FOSSILS ON PETUN ARCHAEOLOGICAL SITES

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Abstract

Some types of fossils found on Petun sites are identified

Resumé

Quelques Fossiles découverts au sein des sites Petuns ont été identifiés.

Figures following the text

Introduction

The sedimentary shales, sandstones and limestones which largely underlie the later agricultural soils in the Petun area were laid down in the Ordovician and Silurian periods of the Paiaeozoic era and contain fossils characteristic of those periods. Even the cherts formed within the area limestones contain micro-fossils, as the name of the Fossil Hill Formation implies.

Later glacial action and continued erosion and weathering mixed earlier and later deposits. In particular, the last glacial movement, north-to-south, presumably scraped the Ordovician shale beds exposed along the shore near Craigleith, and the Silurian clay-shales exposed elsewhere, and redeposited the scrapings on the post-glacial surface across the countryside. Consequently, fragments of older shale, limestone and sandstone are mixed into the present agricultural soils. These fragments often contain fragmentary fossil remains or impressions of invertebrate life forms characteristic of the Ontario Ordovician and Silurian periods, such as brachiopods, cephalopods, gastropods, pelecypods, graptolites, crinoids and various corals and unidentifiable shells. Mostly these are fragments observed in the shale, limestone or sandstone matrix, but brachiopods and gastropods, and sometimes coral fragments, are found freed from their original matrix.

These fossils are erratically distributed across the fields of the Petun area of the former Collingwood and Nottawasaga Townships (now the Town of the Blue Mountains and Clearview Township) in sufficient quantities that it is probably safe to say that fossils may be found on every archaeological site deposited by natural forces. Sometimes fossils are found redeposited in middens along with other household refuse on archaeological sites, indicating that the native people had taken an interest in them and taken them into their houses. It might also be supposed that curious children had collected them from elsewhere and brought them home, particularly in the case of the Plater-Martin BdHb-1 and Plater-Fleming BdHb-2 sites close to the exposed Ordovician shale-beads at Craigleith (Figure 3).

Because of the possibility that fossils found on the surface of sites, even if not modified in any way, might have cultural implications (and even more so those found in an archaeological context, such as in middens), the writer preserves them as possible artifacts. This is a departure from the work of other researchers in the Petun area.

No example of a fossil modified by human agency has been found to date.

Previous Records

The Archaeological Survey of Canada records of 84 Petun area sites and artifacts from them, were largely compiled by William J. Wintemberg. The Royal Ontario Museum records of 19 Petun area sites and artifacts from them, were largely compiled by David Boyle. This extensive literature, and the artifact lists, contain no entries that could be interpreted as "fossil", nor are unmodified fossils mentioned in the Annual Archaeological Reports Ontario series (Garrad 1987). This suggests that Boyle, Wintemberg and their associates dismissed the presence of unmodified fossils as part of the natural landscape and without cultural significance.

Of related interest is the report by David Boyle (1904:28-29) of a stone pipe donated to the Ontario Provincial Archaeological Museum by F. W. Storry. The pipe is said to be of black marble which contains fossils (Figure 2). This pipe presumably came from an unknown distant source. No hole for the insertion of a pipe stem is indicated in the drawing, implying the stem enters the pipe at the rear behind the effigy, which consequently faced away from the smoker. This being contrary to Petun usage, it is probable that the pipe is an Algonquin import. Frederick Storry is known to have collected on the Hamilton-Lougheed BbHa-10 site, where an Algonquin presence has been suggested (Fox 1990:473)

Reports of Wintemberg's 1926 excavations at the GBP1 Sidey-Mackay BbHa-6 site, of Douglas Bell's 1953 excavations at the GBP1-2 MacMurchy BcHb-26 site, and of James Molnar's 1986 survey of the GBP2 White-Coyle BcHa-2 Site (Wintemberg 1926; Bell n.d.1953; Molnar 1987), all lack any mention of fossils, but the writer has fossils from all three sites (Garrad 1978a:23, 1978b:21).

