

Citation: Sims, M.E. and B. C. Yates. 2010. Macroscopic Identification of Rhinoceros Horn versus Cattle Horn. Identification Guides for Wildlife Law Enforcement No. 13. USFWS, National Fish and Wildlife Forensics Laboratory, Ashland, OR.

Macroscopic Identification of Rhinoceros Horn versus Cattle Horn

Identification Guides for Wildlife Law Enforcement No. 13

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December 2010

Wildlife law enforcement officers are often called upon to examine horns that are suspected to be rhinoceros. Rhinoceros horn can appear similar to large cattle horns and can be easily confused. They may be similar in color and are both conical in shape. In addition, cattle horn can be crafted and marketed as rhinoceros horn. Macroscopic observations can discriminate cattle and rhinoceros horn in a preliminary identification. There are several species of cattle and several species of rhinoceros. Because the position and growth of rhinoceros horns can create considerable variation, species-level identification (i.e., Black rhinoceros, White Rhinoceros, etc.) may require submittal to a forensic laboratory.

Anatomical distinction

In cattle, the horn sheath (keratin) forms a conical shell which covers a horn core (bone) attached to the skull. The keratin sheath of cattle horn is hollow on the inside (see Figures 1 and 2) once separated from the skull. In rhinoceroses, the horn forms a tapering cone of solid keratin with a “shallow well” at the base which covers a bony knob on the skull (Chapman, 1988.)

Rhinoceroses lack the bony horn core typical of cattle and other ungulates (Hieronymus et al 2006.) Figures 3, 4, and 5 illustrate the undersides of rhinoceros horn once separated from the skull. Figures 6 and 7 illustrate crafted items constructed from cattle horn.

(Photograph source: USFWS Law Enforcement)

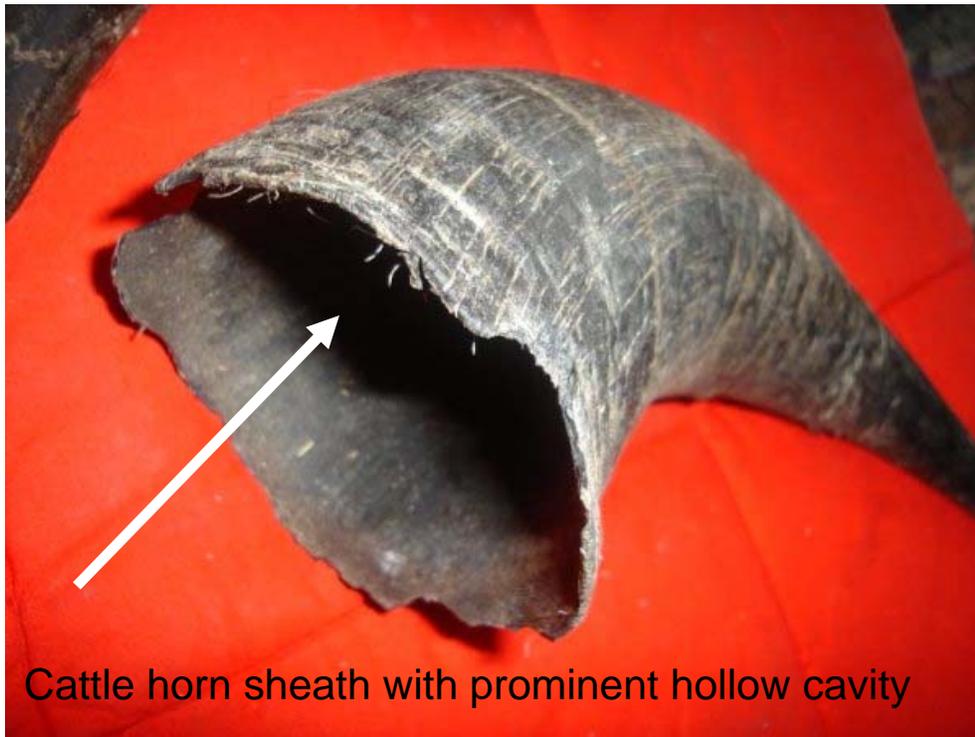


Figure 1. Cattle (Family Bovidae) horn.



Figure 2. Cattle (Family Bovidae) horn sheaths. Color and curvature can be confused with rhinoceros horn, but cattle horn sheaths are hollow once the keratin has been removed from the bony core on the skull.



Figure 3. Rhinoceros horn. Note absence of extended hollow center as compared to cattle horn.



Figure 4. Underside of rhinoceros nasal and frontal horns, depressed in center but not hollow.



Figure 5. Underside of rhinoceros frontal horns, depressed in center but not hollow.



Figure 6. Cattle horn crafted to look like rhinoceros horn. When in doubt, contact the NFWFL Morphology Section.



Figure 7. Cattle and water buffalo horns are solid keratin at the tips (see above,) but the direction of the curve and corrugations on outer surface are inconsistent with genuine rhinoceros horn. This photo (from www.rhinoconservation.org) illustrates an ad in a Vietnamese newspaper for "rhino" horn (actually buffalo horn); production of fake rhino horns from cattle and water buffalo is prevalent in SE Asia.

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