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The Terrestrial Hemiptera and Auchenorrhynchous Homoptera of Point Clear Island and Surrounding Marshlands, Hancock County, Mississippi

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During the late 1980's, a survey of insect fauna of Point Clear Island and associated marshlands was conducted. The present paper considers the species of terrestrial Hemiptera and auchenorrhynchous Homoptera collected during that study. The Hemiptera were represented by 71 species in 14 families, with Pentatomidae (16 sp.), Lygaeidae (15 sp.), and Miridae (13 sp.) being the most diverse. Among the Homoptera, 10 families, including at least 103 species, were present in our samples. Cicadellidae (50 sp.) and Delphacidae (26 sp.) comprised the majority of the homopteran species identified. A list of species, annotated with numbers of specimens collected and ranges of collection dates, is presented.

The extensive tidal marsh of southwestern Hancock County, Mississippi encloses several small, sandy islands, of which Point Clear Island is the most prominent. These islands, which are part of a Late Holocene littoral ridge complex (Otvos, 1973), are scattered throughout the tidal marsh, but because they are surrounded by dense marsh vegetation, they are generally inaccessible. At least a partial consequence of this isolated state is that fewer studies have been focused on these interesting environments than on the considerably more accessible barrier islands.

During the mid-1980's, we conducted a general survey of the insect fauna of Point Clear Island and surrounding marshlands. We considered portions of that fauna, in particular groups associated with aquatic habitats, in earlier papers [Ephemeroptera and Odonata (Lago and Testa, 1987); Embiidina, Dermaptera, Isoptera, and Orthoptera (Lago, et al., 1988); aquatic and semiaquatic Hemiptera and Coleoptera (Lago and Testa, 1989); and biting flies (Lago and Testa, 1990)]. In the current paper, we consider terrestrial Hemiptera and auchenorrhynchous Homoptera.

Study Area—Point Clear Island is unusual in that it is somewhat larger (4 km long X 230 m wide near mid-length) than most Mississippi tidal marsh islands, and on one end (Point Clear) it touches the Gulf of Mexico (Fig. 1). Near the Point, elevation peaks at 2.5 meters above sea level, but most of the island has an elevation of less than 1.5 meters. At the extreme west end, the island grades into a series of narrow, isolated sandy ridges separated by shallow brackish

marshes. The soil is Eustis loamy fine sand (Smith, et al. 1981), with the higher elevations toward the east being somewhat sandier than the lower elevations to the west.

Most of the island is forested with slash pine (*Pinus elliotii* Engelm.), although some hardwoods are present [live oak (*Quercus virginiana* Miller) and southern magnolia (*Magnolia grandiflora* L.)] where the elevation is greater than 1.5 meters. The understory in forested areas is dominated by two species of palmetto [*Serenoa repens* (Bartram) Small and *Sabal minor* (Jacquin) Persoon]. Common shrubs include yaupon (*Ilex vomitoria* Aiton) and hawthorn (*Crataegus* sp.), which occur primarily on the eastern ("higher") half of the island, marsh elder (*Iva frutescens* L.), which occurs in extensive stands on margins of the island above the high water line and along some swales, and French mulberry (*Callicarpa americana* L.), which can be found throughout the island. Non-forested terrestrial habitats on the island were limited to open sandy habitats. Two of these, totaling 1.5 to 2 hectares, were located near the midpoint of the island. These areas were densely to sparsely covered with mixed grasses and various forbs. A third area was open sandy beach, which extends intermittently about 350 meters southwest of Point Clear in a narrow arching band enclosing the southwestern corner of the marsh.

Both brackish and freshwater habitats occur on the island, although the latter is represented by only one pond near Point Clear. Here, a constantly flowing (at least during our study period) artesian well maintained a stable water level (about 50 cm mid-pond)

