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Palaeobiology

Porcupine in the Late Neogene and Quaternary of Georgia

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ABSTRACT. The porcupine family (*Hystricidae*) is notable for the diversity of fossil and modern forms. Due to vagueness of morphological characters their taxonomy is not yet established. Lately an interesting work by van Weers and Rook was published about the taxonomy of European, Asian and African porcupines in which the authors propose relatively natural and stratigraphically reasonable views. *© 2010 Bull. Georg. Natl. Acad. Sci.*

Key words: *porcupine, Pliocene, Paleolithic, Neolithic.*

Introduction.

The porcupine history in Eurasia starts in the Late Miocene. No earlier remains are found yet. However, for some unspecified data Oligocene age is also proposed. Authentic relicts of porcupines were found in Vallesian (MN10) and Early Turolian (MN11). Smaller forms are attributed to the species *Hystrix parvae* (Kretzoi) and larger and advanced ones to *H. primigenia*. The latter forms are known from the Neogene of Eastern Europe. Stratigraphically *H. primigenia* occurs in the Early and Middle Turolian (MN11/12) and persists nearly to the end of Ruscinian (MN15). It should be noted that relicts of a porcupine (*Hystricinae*) [1], found in the Maeotian sediments of David Gareji desert (Eastern Georgia), most probably belong to a species of *Hystrix* because no other Hystricidae ever inhabited the South Caucasus. Unfortunately, porcupine fossils found in the David Garedji desert were lost and now it is impossible to revise the material.

The Hystricidae family is divided into two subfamilies: relatively primitive, long-tailed *Atherurinae* Lyon (1907) and true porcupines - Hystricinae Murray, 1866. The latter subfamily comprises several modern and fossil forms. In this article we mainly consider species of the genus *Hystrix* from Dmanisi.

Van Weers and Rook [2] significantly simplified porcupunes' taxonomy and synonymised morphologically and stratigrafically similar forms, which undoubtedly will facilitate thorough study of the group under consideration.

Masini and Rook [3] carried out a serious revision of the described porcupines from the reference European localities (Pikermi, Wenze, Perpignan, Etouaires, Perrier) and identified morphological characters specific to the considered forms. Later, Sen [4], considering the aforementioned morphological characters, attributed a porcupine from Perpignan as a new species - *Hystrix depereti*. This form obviously differs from typical species - *H. primigenia* by relatively high crowned teeth and massive incisors, while a larger porcupine from Etouaires is attributed to another species - *Hystrix refossa* Gerv. Thus, in the Late Neogene three species are present in the following stratigraphic order: *H. primigenia, H. depereti* and *H. refossa*; nevertheless phylogenetic relations between them are not yet clear.

Large fossil porcupines easily split into two groups: 1) forms with comparatively brachyodont teeth of Miocene and Pliocene age and 2) porcupines having nearly as hypsodont teeth as the representatives of modern species of the genus *Hystrix*. The mentioned division is based on tooth crown height to teeth grinding surface length ratio [2].

The Dmanisi porcupine is undoubtedly similar to the second group by having relatively large and hypsodont teeth. Phylogenetic kinship with the afore-mentioned forms is also confirmed by the presence of four roots on M_1 and M_2 (unlike *H. cristata.* In this species the same teeth have three roots). Presumably, the Dmanisi porcupine may be considered as an ancestor of a modern *H. indica.* The Dmanisi form has larger teeth, yet the difference in size between Dmanisi porcupine and *H. indica* is negligible.

Tchernov [5] described porcupines from Ubeidja and attributed them to *H. indica*, stating that the Ubeidija porcupine is morphologically identical to *H. angressi* apart from having relatively small dentition. At the same time Weers and Rook synonymise *H. angressi* with *H. refossa*. Several European and Western Asian species as well - *H .major, H. etruscus*, *H. angressi* and South African *H. makapensis* are synonymised by the mentioned authors with *H. refossa* as well [2]. We consider that the Dmanisi porcupine and the one found in the Mousterian layers of Tsutskhvati cave [6] should be attributed to *H. refossa*.

Hysrtix refossa Gervias, 1852

Figs.1-4

Synonymy: *H. major* Gervias, 1859; *H. etrusca* Bosco, 1898; *H. angressi* Frenkeli, 1970; *H. makapensis* Greenwood, 1958; *Hystrix* sp. Vekua, 1978.

