

Spiders of the Family Anyphaenidae in Virginia (Arachnida: Araneida)

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Anyphaenids (which have no "common" name) are small, pallid, ground-dwelling spiders, generally widespread in distribution but infrequently collected either by hand or with pitfall traps. North American species of the family were revised about three decades ago (Platnick, 1974), so that accurate identifications can be made with some confidence. A better knowledge of the family in different parts of its range now awaits only the accretion of relevant study material.

Examination of the distribution maps in Dr. Platnick's monograph suggests that 11 species should occur in Virginia, and intensive collecting activity during the past decade by personnel of the Virginia Museum of Natural History (VMNH) and the Division of Natural Heritage, Virginia Department of Conservation and Recreation (VDNH), has secured identifiable specimens of all but one of them. The northernmost locality of the fugitive species, *Hibana velox*, is in north central North Carolina, and the spider almost certainly occurs in southside Virginia. However, the surprising discovery of *Hibana cambridgei* in Virginia opens the possibility that any or all of the several anyphaenids known only from Florida, for instance, might also be found here.

Since most of our species are known from only a few captures (the one most frequently taken is known from only 12 sites), it will obviously be a long time before we can claim an even superficial knowledge of temporal and spatial distributions of these little spiders in Virginia. However, the data at hand suggest that several species occur statewide, and some may be restricted to the Coastal Plain. So far no species seem to be endemic to the western mountainous parts of the state, and none have been taken in the Mount Rogers-Whitetop region despite fairly prolonged trapping in a variety of habitats.

Even the limited material at hand suggests an interesting biological situation that invites more intensive investigation: the sequential - nearly exclusive - periods of surface activity by adults of the local sympatric species of *Anyphaena*. *Anyphaena celer* and *A. maculata* are Fall-Winter species, *A. fraterna* is most frequently trapped in

May and June, and *A. pectorosa* is active almost exclusively in July. Perhaps such seasonal displacement enhances reproductive isolation, or is useful in resource-sharing. The very limited data suggest that the two local species of *Wulfila* may likewise be separated temporally.

The ready availability of Platnick's monograph obviates the need for maps and illustrations. Users of this reference are reminded that many Nearctic species traditionally referred to the genus, *Aysha* have been relocated into the new genus *Hibana* (Brescovit, 1991) and the name *Wulfila alba* was replaced by *W. albens* (Platnick, 1997). Otherwise the nomenclature remains stable.

ANNOTATED LIST

Collections not otherwise credited were made by VMNH personnel either as individuals or as part of organized sampling programs.

1. *Anyphaena celer* Hentz **New state record**

The range of this species is general over eastern United States, from Massachusetts and Michigan south to Florida, Texas, and Missouri, with the majority of recorded localities clustered toward the north. No Virginia material was available to Platnick (1974: map 1), but our records suggest the species occurs statewide.

Clarke Co.: Blandy Farm, ca. 3 km S Boyce, 24 August 1991, ex Malaise trap, D. R. Smith (1 ♂). *Henry Co.*: Martinsville, inside VMNH building, sticky trap, January 1995 (1 ♂). *Mecklenburg Co.*: Elm Hill WMA, DF site in mixed woods near Kerr Dam powerhouse, 15 March-3 April 1991 (1 ♂); same locality but open field DF site by Lake Gaston, 24 February-3 April 1996 (4 ♂♂). *Nelson Co.*: The Priest, 3900 ft., ca. 4.5 mi. SE Montebello, 23 November-12 December 1991, pitfall trap (1 ♂). *Pittsylvania Co.*: DF site ca. 3 miles ENE Axton, 29 February-29 March 1992 (numerous ♂♂).

Apparently this species is psychrophilic, with the collection dates falling between late August and early April. The only two series were both taken in March.

2. *Anyphaena fraterna* (Banks) **New state record**

This species is generally distributed over much of eastern North America: east of the Great Plains and south of glaciated regions, although unknown in peninsular Florida. It is probably statewide in Virginia at lower elevations, although most records are from east of the Blue Ridge.