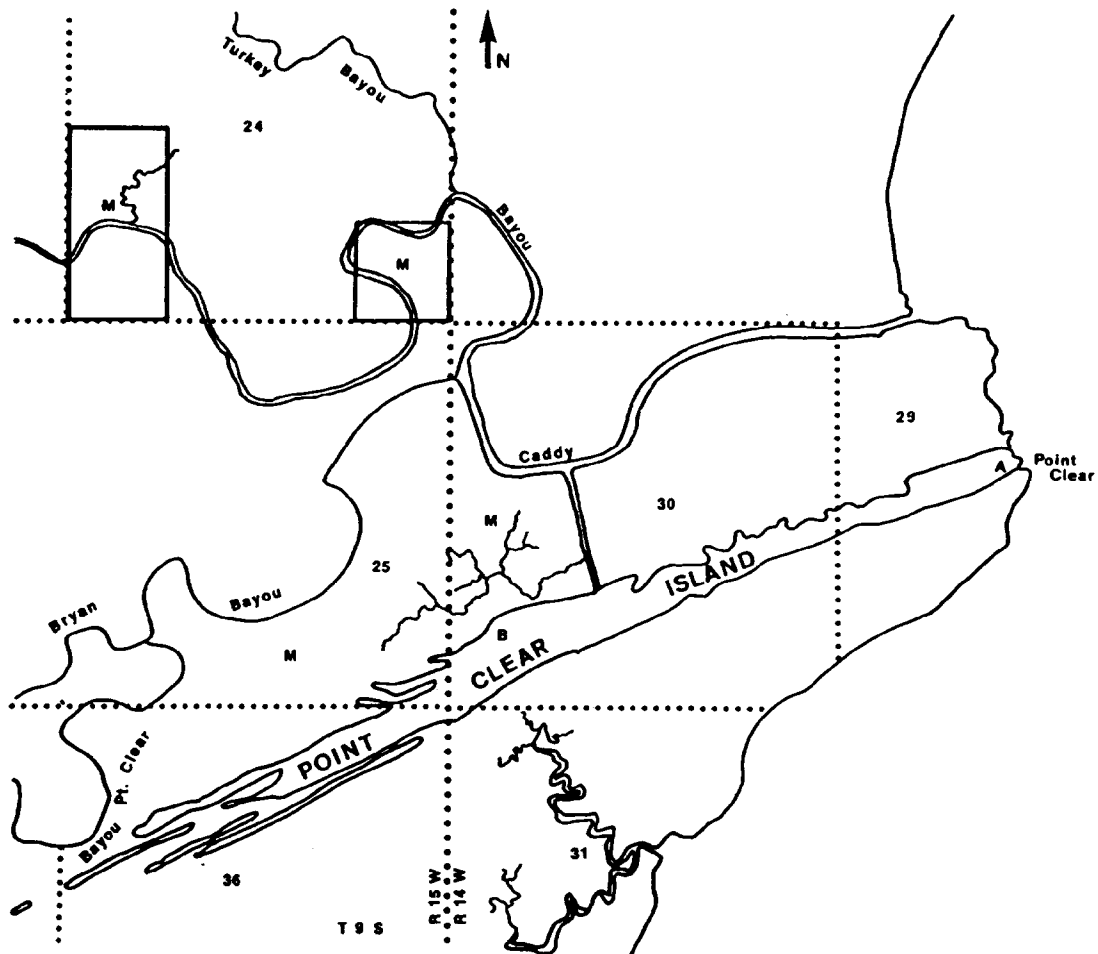


Figure 1. Map of Point Clear Island and vicinity. Numbers denote township, range, and section. A—artesian pond; B—area of brackish ponds and marshes; M—tidal marsh collecting areas.

and, consequently, a freshwater marsh habitat unlike any other found on the island. Plants found only in this habitat included *Hydrocotyl* sp., *Panicum* sp., and *Sagittaria* sp. Most permanent or semi-permanent brackish ponds were located near the middle of the island. None of these seemed to be connected in any way to the waters of the Gulf as water levels did not fluctuate with the tides. Most of these ponds were choked with stands of *Juncus* sp. and *Spartina patens* (Ait.) Mull. Unlike the freshwater pond, water levels in the brackish ponds were seriously affected by periods of dry weather conditions, and during the drought of 1986, all but one dried completely.

The vegetation surrounding Point Clear Island appears to be typical of Mississippi tidal marshes, as described by Eleuterius (1972, 1980). Two species of plants dominate the marsh vegetation. The most

abundant of these is *Juncus roemerianus* Scheele, and large, monotypic stands are present both north and south of the island. Scattered along the edges of *Juncus* stands, particularly along bayous, are similarly uniform, but much smaller, “islands” of *Spartina alterniflora* Loisel. (The latter was erroneously reported as *S. cynosuroides* in our 1987, 1988, 1989, and 1990 papers.) At various places throughout the marsh system, small areas of higher ground, not affected by daily tides, may be found. These areas support a variety of plant species, which vary considerably based on stability of the habitat (= height above high tide). The highest banks are often covered with shrubby species, such as *Baccharis halimifolia* L. or *Iva frutescens*. Lower areas between these ridges and adjacent salt marsh, or along bayous, are generally covered with low herbaceous vegetation that is quite

heterogeneous. In coastal Mississippi, these areas are dominated by salt grass [*Distichlis spicata* (L.) Greene]. “*Distichlis* meadow” will be used in subsequent references to this habitat. The largest meadow within the study area occurred along the access canal between Bayou Caddy and the north side of the island, while others were found in isolated patches along all bayous. Most meadows were less than 40 meters long and varied from one to three meters wide.

MATERIALS AND METHODS

From September, 1985, through April, 1987, we sampled the insect fauna of Point Clear Island and several areas of tidal marsh between the island and the mainland (Fig. 1). Fifty six man-days (27 days) were spent on the study area during a total of 10 collecting trips. Most collecting was done during the spring, summer and autumn of 1986. Cool season collections were made in late October and early February.

Collections were made throughout the length of Point Clear Island, but were concentrated on the eastern end in the area surrounding the artesian pond and in an extensive area near the middle of the island. The former area extended about one km westward from the Point, and the second began about 300 meters east of the mid-island access canal (Fig. 1) and extended southwestward for nearly 1.5 km. The latter area contained most of the brackish marshes located on the island.

In all areas of true coastal marsh, collecting activity was generally limited by accessibility and, by necessity, occurred primarily along waterways. Collecting in marsh habitats was concentrated in three areas (Fig. 1—“M”). The first, and largest, was the extensive marsh adjacent to the northwest boundary of the island and delimited by the access canal, Bayou Caddy, Bryan Bayou, and Bayou Pt. Clear. The two smaller areas were located in the southeastern (16.2 hectares) and southwestern (32.4 hectares) corners of T9S-R15W-Sec. 24. In the following list of species, and on specimen data labels, these two localities are designated 1 mi. SSW Lakeshore and 1.5 mi SW Lakeshore, respectively.

