

Adult Nepidae of Florida

The family Nepidae, common name “waterscorpions”, is an aquatic insect family in the order Hemiptera (suborder Heteroptera). Of 13 species and three genera known throughout the United States and Canada, only five species in one genus (*Ranatra*) occur in Florida. *Ranatra* species are found in aquatic vegetation and debris, and can be collected by sweeping an aquatic net through vegetation along the edges of lakes. They will cling to emergent vegetation such as cattails to hide during the day, and return to the water surface at night. *Ranatra* species also make night time flights in order to colonize new areas, and will often end up on car windshields, which they may mistake for open water.

Nepidae are unique among water bugs in possessing a stridulatory mechanism which consists of serrations on their fore-coxal cavity that contact coarse ridges which appear to be sclerotized setae. Both nymphs and adults of *Ranatra* possess these structures.

Checklist of Species of Florida *Ranatra* Fabricius (Hemiptera: Heteroptera: Nepidae)

- *R. australis* Hungerford
- *R. buenoi* Hungerford
- *R.drakei* Hungerford
- *R. kirkaldyi* Torre-Bueno
- *R. nigra* Herrich-Schaeffer

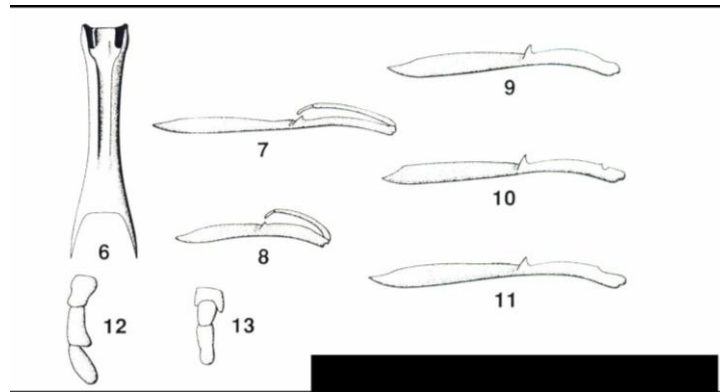
Key to Species of Adult Florida Nepidae (adapted from Sites and Polhemus 1994)

1. Prothorax with mid-ventral hollow groove (fig. 6)...*Ranatra buenoi* Hungerford
- 1'. Prothorax without mid-ventral hollow groove, but may be ventrally flattened or have a paired ventro-lateral longitudinal depressed lines2
2. Penultimate antennal segment with lateral projection absent or if present, < ½ length of terminal antennal segment (Figs. 12, 13)..... 3
- 2'. Penultimate antennal segment with lateral projection present, > or = ½ length of terminal antennal segment4
3. Profemur with width of distal portion twice width of corresponding region of tibia (Fig. 7); penultimate antennal segment with disto-lateral corner produced or prolonged (Fig. 12) *Ranatra nigra* Herrich-Schaeffer
- 3'. Profemur with width of distal portion 3 times width of corresponding region of tibia(Fig.8); penultimate antennal segment with disto-lateral corner not produced or prolonged (Fig. 13) *Ranatra kirkaldyi* Torre-Bueno

4. Profemur with without apical tooth or notch; may have gradual, shallow concavity.
*Ranatra australis* Hungerford
- 4.' Profemur with apical tooth, notch, or pronounced concavity; Pronotum with anterior portion 3 times length of posterior portion when measured at midline; each compound eye slightly wider than inter-ocular distance*Ranatra drakei* Hungerford

Distribution: *R. australis*, *R. buenoi*, *R. drakei*, and *R. nigra* are found throughout Florida, whereas *R. kirkaldyi* is limited to the north central and Panhandle regions within Florida.

Figures for *Ranatra* species identification (from Sites and Polhemus, 1994)



Figs.: (6) Prosteral groove of *Ranatra buenoi*. (7) Prothoracic femur and tibia of *Ranatra nigra*. (8) Prothoracic femur and tibia of *Ranatra kirkaldyi*. (9) Prothoracic femur of *Ranatra australis*. (12) Left antenna of *Ranatra nigra*. (13) Left antenna of *Ranatra kirkaldyi*.

References:

*Epler, J. H. 2006. Identification Manual for the Aquatic and Semi-aquatic Heteroptera of Florida (Belostomatidae, Corixidae, Gelastocoridae, Gerridae, Hebridae, Hydrometridae, Mesoveliidae, Naucoridae, Nepidae, Notonectidae, Ochteridae, Pleidae, Saldidae, Veliidae) Florida Department of Environmental Protection. Tallahassee, Florida. 186. pp. Identification manual for the aquatic and semi-aquatic Heteroptera of Florida. Florida Department of Environmental Protection, Division of Water Resource Management, Tallahassee. Available as a PDF download, at: <http://publicfiles.dep.state.fl.us/dear/labs/biology/biokeys/heteroptera.pdf>.

Henry, H.J. and Froeschner, R.C. 1988. Catalog of the Heteroptera, or True Bugs of Canada and the Continental United States. E.J. Brill. New York.

Sites R.W. and J.T. Polhemus. 1994. Nepidae (Hemiptera) of the United States and Canada. *Annals of the Entomological Society of America* 87(1): 27-42

*Not available at the time this document was first created. (PMC)