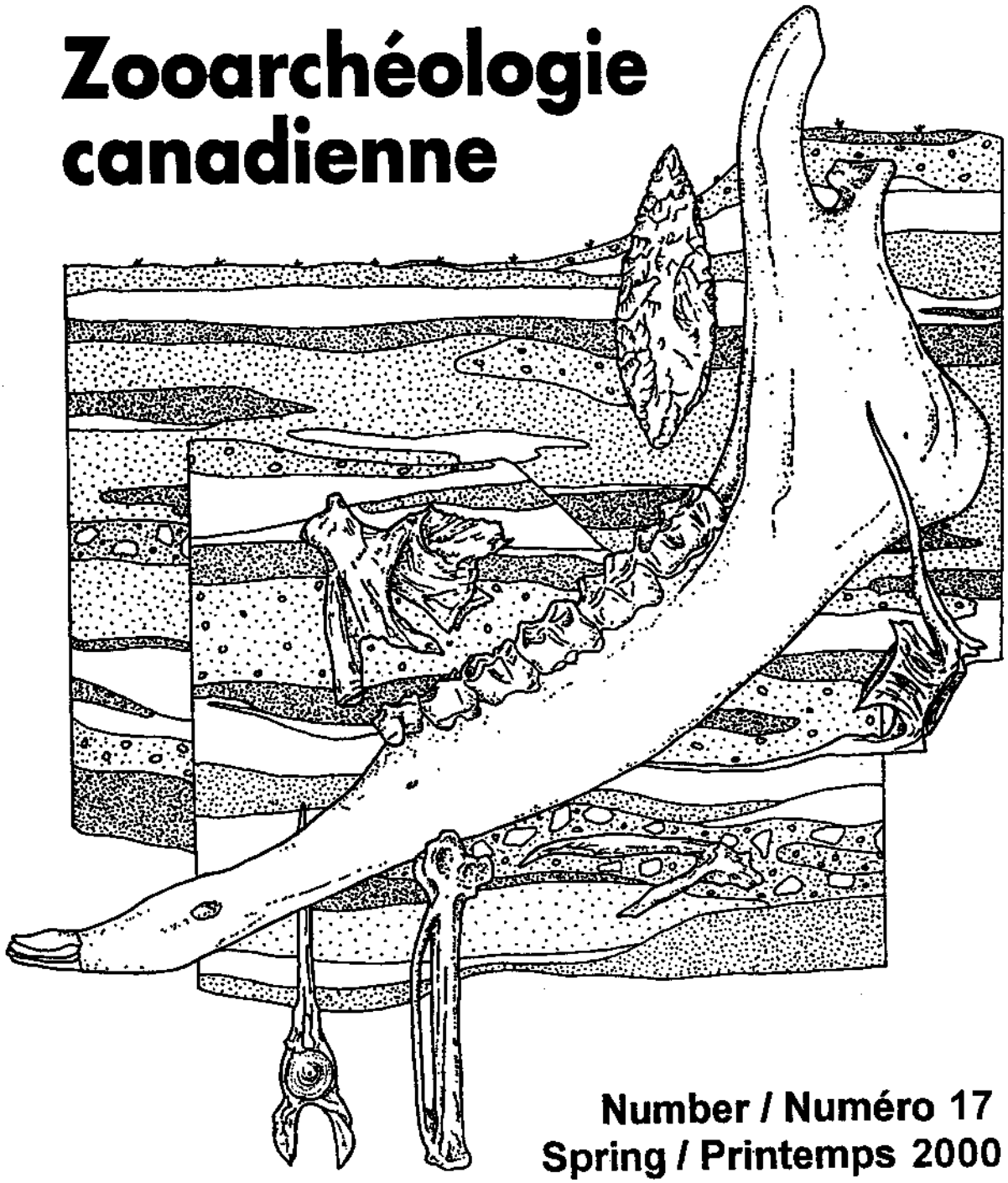
Canadian Zooarchaeology

Zooarchéologie canadienne



Number / Numéro 17
Spring / Printemps 2000

CANADIAN ZOOARCHAEOLOGY / Zooarchéologie canadienne

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EDITOR'S NOTE/NOTE DE L'ÉDITEURE

A Happy New Millenium to everyone! We are continuing our photographic sequence of aged bones by Donna Naughton, a mammalogist here at the Museum. I have heard very positive comments about these photos, and if anyone wants to see particular species which we haven't covered, please let us know. We have an extensive osteological collection here.

We also are publishing a short article by Dick Morlan and David Morrison describing a vestigial narwhal tooth; these types of articles are of immense value to our readers, and I urge anyone who wants to send in similar short reports and/or photos, to do so.

Next issue we are publishing an article on zooarchaeology in Newfoundland, the long last of our series of articles on regional Canadian zooarchaeology.

I hope everyone has productive field seasons this year, and please send us in any long or short field reports which may be of interest to our readers.

Thanks to Donna Naughton for putting this issue together, and to Francine Desmeules for editorial assistance.
Kathlyn Stewart, Editor

Canadian Zooarchaeology is published twice a year at the Canadian Museum of Nature. News, letters, articles, books or papers for review should be sent to:

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Submissions are published in English or French.

Subscription costs (including GST) are:

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Canadian Museum of Nature-Zooarchaeology

Cover by Debbie Yee Cannon

The Unicorn's Secret

by Richard E. Morlan
and
David A. Morrison

Canadian Museum of Civilization

"The narwhal is the basis of the fabulous medieval unicorn" (Banfield 1977: 251). Indeed the singularity of the narwhal tooth is entrenched, redundantly, in its scientific name, *Monodon monoceros* Linnaeus. It is well known to mammalogists that the narwhal actually has two teeth. Banfield (1977: 251) describes them:

> The striking feature of the narwhal is the presence of a long, spirally twisted horn, which projects through the upper lip of the male. This is a maxillary tooth. In both sexes of the adult narwhal only a single pair of teeth are present in the upper jaw. In the female these usually remain embedded in the gum, but the left maxillary tooth in the male grows in a clockwise direction through the gum and may attain a length of 9 feet. The right tooth usually remains suppressed, but sometimes it is the one that grows, or sometimes both become elongate. Occasionally a female may have a short tusk.

