

UNIVERSITY OF GEORGIA RADIOCARBON DATES VII

JOHN E NOAKES

Center for Applied Isotope Studies

and

NORMAN HERZ

Department of Geology
University of Georgia, Athens, Georgia 30602

Radiocarbon dates reported in this date list are totally derived from a cooperative effort between the Romanian Institute of Geology and Geophysics and the Center for Applied Isotope Studies (CAIS). The project was carried out between 1972 through 1978. The purpose of the study was to add to the knowledge of the various stages of the Holocene development of the Danube and Black Sea (Ghenea *et al*, 1971; Panin, 1976).

The Center continues to use the benzene method for sample preparation, liquid scintillation counting, and operational procedures as reported in Date List V (Noakes and Brandau, 1976). Ages quoted for this date list are calculated with a 1σ counting error which includes statistical variation of sample count as well as background and standard. The modern standard used was the 95% NBS oxalic acid with reference year of 1950.

ACKNOWLEDGMENTS

We acknowledge the cooperation of Nicolae Panin, Dan Jipa, Nicolae Mihăilescu, Stefana Panin, and George Salomie of the Romanian Institute of Geology and Geophysics, and Betty Lee Brandau and Donald F Smith of the Center for Applied Isotope Studies in the collection and dating of these samples. Financial support for the work was made possible by two National Science Foundation Grants #GF 35002 and INT 07223 and through the Romanian National Council for Science and Technology.

DANUBE DELTA AND BLACK SEA LITTORAL DEPOSITS

Sample coll from deltaic and shallow marine Black Sea sediments of Danube Delta, fore-delta area, and from borings in fluvial deposits of tributaries of Ialomita R in Romanian sub-Carpathian region. Samples consisted largely of mollusk shells, peat, and some bone. When omitted, geog coordinates are same as previous sample. Depths are given in meters.

GEOLOGIC SAMPLES

Romania

Letea-Caraorman Spit series

Shell deposits of initial Letea-Caraorman Spit (Panin, 1976).

UGa-703. (R-8) 35,100 ± 1620

(*Paphia senescens*, *Paphia discrepans*) 2.5m (45° 12' 12" N, 29° 24' 24" E), coll by D C Jipa.

UGa-701. (R-13-e)	>40,000
<i>(Ostrea edulis)</i> 2.5m (45° 12' 08" N, 29° 24' 10" E), coll by N Panin.	
UGa-890. (R-13-a)	11,600 ± 120
<i>(Cardium edule)</i> 3m, coll by S Panin.	
UGa-891. (R-13-b)	15,010 ± 160
<i>(Chione gallina, Crisan)</i> 3m, coll by S Panin.	
UGa-892. (R-13-c)	24,200 ± 450
<i>(Theridium vulgatum)</i> 3m, coll by S Panin.	
UGa-1152. (R-13-d)	39,600 ± 5400
<i>(Chlamys glabra)</i> 3m, coll by S Panin.	
UGa-702. (R-1542)	25,000 ± 540
<i>(Ostrea edulis, Paphia sp, Gastrana fragilis, Chione gallina)</i> 3m (45° 12' 02" N, 29° 24' 06" E), coll by S Panin.	
UGa-893. (R-1544) (<i>Cardium edule</i>)	6900 ± 80
2.8m (45° 12' 00" N, 29° 24' 10" E), coll by S Panin.	
UGa-1032. (R-1544) (<i>Chione gallina</i>)	2960 ± 70
2.8m, coll by S Panin.	
UGa-1044. (R-1544) (<i>Paphia senescens</i>)	13,880 ± 150
2.8m, coll by S Panin.	
UGa-1052. (R-1544) (<i>Ostrea edulis</i>)	19,680 ± 380
2.8m, coll by S Panin.	
UGa-1061. (R-1544) (<i>Donax trunculus</i>)	5270 ± 80
2.8m, coll by S Panin.	
UGa-1062. (R-1544) (<i>Theridium vulgatum</i>)	30,850 ± 5500
2.8m, coll by S Panin.	
UGa-1176. (R-1544) (<i>Mytilus galloprovincialis</i>)	4320 ± 90
2.8m, coll by S Panin.	
UGa-713. (R-1742)	11,200 ± 130
<i>(Ostrea edulis, Cardium edule, Solen vagina, etc)</i> 2m (45° 16' 22" N, 29° 26' 56" E), coll by S Panin.	
UGa-700. (R-1547), Grindul Răducu	29,780 ± 950
<i>(Ostrea edulis, Mytilus galloprovincialis)</i> 2.5m (45° 12' 45" N, 29° 25' 11" E), coll by S Panin.	
UGa-1153. (R-1672) (<i>Paphia senescens</i>)	>40,000
0.5m (45° 10' 10" N, 29° 23' 20" E), coll by D C Jipa.	
UGa-1154. (R-1672) (<i>Cardium edule</i>)	10,600 ± 240
0.5m, coll by D C Jipa.	