Although Bell omitted mention of fossils from his report on the 1953 MacMurchy site (Bell n.d.1953), fossils were found. The MacMurchy Site collection housed at the University of Toronto Department of Anthropology includes four Rugose Solitary corals (N25W11, N29W9, N30W9, and one unprovenanced), a piece of sandstone approximately 2"x1½"x¾" with pelecypod and other fossil inclusions, and a bivalve-like item, possibly a brachiopod, N60W25 (thanks for access to Pat Reed). Bell did report that the MacMurchy site possessed "A quantity of fossiliferous shale rich in powdery red hematite .. may have been material for red paint". This same hematite/red ochre material was found in abundance on the adjacent successor GBP2 Haney-Cook BcHb-27 site, where it was not regarded as "fossiliferous". Bill Fox described these finds as "hematite paint stones" and speculatively considers them Odawa imports; he also mentioned the abundant "Devonian solitary rugose coral fossils" on the Haney-Cook BcHb-27 site (Fox 1979:6; 1990:471). The large Adams/Cook collection from the Haney-Cook site in the R.O.M. contains no fossils.

In a disturbed midden currently being re-excavated on the GBP1 McConnell BcHb-31 site under the writer's direction, five sandstone pieces, with and without fossil imprints, occur on average per cubic

metre of excavated midden soil.

All fossils listed in this Research Bulletin are available for inspection on request at the Artifact Repository maintained by the Petun Research Institute.

Partial Inventory of Fossils

A random examination of some of the collections in the care of the Petun Research Institute resulted in the following specimens being noted and here listed by site and designation. While only a small percentage of the total sample available was examined, the repetitiveness within the sample suggests it is probably representative of the whole. All fossils examined were in their natural condition, none are modified by human agency. The fossils are usually minimal fragments only, sometimes impressions in a matrix of sandstone, shale, or limestone. In the following list, "shell" indicates fragments too small to identify; "unknown" indicates the fossil is not illustrated in the source reference consulted (Figure 1, taken from Lemon 1965). Measurements are approximate. For the several types of cephalopod, see the Figure 1.

White-Coyle BcHa-2 site (surface)

Wcfs: sandstone 1½"x1¼"x¼" with many inclusions, pelecypod etc.

Sidey-Mackay BbHa-6 site (excavated)

SM5N125Ea: limestone 1 3/16"x1"x½" with pelecypod; sandstone 1½"x1⅛"x3/16" with various unidentifiable shell inclusions;
SM25N70Eb: coral unknown (looks like a small twig); sandstone 1¾"x1 15/16"x⅜" with pelecypod
SM195S295Ea: sandstone 15/16"x7/16"x3/16" with minute unidentifiable shell inclusions
SM250S155Ed: coral unknown (possible rugose solitary fragment)
SM-SW3: coral unknown (possible rugose solitary fragment)

Melville BbHa-7 site (surface)

MV-1: limestone 2"x1¼"x½" with gastropod and other inclusions

Melville BbHa-7 site (excavated)

MV35S225Wh: limestone 1"x7/8"x¼" with pelecypod
MV35S225Wk: sandstone ⅞"x½"x⅜" with pelecypod impression
MV35S225Wn: cephalopod or gastropod segment
MV100N30Wa: limestone 1¼"x1¼"x⅝" with pelecypod

Hamilton-Lougheed BbHa-10 site (surface)

HL1: gastropod 2"x1"; sandstone 1½"x1"x½" with cephalopod impression; shale 1½"x1½"x⅛" with unidentifiable shell inclusions
HL4: sandstone 1½"x1"x½" with pelecypod impression
HL10: sandstone 1¾"x1⅜"x⅜" with shell and pelecypod fragments

Connor-Rolling BcHb-3 site (excavated)

CR60N5Ea: coral rugose solitary

Kelly-Campbell BcHb-10 site (surface)

KC2: coral rugose solitary

McEwen BcHb-17 site (excavated)