Although a variety of collecting techniques was employed during this study, most of the specimens reported in this paper were captured using either aerial or light-duty sweeping insect nets. Significant numbers of specimens were taken at blacklights, which were run in both island and marsh habitats (as many as three per evening) at least once per trip when

air temperatures were favorable. Additional specimens were collected by hand picking from plants and a few were taken in Malaise traps and pitfall traps.

A set of voucher specimens has been placed in the insect collection at the University of Mississippi.

RESULTS

During this survey, specimens representing at least 103 species (not all could be identified to species) within 10 families of the homopteran suborder Auchenorrhyncha were collected. The majority of these belonged to two families—Cicadellidae (50 sp.) and Delphacidae (26 sp.). Terrestrial Hemiptera were represented by at least 71 species belonging to 14 families. Pentatomidae (16 sp.), Lygaeidae (15 sp.), and Miridae (13 sp.) were represented best.

In the following list, when three or more collection dates were available for a species, the dates are presented as a range without regard to year of collection as long as they appeared to represent continuous seasonal occurrence. If only two dates were available, they are listed separately, as are dates that were widely disjunct. The abbreviation PCI refers to the island proper, as well as marsh habitats directly bordering the island. Although a few references are made to host plants, these represent hand-picking records as sweeping generally does not lend itself well to associating insects with food plants. The “*Distichlis* meadow” records, however, are the result of sweeping.

HOMOPTERA

Cercopidae

Aphrophora saratogensis (Fitch). PCI, 24 June, 1 specimen.

Clastoptera xanthocephala Germar. PCI, 12 May–15 Aug., 130 specimens, 5 ex. *Baccharis halimifolia*. A small series was swept from vegetation surrounding the artesian pond during June.

Prosapia bicinta (Say). PCI, 23 June–15 Aug., 8 specimens.

Cicadellidae

Alebra albostriella (Fallen). PCI, 10 June, 5 specimens.

Amplipcephalus littoralis (Ball). PCI, 20 May–25 Oct., 10 specimens, 7 from *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 June–25 Oct., 10 specimens.

- Balclutha incisa* (Matsumura). PCI, 23 Oct., 1 specimen.
- Balclutha* sp. PCI, 12 Aug.–23 Oct., 6 specimens (females).
- Chlorotettix fallax* Sanders & DeLong. PCI, 24 June, 5 specimens. 1 mi. SSW Lakeshore, 23 June, 4 specimens.
- Chlorotettix rugicollis* Ball. PCI, 24 June–17 Aug., 6 specimens.
- Chlorotettix spatulatus* Osborn & Ball. PCI, 24 June, 2 specimens.
- Chlorotettix tunicatus* Ball. PCI, 15 Aug., 27 Sept., 4 specimens.
- Chlorotettix viridius* Van Duzee. PCI, 10 May–23 Oct., 238 specimens. This was the most common species of leafhopper in our samples. Although two specimens were collected from *Baccharis halimifolia*, the remainder were taken during general sweeping.
- Chlorotettix* spp. PCI, 24 June, 13 Aug., 2 specimens (females).
- Ciminius hartii* (Ball). PCI, 25 June, 1 specimen, ex. *Baccharis halimifolia*.
- Unidentified Deltocephalinae. PCI, 15 Aug.–23 Oct., 5 specimens (females).
- Destria bisignata* (Sanders & DeLong). PCI, 20 May–23 Oct., 2 specimens.
- Draeculacephala balli* (or near). PCI, 12 May–27 Sept., 3 specimens.
- Draeculacephala bradleyi* Van Duzee. PCI, 12 May–27 Sept., 5 specimens.
- Draeculacephala constricta* DeLong and Davidson. PCI, 24 June, 1 specimen.
- Draeculacephala floridana* (Ball). PCI, 25 Apr.–27 Sept., 35 specimens, 4 from *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr., 16 specimens, 14 from *Distichlis* meadow. 1 mi. SSW Lakeshore, 23 June–14 Aug., 17 specimens.
- Draeculacephala robinsoni* Hamilton. PCI, 24 Apr.–13 Oct., 66 specimens, collected from *Distichlis* meadow, from vegetation surrounding the artesian pond, and in general sweeps from throughout the island. 1.5 mi. SW Lakeshore, 24 & 25 Apr., 7 specimens, ex. *Spartina alterniflora*. 1 mi. SSW Lakeshore, 14 Aug., 1 specimen.
- Draeculacephala* spp. PCI, 25 Apr.–15 Aug., 13 specimens (females). 1 mi. SSW Lakeshore, 25 Apr., 1 specimen (female).
- Empoasca* sp. PCI, 24 Apr.–10 June, 8 specimens (females), ex. *Ilex vomitoria*.
- Erythroneura* (?) sp. PCI, 23 Oct., 1 specimen (female).
- Graminella nigrifrons* (Forbes). PCI, 24 Apr.–23 Oct., 53 specimens, 3 from *Distichlis* meadow; collected in Apr. and June from vegetation surrounding the artesian pond. 1 mi. SSW Lakeshore, 25 Apr., 12 Aug., 3 specimens, ex. *Shrankia* sp.
- Graminella villica* (Crumb). PCI, 27 Sept., 10 specimens.
- Gyponana* sp. PCI, 24 June, 1 specimen (female).
- Hecalus flavidus* (Signoret). PCI, 27 Sept., 1 specimen.
- Hecalus lineatus* (Uhler). PCI, 20 May, 12 specimens, 10 ex. *Shrankia* sp. 1.5 mi. SW Lakeshore, 12 May, 12 specimens. 1 mi. SSW Lakeshore, 14 May, 3 specimens.
- Homalodisca insolita* (Walker). PCI, 23 June, 1 specimen.
- Homalodisca triquetra* (F.). PCI, 25 June–15 Aug., 4 specimens. 1.5 mi. SW Lakeshore, 27 Sept., 1 specimen. 1 mi. SSW Lakeshore, 14 Aug., 1 specimen, ex. *Baccharis halimifolia*.
- Oncometopia orbona* (F.). PCI, 24 Apr., 1 specimen.
- Osbornellus clarus* Beamer. PCI, 15 Aug., 1 specimen.
- Paraphlepsius fuscipennis* (Van Duzee). PCI, 14 May–23 Oct., 37 specimens. 1 mi. SSW Lakeshore, 12 Aug., 1 specimen.
- Pendarus* sp. PCI, 12 May, 1 specimen.
- Penestragania robusta* (Uhler). PCI, 24 Apr.–15 Aug., 45 specimens. 1.5 mi. SW Lakeshore, 25 Apr.–25 Oct., 13 specimens. 0.5 mi. SW lakeshore, 25 Apr., 1 specimen. 1 mi. SSW Lakeshore, 25 June–25 Oct., 5 specimens. Collected from *Baccharis halimifolia* at all locations and *Iva frutescens* both on the island and in the marsh 1 mile SSW of Lakeshore.
- Penestragania* sp. 1.5 mi. SW Lakeshore, 12 May, 2 specimens (females).
- Planicephalus flavicosta* (Stal). PCI, 20 May–17 Aug., 28 specimens, collected most frequently during May and June from *Distichlis* meadow and from vegetation surrounding the artesian pond.
- Polana quadrinotata* (Spangberg). PCI, 23 June, 2 specimens, both from vegetation surrounding the artesian pond.
- Polyamia weedi* (Van Duzee). PCI, 27 Sept., 23 specimens.
- Sanctanus cruciatus* (Osborn). PCI, 12 Aug.–27 Sept., 13 specimens. 1 mi. SSW Lakeshore, 12 Aug., 1 specimen.