UGa-1155. (R-1672) (<i>Chione gallina</i>) 0.5m, coll by D C Jipa.	7400 ± 200
UGa-1157. (R-1672) (<i>Mytilus galloprovincialis</i>) 0.5m, coll by D C Jipa.	10,100 ± 230
UGa-1186. (R-1672) (<i>Paphia discrepans</i>) 0.5m, coll by D C Jipa.	10,190 ± 290
UGa-1818. (R-2152) (<i>Chione gallina</i>) 2m (45° 06' 00" N, 29° 21' 00" E), coll by N Panin.	10,420 ± 330
UGa-879. (R-1662) (<i>Cardium edule</i>) 2m (45° 06' 10" N, 29° 21' 49" E), coll by D C Jipa.	9130 ± 100
UGa-880. (R-1662) (<i>Chione gallina</i>) 2m, coll by D C Jipa.	7460 ± 90
UGa-710. (R-1663) (<i>Ostrea edulis</i> , <i>Cardium edule</i> , <i>Paphia senescens</i> , <i>Mytilus galloprovincialis</i>) 3m (45° 04' 50" N, 29° 21' 25" E), coll by D C Jipa.	33,190 ± 1100
UGa-1161. (R-1832) (<i>Paphia discrepans</i>) 1.8m, coll by S Panin.	10,160 ± 130
UGa-1162. (R-1832) (<i>Paphia senescens</i>) 1.8m, coll by S Panin.	27,150 ± 1520
UGa-1166. (R-1832) (<i>Cardium edule</i>) 1.8m, coll by S Panin.	6950 ± 150
UGa-1167. (R-1832) (<i>Chione gallina</i>) 1.8m, coll by S Panin.	7440 ± 200
UGa-1168. (R-1832) (<i>Paphia</i> sp) 1.8m, coll by S Panin.	13,560 ± 390
UGa-1179. (R-1832) (<i>Ostrea edulis</i>) 1.8m, coll by S Panin.	>40,000
UGa-1164. (R-1833) (<i>Paphia senescens</i>) 2.8m (45° 03' 00" N, 29° 21' 40" E), coll by S Panin.	>40,000
UGa-1169. (R-1833) (<i>Cardium edule</i>) 2.8m, coll by S Panin.	5920 ± 140
UGa-1184. (R-1833) (<i>Chione gallina</i>) 2m, coll by S Panin.	6460 ± 100
UGa-1151. (R-1834) (<i>Paphia senescens</i>) 3.2m (45° 04' 10" N, 29° 21' 45" E), coll by S Panin.	>40,000

UGa-1165. (R-1834) (*Paphia senescens*) >40,000
Split of UGa-1151, same sp coll by S Panin from 3.2m.

UGa-1170. (R-1834) (*Cardium edule*) 9920 ± 100
3.2m, coll by S Panin.

UGa-1185. (R-1834) (*Ostrea edulis*) 12,080 ± 120
3.2m, coll by S Panin.

