

AN ADDITIONAL RECORD OF THE HOARY BAT IN KENTUCKY

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Records of the hoary bat, *Lasiurus cinereus cinereus*, (Palisot de Beauvois), in Kentucky are scarce. According to Barbour (J. Mamm. 38: 140-141, 1957), the first state record of this species was in Lexington, Fayette County, in June 1929, and a second record in April 1955 near Beulah, Hickman County. Barbour (J. Mamm. 44: 122-123, 1963) reported a third record in Lexington, Fayette County, in July 1961. Since 1961, a few additional specimens have also been found by R. W. Barbour and W. H. Davis in Lexington.

On 13 November 1971, Mr. Larry Hranicky presented the author an adult male hoary bat, which he had found clinging to the side of his house in Somerset, Pulaski County, Kentucky. This specimen was unique in that it was the first specimen ever taken in Kentucky so late in the fall. Findley and Jones (J. Mamm. 45: 461-470, 1964) stated that the hoary bat is usually found much farther south by that time of the year.

This also brings up the question of abundance of this species in Kentucky. Without Mr. Hranicky's knowledge of my interest in bats, this specimen would have gone unreported. Some of the finds of Barbour (J. Mamm. 44: 122-123, 1963) might also have gone unnoticed without the aid of individuals who happened to present the animals to competent authorities. Therefore, I believe that this species of bat may be more common in Kentucky than originally thought and a large-scale collecting program may prove this to be true.

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CHANGES IN THE FRESHWATER MUSSEL FAUNA OF THE ROCKCASTLE RIVER AT LIVINGSTON, KENTUCKY

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The mussel fauna of the Rockcastle River, a major tributary of the Cumberland River system, was first sampled at Livingston (Rockcastle County), Kentucky, by Williamson (1905) in 1904. Wilson and Clark (1914), in 1911, also sampled the Rockcastle at Livingston while surveying the mussels of the entire Cumberland River drainage. In addition, Neel and Allen (1964), who conducted a preimpoundment (construction of the Wolfe Creek Dam on the Cumberland River) mussel survey of the upper Cumberland River drainage in 1947-49, sampled several sites on the Rockcastle River, including Livingston. The purpose of this report is to compare the results of these previous studies with a postimpoundment collection made at Livingston by the authors in 1968.

As shown in Table I, several changes have occurred in the mussel fauna at Livingston since 1904. The additions of *Actinonaias carinata*, *Proptera laevissima*, *P. alata*, and *Quadrula pustulosa* indicate range extensions for these species in the Rockcastle, due likely to the direct influence of the downstream impoundment. Neel and Allen (1964) found *Q. pustulosa* to be abundant in only the deep lower portions of the river prior to the impoundment. Stansbery (1969) further demonstrated this species' preference for deep water by finding its numbers increasing below Cumberland Falls since impoundment. Neel and Allen (1964) also found that *A. carinata* tends to replace *A. pectorosa* in deeper water. This would certainly explain the appearance of the former species, as well as the disappearance of the latter. Since impoundment, *P. laevissima* and *P. alata* appear to be increasing throughout the drainage.

Six of the 27 species recorded from Livingston appear on Stansbery's (1970, 1971) rare and endangered species list (*Alasmidonta fabula*, *Carunculina glans*, *Pleurobema clava*, *Phychobranchus subtentum*, *Quadrula cylindrica*, *Villosa trabalis*). Of these six, only *V. trabalis* was represented in 1968, and this consisted of only one specimen. The disappearance of these naiads, as well as *Alasmidonta marginata*, *Medionidus conradicus*, and *Strophitus rugosus*, is probably attributed to increased siltation (due to farm, timber and surface mine operations). Support for this comes from the present occurrence of several of these species in "cleaner" portions of the Rockcastle River (Stansbery, 1970; Blankenship, 1971).

In addition to the unionids mentioned, the fingernail clam *Sphaerium sulcatum* and the Asiatic clam *Corbicula manilensis* were collected at Livingston. *C. manilensis* has only recently invaded Kentucky (Sinclair and Isom, 1961; Bates, 1962; Branson and Batch, 1969), while the fingernail clams are poorly known by collection (Bickel, 1967).

Although some of the Livingston mussels have apparently escaped man's influences (undiscussed species of Table I), it is obvious that several have not. In a similar study at Cumberland Falls on the Cumberland River,

Stansbery (1969) suggested that the major changes in the mussel fauna were influenced by impoundment and also by increased acidity from up-stream coal operations. The major factors influencing mussel faunal changes at Livingston appeared to be impoundment of the Cumberland River and siltation.