McE 0N135Wa: coral rugose solitary
McE 255N145Wa: cephalopod 1½"x¾"
McE 0S170Wa: coral Tabulate
McE 0S170Wb: sandstone (?) with 2 pelecypods
McE 0S175Wa: unknown (not in reference text) closest to cephalopod type 2
McE 5S175Wa: probably cephalopod type 2

Young-McQueen BcHb-19 site (surface)

GM(e)-2: shale 1½"x¾"x⅛" with 2 trilobites

McQueen-McConnell BcHb-31 site (surface)

McConnell collection: gastropod 3"x1⅛"; sandstone with pelecypod inclusion; shale with trilobite impression; 2 cephalopods; 2 coral rugose solitary
McC-2: shale 3½"x2"x¾ with trilobite impressions
McC-3b: crinoid segment

McQueen-McConnell BcHb-31 site (excavated)

McC1N22Wa: crinoid segment (?)
McC2N21Wa: limestone 1"x9/16"x¼" with pelecypod

Rock Bottom BcHb-20 site (surface)

RB-1: gastropod fragment 1¼"x1"x½"

McAllister BcHb-25 site (excavated)

McA 0E0Nb: coral tabulate ¾"x⅝"x¼"
McA 0E0Sb: sandstone 1"x¾"x¼" with pelecypod impression
McA 0W0Nd: sandstone 1"x½"x¼" with pelecypod impression
McA 30W10Sb: sandstone ¾"x½"x⅜" with pelecypod

MacMurchy BcHb-26 site (surface)

MacMfs: coral rugose solitary

Haney-Cook BcHb-27 site Upper (excavated)

HC120N75Wa: 3 coral rugose solitary
HC120N180Wa: limestone ¾"x⅝"x¼" with pelecypod inclusions; 4 coral rugose solitary
HC125N80Wa: 2 coral rugose solitary
HC125N185Wa: 2 coral rugose solitary
HC145N130Wa: coral rugose solitary
HC north test: 4 coral rugose solitary

Plater-Martin BdHb-1 site (surface)

PM3: shale 1¼"x1⅛"x½" with gastropod and trilobite inclusions
PM3: limestone 1¾"x1⅛"x½" with gastropod inclusion
PMwfs: coral rugose solitary

Plater-Martin BdHb-1 site (excavated)

PM40S130Wa: 2 shale with shell (pelecypod ?) inclusions
PM40S130Wb: shale with trilobite and pelecypod impressions
PM45S125Wb: 10 shale with pelecypod inclusions; 2 with pelecypod and trilobite impressions
PM45S130Wa: 2 shale with trilobite impressions
PM55S125Wa: 2 shale with shell (pelecypod ?) inclusions
PM55S130Wb: 2 shale with shell (pelecypod ?) inclusions
PM515N780Wd: crinoid stem 9/16"

Plater-Fleming BdHb-2 site (surface)

Pffs: limestone 3½"x3"x2¾ with pelecypod, brachiopod, coral (tabulate?) inclusions
PFfs: shale 1¼"x1"x¼" with trilobite impression

Plater-Fleming BdHb-2 site (excavated)

PF1: 6 split shale with many inclusions, trilobites, pelecypods, shells
PF1: pelecypod; cephalopod type 1

In June 1996, Parks Canada archaeologists announced they had found crinoid fossils modified as beads in a Late Archaic/Middle Woodland context (Farvacque et al 1996), and requested input from others concerning similar finds. In response to Garrad's letter reporting an unmodified possibly crinoid segment from the McConnell BcHb-31 site, Brian Ross replied that there were only two responses to his appeal, so "we must assume either that the archaeological discovery of fossils is a relatively rare occurrence, or that our fellow OAS members were not forthcoming" (Ross to Garrad May 21, 1997). The above brief study, even though limited to random sampling, indicates that in the Petun homeland, unmodified fossils are present on archaeological sites.