UGa-735. (R-DD27), Sf Gheorghe 9390 ± 110
(*Cardium edule*, *Ostrea edulis*, *Cerithium vulgatum*, *Chione gallina*, *Mytilus galloprovincialis*) 19m (44° 59' 59" N, 29° 17' 50" E), coll by N Mihăilescu.

UGa-1160. (R-1671) 4950 ± 220
(*Cardium edule*) 0.5m (45° 12' 08" N, 29° 23' 10" E), coll by D C Jipa.

UGa-1150. (R-1831) 5430 ± 40
(*Cardium edule*) 0.8m (45° 01' 55" N, 29° 20' 50" E), coll by S Panin.

Sfintu Gheorghe Delta series

Shell deposits of Sfintu Gheorghe I. Delta (Panin, 1976).

UGa-705. (R-1659) 22,910 ± 490
(*Ostrea edulis*, *Paphia senescens*) 2.5m (45° 07' 56" N, 29° 22' 21" E),
coll by D C Jipa.

UGa-708. (R-1566) 14,240 ± 150
(*Ostrea edulis*, *Paphia senescens*) 0.6m (45° 08' 00" N, 29° 22' 23" E),
coll by S Panin.

Caraorman formation series

Mostly shell deposits of Sulina Delta stage of Danube Delta (Panin, 1976).

UGa-883. (R-1546) (*Chione gallina*) 5610 ± 80
3m (45° 12' 00" N, 29° 24' 08" E), coll by S Panin.

UGa-884. (R-1546) (*Cardium edule*) 5530 ± 80
3m, coll by S Panin.

UGa-734. (R-1735) 5520 ± 80
(*Cardium edule*, *Monodacna caspia*, *Dreissena polymorpha*, etc) 1.8m
(45° 12' 10" N, 29° 24' 31" E), coll by N Panin.

UGa-704. (R-1736) 7140 ± 90
(*Cardium edule*, *Dreissena polymorpha*, *Donacilla cornea*, etc) 1.8m
(45° 12' 12" N, 29° 24' 56" E), coll by N Panin.

UGa-1796. (R-2150) (*Cardium edule*) 6660 ± 260
1.2m (45° 07' 55" N, 29° 22' 50" E), coll by N Panin.

UGa-1798. (R-2150) (<i>Chione gallina</i>)	4960 ± 310
1.2m, coll by N Panin.	
UGa-1808. (R-2149) (<i>Chione gallina</i>)	3680 ± 360
1m (45° 07' 30" N, 29° 22' 55" E), coll by N Panin.	
UGa-1812. (R-2149) (<i>Cardium edule</i>)	7810 ± 490
1m, coll by N Panin.	
UGa-1813. (R-2149) (<i>Spisula subtruncata</i>)	15,650 ± 2730
1m, coll by N Panin.	
UGa-709. (R-1563)	5660 ± 100
(Ostrea edulis, Donacilla cornea, Donax trunculus, etc) 0.8m (45° 05' 00" N, 29° 24' 46" E), coll by S Panin.	
UGa-1173. (R-1826) (<i>Cardium edule</i>)	6260 ± 160
2m (45° 04' 45" N, 29° 24' 00" E), coll by D C Jipa.	
UGa-1174. (R-1826) (<i>Chione gallina</i>)	13,360 ± 260
2m, coll by D C Jipa.	
UGa-1175. (R-1826) (<i>Mytilus galloprovincialis</i>)	3340 ± 110
2m, coll by D C Jipa.	
UGa-1178. (R-1826) (<i>Paphia discrepans</i>)	8800 ± 210
2m, coll by D C Jipa.	
UGa-1072. (R-1827) Peat	4750 ± 110
2.5m (45° 04' 45" N, 29° 24' 02" E), coll by D C Jipa.	
UGa-1177. (R-1827) (<i>Cardium edule</i>)	5150 ± 230
2.5m, coll by D C Jipa.	
UGa-1180. (R-1828) (<i>Cardium edule</i>)	3200 ± 90
2m (45° 04' 45" N, 29° 24' 08" E), coll by N Panin.	
UGa-1094. (R-1828) Peat	3910 ± 80
2m, coll by N Panin.	
UGa-1182. (R-1828) (<i>Chione gallina</i>)	2580 ± 110
2m, coll by N Panin.	
UGa-1183. (R-1828) (<i>Spisula subtruncata</i>)	4370 ± 220
2m, coll by N Panin.	
UGa-1156. (R-1829) (<i>Cardium edule</i>)	3440 ± 160
2.8m (45° 04' 45" N, 29° 24' 12" E), coll by S Panin.	
UGa-1158. (R-1829) (<i>Chione gallina</i>)	4470 ± 210
2.8m, coll by S Panin.	

