BioOne COMPLETE

A DEVICE TO AID IN EXAMINING THE SMALL INTESTINE OF DEER FOR HELMINTH PARASITES*

Author: DOSTER, GARY L.

Source: Journal of Wildlife Diseases, 8(2) : 163-164

Published By: Wildlife Disease Association

URL: https://doi.org/10.7589/0090-3558-8.2.163

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://complete.bioone.org/journals/Journal-of-Wildlife-Diseases on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use

A DEVICE TO AID IN EXAMINING THE SMALL INTESTINE OF DEER FOR HELMINTH PARASITES*

GARY L. DOSTER, Southeastern Cooperative Wildlife Disease Study, Department of Parasitology, College of Veterinary Medicine, University of Georgia, Athens, U.S.A. 30601

Abstract: An implement is described which facilitates endoparasite studies involving white-tailed deer *(Odocoileus virginianus)*. This device significantly reduces the time required for helminth parasite collections from the small intestines of these animals and appears to have similar potential for other species. It also increases the efficiency with which abdominal worms *(Setaria yehi)* and blood flukes *(Heterobilharzia americana)* can be found.

INTRODUCTION

Due to its length, convolutions, and fragility, the small intestine of white-tailed deer is the most difficult portion of the gastrointestinal tract to process for endoparasite studies. The mesentery must be removed before the intestine can be split lengthwise satisfactorily, thus allowing the contents to be collected. The separation of mesentery from intestine is time consuming, and perforation of the gut wall often occurs. A holding device that facilitates the desired separation of small intestine from mesentery therefore was devised.

MATERIALS AND METHODS

The holding device consists of a base, one supporting leg, and an arm which supports nine hooks (Figure 1). The base of the rack was constructed from two 55.5 cm lengths of 0.9 cm round stainless steel. The leg and arm of the apparatus were formed from a single 71.0 cm length of 0.9 cm round stainless steel. Individual sections were bent at 90° angles, with these welded at the junction of the leg and the two parts of the base. The nine hooks were made from 5.0 cm lengths of 0.3 cm round stainless steel, sharpened to a point on the distal end. The hooks were welded to the arm at 5.0 cm intervals.

After the gastrointestinal tract is removed and separated into anatomical portions, the hooks on the rack are forced through the mesentery and the entire small intestine is suspended longitudinally. The intestine then is separated from the mesentery with scissors used to sever the

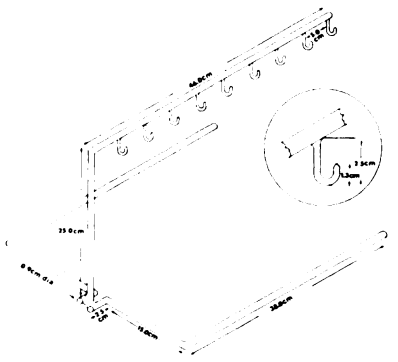


FIGURE 1. Isometric drawing of rack to scale, with dimensions.

*Development of this equipment was supported by an appropriation from the Congress of the United States, with funds administered and research coordinated under the Federal Aid in Wildlife Restoration Act (50 Stat. 917) and through Contract No. 14-16-0008-777, Bureau of Sport Fisheries and Wildlife, U.S. Department of the Interior.

Downloaded From: https://complete.bioone.org/journals/Journal-of-Wildlife-Diseases on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use

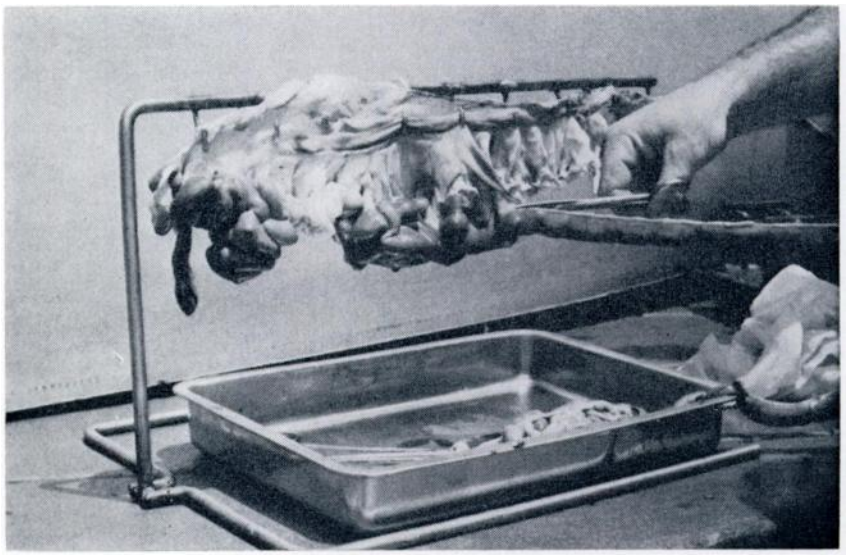


FIGURE 2. Partially processed small intestine on rack.

latter close to the gut wall (Figure 2). This results in a straight, intact small intestine, which can be opened readily into a collecting pan.

COMMENTS

This device has been used for intestinal parasite collections from more than 1000 white-tailed deer. Use of this apparatus permits one person to process the small intestine in approximately half the time formerly required for two individuals. In addition, suspension of the intact mesentery and small intestine from the rack facilitates location of abdominal worms *(S. yehi),* and examination of the mesenteric vessels for blood flukes *(H. americana).*

The rack could be easily modified in size and number of hooks to accommodate the small intestine of other animals, especially other members of the deer family.

Received for publication December 7, 1971

Downloaded From: https://complete.bioone.org/journals/Journal-of-Wildlife-Diseases on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use