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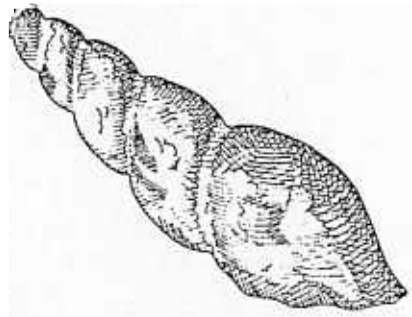
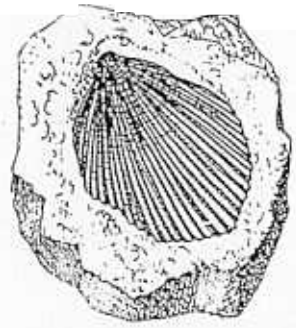
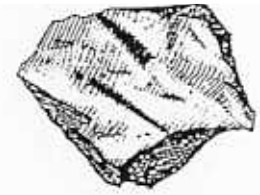


Gastropod



Pelecypod

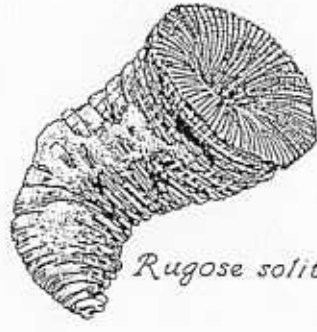


Graptolites

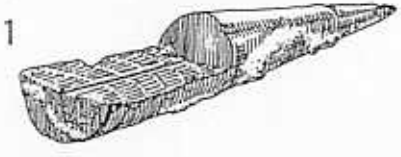
Crino

Trilobite

Brachiopods



1 Rugose solitary



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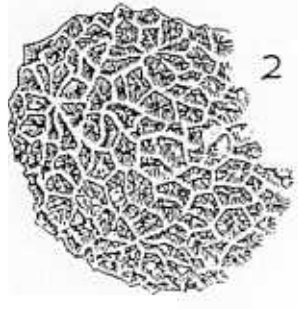
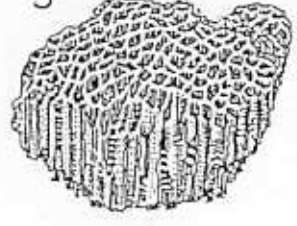
Cephalopods



2 Corals



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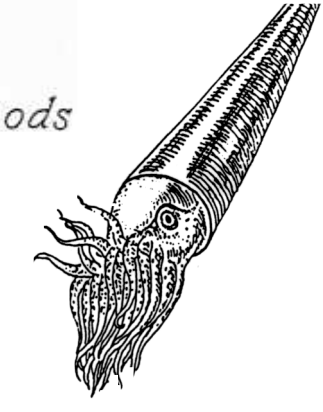
2



Rug[illegible] [illegible]onial

Tabula[illegible]

[illegible]emoi

Fig. 24, (26,205) full size.

From "ArchaeologicalReport"
by David Boyle
Annual Archaeological Report
1904 (19)28-29

Palæontologically figure 24, (26,205) is quite as interesting as it is archæologically, for the piece is of black marble thickly studded with small corals, not nearly so many of which appear on the face and back as on the sides, where they are also much less in size than those seen in the cut.

I am indebted to Dr. W. A. Parks of the Toronto University Geological Department for the opinion after a somewhat hasty examination, that the organisms represented in this specimen include Diphyphyllum stramineum, and a species of stromatopora.

Found in the very heart of the old Tobacco Nation, Nottawasaga, where the diversity of pipe-forms is not surpassed by that of any other district on the continent, we are the better prepared to understand that pipe modelling was regarded as a "fine art," and that the stone used in making this intended pipe was regarded by the primitive artist as a gem.

The original of figure 24 was presented with numerous other specimens to the Provincial Museum by Mr. F. W. Storry, an ardent and intelligent student of old times in the Huron country.