To the zooarchaeologist the male narwhal's second tooth, or both teeth of the female, may represent the unicorn's secret. Few osteological reference collections contain a series of narwhal skulls, and fewer still contain a narwhal skull that has been prepared or happens to reveal the suppressed teeth. This may be related to the limited range of the animal in Canadian waters (Banfield 1977: 256). Yet these teeth may be found in faunal assemblages from archaeological sites, and they can be difficult to identify. The Nunguvik site collection from Baffin Island, now being re-studied by Patricia Sutherland, contains at least seven examples, some of them whittled or otherwise cut-marked. Nunguvik was excavated by the late Father Guy-Mary Rousselière who followed the then-common practice of recording native-assisted field identifications of the animal bones and retaining only worked or peculiar specimens in the collection. There was no budget for storing or shipping faunal assemblages from such a remote site (see Gordon 1994). Therefore the numerical significance of seven narwhal teeth cannot be assessed, but they may have been kept in the collection because of the evident modifications on some of them or because of uncertainty about their identity. The site catalogue lists all of them as bacula.

Frankly, we also thought they might be bacula, but a visit to the Osteology Collections in the Canadian Museum of Nature turned up no matching baculum among the sea mammals, as these specimens from Nunguvik were too dense, too straight, too long, and too finely tapered. Some, but not all, looked like ivory, and we found no match for them.

Serendipity saved the day. One of us (DAM) happened to relax that

evening by leafing through a book on whales, written and beautifully illustrated for children (Papastravrou 1993). There, in a colour photograph, was an exact match for the Nunguvik specimens which are about 10-20 cm long. The sketch in Figure 1 is based on the photograph, and it represents a narwhal maxilla viewed from the ventral side. Only part of the long left tooth is shown. The suppressed right tooth lies entirely within the maxillary bone. Note the knobby, angular root at the base, quite unlike the hollow root of the elongated tooth in the adjacent alveolus. This angular root is present to various degrees on the Nunguvik specimens and permits sorting by side. Note also the straightness of the tooth and its gradual taper to a point. A photograph of one of the Nunguvik specimens appears in Figure 2. Such teeth have also been illustrated in the Danish literature (e.g., Rosing 1986).

Unlike the elongated tusk of the narwhal, the suppressed teeth are longitudinally grooved or fluted without any evidence of a spiral form. This makes sense, because the spiral form of the long tusk is a means of making it grow straight (Kingsley and Ramsay 1988). Since the suppressed teeth do not extend beyond the gumline, there is no need for a spiral form and no opportunity for it to develop one. The lack of a spiral form makes these suppressed teeth difficult to identify, especially since they are hidden inside narwhal skulls where they may remain "the unicorn's secret."

Acknowledgements

We thank the late Father Guy-Mary Rousselière for his dedication to the documentation of Canada's ancient history. Patricia Sutherland and Douglas Stenton brought this problem to our attention. We thank Darlene Balkwill for her assistance in the Osteology Collections at the Canadian Museum of Nature. Jean-Luc Pilon used a digital camera to capture Figure 2. The Canadian Museum of Civilization supported this work in sundry ways.

