

DISCOVERY OF A NEW POPULATION OF
PEGIAS FABULA (LEA) (UNIONIDAE)**Lynn B. Starnes**Tennessee Valley Authority
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Simpson (1914) lists the distribution of *Pegias fabula* (Lea, 1838) as the Tennessee and Cumberland River drainages. It appears to be restricted to small, high-gradient tributaries of these drainages (Ortmann, 1918). Stansbery (1976) has proposed *Pegias* for endangered status and has indicated that a few additional previously unknown populations may be discovered in smaller tributaries.

On October 22, 1977, five gravid females of *Pegias fabula* were collected by the authors at Freedom Church Ford on the Little South Fork Cumberland River approximately 8 km north of Ky 92 crossing, Wayne County, Kentucky [Ohio State University Museum (OSUM) 41308 (3), W. C. Starnes CU/BS-2 (2)]. The individuals collected were of rather uniform size ranging from 24.1 mm to 26.7 mm in length and 14.3 mm to 16.7 mm in height. In addition to these live individuals, numerous valves were also collected indicating a substantial population. Additional specimens of similar dimensions were collected by A. and C. Bogan (University of Tennessee) at the same locality on October 30, 1977 [OSUM 41309 (6)].

The Little South Fork Cumberland River at Freedom Church Ford is approximately 20-25 m wide. Except for its clear, cold water, it does not assume headwater characteristics described as typical habitat for *Pegias*. While riffles are present in the area where *Pegias* was collected, there are extensive reaches of pool areas. All *Pegias* specimens were collected from the transition zone at the tail of a long sluggish pool just at the point where water velocity suddenly increased (about 0.2 m/sec) to enter a turbulent riffle below. Water depth averages about 20 cm at low river stages. Substrate was predominately dark sand with scattered small gravel. *Pegias* occurred either partly buried or on the substrate with only the foot penetrating the sand. The periostracum of all individuals had been largely eliminated, apparently from the abrasive action of sand in the current-swept habitat. Similar massive erosion was noted on all specimens examined from several other localities (University Michigan Museum of Zoology, 70152, 23144, 23151, 58872, 105467, 29085, 105469 through 105477). In close association with *Pegias* were *Ptychobranchus subtentum* and *Corbicula manilensis*. Occurring elsewhere in the riffle were *Ptychobranchus fasciolaris*, *Elliptio dilatatus*, *Medionidus conradicus*, *Villosa iris*, *V. taeniata*, *V. vanuxemi*, *Lampsilis fasciola*, and *Fusconaiia subrotunda*.

Additional *Pegias* valves have been collected at Ritner Ford 3.2 km upstream from Freedom Church Ford [WCS CU/BS-1 (2)] indicating that the Little South Fork population is widespread in riffle areas of the river. The Little South Fork originates in Pickett County, Tennessee, and stretches some 41.6 km along the Wayne/McCreary County line in Kentucky to its confluence with the Big South Fork Cumberland River. Considerable additional habitat may be extant upstream from Ritner Ford. However access to this area is limited and it has not been assessed thus far. The Little South Fork is perhaps the most pristine stream remaining within the entire known range of *Pegias* in the Cumberland and Tennessee drainages.

While analogous habitat occurs in the Big South Fork Cumberland River, additional populations are not expected there. In recent years, increases in coal surface mining has increased silta-

tion and decreased water quality to the point that the mollusk population is declining rapidly and will perhaps soon disappear.

The discovery of a substantial and perhaps the healthiest, population of *Pegias fabula* in the Little South Fork Cumberland River constitutes a significant addition to the known distribution of this rare mollusk. If the Little South Fork, which is designated a Kentucky Wild River, continues to enjoy protection from strip mining and other perturbations, its mussel population should be afforded continued preservation. This suggests that perhaps the status of *Pegias* should be regarded as threatened rather than endangered.

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