Site: Dmanisi, end of Villafranchian, MN17.

Fossil material: D2718 - a fragment of maxillary bone with complete tooth rows on both sides (P^2-M^3); D4120 - upper left, very worn, isolated M^1; D4140 - isolated, a little alveolar with broken end, upper incisor; D4509 - nearly complete mandible with ascending branch on both sides, with incisors and P_4-M_3, on the left hemimandible and with incisor and P_4 – M_2 on the right one; D3878 - fragment of a right hemimandible with moderately warn P_4 and very worn M_1.

Description and comparison:

The Dmanisi *Hystrix refossa* is a comparatively large rodent with teeth measurements nearly similar to *H. primigenia* and *H. depereti.* However there are differences in morphology. The Dmanisi porcupine has sufficiently hypsodont teeth; ratio of crown height to length of occlusal surface of its teeth always exceeds 100. The same ratio is characteristic of the teeth of *H. refossa* and also of the representatives of modern *Hystrix* subspecies.

The Palate of the Dmanisi porcupine is longitudinally slightly concave in the middle in the form of a narrow groove. Anterior edge of the choana is rounded and reaches the middle of M^3. On maxilla tooth rows are not parallel to each other but slightly broadened mesially (Fig.1).

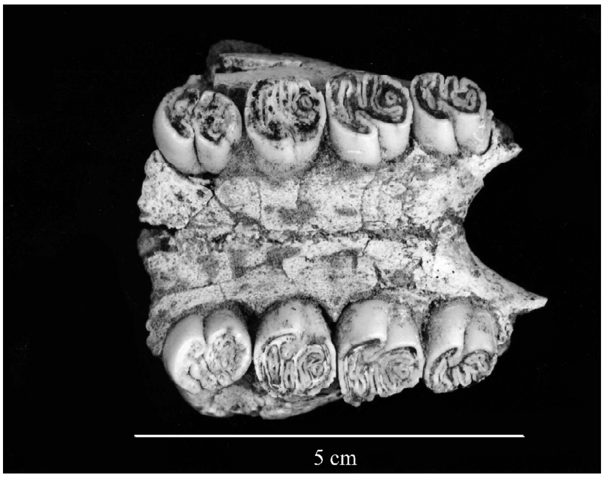

Fig. 1. Dmanisi *Hystrix (Hystrix) refossa* Gerv., maxilla, occlusal view.

P^4 is weakly worn, it is obliquely inserted in maxilla and inclined backwards towards other teeth. All the four roots are weak, isolated, with open pulp. Lingual hypoflexion is deep and joins the labial paraflexion and thus the anterior part is separated. At the labial edge of the tooth three short folds are present.

M^1 and M^2 have nearly the same size, somewhat elongated, moderately worn, labially with three folds.

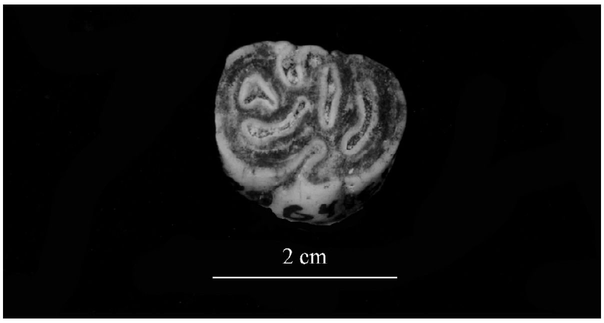

Fig. 2. Dmanisi *Hystrix (Hystrix) refossa* Gerv., M^1 dex, occlusal view.

Distal crescent like folds are longer than others. There are three isolated knots on M^1 and two on M^2; M^3 is rather similar to the previous molars.

The upper incisor (D4140) is represented only by the anterior half. Occlusal surface has the shape of elongated rectangle, much curved arclike. Yellow enamel covers only the upper part of the tooth and expands a bit to the sides.

The dimensions of the incisor are: width - 6.7 mm, antero-posterior diameter – 8 mm. It should be remarked that in *H. refossa* upper incisor width is 5.6 mm and antero-posterior diameter – 7 mm. Obviously, the Dmanisi porcupine has somewhat stronger and massive upper incisors.