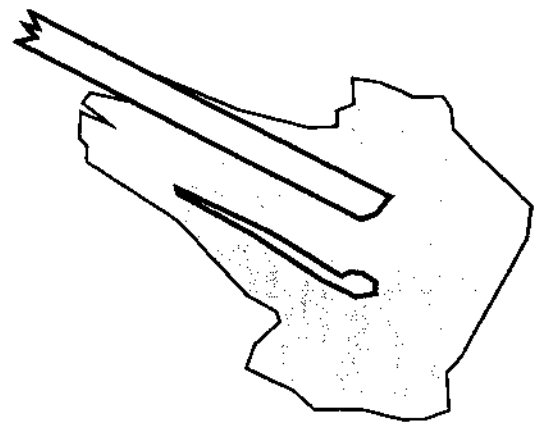


Figure 1

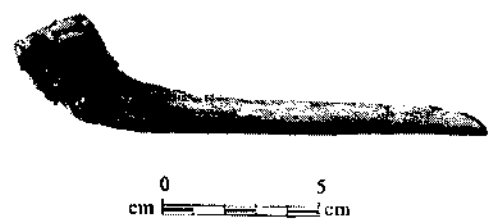


Figure 2

References

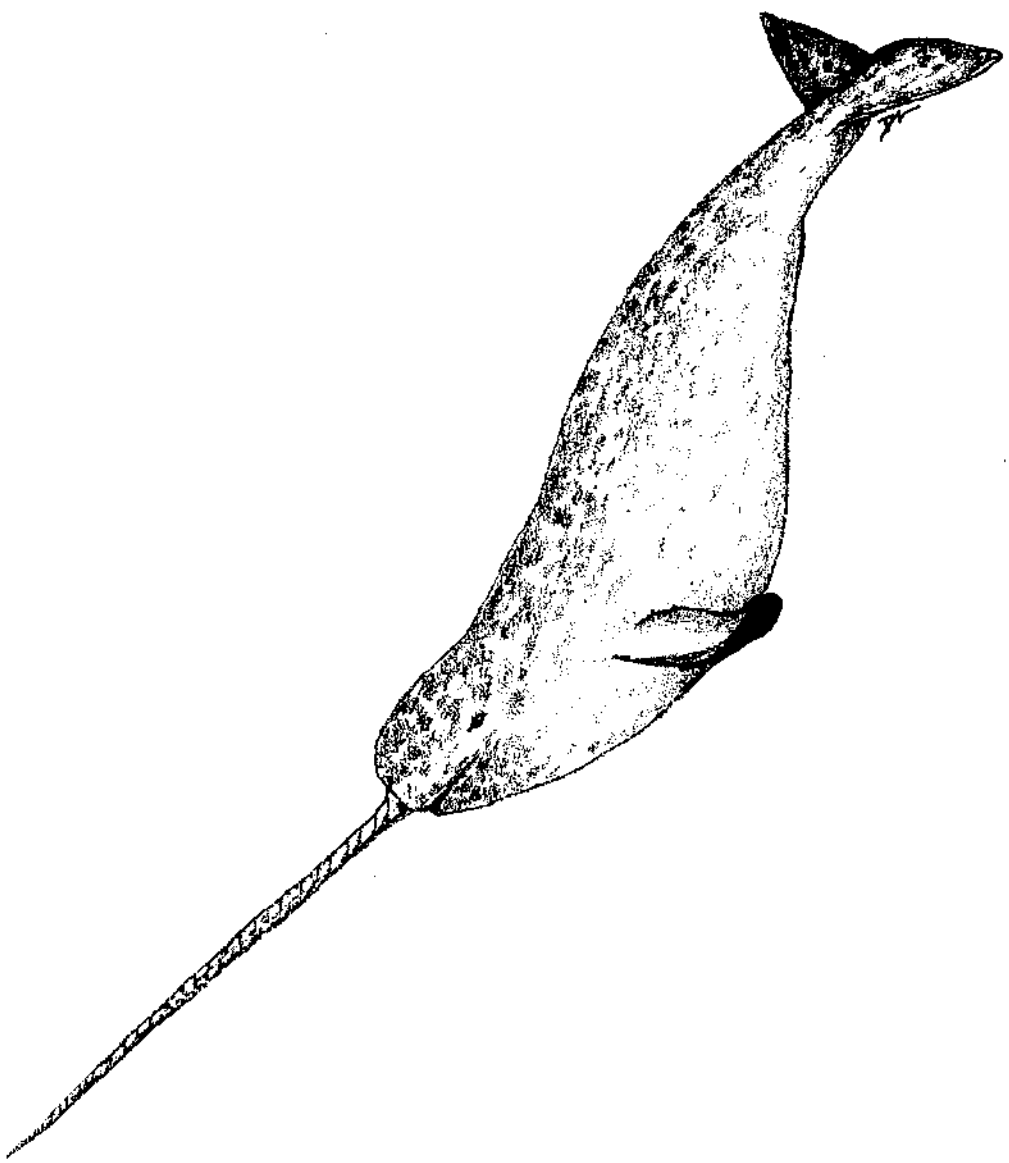
Banfield, A.W.F. 1977. *The Mammals of Canada*. Toronto: University of Toronto Press (published for the National Museum of Natural Sciences).

Gordon, B.C. 1994. Father Guy-Mary Rousselière (1913-1994). *Arctic* 47(3): 318.

Kingsley, Michael C.S. and Malcom A. Ramsay. 1988. The spiral in the tusk of the narwhal. *Arctic* 41(3): 236-238.

Papastravrou, V. 1993. *Whale*. Toronto: Stoddart Publishing Co. Ltd. (Eyewitness Books).

Rosing, Jens. 1986. *Havets enhjørning*. Højbjerg, Denmark: Wormianum.

