Kapan.

In the province of Tavush the species was found on 6 July 2011 in good numbers at a fast flowing, rocky stream in a wooded gorge near the village of Yenokavan (Figures 3 & 4). On a section of the stream, at four points some 500 m from each other, point counts were done, yielding four, at least six, four and three individuals respectively. An additional estimated seven to ten individuals were easily spotted through binoculars, without even properly counting them. They were perched on rocks along a stretch of approximately 1 km of the lower part of the stream. *Onychogomphus assimilis* was listed as rare and sporadically present in Armenia (AKRAMOWSKI 1948). This statement is supported by our own observations, since a considerable number of spring-summer field trips were conducted throughout the country during the last 14 years and none were found before 2010 (V. ANANIAN & M. TAILLY OWN DATA). On a visit to Arpa River and its tributaries on

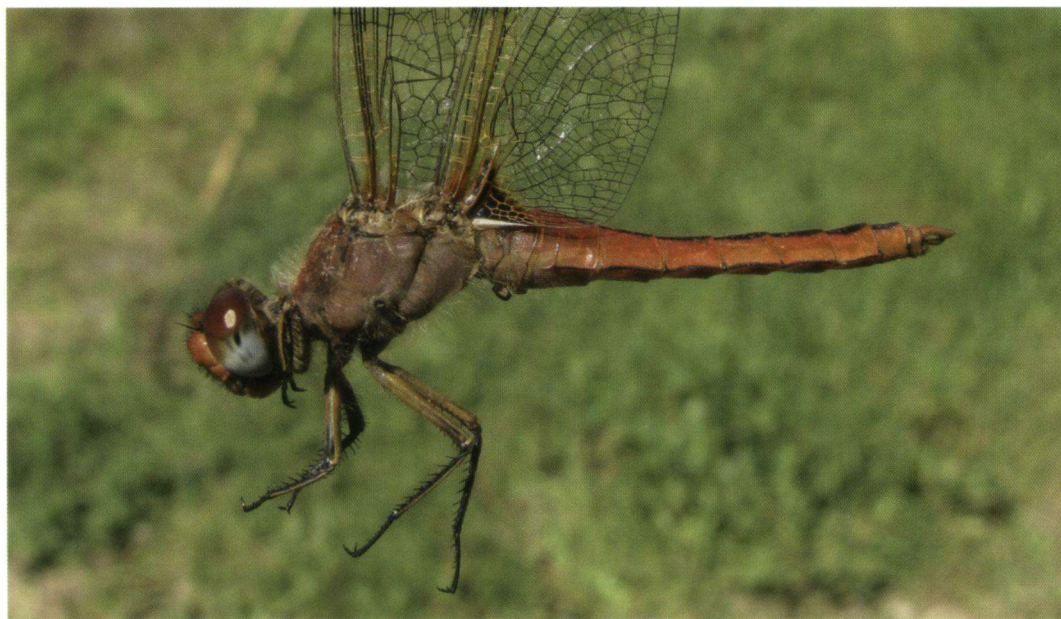


Figure 5. Male *Libellula pontica*, 3 June 2011, Arevik village, Armavir province, Armenia (Photo: Vasil Ananian).

21 July 2011, a total of c.4.5 km of appropriate river sections was surveyed at elevations of 1035–1630 m a.s.l., with only *Onychogomphus forcipatus* to be found at all sites. Likewise, on visits to the town of Meghri and the village of Shvanidzor on 7–11 July 2010, only *O. forcipatus* and *O. flexuosus* were found at the sites where *O. assimilis* was recorded in late May and early June of the same year. The limited available data suggest that the species' flight period in the arid central part of Armenia may be over by the end of July. Probably even earlier in the lowlands of southern Armenia, where climatic conditions in summer are significantly more hot and arid. The species was recorded in Turkey from the beginning of May through to the end of July, with most records coming from the last decade of May and from June (KALKMAN & VAN PELT 2006).