Almost complete mandible (D4509) of porcupine is present in the Dmanisi collection. There are incisor, P_4, M_1 and M_2, on the right, while in the left incisor, P_4, M_1, M_2, and M_3. The mandible is rather massive (the height of the horizontal branch at M_1 level reaches 27 mm, the width at the same point is 22.4 mm), rather large *foramen mentale* is remarkable on the mandible (DAP is 4.3, the height – 3.2 mm). P_4 is not yet worn, while molars are moderately worn. Lower incisors, in comparison with the upper ones, are less curved, they are rather robust. Enamel covers the anterior part and expands on the sides. Dimensions of the incisor are: length – 92 mm, DVL - 7.4 mm, DAP – 8.5 mm.

P_4 has the shape of an elongated cylinder, crown is high enough. A deep fold is developed labially, the groove of which reaches the tooth root. Lingually four more folds are observable, one of them - a mesofacetid penetrates deeply into the occulsal surface. Root pulps are open.

M_1 and M_2 have similar morphology: labially with well developed hypofossetid and lingually with similarly developed mesofossetid. There are four isolated knots on the occlusal surface of the tooth. A peculiar character of M_1 is the existence of an isolated enamel column on the posterior wall of the labial fold. Similar column is observed on the left M_1 of the same jaw as well. Occurrence of the mentioned additional column is rare in porcupines but *Hytrix major,* which is considered to be a synonym of *H. refossa,* has it on M_3 [7]. It is possible that this character is peculiar to *H. refossa*.

General size and morphology (folds, fossetids) of Dmanisi lower dentition is similar to *H. angress,* which is also considered as a synonym of *H. refossa* [5]. According to our observations the Dmanisi porcupine differs from the Ubeidija porcupines only by the presence of more fossets and fossetids, which may be explained by their intense wear.

Fig. 3. Dmanisi *Hystrix (Hystrix) refossa* Gerv., mandible, lateral view.

Dmanisi *H. refossa* differs from the typical *H. primigenia* by having somewhat smaller teeth, and more significantly by difference in the development of folds and distribution of elements on the occlusal surface. The Dmanisi porcupine has deep lingual and labial folds that extend vertically along the whole length of the crown, reaching roots. The mentioned folds are observable even on very strongly worn teeth.

Although it has been demonstrated [8,9] that the occlusal paterrns may show a great variability depending on the stage of wear of the tooth, in the case of *H. primigenia* these folds are relatively less developed, so that on moderately worn teeth their traces are weak and on intensively worn off teeth they completely disappear; the presence of an additional column in the Dmanisi porcupine is another remarkable difference from the Pikermi form as well.

Modern *H. cristata* and fossil *H. subcristata* differ from the Dmanisi form by smaller dimensions, lesser number of closed knots and absence of isolated columns.

The Dmanisi porcupine differs from modern *H. hirsutirostris* by larger teeth and quantity of roots (four

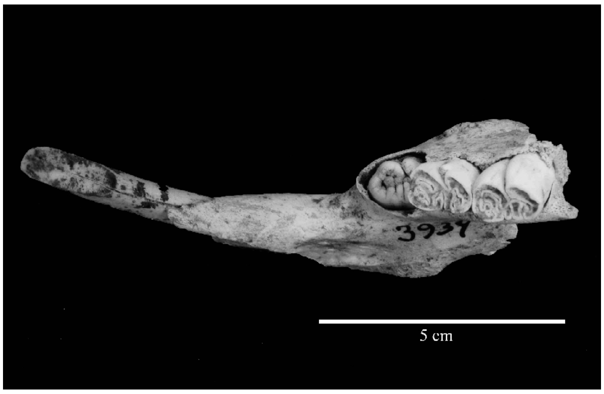

Fig. 4. Dmanisi *Hystrix (Hystrix) refossa* Gerv., mandible, occlusal view.

