

**THE ARBOREAL SALTICIDAE OF FLORIDA.** G. B. Edwards

Richman (1977) previously discussed major Florida habitat types and the jumping spiders inhabiting the litter in each habitat. This article is meant as a companion work to that of Richman. Here I discuss the same habitats, listing those species of salticids found in various strata above ground. Many of the records are the result of intensive collecting by David Richman and myself during the years 1974-1977 inclusive. Several other people helped with collecting, including Jonathan Reiskind, Will Kopachik, and Wayne and David Maddison. See Laessle (1942) for more detailed habitat descriptions.

When discussing arboreal habitats, the various successional floral stages must be considered separately, as often there is little faunal overlap between one stage and the next. The main exception would be, of course, the transitional or ecotonal stages as the flora of one stage is gradually replaced by the next successional stage flora. Also, 2 or more types of habitats may be intermixed, e.g., open woodlands may have old-field inhabitants in the herb-shrub zone where the canopy is sparse. In instances of these types, spider diversity is often high, but no species appears to be numerically dominant. In the following discussion, I will restrict the species list to those species characteristic of a particular successional stage, with the understanding that there may be considerable overlap as one stage transforms to the next.

## XERIC HABITATS

1. Sand-Pine Scrub Association. Most extensive sand-pine areas are managed for pulp wood. Patches of forest are clear-cut, then allowed to naturally rejuvenate. Some areas are planted with the faster-growing slash pine. Primary succession is deliberately maintained along routes of high-intensity power lines, and is also created naturally by fire. Fully mature sand-pine forest is considered a subclimax which will not progress to further successions because of the poor soil. Species of salticids characteristic of the primary succession are: *Metaphidippus galathea* (Walckenaer), *Peckhamia scorpionia* (Hentz) (rare), *Phidippus apacheanus* Chamberlin & Gertsch, *P. cardinalis* (Hentz), *P. workmani* Peckhams, and *Zygoballus sexpunctatus* on herbs and small shrubs; *Phidippus regius* C. L. Koch and *Synemosyna petrunkevitchi* (Chapin) (rare) on saw palmetto (*Serenoa repens*). Secondary succession species include: *Hentzia grenada* (Peckhams), *Paramaevia michelsoni* (Barnes), *Synemosyna formica* Hentz, and *Thiodina sylvana* (Hentz) on blue palmetto (*Sabal etonia*); *Phidippus putnami* (Peckhams) on rosemary (*Ceratiola ericoides*); *Hentzia palmarum* (Hentz), *Lyssomanes viridis* (Walckenaer), *Peckhamia americana* (Peckhams), *Phidippus mystaceus* (Hentz), *P. pulcherrimus* Keyserling, and *Tutelina elegans* (Hentz) on scrub oaks (*Quercus* spp.) and shrubs (*Lyonia* spp.); *Phidippus otiosus* (Hentz) and *Platycriptus undatus* (DeGeer) on pines (*Pinus* spp.).

2. Sandhill Association. In most areas, the longleaf pine (*Pinus palustris*) has been cut, leaving an open woodland with turkey oak (*Quercus laevis*) as the dominant canopy species. Shrubby understory consists of oak and pine saplings and dewberry (*Vaccinium* spp.), with rosemary in some areas. There is little distinction between understory and canopy. Herbaceous ground-cover is sparse. Typical understory species of salticids are: *Hentzia palmarum*, *Lyssomanes viridis*, *Maevia inclemens* (Walckenaer), *M. intermedia* Barnes, *Peckhamia americana*, *Phidippus pulcherrimus*, *P. putnami*, and *Thiodina sylvana*. *Habrocestum pulex* (Hentz), *Corythalia canosa* (Walckenaer), *Metacyrba floridana* Gertsch, and *M. taeniola* (Hentz) may be found on or under bark of logs, and *Ballus* n. sp. and *Platycriptus undatus* are on or under

bark of dead or living mature pine trees where the pines are still present. *Phidippus purpuratus* Keyserling is found occasionally, especially in the region of Florida known as the "panhandle."

3. Xeric Hammock. Similar in many respects to the sandhill association, the xeric hammock nevertheless differs by having the large, spreading live-oak (*Quercus virginiana*) as the dominant canopy species. Other, smaller oaks are frequently present, as well as hickory (*Carya* sp.). Understory varies from very sparse to dense thickets of oak saplings or wax myrtle (*Myrica cerifera*). Herbaceous cover similar to sandhill association. Species of salticids present include: *Hentzia mitrata* (Hentz), *H. palmarum*, *Lyssomanes viridis*, *Peckhamia americana*, *Phidippus pulcherrimus*, *P. putnami*, and *Thiodina sylvana* on the understory; *Corythalia canosa* and *Metacyrba taeniola* on logs;

*Admestina tibialis* (C. L. Koch), *Phidippus otiosus*, *P. regius*, and *T. sylvana* on live-oak.

#### MESIC HABITATS

1. Old Field Association. Although generally considered the primary succession of mesophytic hardwood forest, this habitat may be somewhat xeric. Early stages of annuals and short grasses are inhabited by *Metaphidippus galathea*, *Pellenes brunneus* Peckhams, and *Zygoballus rufipes* Peckhams. As perennials and taller grasses become dominant, species occur such as *Hentzia palmarum*, *Marpissa pikei* (Peckhams), *Phidippus cardinalis*, *P. clarus* Keyserling, *P. regius* (in open areas with palmettoes or near large trees), and *Thiodina peurpera* (Hentz). In more xeric fields, *Phidippus apacheanus* and *P. workmani* may occur; *Agassa cyanea* (Hentz) and *Phidippus pius* Scheffer occur rarely in more meadow-like situations in the northern part of the state. Along the gulf coast, *Paramaevia hobbsae* (Barnes) is a rare and prized quarry for collectors.