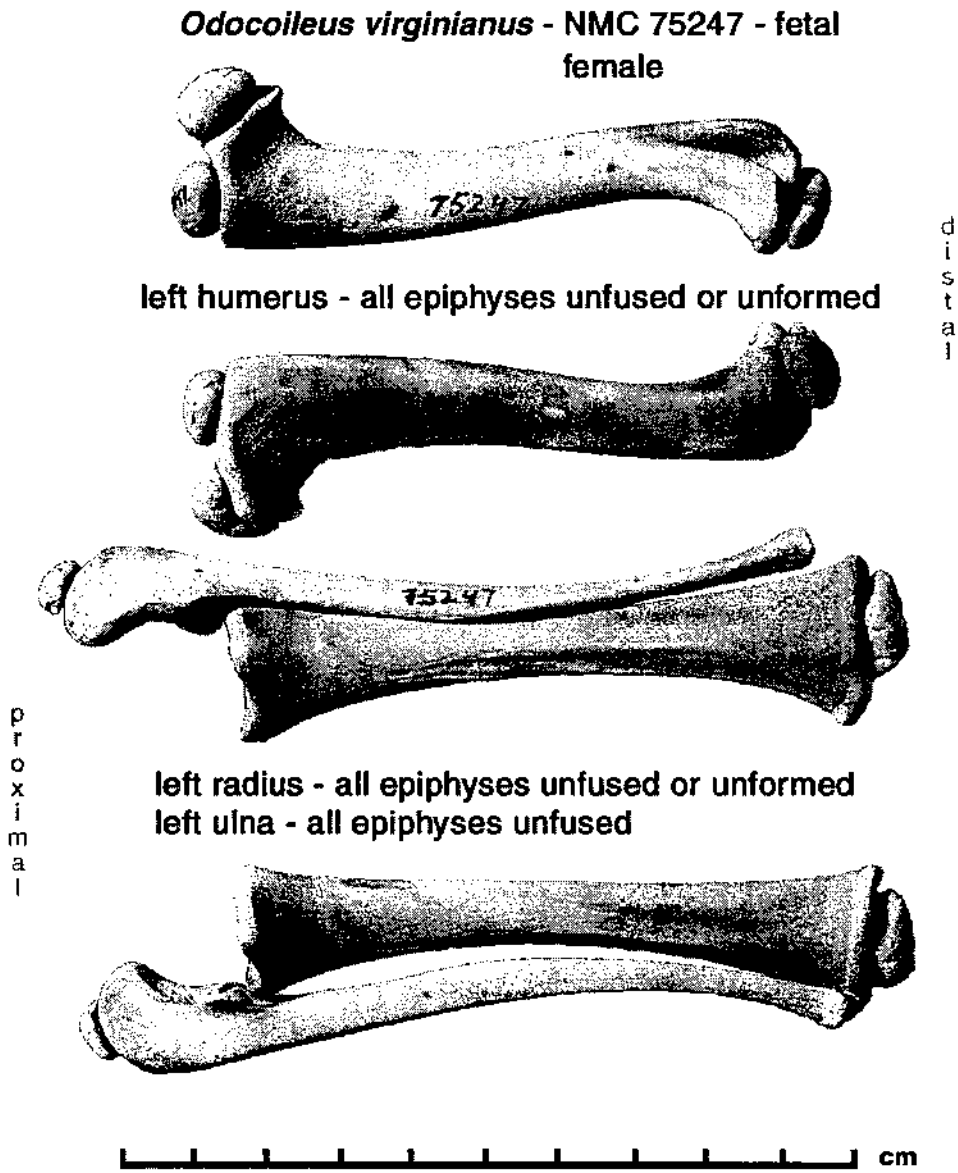


Bones of known aged white-tailed deer: a photo essay of front leg bones

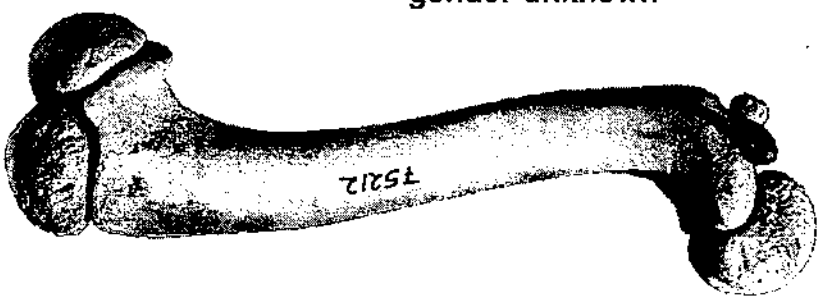
by Donna Naughton

Canadian Museum of Nature

The following photographs illustrate the humerus, radius and ulna of known aged individuals from the Osteology Collection of the Canadian Museum of Nature. In most cases the left forelimb was photographed except where it was unavailable or damaged. Each page is independently scaled and contains the bones of a single individual identified by its catalogue number. Each bone is shown in two views.

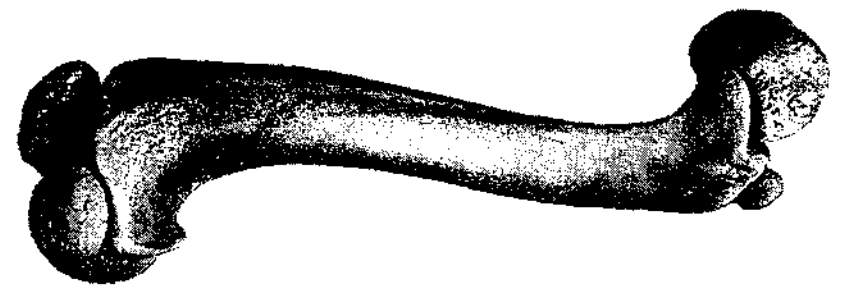


Odocoileus virginianus - **NMC 75212** - 2 month old
gender unknown

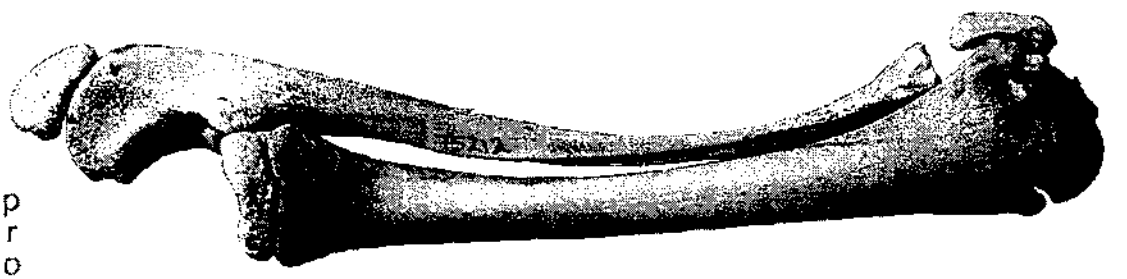


left humerus - all epiphyses unfused

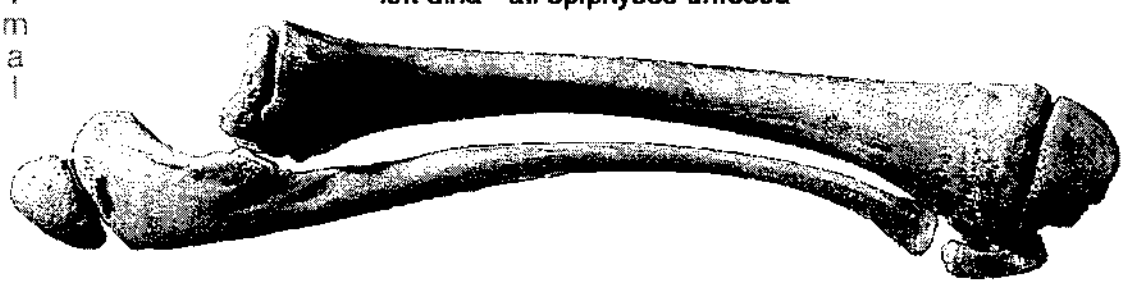
distal



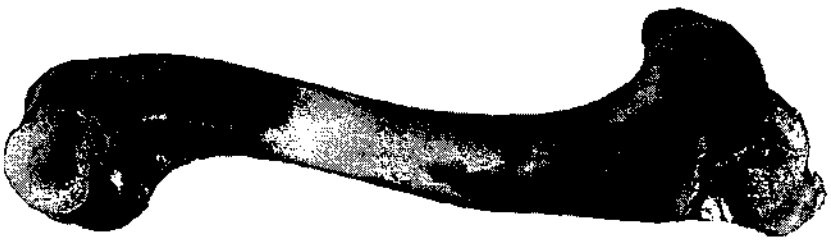
proximal



left radius - all epiphyses unfused
left ulna - all epiphyses unfused

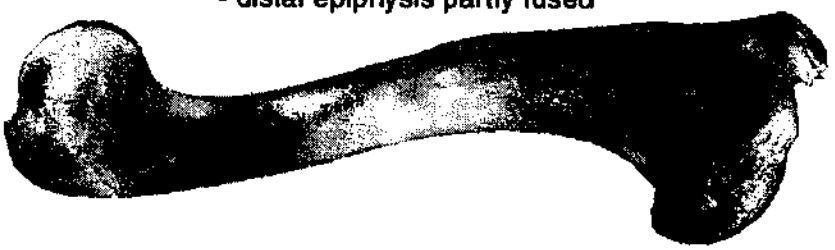


Odocoileus virginianus - **NMC 41042** - 5 - 6 month old
gender unknown (probably female)