VMNH samples are from: *Chesterfield Co.*: Scotford Road, 1.2 km SE jct. Va. Rt. 175 and County Rt. 679, May 1994, S. M. Roble (1 ♂). *Essex Co.*: 1 mi. S Dunnsville, ex Malaise trap, 4-14 May 1993, D. R. Smith (several ♂♂ and ♀♀). *Henrico Co.*: west Richmond, Derbyshire Road, June 1996, W. H. Mitchell (1 ♂). *Henry Co.*: Martinsville, inside VMNH building, 4 May 1994, C. R. Carter (1 ♂). *King George Co.*: Naval Weapons Laboratory, Dahlgren, 26 June 1991, K. A. Buhlmann, VDNH (1 ♂). *Roanoke Co.*: Back Creek District, Bandy Road, 9 May 1995, M. W. Donahue (1 ♂). *Stafford Co.*: Quantico Marine Corps Base, Beaver Run, N of Camp Barrett, 11 May 1999, A. C. Chazal, VDNH (1 ♂). *York Co.*: Grafton Ponds, 1 May 1990, K. A. Buhlmann, VDNH (1 ♂). *City of Virginia Beach*: Seashore State Park, 1 May 1989 (1 ♂), 26 July 1989 (1 ♀), both K. A. Buhlmann, VDNH.

Surface activity, at least by males, is almost entirely in May, with only a few June captures.

3. *Anyphaena maculata* (Banks) **New state record**

Published records suggest a predominantly lowland range from Long Island to Louisiana and Arkansas, with a small - perhaps disjunct - contingent in the southern Appalachians. Our two localities in eastern Virginia are consistent with this generalization.

Chesterfield Co.: Scotford Road, 1.2 km SE jct Va. Rt. 175 and County Rt. 679, 6 March 1994, S. M. Roble (1 ♂). *Greensville Co.*: 1 mi. E Claesville at end of Rt. 600, 12 November 1993-25 January 1994 (1 ♂).

The specimen from Chesterfield County is a little atypical in that the median apophysis of the male palpal organ is substantially broader than shown for the species in Platnick's revision (1974: Fig. 2), as well as more spatulate apically and not extended into a curved tip. In other respects there is such overall agreement that this departure is considered to be within the normal range of variation.

4. *Anyphaena pectorosa* L. Koch

This spider is generally distributed in eastern United States: New York to Michigan, south to Florida and Texas.

The species description in Platnick (1974: 232) is based on a specimen from Fairfax County, and *A. pectorosa* has been recorded from alfalfa fields in Montgomery County by Howell & Pienkowski (1971).

VMNH material is from: *Essex Co.*: 1.5 km SE Dunnsville, ex Malaise trap, 2 July and 12 July 1991, D. R. Smith (5 ♂♂, 2 ♀♀). *Greensville Co.*: 1 mi. E Claesville, end of Rt. 666, 30 June-15 July 1994 (1 ♂). *Mecklenburg Co.*: 2 mi. SE Boydton, 25 June 1990, J. C. Mitchell (1 ♂). *Pulaski Co.*: Dublin, fen site at Radford Army Ammunition Plant, 2 July 1999, S. M. Roble et al. VDNH (1 ♂).

Capture records, all between mid-June and mid-July, suggest a fairly narrow season of surface activity for adults of this species, contrasting with the generally much earlier season for *A. fraterna*.

5. *Hibana cambridgei* (Bryant) **New state record**

As depicted by Platnick (1974: map 4), this species ranges from the southern Mexican Plateau north as far as Missouri and Alabama. The discovery of *H. cambridgei* in Virginia constitutes a northeastward extension of about 550 mi/880 km from the location plotted in northern Alabama.

King George Co.: Naval Weapons Laboratory, Dahlgren, swale pitfall site, 26 June 1991, K. A. Buhlmann, VDNH (1 ♂).

The male palpal organ of this specimen matches Platnick's illustration (Fig. 120) to the finest detail; there can be no doubt of the identification. The spider is, however, substantially larger than the individual which he described: total length ca. 8 mm, carapace length 3.2 mm. (vs. 5.9 and 2.4 mm, respectively).

Is the Dahlgren population native to Virginia? If so, it is either naturally disjunct from the main body of the range, or simply occupies a biotope neglected during most sampling work and thus likely to be found in the intervening area. The possibility suggests itself, however, that chance introduction by "military commerce" cannot be discounted. The possibly analogous situation involving a minute lygaeid bug, *Botocudo modestus*, may be relevant. This insect was known only west of the Mississippi River prior to its recent discovery at Wallops Island, Accomack Co., Virginia (Hoffman, 1999); this locality is occupied by a quasimilitary federal installation.

Botocudo was not recovered in similar habitat with similar trapping techniques over a period of several months at Assateague Island, only a few kilometers distant. These uncertainties would of course be conclusively resolved by the collection of either species at a Virginia site (or elsewhere in the central Atlantic states) remote from possible contamination through commerce between military bases.

