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PE-S-ZP (94) 47
(addendum)

STEERING COMMITTEE FOR THE CONSERVATION AND MANAGEMENT
OF THE ENVIRONMENT AND NATURAL HABITATS

Group of Specialists - "Protected areas"
(PE-S-ZP)

23 - 25 March 1994

Ipolytarnoc Nature
Conservation Area

Application for the European Diploma

Additional Information

presented by:

the Hungarian Government

Directorate of the
Bükk National Park
EGER
Sanc u. 6. sz.
3304 - HUNGARY

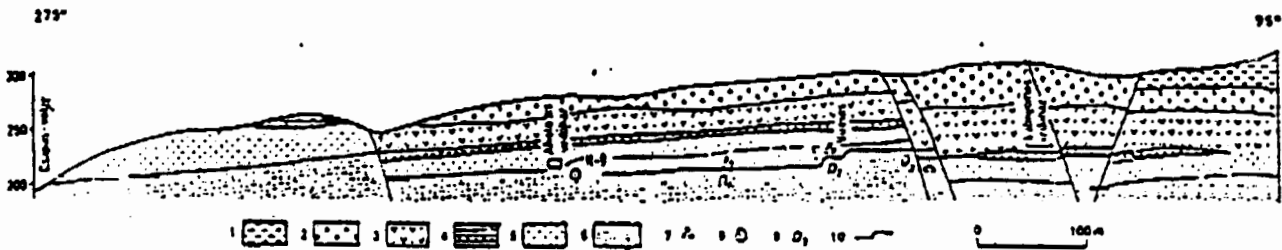
Additional information to the application for the European Diploma
of Ipolytarnóc

Budget '93

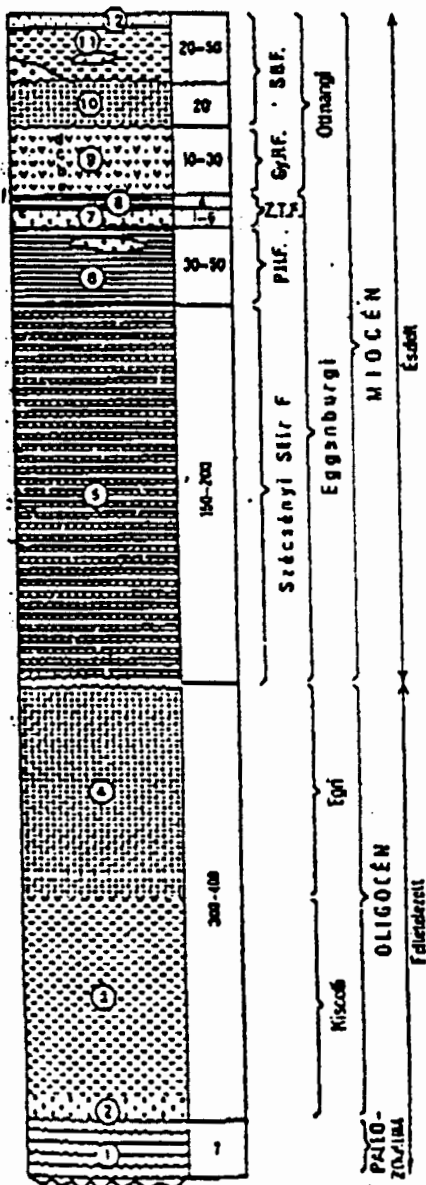
Running costs (total)	3,5 million HVF
Investments to research (field work excavation)	3,3 million HVF
Income of visitation	0,75 million HVF

The followings are needed in the near future:

Renovation of the exhibition, continuation of excavation field research:	10,0 million HVF
Publishing information materials	1,5 million HVF



Geological section of Gyurtyánkő-oldal--Borókás-árok /Plotted by Dr. L. Bartkó, 1981/
 Otnangian: 1. Mottled-clay, 2. tuffaceous quartzite sandstone--sandstone with rhyolite pebbles--gravelly sandstone conglomerate, 3. rhyolite tuff. -- Eggenburgian: 4. footprint sandstone, sand, conglomerate-gravel, 5. micaceous sandstone, 6. Szécsény Schlier Formation. -- Microfauna, 8. Mollusca fauna, 9. symbol and number of locality, 10. ground surface in projection.



Schematic lithological log from the most valuable part of the Ipolytarnóc Nature Conservation Area /Plotted by Dr. L. Bartkó, 1981/.
 1. Phyllite, gneiss, amphibolite, 2. gravel, 3. clay, 4. silty sandy clay, 5. silty, argillaceous sandstone /schlier/, 6. glauconitic sandstone with interbedded conglomerate layers, 7. gravel-conglomerate, 8. footprint sandstone, 9. rhyolite tuff /a/ pumiceous rhyolite tuff and tuffite, /b/ air-fall tuff, /c/ bentonic tuff, 10. cross-bedded rhyolite tuff and gravelly-sandstone, 11. mottled-clay with interbedded conglomerate layers, 11. sand. -- P.H.F. = Pétervására Sandstone Formation, Gy.R.F. = Gyulakeszi Rhyolite Tuff Formation. S.B.F. = Salgótarján Brown Coal Formation.

