

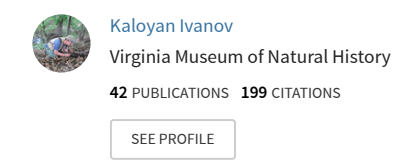
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## The Terrestrial Isopod Fauna (Isopoda: Oniscidea) Of Virginia

Conference Paper · October 2021

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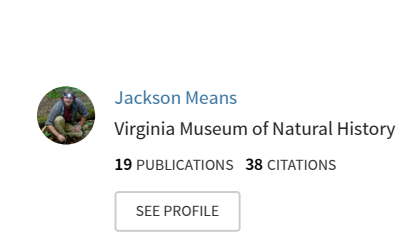
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## Summary

- The study of Virginia's terrestrial isopods began over a century ago when Richardson (1905) reported *Armadillidium vulgare* from the state.
- Despite this rather early onset of oniscidean studies and the state's remarkable biodiversity, Virginia's terrestrial isopod fauna has been insufficiently studied and only 16 species and subspecies have been reported from the state to date.
- Our work on the terrestrial isopod fauna of Virginia began in late 2020 and is ongoing.
- All records presented herein are based on published literature, online databases (iNaturalist and SCAN), review of materials at the Virginia Museum of Natural History, and contemporary collection of specimens.
- 26 species and subspecies of terrestrial isopods from 19 genera and 7 families are now reliably reported from the state including Virginia's endemic *Amerigoniscus henroti*, *Ligidium elrodii leensis*, and *L. elrodii scottensis*.
- As no molecular data exist for any Virginia native Oniscidea, future research will include DNA sequencing and uploading of sequences to the National Center for Biotechnology Information database.

## New records (\*exotic taxa)

Infraorder Diplocheta: Family Ligiidae

### 1. *Ligia exotica* Roux, 1828\* (Fig. 2; Fig. 3: A-B)

**Distribution:** Coastal Virginia (Fig. 1: ●).

Known from coasts across the world, *L. exotica* is one of the most widespread isopod species and can often be found on wharfs and other man-made structures.

### 2. *Ligidium blueridgensis* Schultz, 1964 (Fig. 3: C-D)

**Distribution:** Grayson and Wise Cos., (Fig. 1: ●).

As opposed to the widespread *Ligidium elrodii*, this closely related native species appears to be confined to the Southern Appalachians.

Infraorder Synocheta: Family Trichoniscidae

### 3. *Hyloniscus riparius* (Koch, 1838)\* (Fig. 3: E-F)

**Distribution:** Widespread (Fig. 1: ●).

This European species is widespread throughout Eastern North America where it is commonly associated with wooded areas. Interestingly, it was recently collected from multiple caves systems throughout the Virginian Appalachians.

### 4. *Miktoniscus spinosus* (Say, 1818) (Fig. 3: G-H)

**Distribution:** Arlington, Fairfax and Sussex Cos., City of Virginia Beach. (Fig. 1: ●).

This native species is primarily associated with marshes along North America's Atlantic Coast, although its distribution does occasionally extend farther inland.

### 5. *Trichoniscus pusillus* Brandt, 1833\* (Fig. 3: I-J)

**Distribution:** Western part of Virginia (Fig. 1: ●).

This small-bodied European species is parthenogenic, and males are rarely encountered in both its native and introduced ranges.



Fig. 2. An adult *Ligia exotica* at First Landing State Park, Virginia Beach, Virginia.