UGa-1181. (R-1830) (*Cardium edule*) 4350 ± 140
1.55m (45° 04' 45" N, 29° 24' 18" E), coll by S Panin.

UGa-1187. (R-1830) (*Chione gallina*) 4760 ± 310
1.55m, coll by S Panin.

UGa-711. (R-1570) 3540 ± 70
Shell from Lumina fossil bar of Sulina Delta stage of Danube Delta (Panin, 1976) (*Ostrea edulis*, *Cardium edule*, *Chione gallina*, etc) 2m (45° 02' 22" N, 29° 27' 20" E), coll by S Panin.

UGa-712. (R-1749) 8130 ± 100
Shell from Roşu fossil bar series of Sulina Delta stage of Danube Delta (Panin, 1976) (*Cardium edule*, *Paphia* sp, *Mytilus galloprovincialis*) 1.8m (45° 02' 46" N, 29° 30' 48" E), coll by N Panin.

Ivancea fossil bar series

Shell deposits of Sulina Delta stage of Danube Delta (Panin, 1976).

UGa-1171. (R-1824) (*Corbula mediterranea*) 2590 ± 200
1.25m (45° 05' 00" N, 29° 31' 30" E), coll by S Panin.

UGa-1172. (R-1824) (*Cardium edule*) 4820 ± 110
1.25m, coll by S Panin.

UGa-1188. (R-1824) (*Spisula subtruncata*) 3170 ± 290
1.25m, coll by S Panin.

UGa-1801. (R-1902) 3570 ± 180
(*Cardium edule*) 1.5m (45° 00' 04" N, 29° 30' 40" E), coll by N Panin.

Letea formation series

Shell deposits of Sulina Delta stage of Danube Delta (Panin, 1976).

UGa-714. (R-1553) 4850 ± 80
(*Cardium edule*, *Ostrea edulis*, *Spisula subtruncata*, etc) 1m (46° 16' 25" N, 29° 29' 35" E), coll by S Panin.

UGa-715. (R-1540) 3710 ± 70
(*Ostrea edulis*, *Chione gallina*, *Chlamys glabra*, *Cardium edule*, *Mytilus galloprovincialis*) 0.8m (45° 16' 22" N, 29° 31' 56" E), coll by S Panin.

UGa-716. (R-1716) 2730 ± 70
(*Ostrea edulis*, *Cardium edule*) 1.2m (45° 15' 36" N, 29° 33' 32" E), coll by N Panin.

UGa-697. (R-1711) 3180 ± 70
(*Mytilus galloprovincialis*, *Spisula subtruncata*, *Dreissena polymorpha*, etc) 2.5m (45° 14' 24" N, 29° 35' 25" E), coll by N Panin.

UGa-698. (R-1635) Grindul Cherhanoi **2640 ± 70**
 (*Spisula subtruncata*, *Ostrea edulis*, *Mytilaster lineatus*, etc) 1.5m (45° 14' 06" N, 29° 35' 20" E), coll by D C Jipa.

UGa-696. (R-1534) Grindul Schiopu **4610 ± 70**
 (*Chione gallina*, *Donacilla cornea*, *Donax trunculus*, etc) 2m (45° 12' 45" N, 29° 35' 46" E), coll by S Panin.

UGa-717. (R-1648) **3700 ± 70**
 (*Ostrea edulis*, *Monodacna caspia*, *Cardium edule*, etc) 0.2m (45° 18' 00" N, 29° 33' 13" E), coll by D C Jipa.

