

The Collection of *Psorophora horrida* (Dyar and Knab) in Southeastern Virginia

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Introduction

Psorophora ferox and *Psorophora horrida* are two morphologically similar species that occur in Virginia, with the former being the more common of the two. The distribution of *Ps. horrida* in Virginia is not well understood. The only published record of its collection in the state was mentioned in Dorer, et. al. (1944) based on a collection made by F.C. Pratt from Shenandoah County in 1904 (Harrison, personal communication). *Ps. horrida* may be more common in Virginia than believed, but given the morphological similarity of the two species, is often identified as *Ps. ferox*. This article describes the collection of *Psorophora horrida* in eastern Virginia during the summer of 2003. Habitat, distribution, and the diagnostic characters used to differentiate *Ps. horrida* from *ferox* are also discussed.

Method of Collection and Species Confirmation

Approximately 76 adult female *Psorophora horrida* specimens were collected via mechanical aspirator during the late morning hours (1030-1130) of July 5, 2003 in Isle of Wight County, Virginia. *Ps. horrida* were collected along with *Ps. ferox*, *Ochlerotatus infirmatus*, and *Ochlerotatus sticticus*, all of which were aspirated after landing on the author. The habitat from which these specimens were collected was a mixed deciduous and pine forest, with permanent cypress swamps and temporary woodland pools nearby. Specimens were identified at the City of Suffolk's mosquito lab, with the differentiation of *Ps. horrida* from *Ps. ferox* based on Slaff and Apperson (1989). A number of *Ps. horrida* specimens were mailed the following week to Dr. Bruce Harrison of the North Carolina Department of Environment and Natural Resources for confirmation.

Species Description

Psorophora horrida are morphologically very similar to *Ps. ferox*, particularly with regards to the white tarsomeres 4 and 5 on the hind legs. This may lead to misidentification of species if this character is the only one used for species determination. While the integument of the scutum for both species is dark, scutal scale patterns are diagnostic for the respective species. The scutum of *Ps. ferox* is speckled with small yellow/gold scales that occur in no particular pattern. However, with *Ps. horrida*, the light (white/cream) colored scales occur in patches on the scutal fossa and extend posteriorly towards the supraalar area. Also diagnostic of *Ps. horrida* are the dark brown/bronze scutal midline scales

that create a longitudinal dark line down the length of the scutum that is discernable without the aid of magnification. Another prominent character used for differentiating *Ps. horrida* from *ferox* is the median white scale patch on abdominal tergum I of *Ps. horrida* and purple on *Ps. ferox*.

In addition to the above diagnostic characters, Harrison and Whitt (1996) found six additional characters that can be used to differentiate the two species. Number of scales on the median half of the pedicel, the presence or absence of a subspiracular scale patch, and the color of the scutal scales just above the paratergite and prealar knob are all reliable diagnostic characters and are important for accurate identification in situations where the specimens may be lacking scales or are in otherwise less than pristine condition. The presence or absence of white subspiracular scales is easily seen on the dark thoracic pleura of specimens of these two species. This work should be consulted for a more detailed treatment of the morphological differences between *Psorophora horrida* and *ferox*.

Biology and Distribution of *Psorophora horrida*

Psorophora horrida and *ferox* are both summer, temporary woodland pool mosquitoes, thus they tend to occur together along with other mosquito species common to this habitat. *Ps. horrida* eggs hatch shortly after flooding and their larvae develop rapidly (Carpenter and LaCasse, 1955). Female *Ps. horrida* are very aggressive and seem to attack the upper extremities more so than the lower and frequently observed probing for a blood meal through clothing.

Psorophora horrida occur from the southeastern United States, west to Texas and Nebraska, and north to Ohio and Pennsylvania (Carpenter and LaCasse, 1955). Compared to Virginia, the range of this species in North Carolina is better understood and has been collected from a number of piedmont counties (Harrison and Whitt, 1996). As of this writing, *Psorophora horrida* have been confirmed from only two Virginia Counties: Shenandoah County (1904) and Isle of Wight County (2003).

Conclusion

The confirmed collection of *Psorophora horrida* in southeastern Virginia during the summer of 2003 raises questions as to the distribution of this species in the state. While the collection of this species in Isle of Wight County may have simply been an isolated occurrence, *Ps. horrida* may be more common in Virginia than believed, but often misidentified due to morphological similarities to *Ps. ferox* (e.g., white hind tarsomeres).

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References

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