Szécsény Schlier Formation -

The Szécsény Schlier Formation is 300--400 m thick. It is composed by bluish gray clay, fine grained sandstone with mica or glauconite in some places, and clayey sand /schlier/. It can be studied at the outcrops of the Botos- and Borókás gullies in the conservation area. The age of the upper parts can be ranged into the Eggenburgian on the basis of marine microfauna and forams; the facies are littoral and pelagic.

Foraminifera fauna of the Szécsény Schlier Formation /after Nyirő, R. 1967/:

Dentalina punctata D'ORB.
Nonion boueanum /D'ORB./
Bulinina elongata /D'ORB./
Rotalia beccarii /L./
Cassidulina crassa /D'ORB./
C. oblonga.REUSS
Globigerina praebulloides BLOW
G. ciperoensis BOLLI
Cibicides lobatulus /W--J./

Macrofauna of the Szécsény Schlier Formation in Ipolytarnóc /after Csepregy-Meznerics, I. 1967/:

Megaxinuc bellardianus MAY
Pitaria clione L.
Solen marginatus PHILL.
Turritella vermicularis tricineta SCHAFF.
Trochocyathus sp,
Bryozoa sp.

Pétervására Sandstone Formation

The Szécsény Schlier Formation is overlain by cross-bedded glauconite bearing sandstone, which was formed in marine environment and contains rich Foraminifera and macrofauna assemblages. Its constituent derived from the crystalline basement rocks.

Foraminifera fauna from the Botos valley, near the skarktooth locality of Ipolytarnóc /after Nyirő, R. 1967/:

Robulus cultratus /MONTF./
R. inornatus /D'ORB./
Marginulina hirsuta D'ORB.
Nonion scaphum /F.-M./

- 5 -

Madrefauna of the glauconite sandstone at Botos valley
/after Csepregy-Meznerics, I., 1967/:

Leda fragilis LAM.
Glycmeris pilosa group
Diplodonta rotundata MOTF.
Megaximus bellardianus MAY.
Abra alba WOOD.
Spisula subtruncata triangula BR.
Lutraria sanna L.
Solen marginatus PHIL.
Natica burdigalensis MAY.

In littoral facies a sharktooth bearing bed was formed
from which A. Koch was able to distinguish 24 species in
1903.

"Notidanus primigenius AG.
Notidanus cfr. serratissimus AG.
Notidanus paucideus n. sp.
Galeocerdo cfr. aduncus AG.
Galaeocerdo latidens AG.
Galaeocerdo minor AG.
Galaeocerdo cfr. gibberulus AG.
Hemipristis serra AG.
Sphyrna subserrata MÜNSTER.
Carcharis /Aprionodon/ stellatus PROBST.
Carcharis /Scoliodon/ krausi PROBST.
Carcharodon sp. indet.
Lamna /Odontaspis/ cuspidata AG.
Lamna /Odontaspis/ contordidens AG.
Lamna /Odontaspis/ dubia AG.
Lamna tarnoczensis n. sp.
Lamna cfr. compressa AG.
Lamna denticulata AG.
Lamna /Odontaspis/ cfr. subulata AG.
Lamna /Odontaspis/ cfr. duploa AG.
Oxyrhina xiphodon NÖTLING
Oxyrhina leptodon AG.
Oxyrhina neogradensis n. sp.
Oxyrhina exigua PROBST."

From the same sharkteeth bearing bed detrital Delphinus
and Crocodilus teeth were also described.

In the region the fauna-bearing marine sediments are overlain by the continental complex of Zag/vapálfalva Variegated Clay Formation. Its lower part consists of pebbles, conglomerates, while the upper part is constituted of sand or sandstone. This terrestrial complex is overlapping the erosional surface of the underlying glauconitic sandstone with basal pebbles in the Botos gully. Special part of this formation is the footprinted sandstone known as "Ipolytarnóc strata". The upper, silicified bed of this formation is the genuine "footprinted sandstone" which is presumably the erosional product of the older glauconite-bearing sandstone.

One part of the famous Ipolytarnóc silicified tree trunks is interbedded in the pebble-conglomerate layer, but they extend into the footprinted sandstone and the rhyolitic tuff covering the former ones.

The Ipolytarnóc habitat is covered by 2 to 30 m thick beds of Gyulakeszi Rhyolitic Tuff Formation considered to be the Eggenburgian - Ottnangian boundary. Its K/Ar age is 19.6 ± 1.4 my. In this formation altered, bentonitic and thick bedded pumice bearing parts and above these reworked rhyolitic tuffs can be found.

