

ODONATA OF THE SAN HOUSTON NATIONAL FOREST AND VICINITY, EAST TEXAS, UNITED STATES, 1960-1966

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Abstract — A list is given of 93 spp. (incl. 9 additional state records), and emphasis is placed on first records of spring spp., notable extent of wing maculation, and on limitations of otherwise abundant Texas spp. in this area.

Introduction

The San Houston National Forest is a low, flat area in east Texas, characterized by sandy soil and mature pine forest. There are abundant small, clear streams and a few ponds and swamps. Collecting centered in three counties: San Jacinto, Montgomery, and Liberty; the most interesting area was in the vicinity of Big Creek (near Shepherd and westward towards Coldspring); along a dirt road between state road 150 and farm road 2025; Double Lake Recreation area, near Coldspring; Hickman Branch, about 9 mi. S. of Coldspring; and the immediate vicinity of Cleveland. Other areas of interest include numerous ponds near Cleveland, Splendora, and Shepherd.

The climate of the area is hot in the summer, but there is an extensive winter freeze. The first odonates appear in early March, but collecting is poor until mid May. Spring species are about two weeks behind the Louisiana fauna. 93 species have been collected, including 2 new species (one still known only from the type area), and 9 additional state records. The following list calls attention to first records of spring species, notable extent of maculation of wings, etc., and the limitations of otherwise abundant Texas species in this area.

List of and annotations on collected species
Coenagrionidae: *Argia apicalis*, *A. bipunctulata*, *A. moesta*, *A. sedula*, *A. tibialis*, *A. violacea* (scarce), *Enallagma exulans*, *E. basidens* (local), *E. divigans*, *E. gemina-*

tum, *E. dubium* (Double Lake; state rec.), *E. signatum*, *E. vesperum*, *E. civile*, *E. triviatum westfalli* (described as *E. westfalli*), *E. (Teleallagma) deackii* (Splendora, 6 May 1962, state rec.), *Nehalennia integricolis* (two locs.; state rec.), *Ischnura posita*, *I. kellicotti* (Shpherd, 4 June 1965, state rec.), *I. prognatha* (Hickman Br., 30 May 1963, state rec.), *I. ramburi*, *Anomalagrion hastatum*.

Lestidae: *Lestes disjunctus australis* (flies early, from 19 Mar. to 28 Apr., and again late in October and November), *L. vigilax*.

Calopterygidae: *Calopteryx maculata* (from 11 Mar.), *C. dimidiata* (local, but well established on Big Creek), *Hetaerina americana* (rare), *H. titia* (from 5 May until early June has restricted wing markings of "tricolor"; thence until late August has much darker wings. In November has very lightly marked wings. Variant "tricolor" may be a seasonal/habitat/species.).

Gomphidae: *Progomphus obscurus* 28 Apr.-late Aug.), *Hagenius brevistylus*, *Erpetogomphus designatus* (local), *Dromogomphus spinosus*, *D. spoliatus* (local), *Gomphus (Stylurus) laurea* (well established in Big Creek, state rec.; smaller than southeastern US form. Emerges late May, early June), *G. (Gomphus) lividus*, *G. (G.) militaris* (a stray only), *G. (G.) oklahomensis* (abundant, from 25 Mar.), *G. (Gomphurus) externus* (stray), *G. (G.) modestus* (Big Creek, 20 May-9 June, males stay away from creek, (state rec.), *G. (Ari-gomphus) lentulus* (not well established in forest), *G. (A.) maxwelli* (5 May-2 June), *G. (A.) submedianus* (7 May-30 May), *G. (Hylogomphus) apomyius* (type loc., subsequently identified from New Jersey to Florida. On Big Creek, 11 Mar.-11 Apr.).

Petaluridae: *Tachopteryx thoreyi*

(well established, 28 Apr.-22 June).

Aeshnidae: *Boyeria vinosa* (from 13 Apr.), *Basiaeschna janata* (from 4 Mar.), *Epiaeschna heros* (from 25 Mar.), *Nasiaeschna pentacantha* (from 11 Mar.), *Anax junius* (persistent stray), *A. longipes* (Double Lake, well established), *Coryphaeschna ingens* (one record).

Cordulegasteridae: *Cordulegaster maculatus* (from 25 Mar.), *C. obliquus* (one record, Big Creek, 4 June).

Corduliidae: *Macromia georgina* (from 12 May), *M. taeniolata* (one record, Big Creek, 4 June), *Didymops transversa* (from 11 Mar.), *Neurocordulia alabamensis* (Hickman Branch, 17 May-19 June), *Epicordulia princeps*, *Tetragoneuria cynosura* (4 Mar.-13 May; lighter maculation than Louisiana specimens), *T. semiaquea* (from 15 Mar.), *Helocordulia selysii* (11 Mar.-11 Apr.; very limited wing maculation), *Somatoclora linearis*, *S. margarita* (type and sole locality, 27 May-20 June).

Libellulidae: *Libellula (Ladona) deplanata* (from 11 Mar.), *L. flavida*, *L. incesta* (from 12 May), *L. (Plathemis) lydia*, *L. auripennis*, *L. semifasciata*, *L. vibrans*, *Orthemis ferruginea* (not established in forest area), *Perithemis tenera*, *Celithemis elisa*, *C. eponina* (not established), *C. fasciata* (from 6 May), *C. ornata* (Shepherd, 12 May 1963, state rec.), *C. verna* (state rec., well established, from 15 Apr.), *Erythrodiplax connata minuscula*, *Pachydiplax longipennis*, *Cannacria gravida* (not established), *Sympetrum ambiguum*, *S. (Tarnetrum) corruptum* (flies in earliest March, scarce in summer, reappears in late autumn), *Lepthemis vesiculosa* (local), *L. (Erythemis) simplicicollis*, *Dythemis velox* (local), *Miathyria marcella* (local), *Tramea lacerata* (stray), *T. carolina* (from 9 Apr.), *T. onusta* (one record), *Pantala flavescens*, *P. hymenea*.

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