FIGURE 2 A stone pipe illustrated by David Boyle 1904)

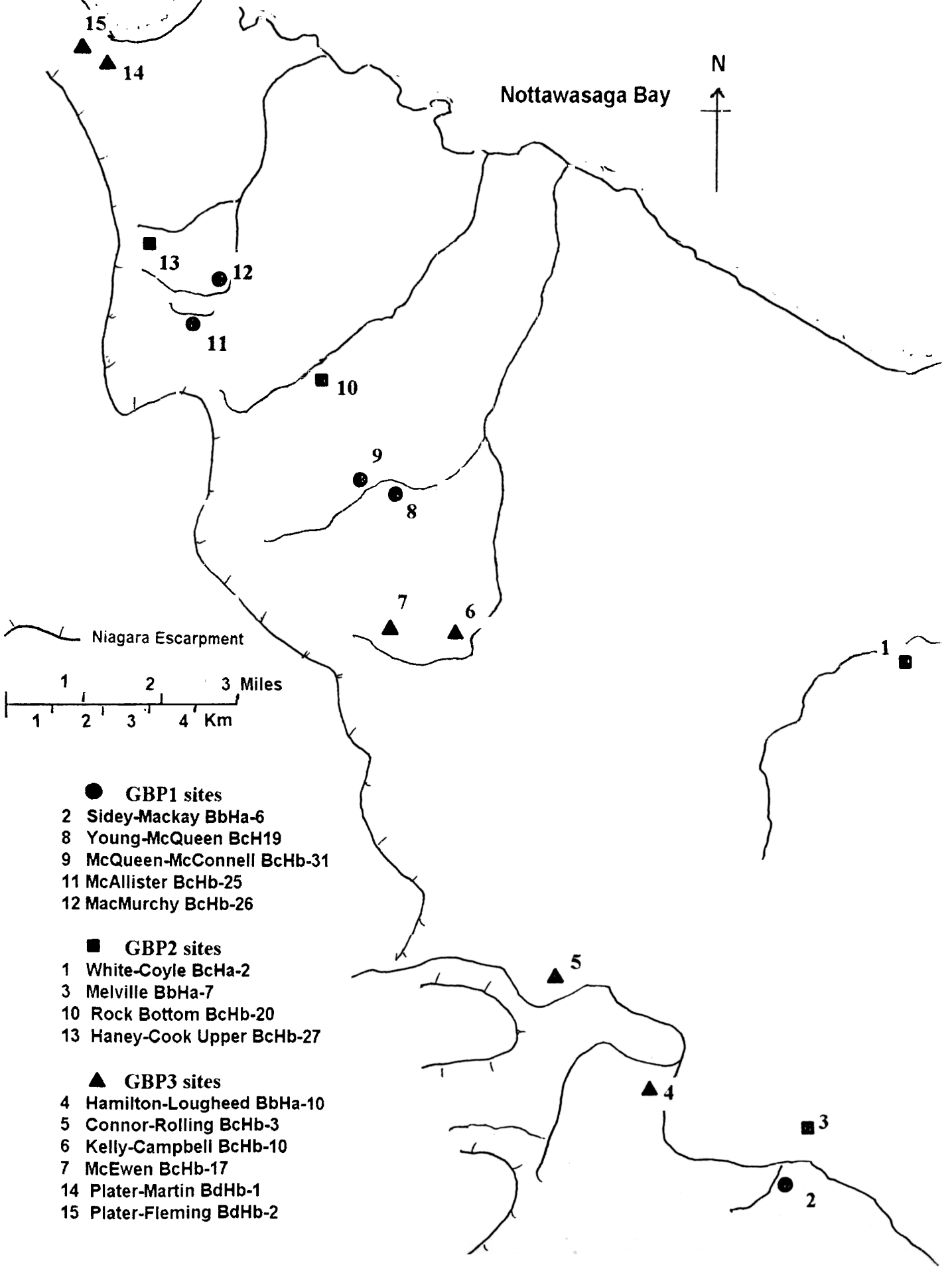


FIGURE 3 Petun villages mentioned in the text