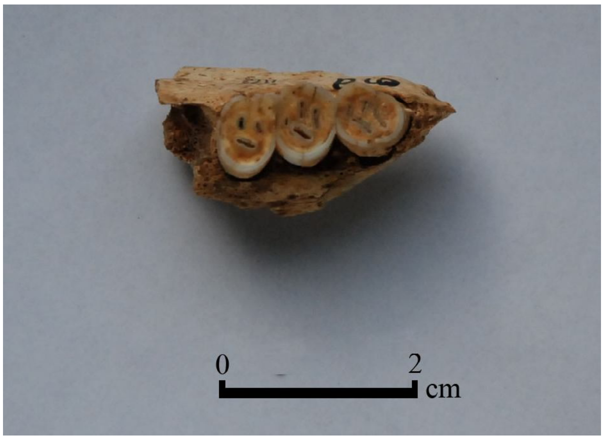

Fig. 5. Tetri Mghvime. *Hystrix (Acanthion) vinogradovi*, maxilla (M^1-M^3, sin. Eneolithic), occlusal wiev.

and three roots respectively). Researchers consider this character to be diagnostic.

Some years ago Sharapov synonymised *H. trofimovi* to *H. primigenia* [10]. This idea was not shared by N. Shevyreva, who defined the Kuruksai porcupine as a new species – *H. trofimovi* [11]. Later Weers and Rook synonymised it with *H. primigenia* [2]. In any case the fossil porcupine from Kuruksai is different from the Dmanisi form by having three roots (four roots in Dmanisi) and missing of postmetaflexes.

The Dmanisi porcupine significantly differs in size from the Binagady *H. vinogradovi* (the latter is smaller) – a species defined by Argyropulo in 1941 from Binagady (Middle Pleistocene). However, he did not provide any description of the fossil [12], only mentioning that the Binagady porcupine is the smallest among modern forms. A Comparatively vast description of the Binagady fossil porcupine is given by I. Gromov [13].

Somewhat later porcupine fossils were found in the Acheulian-Mousterian cultural layers of the Kudaro cave. According to Baryshnikov and Baranova, the Kudaro porcupine is a subspecies of the Binagady porcupine and is defined as *H. vinogradovi kudarensis* [14], yet Weers [15] attributes the Binagady porcupine to the subspecies *Acanthion* [15].

Study of the Dmanisi porcupine naturally involved revision of available Quaternary porcupine material from Western Georgia. The major part of the fossils comes from the excavations of archaeological sites. Relatively good material is found in Tetri Mghvime (Tskaltubo region, Upper Paleolithic, Eneolithic). The very fact that porcupine remains are found in the Eneolithic strata is of great importance, because it indicates that this rodent inhabited Western Georgia during the Holocene and was a rare element of Quaternary fauna.

Mainly small-sized porcupines inhabited Western Georgia during the Pleistocene and Holocene. It does not differ essentially from the Binagady and Kudaro forms in size and morphology.

It must be also noted that [15] united small-sized porcupines, found in the Southern Caucasus and Central Europe, fall into the subgenus *Acanthion*. It is clear that *H. vinogradovi* from Binagady and *H. vinogradovi kudarensis* from Kudaro fall into this subgenus.

As already remarked above, the porcupines of Western Georgia do not differ essentially in their size and morphological features of teeth from the small-sized porcupines of Kudaro, Binagady and Europe, that are united into the subgenus *Acanthion* of the genus *Hystrix*. That is why we attribute porcupines found in the Pleistocene-Holocene sediments of Western Georgia to the subgenus *Acanthion* without hesitation.

Below we give a brief description of porcupine teeth from Tetri Mghvime:

Hystrix (Acanthion) vinogradovi Argyropulo, 1941
Synonyms (according to Weers):
H. shaubi Brunner, 1954
H. cristata minor Malez, 1963
H. vinogradovi atavus Janossy, 1972
H. vinogradovi kudarensis Baryshnikov, Baranova 1982.

Material: Fragment of maxilla (1175, sin., Eneolithic) with rather worn M1/-M3/; fragment of maxilla (916, dex., Paleolithic) with only one almost unworn (P4/) tooth; mandible (1287, sin., Eneolithic) with complete tooth row (P/4-M/3); fragment of mandible (1355, sin., Eneolithic) with slightly worn M/2; upper incisor (520, sin., Eneolithic); upper incisor (800, Paleolithic). All material comes from the Upper Paleolithic and Eneolithic strata of Tetri Mghvime, together with fossils of the bear and other animals.