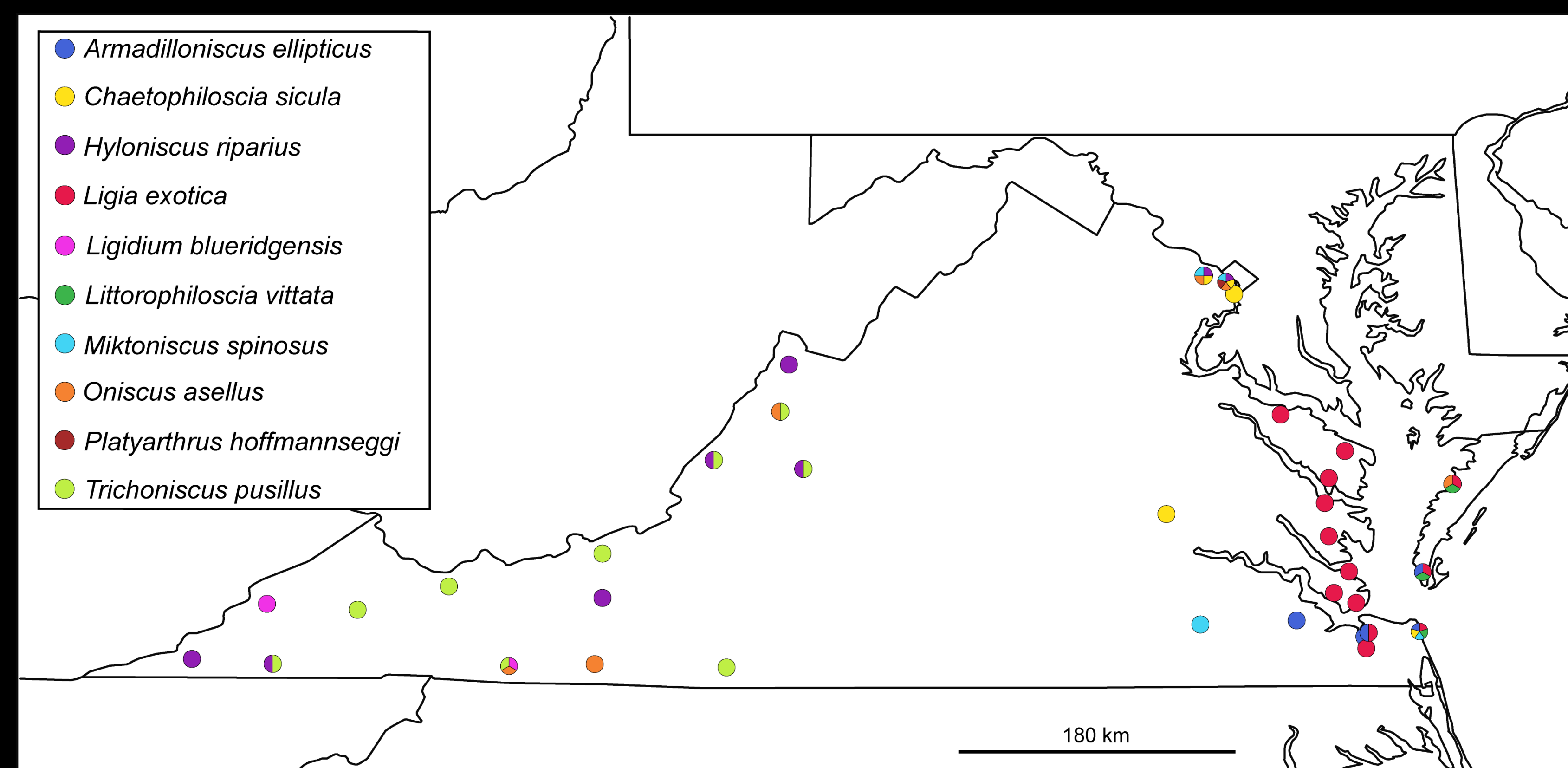


Fig 1. Map of Virginia showing county level localities of the new records.

Infraorder Crinocheta: Family Detonidae

### 6. *Armadilloniscus ellipticus* (Harger, 1878)\* (Fig. 3: K-M)

**Distribution:** Isle of Wight and Northampton Cos., Cities of Norfolk, Portsmouth, and Virginia Beach (Fig. 1: ●).

This species has a scattered worldwide distribution occurring under cover objects along marine shorelines. Its native range is currently unknown.

Infraorder Crinocheta: Family Halophilosciidae

### 7. *Littorophiloscia vittata* (Say, 1818) (Fig. 3: N-O)

**Distribution:** Accomack and Northampton Cos., City of Virginia Beach (Fig. 1: ●).

This native species is almost exclusively found within short distances of brackish or salt water along the coasts of the Atlantic Ocean and the Gulf of Mexico.