Sanctanus sp., probably *fasciatus* (Osborn). PCI, 12 May–15 Aug., 5 specimens.
Scaphoideus immistus (Say). PCI, 21 May, 1 specimen.
Spanbergiella vulnerata (Uhler). PCI, 25 Apr.–23 Oct., 6 specimens, 1 from *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr., 12 May, 3 specimens, 1 from *Juncus roemerianus*. 1 mi. SSW Lakeshore, 14 May, 1 specimen.
Stirellus bicolor (Van Duzee). PCI, 12 May–27 Sept., 8 specimens.
Texanus excultus (Uhler). PCI, 24 Apr.–17 Aug., 20 specimens. 1 mi. SSW Lakeshore, 23 June–12 Aug., 2 specimens.
Tinobregmus vittatus Van Duzee. PCI, 12 May–23 Oct., 17 specimens. 1.5 mi. SW Lakeshore, 12 May–14 Aug., 10 specimens. 1 mi. SSW Lakeshore, 25 Oct., 5 specimens. Collected from *Baccharis halimifolia* at all three locations.
Tinobregmus sp. PCI, 27 Sept., 1 specimen (female).
Tylozygus bifidus (Say). PCI, 12 May–15 Aug., 9 specimens.
Tylozygus geometricus (Signoret). PCI, 12 May–27 Sept., 9 specimens.
Xyphon flaviceps (Riley). PCI, 12 Aug., 5 specimens.
Xyphon sagittifera (Uhler). PCI, 12 Aug., 1 specimen.
Xyphon spp. PCI, 24 June–17 Aug., 7 specimens, 1 ex. *Baccharis halimifolia*.

Cicadidae

Cicada hieroglyphica Say. PCI, 23 June, 1 specimen.

Cixiidae

Bothriocera maculata Caldwell. PCI, 20 May–15 Aug., 3 specimens.
Bothriocera sp. PCI, 20 May, 1 specimen.
Myndus enotatus Van Duzee. PCI, 12 May, 12 Aug., 2 specimens.
Myndus sp. PCI, 23 June–15 Aug., 3 specimens, 1 ex. *Baccharis halimifolia*.
Pintalia delicata (Fowler). 1 mi. SSW Lakeshore, 12 Aug., 1 specimen.

Delphacidae

Bakerella sp. PCI, 27 Sept., 2 specimens.
Delphacodes andromeda (Van Duzee). PCI, 27 Sept., 2 specimens.
Delphacodes detecta (Van Duzee). PCI, 12 May–25 Oct., 121 specimens, although 1 specimen was taken from *Baccharis halimifolia*, over half of the

specimens collected were swept from *Distichlis* meadow.

