

NEW DISTRIBUTIONAL RECORD OF *DOLANIA AMERICANA* (EPHEMEROPTERA: BEHNINGIIDAE)¹

Patricia L. Finn, David D. Herlong²

ABSTRACT: Nymphs of *Dolania americana* were collected from Black River, Sampson County, North Carolina. This collection represents a new state record and a new Northern range extension for the species. Environmental conditions were found to be similar to previously published collection localities.

Benthic macroinvertebrate collections from Black River, Sampson County, North Carolina (Figure 1) in August 1974 yielded four nymphal specimens of the mayfly *Dolania americana* Edmunds and Traver. This collection represents a new state record as well as a new Northern range extension for the species.

Prior reports of this species are for four areas: the Blackwater River in northwestern Florida (Peters and Jones 1973; Peters and Peters 1977; the Satilla River in southeast Georgia (Benke et al. 1979); Upper Three Runs Creek, a tributary of the Savannah River, at the Savannah River Plant near Aiken, South Carolina, (Edmunds and Traver 1959, also cited were paratype collections from the Savannah River proper, but S.S. Roback, by personal communication, states these latter collection sites were incorrect); and an unidentified locality in southwestern Louisiana (Tsui and Hubbard 1979).

The nymphs were collected using a petite ponar dredge at a depth of 4 m in the main flow of the river. The substrate was composed of shifting sand as found at the other sites. The water quality of Black River is similar to the previous collection localities (Table 1), being a "blackwater" river having a low pH and being high in humic substances that give the water its characteristic tea-colored appearance. The watershed of Black River above the collection site (1916.6 km²) is a mixture of farmland and forest areas (pine-hardwood mixture and gum-cypress swamp). The collection locality was approximately 1.6 km upstream of the junction of South River and Black River. South River is very similar to Black River and the occurrence of *D. americana* in South River and other nearby creeks is possible.

¹Received April 5, 1980

²Carolina Power & Light Company, Harris Energy & Environmental Center, Route 1, Box 327, New Hill, North Carolina 27562

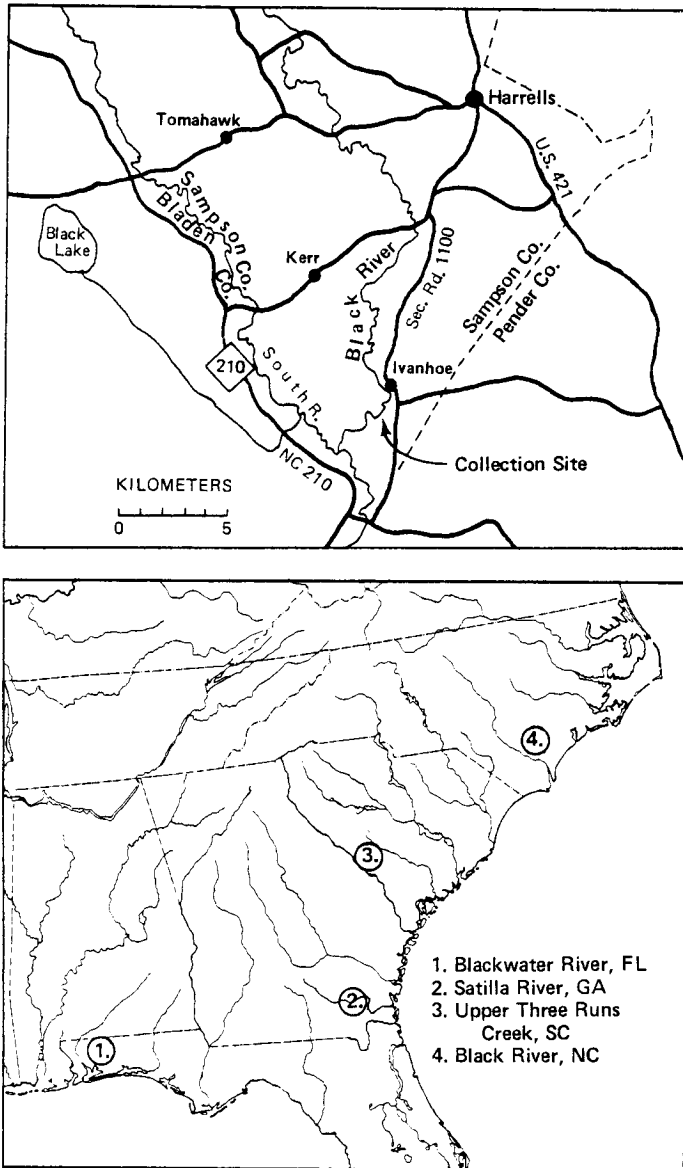


Fig. 1. Collection localities of *Dolania americana* in North Carolina (above) and the southeast United States (below).

Table 1. Some water chemistry parameters from Black River, Upper Three Runs Creek¹, Blackwater River² and the Satilla River³

	Black River	Upper Three Runs Creek	Blackwater River	Satilla River
pH	5.2-6.6	4.9-6.7	5.0-6.3	4.3-6.7
DO	5.2	—	6.8-9.0	4.7-11.6
Alk (mg/1 CaCO ₃)	1-2	0.2-3.5	2-3	0.0-9.0
Hardness (CaCO ₃)	12-20	—	—	7-20
Conductivity (µmhos/cm)	—	20-28	—	28-63

¹Morse et al. 1980.

²Beck 1973.

³Benke et al. 1979.

LITERATURE CITED

- Beck, W.M., Jr. 1973. Chemical and physical aspects of the Blackwater River in northwestern Florida. In: W. L. Peters and J. G. Peters: Proc. 1st Int. Conf. Ephemeroptera. E. J. Brill, Leiden. pp. 231-241.
- Benke, A.C., D.M. Gillespie, F.K. Parrish. 1979. Biological basis for assessing impacts of channel modification: Invertebrate production, drift, and fish feeding in a southeastern blackwater river. Report No. ERC 06-79. Environmental Resources Center, Georgia Institute of Technology. Atlanta, Georgia. 187 pp.
- Edmunds, G.F., Jr., and J.R. Traver. 1959. The classification of the Ephemeroptera I. Ephemeroidea: Behningiidae. Ann. Entomol. Soc. Amer. 52:43-51.
- Morse, J.C., J.W. Chapin, D.D. Herlong, and R.S. Harvey. 1980. Aquatic insects of Upper Three Runs Creek, Savannah River Plant, South Carolina. Part I. Orders other than Diptera. J. Georgia Entomol. Soc. 15(1):73-101.
- Peters, W.L. and J. Jones. 1973. Historical and biological aspects of the Blackwater River in northwestern Florida. In: W.L. & J.G. Peters (eds.): Proc. 1st Int. Conf. Ephemeroptera. E.J. Brill, Leiden. pp. 242-253.
- Peters, W.L. and J.G. Peters. 1977. Adult life and emergence of *Dolania americana* in northwestern Florida (Ephemeroptera: Behningiidae). Int. Revue ges. Hydrobiol. 62(3):409-438.
- Tsui, P.T.P and M.D. Hubbard. 1979. Feeding habits of the predaceous nymphs of *Dolania americana* in northwestern Florida (Ephemeroptera: Behningiidae). Hydrobiologia 67(2):119-123.