Letea formation series

Shell deposits of Chilia Delta stage (Panin, 1976).

UGa-608. (R-1018) **3530 ± 70**
 (*Cardium edule*, *Spisula subtruncata*, *Chione gallina*, etc) 0.3m (45° 23' 06" N, 29° 33' 50" E), coll by S Panin.

UGa-627. (R-1124) **4470 ± 90**
 (*Ostrea edulis*, *Spisula subtruncata*, *Paphia rugata*, etc) 0.5m (45° 21' 45" N, 29° 30' 32" E), coll by D C Jipa.

UGa-628. (R-1012) **2930 ± 80**
 (*Cardium edule*, *Ostrea edulis*, *Donacilla cornea*, etc) 0.6m (45° 21' 45" N, 29° 33' 43" E), coll by S Panin.

UGa-1795. (R-3103) Periprava **3690 ± 120**
 (*Cardium edule*) 2.1m (45° 22' 45" N, 29° 33' 30" E), coll by S Panin.

UGa-1797. (R-3102) Periprava **3890 ± 110**
 (*Cardium edule*) 2.05m (45° 22' 54" N, 29° 33' 40" E), coll by S Panin.

UGa-1804. (R-3037) Sfistofca **1540 ± 170**
 (*Chione gallina*) 2.2m (45° 16' 50" N, 29° 36' 12" E), coll by S Panin.

UGa-1823. (RS-1) Setul Cardon **Modern**
 Animal bones from 2.5m (45° 16' 35" N, 29° 12' 30" E), coll by M Settel.

UGa-1809. (R-2131) **2320 ± 170**
 Shell (*Cardium edule*) represents Crasnicol fossil bar series of Sfintu Gheorge II Delta stage (Panin, 1976), from 1m (44° 52' 00" N, 29° 19' 00" E), coll by N Panin.

Sf Gheorge arm series

Shell deposits of the Sfintu Gheorge II Delta stage (Panin, 1976), zone S of Sf Gheorge arm.

UGa-1792. (R-1934) (*Spisula subtruncata*) **1670 ± 210**
 2m (44° 50' 30" N, 29° 30' 00" E), coll by S Panin.

UGa-1790. (R-1934) (*Cardium edule*) 1470 ± 160
2m, coll by S Panin.

UGa-1788. (R-1927) Cherhanaua Ciotic 150 ± 110
(*Cardium edule*) 1m (44° 49' 20" N, 29° 30' 00" E), coll by S Panin.

UGa-1163. (R-1802) Grindul Tigănuș 1760 ± 70
(*Corbula mediterranea*) 0.85m (44° 53' 40" N, 29° 21' 06" E), coll by
D C Jipa.

UGa-1811. (R-1943) 1210 ± 970
(*Cardium edule*) 0.8m (44° 48' 02" N, 29° 17' 18" E), coll by S Panin.

UGa-1799. (R-1938) 2070 ± 210
(*Cardium edule*) 1.8m (44° 48' 50" N, 29° 14' 30" E), coll by S Panin.

UGa-1825. (R-2246) Grindul Coșna 2100 ± 160
(*Cardium edule*) 2.5m (44° 49' 00" N, 29° 12' 30" E), coll by S Panin.

UGa-1800. (R-2729) 1930 ± 160
(*Cardium edule*) 0.85m (44° 47' 50" N, 29° 10' 10" E), coll by N Panin.

Razelm Lake series

Shell deposits of Sfintu Gheorge II Delta stage (Panin, 1976).

UGa-739. (R-33R4b) Modern
(*Monodacna caspia*, *Hypanis plicatus*, *Adacna vitrea*, *Cardium edule*)
2.2m (44° 59' 24" N, 29° 02' 25" E), coll by N Mihăilescu.

UGa-740. (R-34R17) 1060 ± 60
(*Cardium edule*, *Monodacna caspia*, *Hypanis plicatus*, *Abra ovata*)
2.2m (44° 56' 35" N, 28° 48' 45" E), coll by N Mihăilescu.