There is nearly nothing to say about porcupine maxilla from Tetri Mghvime because of its very fragmentary nature. Only one fragment of maxilla (1175) is of

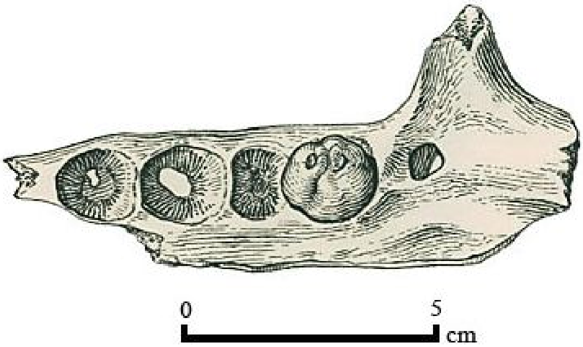

Fig. 6. Tetri Mghvime. *Hystrix (Acanthion) vinogradovi*, maxilla (P^4, dex. Paleolithic), occlusal view.

Fig. 7. Tetri Mghvime. *Hystrix (Acanthion) vinogradovi,* mandible (P_4-M_3 sin. Eneolithic), lateral view.

interest, on which three well-preserved molars (M1/-M3/) are preserved; they remind us a much diminished copy of the upper jaw and teeth of a large-sized porcupine.

Actually all teeth of porcupine are present in Tetri Mghvime: isolated upper incisor, P4/ (N916) attached to a small fragment of maxilla and all three molars in the second upper jaw (1175).

P4/ is almost unworn. On the occlusal surface hypoflexia and mesoflexia are transversally connected and protruded forward in the form of an obtuse angle. In the mesial and distal parts of tooth round form fossets are located. Lingual groove (hypoflexia) is well visible on the upper part of the crown; however, the vertical groove disappears towards the root. We should note here that the small porcupine from Western Georgia has four roots, of which medial roots are weak and separated, and buccal roots are united into one massive root. Hypoflexia is obliquely protruded forward a little and connected with mesoflexia, so that the distal part of the tooth seems separated as an independent cusp.

Molars are placed close to one another. Teeth are small and almost equal in size. Signs of two meso- and hypoflexia are notable on the buccal wall of M1/ and M2/.

Mandible and lower teeth. An almost complete mandible with tooth row (P/4-M/3) is found in Tetri Mghvime, as well as a fragment of mandible with weakly worn M/2.

The mandible of *H. (Acanthion) vinogradovi* from Tetri Mghvime has somewhat different morphological features from other porcupines, especially from *H. indica*. First of all there is a size difference. The porcupine from Tetri Mghvime is much smaller, besides it differs by reduced robustness, by location of joint surface and *foramen mentale*, by the height and length of the ascending branch and other features.

Lower teeth are in mid wear stage and have a diagonally elongated shape. On the occlusal surface all fossets are looped. Shape and number of loops on teeth are different. P/4 displays three knotted fossets, M/1 - two, M/2 - three and M/3 – five.

General remarks

It is noteworthy that in Eastern Georgia there is no occurrence of porcupine during the entire Pleistocene and Holocene regardless the fact that there are a lot of paleontological and archaeological sites of this age. The situation is opposite in Western Georgia - porcupine remains are common during the Pleistocene and persist until the very end of the Holocene.

According to Pidoplichko [16], the porcupine is an inhabitant of xerophyte landscape, where snow cover is negligible or nonexistent. In the Pliocene-Holocene xerophyte landscape was well developed in Eastern Georgia but in Western Georgia such landscapes occupied a limited area.

Some scientists consider that intense growth of forests in Western Georgia caused extinction of porcupines in the Holocene. This assumption seems unconvincing. Western Georgia never suffered from the lack of vast regions covered with forests. It is more acceptable to consider that the prehistoric man of the Early and Late Stone Age often used porcupines for subsistence and intensively hunted them as they are easy to catch; finally this caused the extinction of the rodent.

Baryshnikov's and Baranova's [14] view on the extinction of porcupines in Western Georgia is worthy of attention. The mentioned authors suppose that the extinction of porcupines in Western Georgia at the end of the Pleistocene was related to glaciation and general fall of temperature. Unfortunately, the authors neglect the facts of existence of porcupines' remains in Tetri Mghvime (Eneolithic, Neolithic), Dzudzuana (Eneolithic) and Tsona (Mesolithic, Eneolithic).

It must be noted that the great glaciation in Russia did not cause essential changes in the composition of fauna of West Georgia. They only mention the vertical down shift of the lower border of snow and glacier by some hundred meters invoked displacement of mountain forms to valleys, which is generally expectable.

