

## COENAGRIONIDAE

Eight genera including forty species represent the family in Texas. *Anomalagrion*, *Hesperagrion*, and *Teleclagma* are monotypic genera; *Nehalennia* and *Telebasis* occur in the state with a single species in each genus; *Argia*, *Enallagma*, and *Ischnura* have 15, 12, and 8 species respectively. *Enallagma* and *Ischnura* have their highest species diversity in North America although both genera are almost cosmopolitan in distribution. *Nehalennia* occurs in North America and the palearctic, and the remaining five genera have neotropical and nearctic distributions.

A separate generic key for males and females avoids unduly long key couplets. An external exudate, pruinescence, having a white or bluish-gray color, may obscure body patterns in old individuals. A drop of acetone or alcohol temporarily reduces this effect.

Female determination in the Coenagrionidae relies largely on the mesostigmal plates. A generalized dorsal view of mesostigmal plate morphology appears in Figure 2 E following Walker (1953). The middorsal thoracic carina, MC, bifurcates at the anterior end of the mesothorax and typically terminates into ridges or flattened plates (rami), RM. This mid-dorsal area consists of a median pit, MPT, between the two rami of the dorsal carina, an anterior carina, ACF, forming a forward, transverse margin and two lateral carinae, LCF. These carinae or ridges collectively constitute the frame. A mesostigmal plate, MP, occurs laterally on each side of the frame. A mesothoracic spiracle (mesostigma) occurs inconspicuously below the anterior margin of each plate. The plates may have lobes projecting rearward from the posterior margins, and ridges oriented transversely or obliquely across the plate, however, such distinctive structures are often absent. Color pattern and size identify many females; however, the structural characteristics of the plates give more reliable determinations. Study of the plates requires a strong light source and at least a 20 X magnification. In addition, a forward flexure of the head and prothorax is helpful, as the hind lobe of the prothorax typically overlies the plates.

Species identified in these keys are members of monotypic genera or the only representatives of their genus in Texas. Additional data appear for such species under Smaller Genera.

## KEY TO THE GENERA: MALES

- 1 a) Majority of spines on 2nd and 3rd tibiae long, distance between spines approximately one-half of spine length (Fig. 1 E); dorsoapical margin of abdominal segment 10 with torifer and usually distinct tori (Fig. 2 A, B)..... *Argia*
- b) Majority of spines on 2nd and 3rd tibiae short, distance between spines greater than one-half of spine length (Fig. 1 D); dorsoapical margin of abdominal segment 10 without torifer and tori but may possess bifid prominence or spine, if above tibial spines long and thoracic dorsum metallic green then dorsoapical margin of abdominal segment 10 serrated and body length less than 30 mm. .... 2