UGa-742. (R-35R30b) 1090 ± 60
(*Monodacna caspia*, *Hypanis plicatus*, *Cardium edule*, *Abra ovata*)
2.2m (44° 48' 58" N, 28° 59' 33" E), coll by N Mihăilescu.

UGa-743. (R-36R51b) Golvita Lake 1290 ± 60
(*Cardium edule*, *Monodacna caspia*, *Abra alba*, *Rissoa splendida*, *Hypanis plicatus*) 2.2m (44° 43' 45" N, 28° 56' 58" E), coll by N Mihăilescu.

Rînee fossil bar series

Deposits of Coșna-Sinoe Delta stage (Panin, 1976).

UGa-1806. (R-2671) 1510 ± 200
(*Cardium edule*) 0.3m (44° 45' 30" N, 29° 06' 00" E), coll by N Panin.

UGa-1815. (R-2675) 3080 ± 490
(*Cardium edule*) 0.7m (44° 44' 50" N, 29° 03' 30" E), coll by N Panin.

Lupilor fossil bar series

Shell deposits of Coșna-Sinoe Delta stage (Panin, 1976).

- UGa-600. (R-3) 2420 ± 100**
(*Cardium edule*) 0.2m (44° 38' 23" N, 28° 50' 12" E), coll by N Panin.
- UGa-601. (R-4) 1890 ± 70**
(*Chione gallina*, *Pitar rudis*, *Donax* sp, *Donacilla cornea*, *Paphia* sp)
0.3m (44° 38' 24" N, 28° 50' 12" E), coll by N Panin.
- UGa-1805. (R-2602) 2160 ± 580**
(*Cardium edule*) 0.6m (44° 40' 00" N, 28° 22' 56" E), coll by S Panin.
- Histria formation series**
Shell deposits of Coşna-Sinoe Delta stage (44° 30' 18" N, 28° 45' 50" E) (Panin, 1976), coll by N Panin.
- UGa-592. (R-1) 2060 ± 70**
(*Cardium edule*) 1.2m.
- UGa-593. (R-2) 1490 ± 70**
(*Mytilus galloprovincialis*, *Chione gallina*, *Donax* sp, *Donacilla* sp, *Tellina* sp) 1m.
- Matita depression series**
Shell deposits of back zone of initial spit.
- UGa-745. (38DD-600) 3400 ± 180**
(*Cardium edule*, *Dreissena* sp, *Abra alba*, *Hydrobia ventrosa*, *Monodacna caspia*) 3m (45° 17' 10" N, 29° 22' 28" E), coll by N Mihăilescu.
- UGa-746. (39DD-604) 4600 ± 240**
(*Cardium edule*, *Dreissena polymorpha*) 2.15m (45° 16' 57" N, 29° 22' 11" E), coll by N Mihăilescu.
- UGa-747. (40DD-604) 5610 ± 210**
(*Cardium edule*, *Hydrobia ventrosa*, *Monodacna caspia*, etc) 2.15m, coll by N Mihăilescu.
- UGa-748. (R-42 Bcg-2b+3) Belciug Lake Modern**
(*Dreissena polymorpha*) 10.5m (44° 57' 00" N, 29° 25' 12" E), coll by N Mihăilescu.
- UGa-1791. (R-3038) Matita II 3430 ± 80**
(*Cardium edule*) 1.8m (45° 17' 15" N, 29° 20' 12" E), coll by N Panin.
- UGa-1787. (R-3131) Lopatna 1 4300 ± 90**
(*Abra* sp) 1.5m (45° 17' 10" N, 29° 21' 00" E), coll by S Panin.
- UGa-1786. (R-3132) Lopatna 2 4390 ± 100**
(*Cardium edule*) 1.5m, coll by S Panin.
- UGa-724. (R-1588) Grindul Chilia 1030 ± 70**
Shell from back zone of initial spit of Chilia promontory, 0.4m (45°

19' 40" N, 29° 18' 00" E) (*Dreissena polymorpha*, *Monodacna caspia*, *Adacna vitrea*, *Viviparus* sp), coll by S Panin.