6. *Hibana gracilis* (Hentz)

This spider occupies an extensive geographic range, from New York and Iowa south to Florida and southernmost Texas but records are lacking for most of the Appalachian region. It is the anyphaenid most frequently collected in Virginia, with specimens at hand from eight counties and two cities mostly east of the Blue Ridge. Platnick's range map (1974, map 4) included localities in Northampton and Fairfax counties, and Virginia Beach City.

VMNH material is from: *Chesterfield Co.*: Scotford Road, 1.2 km SE jct Va. Rt 175 and County Rt. 679, 22 April 1995, S. M. Roble (2 ♂♂). *Greensville Co.*: 2.3 mi. NE Slates Corner, 18 June 1990, J. C. Mitchell (1 ♀). *Henry Co.*: Martinsville, C. R. Carter (1 ♂). *King George Co.*: Caledon State Park, 7 June 1993, B. J. Abraham (1♂). *Montgomery Co.*: Radford, around dwelling, Fall 1990 (1 ♂). *Pittsylvania Co.*: Chatham, 11 March 1999 (1 ♀). *Roanoke Co.*: Salem, Green Hill Park, 20 April 1995, M. W. Donahue (1 ♀); *York Co.*: Grafton Ponds, 1 May 1990, K. A. Buhlmann, VDNH (1 ♂). *City of Chesapeake*: Fentress Naval Air Station, 6 June 1989, K. A. Buhlmann, VDNH (3 ♂♂), and *City of Virginia Beach*: Seashore State Park, 1 May 1989, K. A. Buhlmann, VDNH (1 ♂).

The great majority of these spiders were collected during March, April, and May. Two are from June, and only one has an ambiguous "Fall" date.

[*Hibana velox* (Becker)]

A southern species, so far not collected in Virginia but surely to be expected in the "Southside" counties being represented on Platnick's distribution map for north-central North Carolina (vicinity of Durham?), less than 35 miles from the state line.

7. *Oxysoma cubanum* Banks **New verified state record**

This southern species ranges as far northward as New Jersey, and presumably occurs throughout the Coastal Plain and outer Piedmont in Virginia, although there are only two authentic records:

Louisa Co.: 4 mi. S Cuckoo, ex Malaise trap, 28

April-4 May 1986 (2 ♂♂); 18-27 May 1986 (1 ♂, 2 ♀♀), both D. R. Smith. *City of Virginia Beach*: Oceana Naval Air Station, 3 May 1989, K. A. Buhlmann, VDNH (1 ♂); Sandbridge, 11 September 1993, B. J. Abraham (1 ♀).

The published record for alfalfa fields at Blacksburg, Virginia (Howell & Pienkowski, 1971) seems geographically implausible, and the original material cannot be located for verification.

8. *Teudis mordax* (O. P.-Cambridge) **New state record**

Already documented for North Carolina and the District of Columbia by Platnick (1974), this species could safely be assumed to reside in Virginia east of the Blue Ridge generally. However, so far we have records only for two Coastal Plain sites:

Essex Co.: 1.5 km SE Dunnsville, ex Malaise trap, 2 July 1991, D. R. Smith (1 ♂). *City of Suffolk*: Great Dismal Swamp National Wildlife Refuge, 30 June 1993, B. J. Abraham (1 ♀).

9. *Wulfila albens* (Hentz) **New state record**

Although *W. albens* occurs from Maryland to Florida and Texas, there are apparently no published records for the species in Virginia.

We have only two specimens from the state: *Cumberland Co.*: 5.5 km SSW Columbia, DF site in pine woods, 2 September 1990 (1 ♂); 7 km SSW Columbia, DF site in mixed hardwood forest, 1 August 1990 (1 ♂) (both J. C. Mitchell). On the basis of records in nearby states, *W. albens* should be essentially statewide in Virginia, at least at lower elevations.

10. *Wulfila saltabunda* (Hentz)

One of the most widely distributed of Nearctic anyphaenids, *W. saltabunda* occurs from Nova Scotia to Florida, westward to Minnesota, Iowa, and Texas. Its presence in Virginia is attested solely by a record for Virginia Beach City, plotted on Map 3 in Platnick's 1974 revision, and capture in alfalfa fields at Blacksburg, Montgomery County (Howell & Pienkowski, 1971). Presumably it should be found statewide.

Louisa Co.: 4 mi. S of Cuckoo, ex Malaise trap, 6-13 June 1986, D. R. Smith (2 ♂♂). *Patrick Co.*: roadside on Rte. 669, 3 mi. SW Ararat, sweeping *Ceanothus*, 27 June 1992 (1 ♂).

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