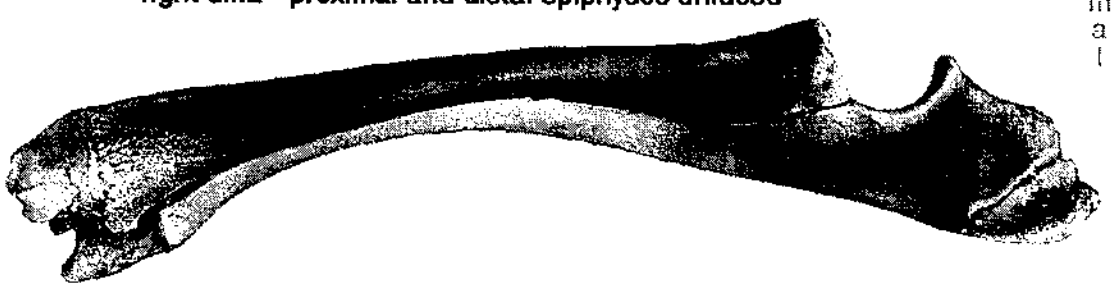
distal

right humerus - proximal and medial epiphyses unfused
- distal epiphysis partly fused



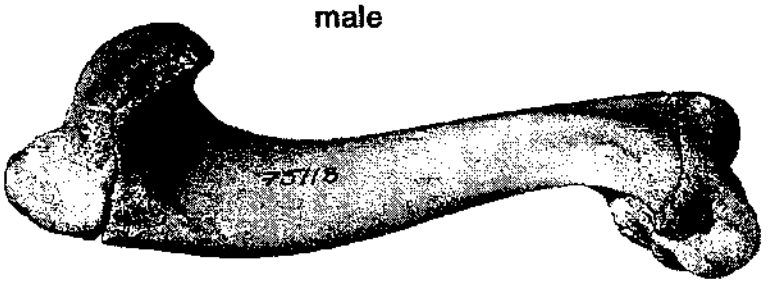
proximal

right radius - proximal epiphysis fused, distal epiphysis unfused
right ulna - proximal and distal epiphyses unfused

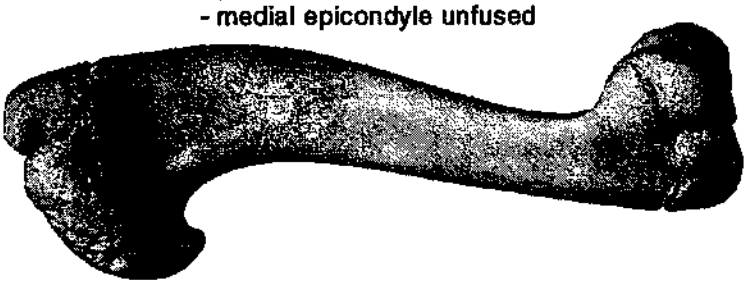


cm

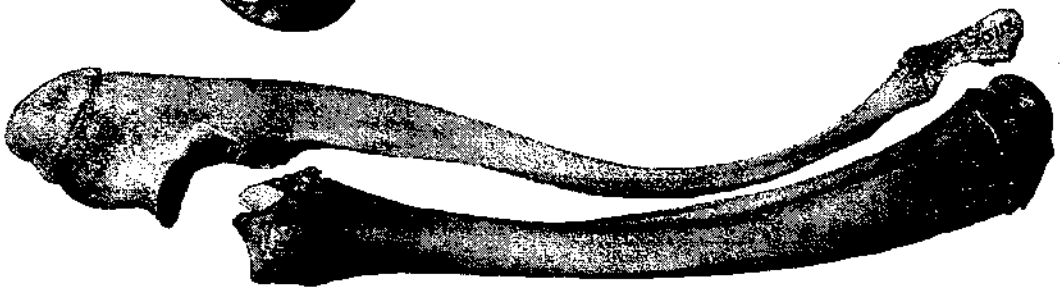
Odocoileus virginianus - **NMC 75118** - 6 - 10 month old male



left humerus - proximal and distal epiphyses unfused
- medial epicondyle unfused



distal

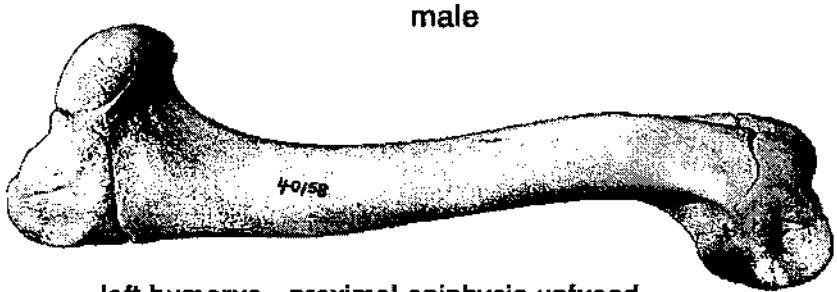


proximal

left radius - proximal epiphysis partly fused, distal epiphysis unfused
left ulna - proximal and distal epiphyses unfused

