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Hydrobiomorpha casta (Say) in Virginia (Coleoptera: Hydrophilidae)

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The first known Virginia records of a species of water scavenger beetle are reported here. *Hydrobiomorpha casta* (Say) was not listed in the recent review of Virginia's Hydrophilidae (Matta, 1974). This insect is known from North and South Carolina (Brigham, 1982), other southeastern states, Cuba, and Mexico to Panama (Bachmann, 1988; Mouchamps, 1959; Spangler, 1973; Jasper & Vogtsberger, 1996). It is the only species of *Hydrobiomorpha* (known in earlier literature as *Neohydrophilus*) that occurs in North America. Its discovery in Virginia adds another genus to the known fauna of the state.

NEW RECORDS AND COMMENTS

The following specimens (in the collections of U.S. National Museum of Natural History and Virginia Museum of Natural History) from three localities in southeastern Virginia represent the known northern limits of this tropical species. Two are labeled "Va. Princess Anne Co., 3 Mi S. Creeds, u. v. lt. 21-VIII-1971, M. Druckenbrod"; one is labeled "Oceana, Va. Beach, Va., June 5, 1974, Coll: W.A.A. Sewage area"; five are labeled "VIRGINIA: Prs. Anne Co., Sandbridge Beach, 22-23 August 1987, W. E. Steiner, J. M. Hill & J. M. Swearingen". A number of southern animals and plants reach their northern limits in this part of Virginia (personal observations).

Interestingly, two of the above collections were taken at black light during the same time of year. The series from Sandbridge Beach was, according to field notes on 22 August 1987, collected at a black light and sheet hung at the back dune edges of the beach strand, facing inland to a marsh behind a dense shrub zone. Temperature at dark was about 24°C and sky was cloudy, with occasional wind gusts.

All specimens from both samples taken at light were teneral, indicating that they probably came from a breeding site nearby, and also that (in Virginia) fully grown larvae of *H. casta* likely occur in mid-summer. The larva of this species was described (Spangler, 1973) using a third-instar specimen taken in Alabama in early July. In eastern Texas, a larva was taken in late August (Jasper & Vogtsberger, 1996).

Exemplified here is the value of using black light to complement other collecting methods used in insect surveys. In spite of intensive net-sampling in the state's tidewater area (Matta, 1974), this relatively large beetle had not been detected. While the presence of a species at black light is not informative in identifying the habitat of origin, it results in detection of "rare" species not easily found by other methods. This can alert the specialist to the occurrence of a particular habitat (or host species) in the area, or indicate a need for more sampling in selected habitat types. The recent use of submerged bottle traps has been proven successful in taking series of *H. casta* (Jasper & Vogtsberger, 1996) and beetles also came to lights at the same sites.

In Florida, Young (1954) infrequently found *H. casta* in a variety of lentic habitats "in the flatwoods" and "never found it in large numbers". Texas specimens were collected from a pond and brackish marshes described in

detail by Jasper & Vogtsberger (1996). All known localities for the species in the southern U.S.A. are in low coastal areas. In the NMNH material, the greatest number of collection records are from Florida. The largest series, taken since Young's (1954) work, are labeled as being taken at light or blacklight. All specimens reported from Mississippi were also taken at lights (Testa & Lago, 1994).

CHARACTERS AND IDENTIFICATION

Using the key to hydrophilid genera of Virginia (Matta, 1974), *Hydrobiomorpha* keys to *Hydrochara* (couplet 6). North American members of these two genera are very similar in size and appearance, with the body being only slightly more flattened and narrow in the former, as illustrated by White, et al. (1984) and Testa & Lago 1994). The following couplet should be inserted so as to separate these taxa:

6a. Anterior margin of clypeus broadly emarginate, with pale band of membrane broadly exposed along base of labrum.....*Hydrobiomorpha* Blackburn
Anterior margin of clypeus truncate, with pale band of membrane very narrow and inconspicuous along base of labrum .....*Hydrochara* Berthold

In addition to the shape of the clypeus (figured by Brigham, 1982 and White, et al., 1984), the male genitalia of *Hydrobiomorpha casta* are unusually ornate and distinctive (see Bachmann, 1988). There are also generic differences in the antennal club, prosternal process and pattern of punctures and pores on the labrum (Leech & Chandler, 1956; Testa & Lago, 1994). Hansen (1991) has most recently characterized the genera on a worldwide basis.

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