Infraorder Crinocheta: Family Oniscidae

### 8. *Oniscus asellus* Linnaeus, 1758\* (Fig. 3: P-Q)

**Distribution:** Widespread and likely statewide (Fig. 1: ●).

Native to the British Isles, this species has been introduced to most parts of the world, although it has yet to become established in the Mediterranean.

Infraorder Crinocheta: Family Philosciidae

### 9. *Chaetophiloscia sicula* Verhoeff, 1908\* (Fig. 3: R-S)

**Distribution:** Arlington and Fairfax Cos., Cities of Alexandria, Richmond, and Virginia Beach (Fig. 1: ●). Native to the Mediterranean, this species was not recorded in the New World until 2003, when it was first reported from Baltimore, Maryland (Hornung & Szlavecz 2003).

Infraorder Crinocheta: Family Platyarthridae

### 10. *Platyarthrus hoffmannseggii* Brandt, 1833\* (Fig. 3: T-U)

**Distribution:** Arlington Co. (Fig. 1: ●).

This obligate myrmecophile has adapted its lifestyle to a subterranean existence, losing both its cuticular pigmentation and eyes.

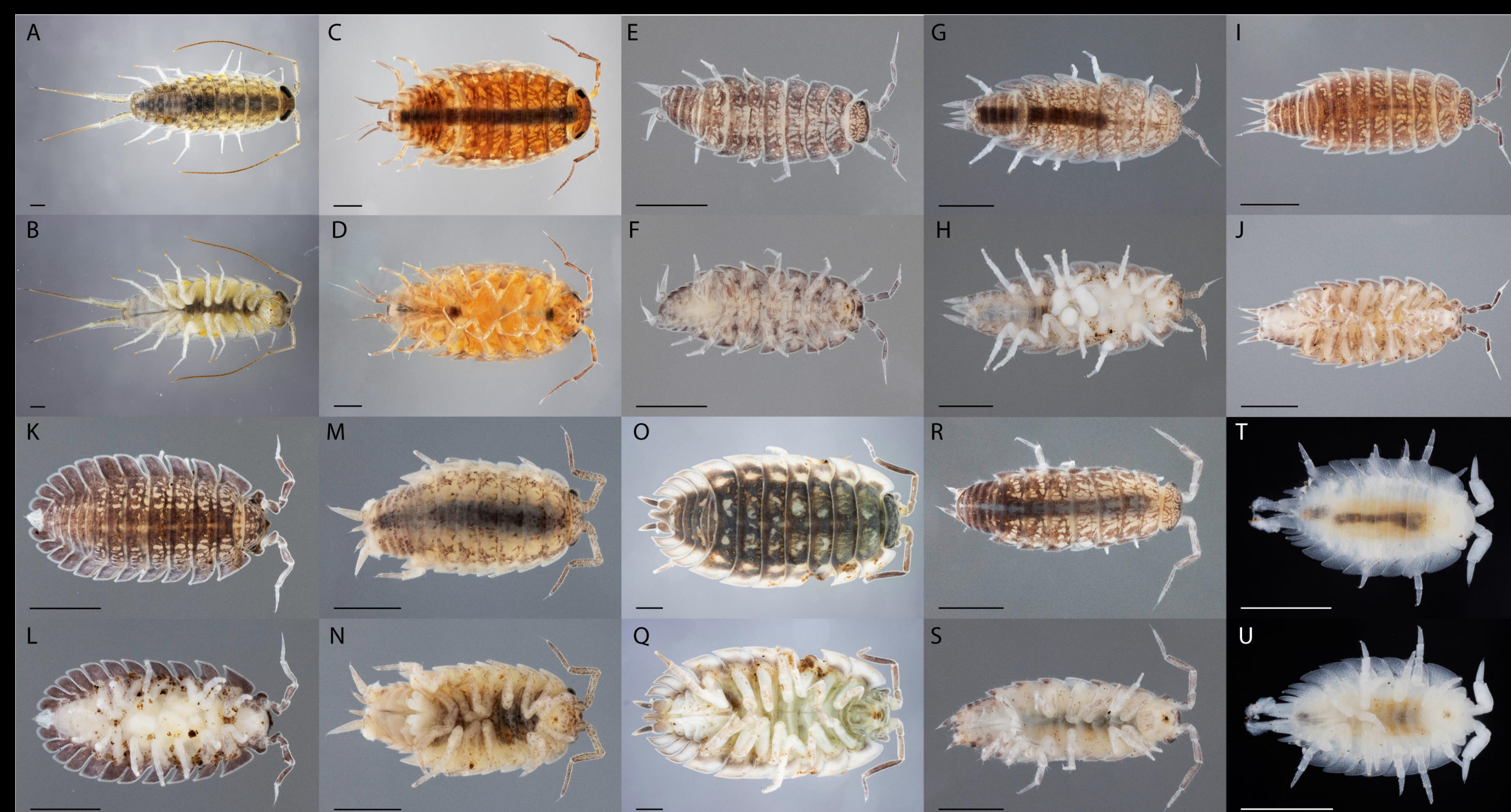


Fig. 3. Dorsal and ventral views of Oniscidea newly recorded from Virginia. A-B) *Ligia exotica*; C-D) *Ligidium blueridgensis*; E-F) *Hyloniscus riparius*; G-H) *Miktoniscus spinosus*; I-J) *Trichoniscus pusillus*; K-L) *Armadilloniscus ellipticus*; M-N) *Littorophiloscia vittata*; O-Q) *Oniscus asellus*; R-S) *Chaetophiloscia sicula*; and T-U) *Platyarthrus hoffmannseggii*. Scale bars = 1 mm.

## APPENDIX.

Checklist and known distribution of Virginia Oniscidea. Exotic taxa are marked with an asterisk (\*).

Taxon	Distribution
<b>Family Ligiidae</b>	
1. <i>Ligia exotica</i> *	Coastal Virginia
2. <i>Ligidium blueridgensis</i>	Grayson and Wise Cos.