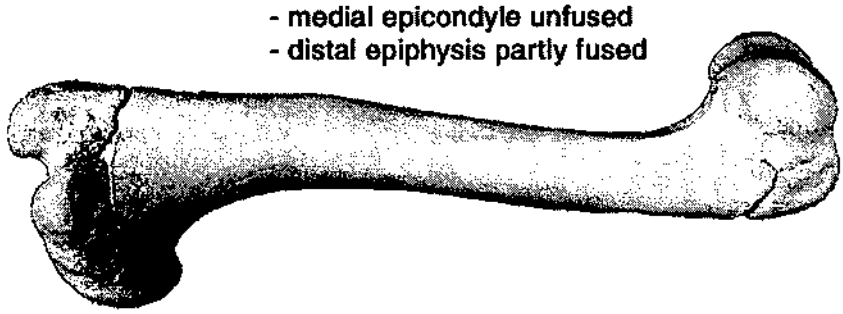
cm

Odocoileus virginianus - **NMC 40158** - 10 - 11 months old male



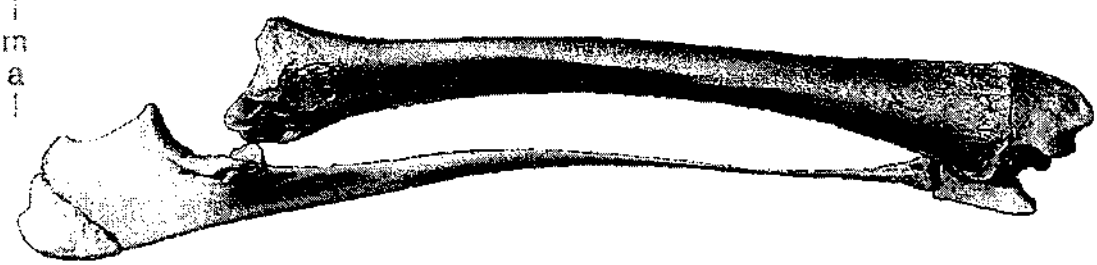
left humerus - proximal epiphysis unfused
- medial epicondyle unfused
- distal epiphysis partly fused

distal

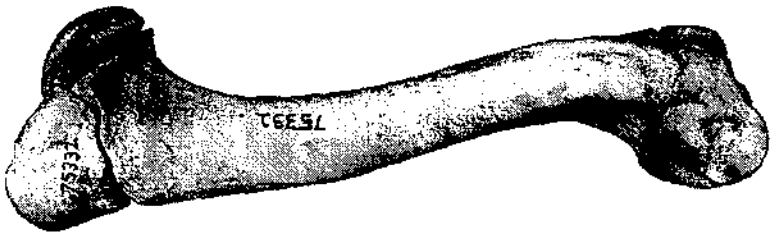


proximal

left radius - proximal epiphysis almost all fused, distal epiphysis unfused
left ulna - proximal and distal epiphyses unfused

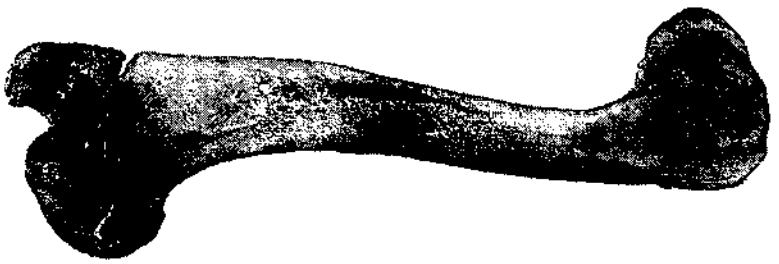


Odocoileus virginianus - **NMC 75332** - approx. 1 year old female



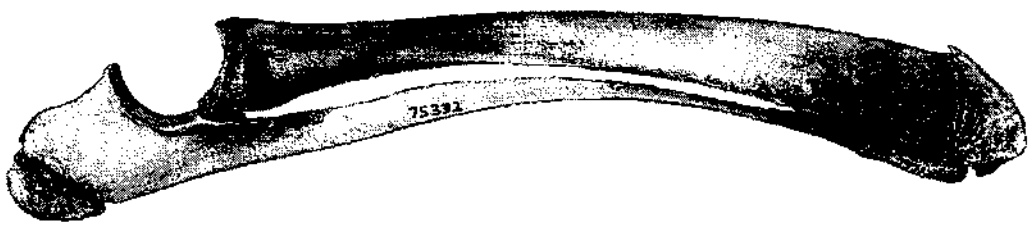
left humerus - proximal epiphysis unfused
- medial epicondyle and distal epiphysis partly fused

distal

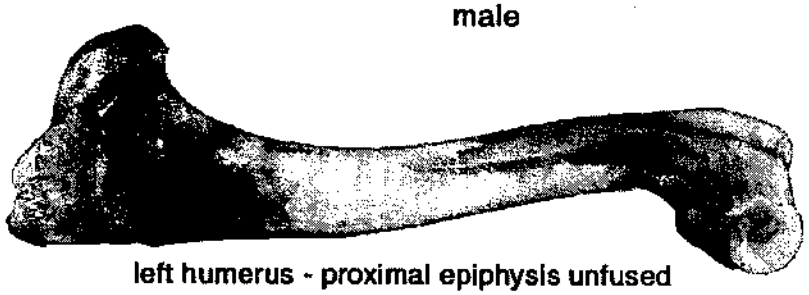


proximal

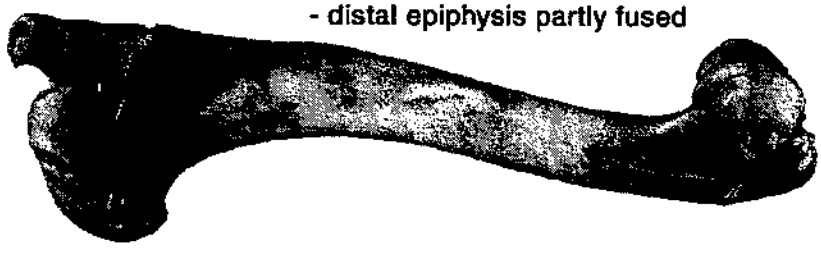
left radius - proximal epiphysis fused, distal epiphysis unfused
left ulna - proximal epiphysis unfused, distal epiphysis unfused