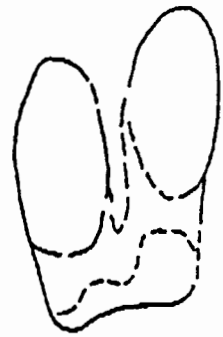
In Ipolytarnóc the terrestical formations younger than the rhyolitic tuffs are ranged into the Nógrádmegyer Member of Salgótarján Browncoal Formation. The lowermost part of the member, the rhyolitic tuff - pebbly sandstone can be studied in the upper branches of the gully leading to the protecting building above footprinted beds. Its thickness is of 10 to 20 m. The uppermost formation of the conservation area is the so-called "Upper variegated clay" remained on the upper part of the Botos gully. This 50 to 60 m thick complex consists of alternating beds of red and gray silty clay with sand, sandstone intercalations. Lacustrine interbeds are indicated by fragments of needles of *Silicispongia*. Ottnangian series of Nógrádmegyer Member were deposited in swamp, lacustrine and fluviatile facies indicating a semiarid climate.



1 cm



1.



8.

1 cm



2.



3.



4.



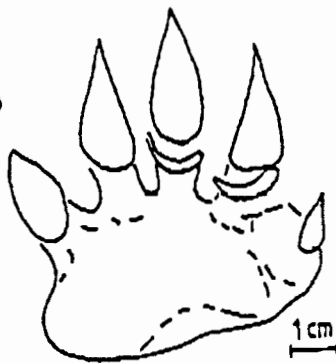
9.



5 cm



5.



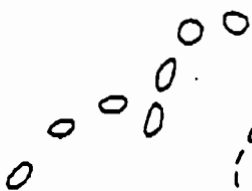
1 cm



10 cm



10.



6.



7.

1 cm

Footprints in Ipolytarnóc /Kordos L. 1935/. 1- Ornithotarnocia lambrechtii KORDOS, 2= Aviadactyla media KORDOS, 3= Tetraornithopedia tasnadii KORDOS, 4= Passeripeda ipolyensis KORDOS, 5= Carnivoripeda nogradensis KORDOS, 6= Mustelipeda punctata KORDOS, 7= Bestiopeda sp., 8= Megapecoripeda miocaenica KORDOS, 9= Pecoripeda cf. amalphaea VJALOV, 10= Rhinoceripeda tasnadyi VJALOV.

Distribution of the Ipolytarnóc plant-remains /after
Hably, L. 1958/:

Lobaria jablonszkyi	66
Wodwardia muensteriana	20
Pronephrium stiriacum	12
Dryopteris kummerlei	1
Asplenium sp.	3
Libocedrites salicornioides	101
Pinus saturni	69
Pinus sp.	57
Magnolia diana	11
-- kristinae	2
-- mirabilis	3
Magnoliaestrobis hungaricus	19
-- noszkyi	1
Persea barunii	7
-- speciosa	8
Daphnogene cinnamomifolia	1
-- cinnamomeifolia	4
-- bilinica	1231
-- polymorpha	57
-- spectabile	18
Litsea ipolytarnocense	57
Laurus princeps	43
-- primigenia	5
Laurophyllum heeri	19
-- pseudoprinceps	2
-- cf. villense	1
Mahonia sp.	1
Platanus neptuni	411
Ulmus pyramidalis	29
Quercus apocynophyllum	1
-- cruciata	331
Dryophyllum furcinerve	3
Engelhardtia orsbergensis	823

<i>Cyclocarya cyclocarpa</i>	318
<i>Carya bartkoi</i>	2
<i>Myrica sagoriana</i>	3
-- <i>hakeaefolia</i>	2
<i>Diospyros brachysepala</i>	6
-- <i>rugosa /cf./</i>	3
<i>Elaeocarpus palaeolanceolatus</i>	1
<i>Spiraea sp. 1.</i>	6
<i>Spireae sp. 2.</i>	1
<i>Cassia hyperborea</i>	1
-- <i>stenophylla</i>	1
<i>Podogonium oehningense</i>	2
<i>Leguminocarpon pachyrhizoides</i>	1
<i>Kadsura protowhtiana</i>	1
<i>Daphne oehningensis</i>	5
<i>Myrtophyllum sp.</i>	3
<i>Acer tricuspidatum</i>	5
<i>Oreopanax protomulticaulis</i>	7
<i>Schefflera gaudini</i>	1
-- <i>protolucescens</i>	1
<i>Trycalisia protojavanica</i>	1
<i>Erythrospermophyllum ipolytarnocense</i>	1
aff. <i>Andromeda sp.</i>	1
<i>Smilax weberi</i>	10
-- <i>aspera</i>	1
-- <i>borsodensis</i>	2
<i>Smilax sp.</i>	1
<i>Calanus noszkyi</i>	244
<i>Sabal major</i>	151
<i>Araceophyllum tarnocense</i>	72
<i>Araceites hungaricus</i>	2
Total:	<u>4,848 pieces</u>