Delphacodes idonea Beamer. PCI, 15 Aug., 102 specimens. 1.5 mi. SW Lakeshore, 25 June, 1 specimen.
Delphacodes penedetecta Beamer. 1.5 mi. SW Lakeshore, 25 Oct., 18 specimens.
Delphacodes puella (Van Duzee). PCI, 15 Aug.–27 Sept., 5 specimens.
Delphacodes spp. PCI, 24 Apr.–25 Oct., 168 specimens (unassociated females), mostly from *Distichlis* meadow.
Euides weedi (Van Duzee). PCI, 15 Aug., 2 specimens.
Liburniella ornata (Stal). PCI, 13 Aug., 1 specimen.
Megamelus lobatus Beamer. PCI, 15 Aug., 17 Aug., 3 specimens.
Megamelus sp-1. PCI, 23 Oct., 25 Oct., 3 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.
Megamelus sp-2. PCI, 12 Aug., 1 specimen.
Neomegamelanus dorsalis (Metcalf). PCI, 20 May, 2 specimens, swept from *Distichlis* meadow.
Neomegamelanus elongatus (Ball). PCI, 26 June, 1 specimen. 1.5 mi. SW Lakeshore, 1 specimen.
Neomegamelanus lautus (Metcalf). PCI, 26 June, 23 Oct., 2 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.
Nothodelpha slossonae (Ball). PCI, 27 Sept., 1 specimen.
Pissonotus n. sp.?, near *albovenosus* Osborn. PCI, 25 June–15 Aug., 4 specimens. 1.5 mi. SW Lakeshore, 25 June, 3 specimens. 1 mi. SSW Lakeshore, 25 June, 2 specimens. All but one of the specimens of this species were taken from *Baccharis halimifolia*.
Pissonotus sp-1. PCI, 27 Sept., 1 specimen (female).
Pissonotus sp-2. PCI, 14 Feb.–20 May, 6 specimens, 2 ex. *Iva frutescens*.
Prokelisia crocea (Van Duzee). PCI, 24 Apr.–12 Aug., 6 specimens. 1 mi. SSW Lakeshore, 14 Aug., 1 specimen.
Prokelisia dolus Wilson. PCI, 26 June, 13 Aug., 2 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 3 specimens. 1 mi. SSW Lakeshore, 25 June, 1 specimen.
Prokelisia marginata Van Duzee. PCI, 24 Apr.–12 Aug., 16 specimens, 2 from *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr., 25 Oct., 2 specimens, 1 from *Spartina alterniflora*. 0.5 mi. SW Lakeshore, 25 Apr., 1 specimen.
Sogatella kolophon (Kirkaldy). PCI, 23 Oct., 1

specimen.

Stenocranus lautus Van Duzee. PCI, 20 May, 1 specimen.

Stobaera concinna (Stal). PCI, 23 Oct., 2 specimens.

Toya propinqua (Fieber). 1.5 mi. SW Lakeshore, 25 June–25 Oct., 4 specimens.

Tumidagena sp. PCI, 20 May, 1 specimen.

Derbidae

Cedusa obscura (Ball). PCI, 23 June, 3 specimens.

Cedusa sp. PCI, 15 Aug., 1 specimen.

Dictyopharidae

Rhynchomitra lingula (Van Duzee). PCI, 24 June, 23 Oct., 2 specimens. 1.5 mi. SW Lakeshore, 1 specimen.

Rhynchomitra microrrhina (Walker). PCI, 25 June, 2 specimens.

Scolops perdis Uhler. PCI, 25 June–13 Aug., 8 specimens.

Flatidae

Cyarta melichari Van Duzee. PCI, 13 Aug., 1 specimen.

Metcalfa pruinosa (Say). PCI, 25 June–15 Aug., 44 specimens. 1.5 mi. SW Lakeshore, 25 June–14 Aug., 18 specimens. 1 mi. SSW Lakeshore, 23 June–14 Aug., 16 specimens. Nearly all specimens were collected from *Baccharis halimifolia*.

Issidae

Acanalonia servillei Spinola. PCI, 24 June, 11 specimens, 1 ex. *Baccharis halimifolia*.

Aphelonema decorata (Van Duzee). PCI, 20 May, 1 specimen.

Aphelonema simplex Uhler. PCI, 12 May–25 Oct., 22 specimens, 1 specimen swept from *Distichlis* meadow.

Membracidae

Cyrtolobus fuscipennis Van Duzee. PCI, 24 June, 2 specimens.

Cyrtolobus sp. PCI, 24 Apr., 2 specimens.

Micrutalis calva (Say). PCI, 20 May, 1 specimen, ex. *Iva frutescens*. 1.5 mi. SW Lakeshore, 24 Apr.–14 Aug., 25 specimens, 9 ex. *Baccharis halimifolia* and 14 ex. *Iva frutescens*. 0.5 mi. SW Lakeshore, 25 Apr., 5 specimens.

Spissistilis festinus (Say). PCI, 25 June–23 Oct., 19 specimens.

Telamona reclivata Fitch. PCI, 24 June, 2 specimens.

Vanduzeeea sp. PCI, 24 June, 1 specimen.

HEMIPTERA

Alydidae

Alydus eurinus (Say). PCI, 24 June, 1 specimen.

Alydus pilosulus (Herrich-Schaeffer). PCI, 13 Aug.–23 Oct., 5 specimens.

Anthocoridae

Orius insidiosus (Say). PCI, 27 Sept., 1 specimen. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.

Berytidae

Jalysus spinosus (Say). PCI, 13 Aug., 1 specimen.

Blissidae

Blissus insularis Barber. PCI, 20 May, 23 June, 27 Sept., 3 specimens.

Coreidae

Acanthocephala femorata (F.). 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.

Leptoglossus phyllopus (L.). PCI, 12 Aug.–23 Oct., 7 specimens. 1.5 mi. SW Lakeshore, 27 Sept.–25 Oct., 3 specimens. 1 mi. SSW Lakeshore, 25 Oct., 1 specimen.

Corimelaenidae

Amnestus basidentatus Froeschner. 1 mi. SSW Lakeshore, 12 Aug., 2 specimens.

Corimelaena harti Malloch. PCI, 24 Apr., 3 specimens.