Odocoileus virginianus - **NMC 41040** - 1 1/2 year old male



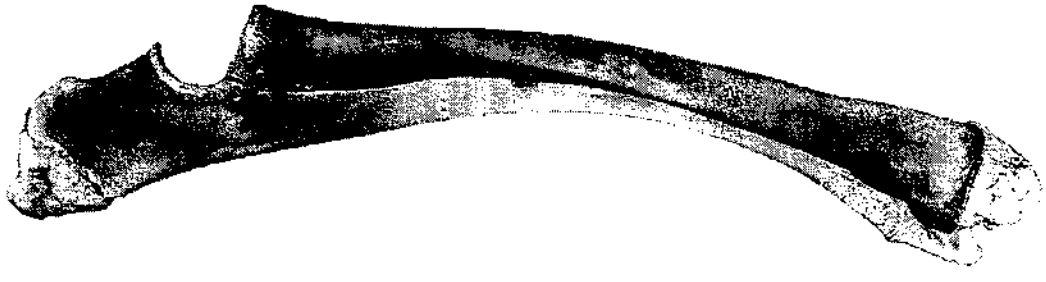
left humerus - proximal epiphysis unfused
- medial epiphysis unfused
- distal epiphysis partly fused



distal

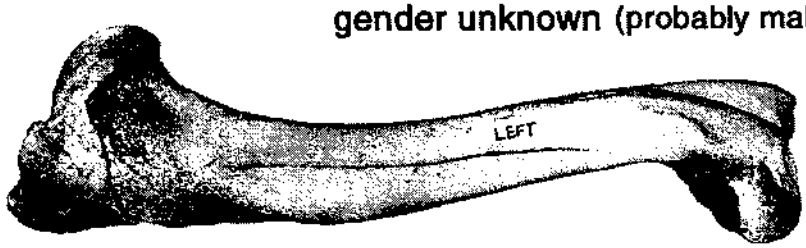
proximal

left radius - proximal epiphysis fused, distal epiphysis unfused
left ulna - proximal epiphysis unfused, distal epiphysis unfused



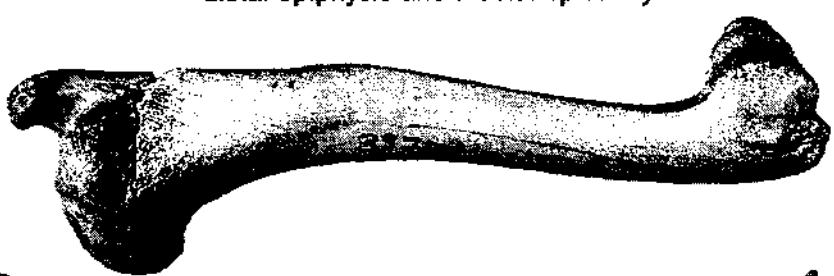
cm

Odocoileus virginianus - **NMC 39742** - approx. 2 1/2 years old
gender unknown (probably male)



distal

left humerus - proximal epiphysis unfused
- distal epiphysis and medial epicondyle fused

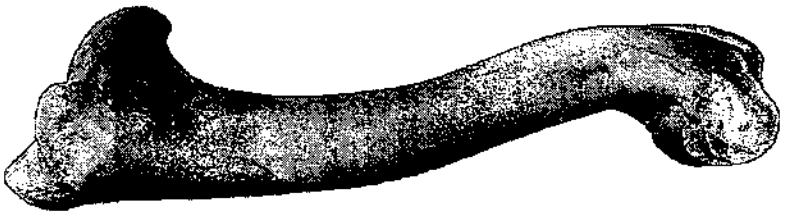


proximal

left radius - proximal and distal epiphyses fused
left ulna - proximal epiphysis unfused, distal epiphysis unfused and missing

cm

Odocoileus virginianus - **NMC 41030** - 41/2 year old female



left humerus - proximal epiphysis almost all fused
- medial epicondyle and distal epiphysis fused