Let us recollect that Georgian territory was a peculiar refugium where warm and moderately humid climate, mosaic landscape and favorable living conditions were preserved during the Plio-Pleistocene and later. This refugium conditioned the preservation of relicts of earlier flora and fauna. Here are some facts. The latest anthropoid ape in Eurasia (*Dryopithecus garedziensis,* [17] was found in Gareji desert (Maeotian sediments); In the former Soviet Union territory the genus *Macaca* in

Table 1

Measurements of the upper teeth of hystrix

		H. refossa Dmanisi	H. primigenia Pikermi	H. depereti Perpignan	H. indica Ubeidiya	H. angressi Recent	H. indica Recent	H. vinogradovi kudarensis	H. vinogradovi Arg. Binagadi	H.(Acanthion) vinogradovi Tetri Mghvime (Georgia)
			Weers, Rook 2003		Temov, 1986			Baryshnikov, Baranova, 1982		
Diameter I		8-8.5	7.0	-	8.3	7.0	-	-	-	4.9
$P^4 – M^3$		38	39.3							
P^4	Lengh	9.0	10.8	11.2-11.3	10.5	9.0				
	Width	8.0	11.2	9.9-10.3	9.6	8.0				
M^1	Length	9.0	9.0	9.6-10.8	9.0	7.3	9.4	6.8-7.0	6.5-6.7	5.6
	Width	8.4	10.2	8.0-10.7	7.7	7.7	7.7	5.5-6.3	5.5-5.7	8.0
M^2	Length	9.0	9.8		9.5	8.0				5.6
	Width	8.4	10.8		8.2	7.4				6.4
M^3	Length	8.7	9.0	8.7	9.1	7.5	7.7	6.5+		7.3
	Width	7.4	9.4	9.0	7.6	5.9	6.5	5.5		6.2

Fig. 8. Tetri Mghvime. *Hystrix (Acanthion) vinogradovi*, mandible (P_4-M_3 sin. Eneolithic), occlusal view.

the Pleistocene is known only from the Kudaro cave [18]; In Central and Eastern Europe *Ursus spelaeus* was completely extinct by the end of the Pleistocene and only in Western Georgia (Abkhazia) it is often found in Mesolithic cultural strata [19]; Woodchuck (*Marmota* sp.) does not inhabit Georgia at present, but in the Pleistocene (Zemo Orozmani) and Holocene (Kutaisi environs) it was probably widely spread and in spite of great glaciation in Russia hamster's populations survived until the historical period in Western Georgia [20].

In South Caucasica, in Azerbaijan and Armenia, the porcupine is considered to be a modern faunal element, while in Georgia, some scientists practically exclude the possibility of its occurrence in modern fauna.

V. Shidlovski in his monograph "Identification guide of South Caucasus rodents" [21] does not even mention the porcupine in the list of Georgian fauna. Meanwhile, it has turned out that this rodent is present in Eastern

Fig. 9. Tetri Mghvime. *Hystrix (Acanthion) vinogradovi*, mandible (M_2 sin. Eneolithic), lateral view.

Table 2

Measurements of the lower teeth of hystrix

		H. refossa Dmanisi	H. primigenia Pikermi	H. depereti Perpignan	H. indica Ubeidija	H. angressi Recent	H. indica Recent	H. vinogradovi Kudarensis	H. vinogradovi Arg. Binagady	H.(Acanthion) vinogradovi Tetri Mghvime (Georgia)
			Weers, Rook 2003		Thernov, 1986			Baryshnikov, Baranova, 1982		
Diameter I		8.4	-	-	7.2	7.4	6.3	4.8-4.9	-	-
$P_4 - M_3$		42	41.6-43.4	47.1	_	_	_	29. 7	28.1	24-27
P_4	Lengh	12-13	11.2-11.3	12.3-13.2	8.5	10.8	9.0			8.0
	Width	6.7-9.5	9.9-10.3	10-11.8	7.3	8.2	6.7			6.1
M_1	Length	10.7-11	9.0-11.6	11.1-13.1	9.2	9.0	7.2	7.7-8.2	6.9-8.5	5.3
	Width	7.8-9.5	8.4-9.4	8.9-10.8	8.0	7.5	6.8	6.3-6.9	5.0-6.5	5.5
M_2	Length	11.2-11.6	-	-	10.1	9.6	8.2	-	-	6.3
	Width	7-7.6	-	-	8.3	7.3	7.0	-	-	6.0
M_3	Length	9.3	9.4-9.8	9.6-10.5	9.6	10	8.1	6.0-7.3	5.8-6.7	6.2
	Width	6.6	8.4-8.6	8.4-9.0	7.2	7.4	6.4	5.0-5.6	4.5-5.6	6.4