TABLE I.—Changes in the Freshwater Mussel Fauna in the Rockcastle River at Livingston, Kentucky

SPECIES	COLLECTIONS				
	1904	1911	1947-49	1968	
<i>Amblyna plicata</i> f. <i>costata</i> (Rafinesque)		X	X	X	X
<i>Quadrula pustulosa</i> (Lea)					X
<i>Quadrula cylindrica</i> (Say)		X			X
<i>Tritigonia verrucosa</i> (Barnes)	X		X		X
<i>Cyclonaias tuberculata</i> (Rafinesque)		X	X		X
<i>Pleurobema clava</i> (Lamarck)	X				X
<i>Pleurobema cordatum</i> f. <i>coccineum</i> (Rafinesque)	X	X	X		X
<i>Elliptio dilatatus</i> (Rafinesque)	X	X	X		X
<i>Lasmidonta costata</i> (Rafinesque)	X	X	X		X
<i>Alasmidonta marginata</i> (Say)	X	X	X		X
<i>Alasmidonta (Pegias) fabula</i> (Lea)	X	X	X		X
<i>Strophitus rugosus</i> (Swainson)	X	X	X		X
<i>Psychobranchus fasciolaris</i> (Rafinesque)	X	X	X		X
<i>Psychobranchus subtentum</i> (Say)	X	X	X		X
<i>Actinonaias carinata</i> (Barnes)	X	X	X		X
<i>Actinonaias pectorosa</i> (Conrad)	X				X
<i>Proptera alata</i> (Say)			X		X
<i>Proptera laevis</i> (Lea)					X
<i>Carunculina glans</i> (Lea)					X
<i>Medionidus conradicus</i> (Lea)	X				X
<i>Ligumia recta</i> (Lamarck)	X	X	X		X
<i>Villosa trabalis</i> (Conrad)	X	X	X		X
<i>Villosa nebulosa</i> (Conrad)	X				X
<i>Villosa taeniata</i> (Conrad)			X		X
<i>Lampsilis ovata</i> f. <i>ovata</i> (Say)			X		X
<i>Lampsilis ovata</i> f. <i>ventricosa</i> (Barnes)	X		X		X
<i>Lampsilis fasciola</i> Rafinesque	X		X		X
TOTAL SPECIES RECORDED	16	18	17	15	

LITERATURE CITED

- Bates, J. M. 1962. Extension of the range of *Corbicula fluminea* within the Ohio drainage. *Nautilus*, 76(1):25-36.
- Bickel, D. 1967. Preliminary checklist of recent and Pleistocene mollusca of Kentucky. *Sterkiana*, 28:7-20.
- Blankenship, S. 1971. Notes on *Alasmidonta fabula* (Lea) in Kentucky (Unionidae). *Nautilus*, 85(2):60-61.
- Branson, B. A., and D. L. Batch. 1969. Notes on exotic mollusks in Kentucky. *Nautilus*, 82(3):102-106.
- Neel, J. K., and W. R. Allen. 1964. The mussel fauna of the upper Cumberland Basin before its impoundment. *Malacologia*, 1(3):427-459.
- Sinclair, R. M., and B. C. Ison. 1961. A preliminary report on the introduced

Asiatic clam *Corbicula* in Tennessee. Tennessee Stream Pollution Cont. Bd. Tennessee Dept. Public Health, pp. 1-33.

Stansbery, D. H. 1969. Changes in the naid fauna of the Cumberland River at Cumberland Falls in Eastern Kentucky. Annual Reports (1969) A.M.U. pp. 16-17.

_____. 1970. Eastern freshwater mollusks, The Mississippi and St. Lawrence River Systems. *Malacologia*, 10(1):9-21.

_____. 1971. Rare and endangered Mollusks (Naiads) of the U.S. (S. E. Jorgensen and R. W. Sharp, Eds.) Spec. Pub. U.S. Dept. Interior, Sur. Spt. Fish. Wildf., Region 3, pp. 5-18.

Williamson, E. B. 1905. Odonata, Astacidae and Unionidae collected along the Rockcastle River at Livingston, Kentucky. The Ohio Naturalist, 5(6):309-312.

Wilson, D. B., and H. W. Clark. 1914. The mussels of the Cumberland River and its tributaries. Bur. of Fish. Doc., 781:1-63.

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