2. Slash-Pine Association. Although a natural successional stage, consisting of a canopy of slash pine (*Pinus elliottii*), water oak (*Quercus nigra*) and laurel oak (*Quercus laurifolia*), the fast-growing slash pine is frequently planted as a monoculture for pulp-wood production. Understory frequently includes saw palmetto, dewberry, gallberry (*Ilex opaca*), shrubs (*Lyonia* spp.), and vines (*Smilax* and *Vitis* spp.). Understory is inhabited by *Hentzia palmarum*, *Lyssomanes viridis*, *Maevia inclemens*, *Peckhamia americana*, *Phidippus pulcherrimus*, *P. putnami*, *Synemosyna formica*, *Thiodina sylvana*, *Zygoballus rufipes*, and *Z. sexpunctatus*. *Ballus cinctipes* (Banks) is found on and under water oak bark, while *Corythalia canosa* is found on trunks of several tree species, as well as on the litter. Canopy species may include *Eris pinea* (Kaston) and *Phidippus otiosus*, or, in monoculture pine, *Phidippus regius*.

3. Mesic Hammock Association. Typical climax forest in Florida is the mesic hammock, dominated by evergreen hardwoods such as magnolia (*Magnolia grandiflora*) and holly (*Ilex* spp.). Live-oak, draped with Spanish moss (*Tillandsia usneoides*), and/or cabbage palm (*Sabal palmetto*) may be prominent. Understory varies from open to dense thickets. The salticid fauna appears to be sparse; this may in part be due to the difficulty of collecting canopy species. Understory species so far collected are *Lyssomanes viridis*, *Phidippus otiosus*, *Synemosyna formica*, *Thiodina sylvana*, and *Tutelina* n. sp.; *Corythalia canosa* and *Habrocestum pulex* on tree trunks; and *Metaphidippus tillandsiae* Kaston in the tangles of Spanish moss.

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4. Deciduous Forest Association. In the northern part of Florida, particularly in the northwestern or "panhandle" section, are areas of nearly typical eastern deciduous forest. San Felasco Hammock (Alachua County) contains areas of this habitat. One extensive area is along the Appalachian River, where the types of flora and fauna found on the bluffs overlooking the river clearly indicate that the area is an isolated southern extension of the Appalachian Mountains. One area frequented by naturalists is Torreya State Park (Liberty County), located on the eastern bank of the Appalachian River. Understory and canopy species include: *Admestina tibialis*, *Eris aurantia* (Lucas), *Lyssomanes viridis*, *Peckhamia americana*, *Phidippus mystaceus*, *P. otiosus*, *P. pulcherrimus*, *P. putnami*, *Synageles* n. sp., *Synemosyna formica*, and *Thiodina sylvana*. *Corythalia canosa* and *Habrocestum pulex* are found on logs and tree trunks.

#### HYDRIC HABITATS

1. Bayhead Association. The arboreal fauna is similar to the mesic hammock association. *Lyssomanes viridis* and *Thiodina sylvana* are prominent in the understory, with *Corythalia canosa* on tree trunks.

2. Cypress Swamp Association. Dominated by bald cypress (*Taxodium distichum*), this association might support other trees, depending on the distance from the shoreline or depth of the water, such as ash (*Fraxinus caroliniana*) or sweetgum (*Liquidambar styraciflua*). *Hentzia mitrata* (Hentz) (uncommon), *Lyssomanes viridis*, *Phidippus otiosus*, and *Thiodina sylvana* are characteristic of this type of association.

3. Fresh-Water Associations. Margins of lakes, ponds, rivers, streams, canals, and even drainage ditches may have characteristic species. Where various associations such as cypress swamp abut a lake, the fauna will be typical of that association. However, extensive areas of shoreline are margined by various herbaceous plants characteristic of that habitat, particularly composites, sedges, and certain grasses. Salticids found here include *Eris marginata* (Walckenaer), *Marpissa bina* (Hentz), *M. pikei*, *Metaphidippus exiguus* (Banks) (rare), *M. galathea*, *Paramaevia hobbsae* (gulf coast only, rare), *Pellenes brunneus*, *P. splendens* Peckhams, *Phidippus audax* (Hentz), *P. clarus*, *P. pulcherrimus*, *P. regius*, and *Thiodina peurpera*.

4. Salt-Water Associations. Mangroves, especially black mangrove (*Avicennia germinans*), are inhabited by *Hentzia palmarum*, *Marpissa bina*, and *Phidippus regius*. *Beata wickhami* (Peckhams) can be found on mangroves along the southern tip of the mainland and in the Florida Keys. Saltmarsh (dominated by *Spartina* spp.) supports several species, including *Marpissa bina*, *M. pikei*, *M. wallacei* Barnes, *Phidippus clarus*, and *Synageles* n.sp.

#### ADDITIONS TO THE GROUND FAUNA

The following brief notes are meant to update Richman's (1977) annotated list:

1. Sand-Pine Scrub, ground in primary succession - *Pellenes calcaratus* Banks.
2. Mixed Sand-Pine and Slash-Pine, litter - *Neon plutonus* Gertsch & Ivie.
3. Deciduous Forest (Torreya State Park), litter - This is the only known locality in the state for *Maevia expansa* Barnes and *Habrocestum parvulum* (Banks); *H. bufoides* Chamberlin & Ivie also occurs here.
4. Hydric habitats, litter - *Zygoballus nervosus* (Peckhams).

#### REFERENCES

- Laessle, A. M. 1942. The plant communities of the Welaka Area. Univ. Florida Biol. Sci. Bull. 4 (1) 1-143.  
Richman, D. B. 1977. The jumping spiders of leaf-litter in Florida. Peckhamia 1(2): 18-21.