Georgia (Vashlovani reserve, Kakheti - the territory adjacent to Azerbaijan) [22]. Besides, shepherds and employees of the protected territories often came across porcupines on the mentioned territory. Attention should be paid to rather frequent cases of finding porcupine quills in the Iori river valley. We also found porcupine quills and brought them to Tbilisi as a confirmation of porcupine presence on the territory of Georgia.

As we already mentioned above, some researchers exclude the possibility of porcupine presence on the territory of Georgia. We are far from thinking that the aforementioned researchers stated their ideas without verification of facts. It is more reasonable to assume that porcupines entered Eastern Georgia very recently and reproduced rapidly due to favorable xerophyte landscape and warm climate

In Western Georgia the case is somewhat different. No porcupines are observed in modern fauna but they were abundant during the Pleistocene-Holocene. Remains of porcupines in Western Georgia are mainly represented by leftover bones in cultural layers of Paleolithic and Neolithic sites. At present in Western Georgia porcupine remains have been found at the following cave sites: Tetri Mghvime (Neolithic) [23], Okumi (Lower Paleolithic) [24] Tsona (Mousterian) [25] Ortvala Mghvime (Mousterian, Mesolithic, Eneolithic) [26], Djruchula (Upper Paleolithic) [23] Dzudzuana (Eneolithic) [23], Sakajia (Mousterian) [23] Kudaro (Acheulian, Mousterian) [14;27]. It should be noted that among leftover bones porcupine is represented by few remains and researchers attribute them either to various species or do not determine them at all. As stated above on the territory of Eastern Georgia no porcupine remains were found from Quaternary times.

In 1972, at Kvabebi site (near Sighnaghi, Kakheti region, Eastern Georgia) unique fauna of the Middle Akchagylian age contained two isolated teeth that were presumably attributed to *H.* cf. *primigenia* [28, 29] N. Shevyreva [11] did not share Vekua's determination and assumed that the Kvabebi porcupine was closer to *H. cristata.* We compared the teeth of the Kvabebi porcupine with those of *H. primigenia* and other Pliocene forms once more and assumed that with these two isolated and intensively worn off teeth it is