Libellula pontica

The species was only found in the province of Armavir on 3 June 2011 at two locations, c. 9km from each other. At each site, one individual was encountered hanging around the edges of irrigation water bodies – interconnected ponds and canals fringed with emergent vegetation such as reed (*Phragmites* sp.) and bulrush (*Typha* sp.) (Figure 5, Figure 6). On 3 and 11 June 2011 two

trips in search of this species were organized in the provinces of Armavir and NW Ararat. All together some 50 km along streams, brooks and ditches in the Arax River valley, with frequent stops and point observations at appropriate sites, yielded only the two individuals of *L. pontica*, while the species was not found at the historical site (AKRAMOWSKI 1964). It is possible that the 2011 surveys were outside the species' proper flight period at this latitude. However, in the southern part of Turkey, *L. pontica* was recorded from early May to the last decade of July (KALKMAN & VAN PELT 2006). During a visit to Syria in late May and early June 2010, the species was still on the wing (JOHAN VAN 'T BOSCH IN LITT. 2011). Nevertheless, the paucity of records indicates that *L. pontica* is probably rare and sparsely distributed in Armenia.

Protection and further study

Onychogomphus assimilis is listed as Vulnerable in the IUCN List of Threatened Species (Boudot 2006) and is also assessed as rare and Vulnerable in the Red Book of Armenia (ANANIAN 2010A). The most important threats to the species in Armenia are believed to be changes in hydrological regimens of streams and rivers and their pollution. Construction and exploitation

of small dams on mountain rivers and water-harnessing for irrigation in valleys and arid regions are common practices in Armenia. This is also the case at the described study sites for the species.

The global status of *Libellula pontica* is evaluated as Near Threatened (KALKMAN 2006), while in the Armenian Red Book it is classified as rare and Endangered (ANANIAN 2010b). The Arax River valley, where the species occurs, is the densest populated region in Armenia. It has largely been transformed into agricultural land, with a dense network of irrigation and drainage ditches, channels and flooded areas, all of which are exposed to pollution and heavy exploitation. One of the 2011 specimens was found near an active sand pit, which are common in this region.

None of the protected areas in Armenia cover the localities where one of both species was found in the past or recently, except for the Ijevan State Sanctuary in the province of Tavush. The large population of *O. assimilis* found here in 2011 makes the sanctuary probably the most important site for the species in Armenia. However, the safeguard of the natural water regimen on the stream in the sanctuary has to be verified. In his proposal for the conservation of the Odonatofauna in the Caucasus, Akramowski (1975) writes about the protected status of *O. assimilis*, *L. pontica* and some other West Asiatic group of dragonfly species in Lagodekhi (Georgia) and adjacent Zagatala State Reserves (Azerbaijan). For Armenia, the author did not suggest any locality for the protection of *O. assimilis*, but he proposes the protection of a small area on the Metsamor River in the Arax

River valley specifically for the conservation of *L. pontica* and *Platycnemis dealbata*. His proposal however, was not realized.

A re-evaluation of the conservation status of *O. assimilis*, *L. pontica* and other rare Odonata in Armenia is needed and the development of conservation measures for their protection is a priority. The study and protection of these species in Armenia should include surveys in their historical and potentially suitable habitats with an emphasis on the Specially Protected Areas. This research would hopefully reveal new populations of *O. assimilis* and *L. pontica* in Armenia.

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Summary

Ananian, V., 2012. New finds of 'critical' species of Odonata in Armenia – *Onychogomphus assimilis* and *Libellula pontica*. *Brachytron* 15(1): 36-42.

Onychogomphus assimilis and *Libellula pontica* are among the rarest and least known dragonflies in Armenia. Information on the distribution of the two species in Armenia was limited to few isolated locations reported half a century ago. The present paper presents new finds of these species from several new locations and discusses their conservation issues in the country

Keywords: Odonata, Armenia, *Onychogomphus assimilis*, *Libellula pontica*, Armenia, distribution, conservation

Samenvatting

Nieuwe waarnemingen van Donkere tanglibel (*Onychogomphus assimilis*) en Rode Korenbout (*Libellula pontica*) in Armenië

De Donkere tanglibel (*Onychogomphus assimilis*) en de Rode korenbout (*Libellula pontica*) behoren tot de zeldzaamste en minst gekende Libellen van Armenië. Kennis over de verspreiding van beide soorten in dit land was beperkt tot een paar vindplaatsen die ondertussen al dateren van een halve eeuw geleden. In dit artikel geven we een overzicht van de verschillende nieuwe vindplaatsen van beide soorten en bespreken we de problemen in verband met hun bescherming in Armenië.