Perigenes constrictus (Say) (Hemiptera: Lygaeoidea: Rhyparochromidae): Association with Iva annua (Asteraceae) in Nebraska Salt Marshes

In the scientific literature the term salt marsh usually implies a restriction to tidal salt marshes along the world’s coastlines (Long and Mason 1983). The Oxford English Dictionary limits salt marshes to “marshland overwashed by the sea.” Interior salt marshes, however, are common in arid and semiarid regions of the world and have been included in treatments of salt-marsh ecology (Chapman 1974). Inland saline communities do not experience the daily tides of coastal marshes (Chapman 1974), but the migration of saline groundwater is similar to the flow of ancient seas (Farrar and Gersib 1991, Harvey et al. 2007).

Coastal and inland saline habitats often have similar vegetation (Willis 1967, Chapman 1974). Inland salt marshes at Lincoln, Nebraska, share certain plant genera with coastal salt marshes, including Atriplex, Salicornia, and Suaeda (Amaranthaceae; formerly Chenopodiaceae) (Ungar et al. 1969, Kaul et al. 2006, Mitsch et al. 2009). Saltgrass, Distichlis spicata (L.) Greene (Poaceae), common in coastal salt marshes (Mitsch et al. 2009), also is a dominant halophyte in saline wetlands of eastern Nebraska (Ungar et al. 1969). In addition, the salt marsh mosquito, Aedes sollicitans (Walker), predominantly a species of the Atlantic and Gulf Coasts (Darsie and Ward 2005), occurs in salt marshes around Lincoln (Lunt and Rapp 1981).

Even before the European settlement of eastern Nebraska, the extent of inland saline marshes in the Lincoln area (northern Lancaster and extreme southern Saunders counties) is thought to have been limited (Farrar and Gersib 1991, Kaul et al. 2006: fig. 5). Classified as Eastern Saline Meadow and Eastern Saline Marsh, these communities often intergrade (Rolfsmeier and Steinauer 2010); I will use “salt marshes” and “saline wetlands” interchangeably for both communities. Nebraska’s salt marshes are found only within the floodplain of Salt Creek and its tributaries. These mostly destroyed or degraded communities are critically imperiled (S1 conservation ranking), existing as remnants as a result of agricultural practices, commercial and residential development, road construction, and stream channelization (Farrar and Gersib 1991, Gersib and Steinauer 1991, Rolfsmeier and Steinauer 2010).

Nebraska’s saline wetlands might have served as a Pleistocene refugium for insects (Willis 1967). The rich insect diversity of these wetlands (Gersib and Steinauer 1991, Hoback et al. 1999) includes several species of tiger beetles (Willis 1967; Carter 1989; Hoback et al. 2000, 2001). Studies have emphasized the federally endangered (Cochnar and Harms 2005) Salt Creek tiger beetle, Cicindela nevadica lincolni ana Casey, which is precinctive to salt marshes of eastern Nebraska (Spomer and Higley 1993). Most other insect groups of eastern Nebraska’s saline wetlands have received relatively little attention.

I report the rhyparochromid seed bug Perigenes constrictus (Say) from three eastern Nebraska salt marshes. Voucher material has been deposited in the United States National Museum, Smithsonian Institution, Washington, DC.

The bugs were found mainly on annual marsh elder, Iva annua L. (Asteraceae),