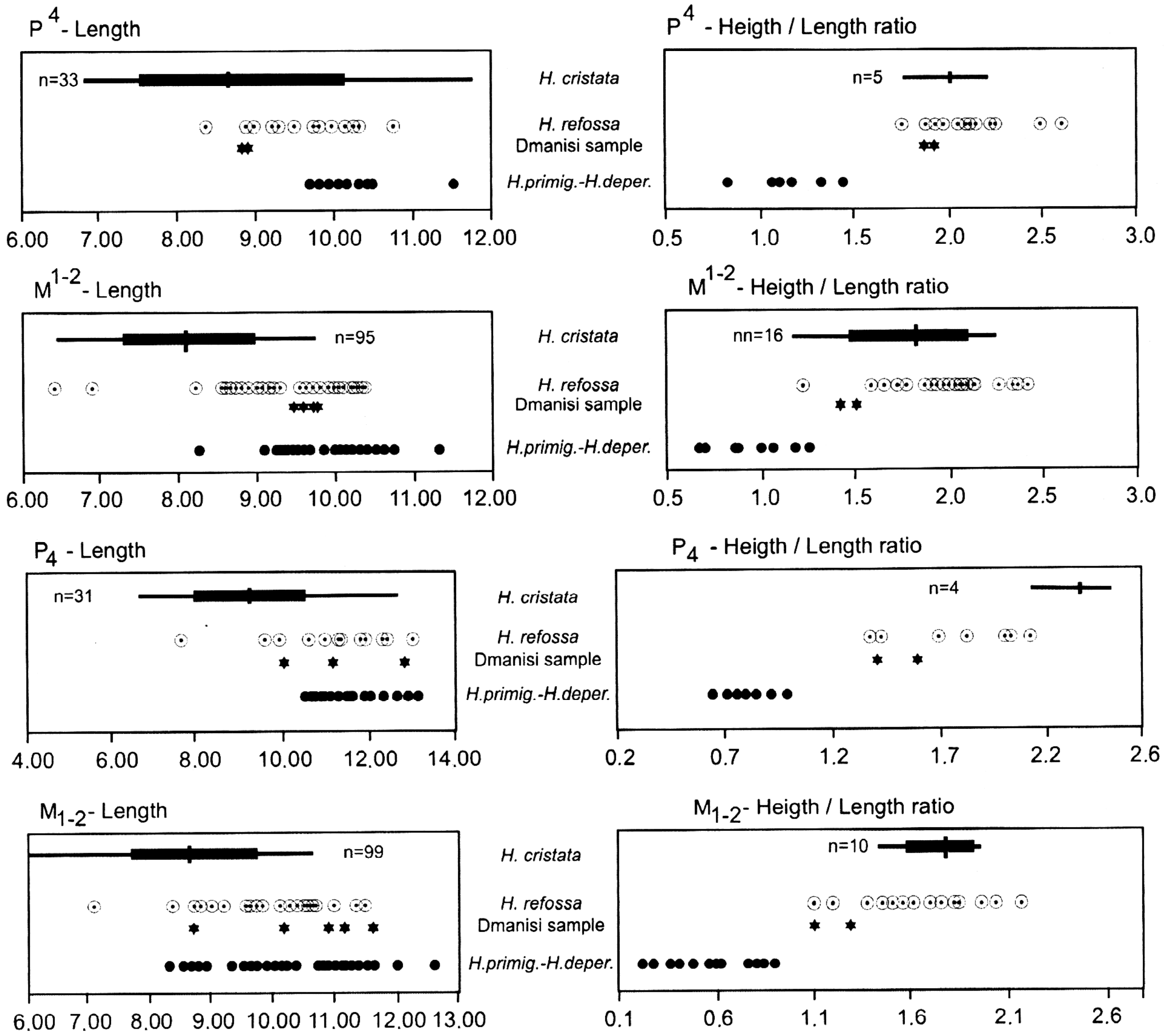

Fig. 10. Lower and Upper dentition (P4/, M1-2/; P/4, M/1-2) graphs showing the range of occlusal length (left column) and hypsodonty index (right column) for extant Hystrix cristata, hypsodontic Plio-Pleistocene species (Hystrix refossa) and brachydont species (Hystrix primigenia, Hystrix depereti). Hystrix specimens from Dmanisi fall in the range of Hystrix refossa. Comparative data from [2,9,15].

impossible to give an exact determination of the species of the Kvabebi porcupine. Nevertheless, it should be remarked that the Kvabebi porcupine is more similar to *H. primigenia* than to *H. cristata* according to size and morphology of teeth. Besides, we would like to mention that the geological age of the Kvabebi fauna (MN16) [30] does not exceed much the upper boundary of stratigraphic distribution of *H. primigenia* [2].

პალეობიოლოგია

მაჩვზღარბა საქართველოს გვიან ნეოგენურ და მეოთხეულ ფაუნაში

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სტატია ეძღვნება საქართველოს ტერიტორიაზე პალეოცენსა და მეოთხეულში მაჩვზღარბების გავრცელებას. აღმოსავლეთ საქართველოში მაჩვზღარბების (Hystrix) ნამარხი ნაშთები არ გვხვდება. დასავლეთ საქართველოში პლიოცენ-მეოთხეულის მანძილზე მაჩვზღარბა ფართოდ ყოფილა გავრცელებული, რაც უახლესი პალეონტოლოგიური აღმოჩენებით დასტურდება.

საქართველოში თანამედროვე ფაუნაში მაჩვზღარბების არსებობას სპეციალისტები უარყოფენ. სინამდვილეში კი აზერბაიჯანის მომიჯნავე კახეთის ტერიტორიაზე მაჩვზღარბა დღესაც ბინადრობს, რაც დასტურდება ბუხნიკაშვილისა და ჩხიკვაძის მონაცემებით (2004). სავარაუდოა, რომ მაჩვზღარბა აზერბაიჯანიდან გადმოვიდა კახეთის ტერიტორიაზე და აქ ხელსაყრელი საარსებო პირობების გამო დამკვიდრდა.

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