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but most ripe ones are found from April to July. In my survey in August I found quite a number of gravid *luteolas* but none that on microscopic examination proved to be ripe. This early and extended spawning period would be favourable to successful shipping, before the warm weather comes on. The fish that may serve as carriers belong mainly to the families Centrarchidae and Percidae. The species are: *P. sparoides* (speckled bass); *P. annularis* (crappie); *L. pallidus* (blue sunfish); *M. salmoides* (large-mouthed black bass); *M. dolomieu* (small-mouthed black bass); *S. vitreum* (yellow pickerel); *S. Canadense* (sand pickerel); *P. flavescens* (yellow perch) and *R. chrysops* (white bass), all well represented in our waters.

Since the artificial propagation of this mussel is past the experimental stage, I did not consider it advisable to repeat the operation here, on my return from Fairport, particularly as my time was limited and as the localities visited did not appear very favourable. It was kindly suggested at Fairport that gravid mussels be shipped over here for infecting purposes.

Lampsilis recta, though not found plentifully in the Grand river, is a very valuable shell on account of its fine quality. Mr. Southall reported it to be of large size without discoloration, firm and of first grade, making 369, 16-line and 470, 24-line gross blanks per ton. Although the usual run of this species is coloured, those from the Dunnville area seem to be of fine quality. There are, however, some shells which show discoloration. In the fiscal year 1916, 11,288,300 larval mussels of this species were planted at Fairport. The fish which may serve as hosts for artificial propagation are: *L. pallidus* (blue sunfish) and *A. cyanellus* (green sunfish). The former of these species occurs abundantly in some parts of lake Ontario and lake Erie and their tributaries, but the latter has not been reported from Ontario, although it is supposed that it will be found in lake Erie. *P. annularis* (crappie, also called silver bass) has been found naturally infected with this mussel, but it is rare in our waters.¹

The spawning period of this mussel is similar to that of *Lampsilis luteola* and the river appears to be adapted to this species. The shellers at Dunnville seem to prize this shell above all others.

Lampsilis ventricosa.—This shell is not used very extensively in button manufacture, but it is worked up into novelties. Large shells, however, make buttons of good lustre. Last year 447,000 glochidia were used for infection at Fairport. The species of fish that may serve as hosts in artificial propagation are: *P. annularis*, *L. pallidus*, and *M. salmoides* (large-mouthed black bass). At present it would not appear to be essential to increase the stock of this shell.

The *Quadrula* group is well represented in the Grand, but only two species appear in large quantities—*Q. plicata* and *Q. undulata*. These constitute at present our chief button shells, and the Canadian Pearl Button Company, of Trenton, Ont., which has the sole right to the Dunnville fishery at present, reports that the shells from the Grand compare favourably with those shipped to their plant from the United States. In the commercial appraisal of these two species from the Grand, the report is as follows:—

Species.	Common Name.	Size.	Discoloration.	Texture.	Grade.	No. of gross blanks per ton	
						16-line.	24-line.
<i>Q. plicata</i> ²	Bluepoint ..	Large ..	None	Firm	3rd	142	245
<i>Q. undulata</i>	Three-ridge.	Large ..	None	Firm	3rd	182	211

¹ Manual of Vertebrates of Ontario, by C. W. Nash, has been consulted for fish distribution in our waters.

² The *plicata* from Mud Creek, near Port Franks, were evidently grouped with those of the Grand river, for there is but a single report.