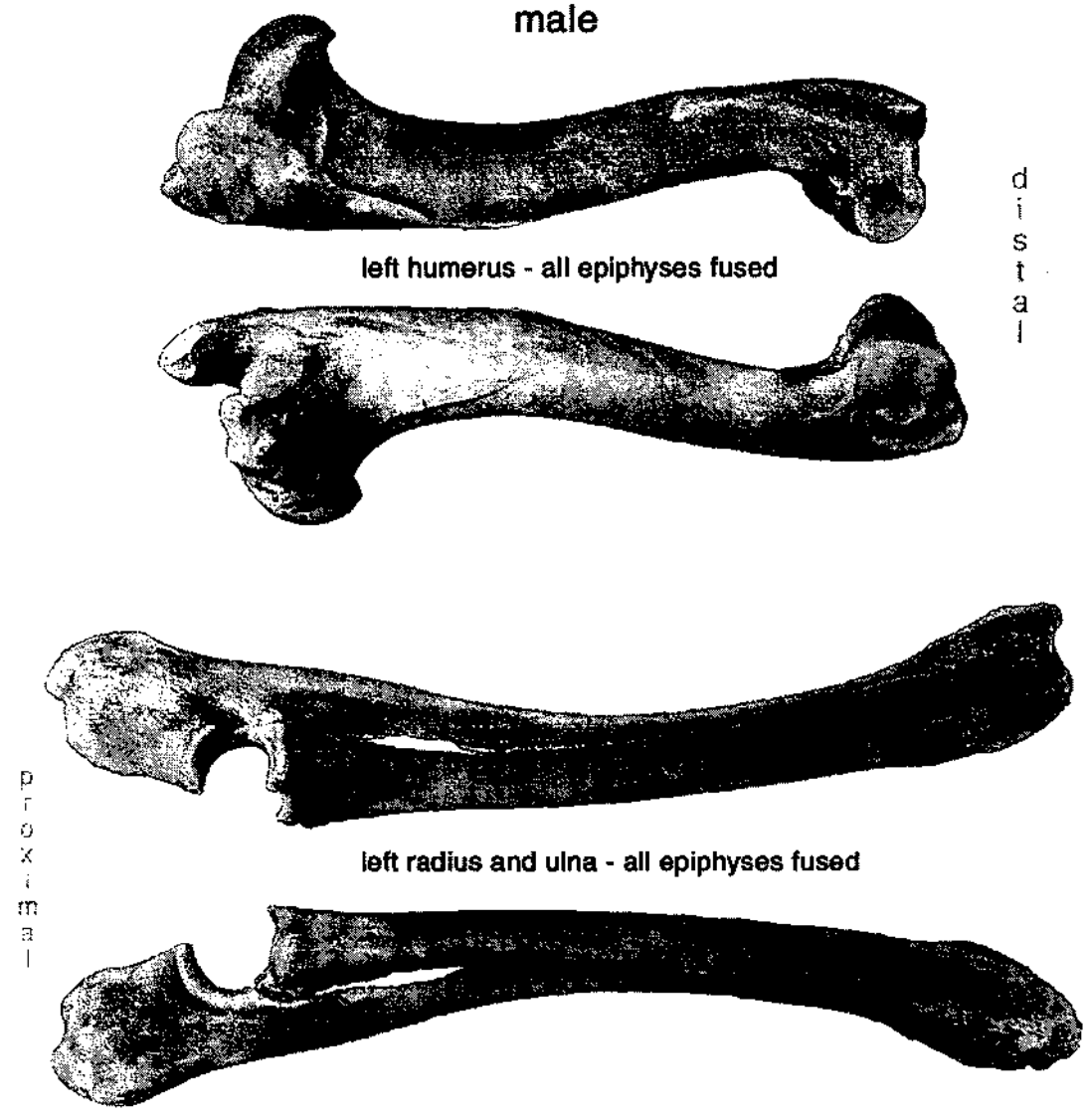
distal

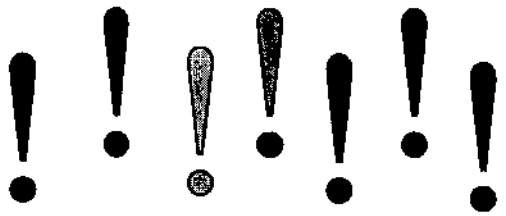
proximal

left radius - proximal and distal epiphyses fused
left ulna - proximal and distal epiphyses fused

cm

Odocoileus virginianus - **NMC 40156** - adult over 5 years old male





Forthcoming Conferences / Conférences à Venir

2000

33rd Annual Meeting of the Canadian Archaeological Association Crowne Plaza Hotel Ottawa, Ont. 3-7 May 2000

CAA Session: Transitions in Zooarchaeology - New Methods and New Results.
Co-organisers: Kathy Stewart and Fran Stewart

1. **Suzanne Needs-Howarth** (No affiliation) and **Evelyne Cossette**, Université de Montréal: Operator bias in zooarchaeological recovery.
2. **Greg Monks**, University of Manitoba: Cumulative sampling: a new approach to sampling ichthyofaunas.
3. **Kathlyn Stewart**, Canadian Museum of Nature: Faunal micro-remains (primarily fish) from northern Northwest coast sites (British Columbia).
4. **Evelyne Cossette**, Université de Montréal: Laurentian Archaic Animal Exploitation Strategies in the Ottawa River Valley: Morrison Island and Allumettes Island.
5. **David Maxwell**, Statistical Research, Inc. Burnaby, BC: Using faunal remains to recognize and interpret prehistoric ceremonial deposits: an example from San Nicolas Island, California.
6. **Kitty F. Emery**, State University of New York at Potsdam: Convergent Results from Divergent Methods: A Tripartite Zooarchaeological Analysis of the Maya Collapse in Guatemala.
7. **Rhonda Bathurst**, University of Western Ontario: Canine Health and Human Analogy: Regional comparisons of canine skeletal pathology.
8. **Trevor Richard Peck**, University of Calgary: Season of Death Estimates for *Bison bison* as Inferred from Dental Cementum Increments: Implications for Investigating Archaeological Site Seasonality.
9. **Ariane Burke**, University of Manitoba: Butchery of a sheep in rural Tunisia (North Africa): repercussions for the study of patterns of bone disposal.
10. **Richard Morlan**, Canadian Museum of Civilization: CARD: Canada's first answer to FAUNMAP.
11. **Frances Stewart**, St. Thomas University: Discussant: Zooarchaeology: Where have we been and where are we going?

Special rates have been arranged at the Crowne Plaza Hotel for conference attendees- $109CDN rather than the usual $150CDN. Make sure to mention the CAA when you book.

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33rd Annual Chacmool Conference

Art for Archaeology's Sake: Material Culture and Style across the Disciplines

November 8-12, 2000

University of Calgary

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Recent Publications/ Publications récentes

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Deck, D., Peach, A.K. and Ward, J.E. 1999. Past subsistence activities on the Winnipeg River: Investigations at EaKx-8 and EaKw-30. Manitoba Archaeological Journal 9(1):139-168.

Dyck, I. 1999. A radiocarbon date from Star Mound (DgLq-1) Manitoba. Manitoba Archaeological Journal 9(1):1-11.

Needs-Howarth, S. 1999. Native fishing in the Great Lakes: a multidisciplinary approach to zooarchaeological remains from pre-contact Iroquoian villages near Lake Simcoe, Ontario. Arch Notes N.S. 4(6):7-12.

Nicholas, G. 1999. Kwaday Dän Sinchì ('Long-Ago Person Found). Canadian Archaeological Association Newsletter 19(2):14-18.

Novecosky, B. 1999. A summary of Besant communal bison hunting. Manitoba Archaeological Journal 9(1):113-138.

Ronnie, W.F. 1999. A geomorphological perspective on the antiquity of the 'Forks'. Manitoba Archaeological Journal 19(1)103-113.

Young, P. 2000. The registered archaeological sites database and GIS: data submission. Arch Notes 5(1):16-17.

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Requests, Exchanges, Notices / Demandes, Échanges, Avis

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Francis Stewart's PhD thesis has been published and it can be purchased from the London Museum of Archaeology, Lawson-Jury Building,1600 Attawandaron Road, London, Ontario, N6G 3M6, for $25.00 with $5.00 added for mailing. Her thesis is entitled: **Proto-Huron/Petun and Proto-St. Lawrence Iroquoian Subsistence as Culturally Defined.**
Orders can also be made by email to the secretary, Cindy Barrett, whose email address is:
cbarrett@julian.uwo.ca