Corimelaena marginella Dallas. PCI, 13 Aug., 1 specimen.

Corimelaena pulicaria (Germar). PCI, 24 Apr.–23 June, 25 specimens, 2 ex. *Iva frutescens* and a series of 3 was swept from vegetation surrounding the artesian pond in Apr. 1.5 mi. SW Lakeshore, 25 Apr., 1 specimen, ex. *Distichlis* meadow.

Galgupha aterrima Malloch. PCI, 24 Apr., 1 specimen, ex. *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr., 1 specimen.

Galgupha atra Amyot & Serville. PCI, 24 Apr., 25 Apr., 2 specimens, 1 ex. *Distichlis* meadow.

Cydnidae

Cyrtomenus ciliatus (P. de Beauvois). PCI, 23 June–15 Aug., 3 specimens.

Dallasiellus lugubris (Stal). PCI, 12 Aug., 1 specimen. 1.5 mi. SW Lakeshore, 12 Aug., 1 specimen.

men.

Pangaeus biliniatus (Say). PCI, 23 June–15 Aug., 14 specimens.

Geocoridae

Geocorus punctipes (Say). PCI, 15 Aug., 3 specimens, 1 ex. *Baccharis halimifolia*.

Largidae

Largus succinctus (L.). PCI, 25 June–17 Aug., 4 specimens, 1 ex. *Baccharis halimifolia*.

Lygaeidae

Cymodema breviceps (Stal). PCI, 20 May, 23 June, 2 specimens.

Heraeus plebejus Stal. PCI, 10 May–15 Aug., 16 specimens. 1.5 mi. SW Lakeshore, 12 Aug., 3 specimens. 1 mi. SSW Lakeshore, 23 June, 2 specimens.

Ischnodemus conicus Van Duzee. 1.5 mi. SW Lakeshore, 12 May–25 Oct., 5 specimens, 2 ex. *Baccharis halimifolia*. 1 mi. SSW Lakeshore, 25 Oct., 2 specimens. 0.5 mi. SW Lakeshore, 25 Apr., 1 specimen.

Ischnodemus rufipes Van Duzee. PCI, 12 May–26 May, 5 specimens. 1.5 mi. SW Lakeshore, 25 Apr., 2 specimens, 1 ex *Distichlis* meadow and 1 ex. *Juncus roemerianus*.

Liorhyssus hyalinus (F.). PCI, 27 Sept., 1 specimen.

Neacoryphus bicrucis (Say). 1.5 mi. SW Lakeshore, 12 Aug., 1 specimen.

Neopamera bilobatus (Say). PCI, 23 June–23 Oct., 20 specimens. 1 mi. SSW Lakeshore, 12 Aug., 5 specimens.

Niesthrea louisianica Sailer. PCI, 23 June, 1 specimen.

Oedancala crassimana (F.). PCI, 24 Apr.–15 Aug., 25 specimens, collected from *Baccharis halimifolia* (2), *Iva frutescens* (2), and from vegetation surrounding the artesian pond. 1.5 mi. SW Lakeshore, 25 Apr., 6 specimens, ex *Distichlis* meadow (4) and *Spartina alterniflora* (1). 1 mi. SSW Lakeshore, 25 Apr., 5 specimens, ex *Shrankia* sp. (3) and *Juncus roemerianus* (1). 0.5 mi. SW Lakeshore, 25 Apr., 1 specimen.

Oncopeltus fasciatus (Dallas). PCI, 13 Aug., 1 specimen. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.

Ozophora picturata Uhler. PCI, 15 Aug., 1 specimen.

Paromius longulus (Dallas). PCI, 12 May–27 Sept., 82 specimens. 1.5 mi. SW Lakeshore, 12 Aug., 1 specimen. 1 mi. SSW Lakeshore, 12 Aug., 1

specimen.

Peritrechus paludemaris Barber. PCI, 23 June, 5 specimens.

Pseudopachybrachius vincta (Say). PCI, 12 Aug.–27 Sept., 21 specimens.

Xyonysius cf. *californius* (Stal). PCI, 27 Sept.–23 Oct., 8 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 2 specimens.

Miridae

Ceratocapsus insperatus Blatchley. PCI, 23 June, 1 specimen.

Chlamydatus suavis (Reuter). PCI, 13 Aug., 1 specimen.

Dagbertus fasciatus (Reuter). PCI, 13 Aug.–15 Aug., 3 specimens.

Eustictus grossus (Uhler). PCI, 13 Aug., 1 specimen.

Lopidea media (Say). 1.5 mi. SW Lakeshore, 12 May, 11 specimens.

Lygus lineolaris (P. de Beauvois). PCI, 25 Apr., 23 Oct., 2 specimens. 1.5 mi. SW Lakeshore, 27 Sept.–25 Oct., 3 specimens.

Pilophorus heidemanni Poppius. PCI, 9 May, 1 specimen.

Polymerus basalis (Reuter). PCI, 15 Aug.–19 Oct., 4 specimens, 3 ex. *Baccharis halimifolia*. 1.5 mi. SW Lakeshore, 27 Sept., 3 specimens, 1 ex. *Helenium amarum*.

Reuteroscopus ornatus (Reuter). PCI, 13 Aug.–15 Aug., 20 specimens, 1 ex. *Baccharis halimifolia*.

Sixeonotus albicornis Blatchley. PCI, 12 Aug., 1 specimen.

