

# GUIDE TO PHOTOGRAPHING FRESHWATER MUSSELS



Fig. 1. Lateral exterior view.



Fig. 2. Dorsal view.



Fig. 3. Anterior view.

Freshwater mussels (clams) have been recognized as important, but rapidly declining, elements of aquatic ecosystems. Therefore, state legal protections in Wisconsin have further focused attention on this group. However, they can be notoriously difficult to identify. Fortunately, modern digital photography and electronic transfer of images can quickly and efficiently assist with identifications. Still, images must be shot in ways to help rather than hinder easy recognition of specimens in questions.

Lateral external (side) views may be the most common angle for species identification (Fig. 1). These can be used with living specimens of rare species. This view should show the shape of the shell, beak elevation, coloration, and external sculpture. In order to have a complete view of the side profile, it is important to have the hinge line facing up. Dorsal views (top) of a living specimen are important to indicate shell inflation and characteristics of beak sculpture (Fig 2). Anterior views (Fig. 3) may also show inflation as well as beak elevation and possible gaps between valves. If photographing dead specimens, interior views of each valve are necessary to show the hinge teeth, interdentum, muscle scars, pallial line, and nacre color, as well as beak elevation (Figs. 4 & 5). Specimen size can be stated or shown by inclusion of a ruler or background grid.

Except in a few special cases, proper identification should include two photographs; one side view and one top view. Additional photographs of anterior or interior views may provide more detail on certain identification characteristics, but these are not required. Laying a specimen on a flat surface, or positioned flat in-hand, and shooting directly down on it is often best. Photographs displaying a mussel from an acute angle can obscure shell shape, form, and other detail that may limit identification accuracy (Figs 6-8). Dark exteriors and stark white interiors often cause digital cameras to select intermediate exposures that produce low-quality images of both views. Modern digital cameras or smartphones can often give excellent results with available light or simple desk lights; expensive flash systems are rarely needed. Photo quality of 300 dpi may be needed in publications, but 75-150 dpi is often sufficient for identification. Photo size of 5-10 inches (longest axis) is often acceptable; there is no reason to send email photo attachments of 3-5 feet wide!



Fig. 4. Final photo style used by BioStudies is a composite of both interior valve views with an exterior valve overlaid, as well as anterior or dorsal views, or both.



Fig. 5. The Freshwater Mollusk Conservation Society has recommended images with one view of each valve.



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