

Report: Land snails of the Big Thicket National Preserve
Brian Coles: 7/5/04

Summary of results

Representative sites within the Big Thicket National Preserve were searched for land snails, particularly for the presence of calcifuge species of *Vertigo* that have been associated with pocosins and pine flatwoods of the Atlantic coastal plain.

12 Sites were examined in December 2003 and March 2004, representing mature beech/magnolia forest (Beech Creek Unit); mixed-bottomland woodland (Turkey Creek Unit), pine woodland (Turkey Creek Unit, Hickory Creek Unit, Lance Rosier Unit) and baygalls (Turkey Creek Unit, Hickory Creek Unit, Lance Rosier Unit). The 31 species found consist of forms widely distributed in eastern/southeastern USA plus the more localized (SE TX, SW LA) *Triodopsis vultuosa*, and two species new to Texas: *Paravitrea significans* and *Dryachloa dauca*. The unusual *Vertigo* species that were the main target of the work were not found and this calcifuge assemblage probably does not extend into this region.

Although these results should not be regarded as a definitive study of land snails of the BTNP, they indicate that land snails are not a prominent, nor exceptional, feature of the habitats examined. That is, diversity is consistent with that of other base-poor woodland sites in the Gulf Coastal Plain. Thus, based on these results, land snails do not need to be considered as high priority targets for conservation measures of the Big Thicket National Preserve.

Species list and searchable database

A summary of species by site and the same data in a searchable form (Excel file: BTNP) forms an integral part of this report. The species list gives all species seen by BTNP Unit and by site within each unit, plus a brief description of the site, and latitude and longitude obtained with a hand-held GPS.

Site diversity as an indicator of impact of management

Searches were made primarily by sieving suitable leaf litter sites. These searches are qualitative and the diversity as indicated by numbers of species or specimens are not strictly comparable between sites. Nevertheless, it is clear that the two highly managed wetland sites (Sundew Trail and Pitcher Plant Trail of the Turkey Creek Unit; Locs. 2003/12/25.2 and 2003/12/25.4, respectively) had extremely low diversity. In the absence of a strictly calcifuge element it is difficult to judge the impact of management on the snails of these sites. Comparison with the acidic site of the Lance Rosier Unit (Loc. 2004/3/21.) that is less managed and had 10 species, suggests that management does have an impact. Thus snail abundance might offer a measure for recovery of invertebrate faunas, but other invertebrate groups probably have greater potential in this respect.

Unusual species

Two species appear to represent new state records: *Paravitrea significans* and *Dryachloa dauca*. *Paravitrea significans* was found as a single dead shell (Loc. 2003/12/25.6); the species occurs in the Ozark and Oachita mountains. This Texas locality is a significant outlier but because live material was not present the record should be treated with caution. *Dryachloa dauca* was known from NE Florida and near Mobile, AL. The specimens seen were not in the BTNP but opposite the Sundew Trail car Park (Loc. 2003/12/25.3). The record is given because of the potential that this species occurs in the BTNP and because the Texas record represents a significant range extension. (For distributions of these species see: Hubricht, L. 1985. *The distributions of the native land mollusks of the eastern United States*. *Fieldiana, Zoology, New Series*, 24:1-191.)

Deposition of specimens

All specimens have been deposited in the Florida Museum of Natural History.