Roşca-Suez bar series

Shell deposits of back zone of initial spit.

UGa-1810. (R-3036) Suez (Suez Channel) 1850 ± 70
(*Cardium edule*) 1.8m (45° 18' 30" N, 29° 23' 55" E), coll by N Panin.

UGa-1807. (R-3041) Rosca (Rosca Channel) 1380 ± 70
(*Cardium edule*) 2m (45° 20' 30" N, 29° 22' 00" E), coll by N Panin.

UGa-718. (R-1735) Grindul Stipoc 2770 ± 70
Lamellibranches and fragments from back zone of initial spit on Stipoc Bar, 0.8m (45° 15' 55" N, 29° 13' 30" E), coll by N Panin.

Mamaia littoral bar series

Shell deposits from bore hole on Mamaia littoral bar.

UGa-607. (R-5) 26,920 ± 700
(*Spisula subtruncata*, *Chione gallina*, *Gafrarium* sp, etc) 22 to 23m (44° 16' 29" N, 28° 37' 17" E), coll by G Caraivan.

UGa-629. (R-9) 3130 ± 80
(*Cardium edule*, *Mytilus galloprovincialis*, *Chione gallina*, *Donacilla cornea*, *Nassarius reticulatus*) 6m, coll by G Caraivan.

UGa-1794. (RG-1) 3050 ± 90
Fluviatile deposit from Cricov R on alluvial plain of Ialomita R tributaries (44° 45' 32" N, 25° 56' 17" E) (Ghenea *et al*, 1971). (*Cepaea vindobonensis*, *Planorbis corneus*, *Tropidiscus planorbis*, and *Valvata piscinalis*) 0.6m, coll by C Ghenea.

Prahova River Valley series

Samples from alluvial plain of Ialomita R tributaries (Ghenea *et al*, 1971).

UGa-1803. (RG-2) 5550 ± 3810
Fluviatile deposit, gastropod fragments, 0.5m (44° 46' 49" N, 26° 20' 16" E), coll by C Ghenea.

UGa-1822. (RG-3) 3860 ± 90
Wood, 0.5m, coll by C Ghenea.

UGa-1824. (RG-4) Năianca valley 2550 ± 320
Bone, 0.3m (45° 03' 10" N, 26° 30' 07" E), coll by C Ghenea.

Dîmbovita Valley series

Samples from alluvial plain of Ialomita R tributaries (Ghenea *et al*, 1971).

UGa-1821. (RG-5) 2460 ± 70

Wood, 0.45m (44° 25' 56" N, 26° 06' 22" E), coll by C Ghenea.

UGa-1820. (RG-6) 2410 ± 60

Peat, 0.5m (44° 26' 00" N, 26° 04' 58" E), coll by C Ghenea.

ARCHAEOLOGIC SAMPLES

Romania

Argamum series

Samples from Argamum, ancient Greek-Roman city on Dolojman promontory.

UGa-1816. (RA-1) 2040 ± 100

Dirt and charcoal, 0.5m (44° 24' 15" N, 28° 24' 30" E), coll by D C Jipa.

UGa-1817. (A-1) 1980 ± 130

Charcoal, coll by D C Jipa.

UGa-1819. (A-2) 2240 ± 70

Charcoal, coll by D C Jipa.

REFERENCES

- Ghenea, C, Bandrabur, T, Mihăilă, N, Ghenea, A, and Giurgea, P, 1971, Carte du Quartenaire: Atlas Geol 2, 1:1,000,000, Inst Geol, Bucharest.
- Noakes, J E and Brandau, B L, 1976, University of Georgia radiocarbon dates V: Radiocarbon, v 18, p 362-370.
- Panin, N, 1976, Some aspects of fluvial and marine processes in Danube Delta: Ann Inst Geol Geophys, v 50, p 149-165, Bucuresti.
- Panin, N, Panin, S, Herz, N, and Noakes, J, 1983, Radiocarbon dating of Danube delta deposits: Quaternary Research, v 19, no. 2, p 249-255.