3. <i>Ligidium elrodii elrodii</i>	Statewide
4. <i>Ligidium elrodii leensis</i>	Lee Co.
5. <i>Ligidium elrodii scottensis</i>	Scott Co.
<b>Family Trichoniscidae</b>	
6. <i>Amerigoniscus henroti</i>	Lee Co.
7. <i>Haplophthalmus danicus</i> *	Statewide
8. <i>Hyloniscus riparius</i> *	Widespread
9. <i>Miktoniscus medcoffi</i>	Western Virginia / Blueridge
10. <i>Miktoniscus racovitzae</i>	Western Virginia / Blueridge
11. <i>Miktoniscus spinosus</i>	Arlington, Fairfax, and Sussex Cos., City of Virginia Beach
12. <i>Trichoniscus provisorius</i> *	Washington Co.
13. <i>Trichoniscus pusillus</i> *	Western part of Virginia
<b>Family Armadillididae</b>	
14. <i>Armadillidium nasatum</i> *	Statewide
15. <i>Armadillidium vulgare</i> *	Statewide
<b>Family Cylisticidae</b>	
16. <i>Cylisticus convexus</i> *	Widespread
<b>Family Detonidae</b>	
17. <i>Armadilloniscus ellipticus</i> *	Isle of Wight and Northampton Cos., Cities of Norfolk, Portsmouth, and Virginia Beach.
<b>Family Halophilosciidae</b>	
18. <i>Halophiloscia couchii</i> *	Virginia (exact location unknown)
19. <i>Littorophiloscia vittata</i>	Accomack and Northampton Cos., City of Virginia Beach
<b>Family Oniscidae</b>	
20. <i>Oniscus asellus</i> *	Widespread and likely statewide
<b>Family Philosciidae</b>	
21. <i>Chaetophiloscia sicula</i> *	Arlington and Fairfax Cos., Cities of Alexandria, Richmond, and Virginia Beach.
22. <i>Philoscia muscorum</i> *	Fairfax Co., City of Virginia Beach
<b>Family Platyarthridae</b>	
23. <i>Platyarthrus hoffmannseggii</i> *	Arlington Co.
<b>Family Porcellionidae</b>	
24. <i>Porcellio scaber</i> *	Statewide
25. <i>Porcellionides pruinosus</i> *	Northampton Co.
<b>Family Trachelipodidae</b>	
26. <i>Trachelipus rathkii</i> *	Statewide