Taylorilygus pallidulus (Blanchard). PCI, 13 Aug.–23 Oct., 38 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 41 specimens. 1 mi. SSW Lakeshore, 25 Oct., 18 specimens.

Trigonotylus doddi (Distant). PCI, 25 Apr.–25 Oct., 14 specimens, 2 ex. *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr., 1 specimen ex. *Spartina alterniflora*.

Trigonotylus uhleri (Reuter). PCI, 24 Apr.–25 Oct., 29 specimens, 7 swept from *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr.–25 Oct., 14 specimens, 1 ex. *Spartina alterniflora*. 1 mi. SSW Lakeshore, 14 May, 1 specimen. 0.5 mi. SW Lakeshore, 25 Apr., 1 specimen.

Nabidae

Nabis sp., probably *N. capsiformis* (Germar). PCI, 14 May–25 Oct., 8 specimens.

Pentatomidae

- Amaurochrous dubius* (P. de Beauvois) PCI, 23 June, 10 specimens.
- Banasa calva* (Say). PCI, 12 Aug., 2 specimens. 1 mi. SSW Lakeshore, 23 June, 1 specimen.
- Banasa dimiata* (Say). PCI, 23 June, 1 specimen.
- Chlorochroa saucia* (Say). PCI, 25 Apr.–15 Aug., 55 specimens, ex. *Distichlis* meadow.
- Chlorochroa senilis* (Say). PCI, 25 Apr.–15 Aug., 49 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen. 1 mi. SSW Lakeshore, 12 Aug., 3 specimens.
- Euschistus ictericus* (L.). PCI, 23 June, 1 specimen.
- Euschistus obscurus* (P. de Beauvois). PCI, 10 May–15 Aug., 6 specimens.
- Euschistus servus servus* (Say). PCI, 23 June–27 Sept., 3 specimens.
- Euschistus tristigmus* (Say). PCI, 23 June, 1 specimen.
- Euschistus tristigmus pyrrhocerus* (Herrich-Schaeffer). PCI, 15 Aug., 1 specimen.
- Mineus strigipes* (Herrich-Schaeffer). 1.5 mi. SW Lakeshore, 14 Aug., 1 specimen, ex. *Baccharis halimifolia*.
- Mormidea lugens* (F.). PCI, 24 Apr.–20 May, 3 specimens 1 ex. *Iva frutescens*. 1.5 mi. SW Lakeshore, 12 May, 1 specimen.
- Nezara viridula* (L.). PCI, 24 June–23 Oct., 7 specimens.
- Oebalus pugnax pugnax* (F.). PCI, 25 Apr.–27 Sept., 53 specimens, encountered in sweeps throughout the island and in *Distichlis* meadow. 1.5 mi. SW Lakeshore, 25 Apr., 2 specimens.
- Proxys punctulatus* (P. de Beauvois). PCI, 12 Aug., 15 Aug., 2 specimens.
- Thyanta custator* (F.). PCI, 25 Apr.–15 Aug., 3 specimens, 1 ex. *Iva frutescens*.

Reduviidae

- Barce fraterna* (Say). PCI, 12 Aug., 13 Aug., 2 specimens.
- Diaditus tejanus* Giacchi. PCI, 12 Aug.–15 Aug., 18 specimens. 1.5 mi. SW Lakeshore, 12 Aug., 1 specimen.
- Doldina interjungens* Bergroth. PCI, 23 June, 1 specimen. 1.5 mi. SW Lakeshore, 27 Sept., 1 specimen. 1 mi. SSW Lakeshore, 23 June, 14 Aug., 2 specimens.
- Pnirontis cf. modesta* Banks. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.
- Rasahus biguttatus* (Say). PCI, 24 June, 1 specimen.

- Triatoma sanguisuga* (LeConte). PCI, 12 Aug., 1 specimen.
- Zelus cervicalis* Stal. PCI, 25 June–27 Sept., 4 specimens. 1.5 mi. SW Lakeshore, 27 Sept., 1 specimen.
- Zelus longipes* (L.). PCI, 26 Sept.–19 Oct., 3 specimens. 1.5 mi. SW Lakeshore, 25 Oct., 1 specimen.

DISCUSSION

Richmond (1962, 1968) presented lists of the fauna and flora occurring on Horn Island (Jackson County, MS) and this represents the only comprehensive report for any of the Mississippi islands. In these papers, 21 species in seven families of auchenorrhynchous Homoptera were listed along with 36 species of terrestrial Hemiptera representing 12 families. These numbers are considerably lower than what we encountered in the fauna on and around Point Clear Island, at least in terms of overall species diversity.

The Point Clear list of Auchenorrhyncha contains representatives of all families recorded from Horn Island by Richmond (1962, 1968), plus Cixiidae, Derbidae, Dictyopharidae, and Issidae (10 species, total, only one of which was considered to be common in our collections). The major differences between species lists of the two islands occurs in the Cicadellidae (16 HI vs. 50 PCI) and Delphacidae (3 HI vs. 26 PCI). Part of the difference between the two islands is probably explained by distance from shore, but we suspect that differences in collecting techniques and recent advances in taxonomic understanding of some difficult groups (such as the family Delphacidae) are more important. The primary methods of collection on Horn Island were the use of New Jersey mosquito traps and fly traps baited with "miscellaneous materials." In addition, Richmond (1962) indicated that many collecting trips, focusing primarily on insects, were made, but there was no indication as to what extent sweeping was used. [Rings and Richmond (1953) did state that sweeping was used during their mosquito survey on Horn Island. This work, conducted primarily during 1944 and early 1945, provided the basis for Richmond's 1962 and 1968 papers. However, as is well known among entomologists, the gentle sweeping motions necessary for collecting relatively undamaged specimens of delicate insects such as mosquitoes are not very effective for sampling insects associated with dense vegetation or for capturing rapid fliers.] Sweep-

ing in salt marsh habitats at Point Clear was the primary source for most species of Delphacidae and it seems likely that similar activity in Horn Island marshes would reveal the presence of additional species belonging to this family. We suspect that the relatively low number of leafhopper species on the Horn Island list is also an artifact of collecting—the result of the lack of vigorous sweeping activity in a variety of vegetation types.

Richmond (1962) included two families of Hemiptera from Horn Island that we did not encounter on Point Clear. Cimicidae was represented by one species (*Cimex lectularius* L.—the common bed bug) and Scutellaridae (as the subfamily Scutellarine of the Pentatomidae) represented by two species. The presence of bed bugs on Horn Island is directly attributable to human habitation (Army barracks from 1943 to 1945). The Army left the island in 1945 and we are not aware of any consistent human habitation since that time. It is, therefore, doubtful that this species of bed bug still occurs on Horn Island. Unlike bed bugs, we certainly anticipated capturing scutellarids on Point Clear, but none was encountered. Richmond (1962, 1968) did not record members of Blissidae, Geocoridae, Largidae or Cydnidae (the two species of the latter present in his 1962 list are actually members of the family Corimelaenidae) from Horn Island, all of which were found on Point Clear Island, although none of the species was common here. Among the ten families the two islands have in common, the Point Clear list is equally or more species-rich, the same pattern that was seen in the Homoptera. Some of the differences between the lists of Hemiptera from the two islands are probably explained by differences in collecting techniques, as was indicated above for Homoptera. But other differences, such as the presence of species of the wide spread genera *Myodocha*, *Nysius* (Lygaeidae) and *Draeocoris* (Miridae), and a species known to be associated with salt marshes, *Edessa bifida* (Say) (Blatchley, 1926), on Horn Island, but not on Point Clear, are more difficult to explain. Possibly these taxa do not occur on Point Clear, but it seems more likely that some or all of them do occur here, perhaps in low numbers, and that our collection methods were not particularly effective in some microhabitats. For instance, in the interiors of marshes, a habitat where vegetation was often very thick, sweeping was difficult. In retrospect, another method of collection (such as using a modified vacuum) may have been more effective than sweeping in certain habitats. Even

though this may be the case, we believe our combination of sweeping, hand picking and light trapping produced a fairly representative list of species for both groups of insects considered in this paper. As is true for virtually any general insect survey, additional collecting on Point Clear Island would undoubtedly yield additional species.

Another interesting comparison can be made between marsh fauna of Point Clear and that reported by Rey and McCoy (1982) for salt marshes in northwestern Florida. Of the 18 species of Hemiptera recorded by Rey and McCoy (1982), 14 were collected in marshes surrounding Point Clear. Two genera of Lygaeidae collected in Florida marshes (*Cymoninus* and *Ptochiomera*) were not collected during our study, but both are represented by common species in the Southeast and quite possibly occur at Point Clear. On the other hand, representatives of 15 genera of terrestrial Hemiptera were collected in marshes around Point Clear that apparently were not present in the NW Florida marshes (however, Rey and McCoy did record four different lygaeids and one anthocorid that were not identified to genus). Similar discrepancies are apparent when one examines the list of auchenorrhynchous Homoptera from NW Florida (Rey and McCoy, 1982). Of the 36 species they reported, 27 were collected around Point Clear. Eight of the nine species not collected here belonged to eight separate genera also not present in our samples. Only four of these, however, were considered to be common in the Florida marshes. The Point Clear fauna contained more species (50+) of marsh-inhabiting Homoptera than were reported from the NW Florida marshes. We suspect that the larger lists of both Hemiptera and Homoptera from Point Clear is attributable to the presence of rather extensive *Distichlis* meadows relative to the Florida area and the extensive island/marsh ecotone present around Point Clear. Of course, the heterogeneous nature of the flora within these habitats made it difficult to determine if a species was actually associated with marsh vegetation or with intermingled “terrestrial” plants, particularly when sweeping was employed. These areas not only held a diverse flora and fauna, they were the easiest of the marshy habitats to sample, with *Distichlis* meadow proving to be the major source for both delphacids and cicadellids. And it is within these families that the greatest differences between the two lists exist. In the Florida study area, *Distichlis* meadows occurred as “small, isolated patches” (McCoy and Rey, 1981), while around Point

Clear some of these meadows (particularly those associated with the channel leading to the island) were rather extensive. Despite these differences, the lists from the two areas are remarkably similar in terms of overall familial and generic diversity, as well as in sharing the majority of species considered to be common components within the marshes. Of the 25 homopteran taxa considered to be common or very common at some time during the Florida study, 19 were encountered during the Point Clear Island survey (15 were common and four others were considered uncommon during the sampling period).

Despite the information presented in this and the other reports cited above, the rich and diverse faunas of Mississippi's coastal islands and marshes remain mostly unstudied. Fortunately, some of these islands are federally protected (Gulf Islands National Seashore), but as development in the coastal region continues at a rapid pace, some of these natural areas will undoubtedly be lost. We would like to encourage those who have an interest in faunistic surveys in Mississippi to begin investigations of these unique and fragile ecosystems before they are overwhelmed by "progress."

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