

Azych, Midpleistocene Mandible from Sub-Caucasian Region¹

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Résumé

La mandibule d'Azych : un Homo sapiens « archaïque »

En 1968, M. M. Guseinov découvre dans la grotte d'Azych (Azerbaïdjan) un fragment d'hémi-mandibule droite avec M₃ en place, appartenant à une jeune femme adulte. La mandibule était associée avec de la faune et des outils de l'Acheuléen moyen.

Cet âge Pléistocène moyen et la découverte en 1991 de la mandibule de Dmanisi (Géorgie)² confèrent tout son intérêt à la mandibule d'Azych. La gracilité et les petites dimensions dentaires, la forme des foramen mentonnier et mandibulaire et l'absence d'espace rétromolaire confortent le statut taxonomique d'*Homo sapiens*.

Les régions subcaucasiennes nous apportent de nouvelles perspectives sur l'ancienneté et la dispersion géographique de l'*Homo sapiens* « archaïque ».

In 1968 was found in the Azych cave in Karabagh region south of the Caucasian mountains a right part of an *Archanthropus* mandible. The rich stratigraphy together with numerous palaeontological and archaeological finds stress the importance of this find.

There are two reasons to pay attention to this find:

- although this unique fossil man locality was discovered in 1960 by M. M. Guseinov and was archaeologically excavated, the human mandible remained almost unknown to the specialists (Gadzhiev and Guseinov, 1970);
- the other reason is that no far to the west in the neighbouring Georgia another unexpected find appeared in Dmanisi, dated 1.6–1.8 My. Like the Azych mandible, also that from Dmanisi demonstrates complex plesiomorph features and advanced features which open the question of the taxonomic and evolutionary position of both finds and the role of the sub-Caucasian region in human evolution.

The Azych cave is situated in Garudskiy district not far from the Iranian frontier. Through the basin where the cave is situated the Kurutchai

river flows (fig. 1). The cave is on its left bank, 900 m above the sea level. It is 200 m long (figs. 2 and 3). Facing its southern entrance a fourteen meter deep archaeological trench was excavated, demonstrating ten layers with archaeological finds (Guseinov, 1965, 1971; Gadzhiev *et al.*, 1979). The three earliest belong palaeomagnetically to the Matuyama period and the earliest higher layers to the Brunhes period (fig. 4). The surface layer no. 1 contains the eneolithic and bronze age finds; the layer no. 2 is sterile. In the following layer no. 3 there are early Mousterian stone tools and the layer no. 4 is again without finds. In the fifth layer together with middle Acheulian stone tools was discovered the human mandible (Kasimova, 1986). The 6th layer brings early Acheulian tools and the layers no. 7–10 very simple pebble tools; the assemblage called here the Kurutchai culture after the local river. Those three layers belong, according to the biostratigraphy, to the Apsheron faunal period of the early Pleistocene, earlier than 1.2 My (Guseinov, 1985). This means, that the corresponding stone tools are, together with the Dmanisi finds (Guseinov, 1976; Dean & Delson, 1995; Gabunia & Vekua, 1995; Dzhaparidze *et al.*, 1992), so far the earliest in this part of the world. In the Azych cave they are accompanied palaeobotanically by the *Abies*, *Platanus* and *Engelhardtia* pollens (Guseinov, 1985). Biostratigraphically the Midacheulian layer no. 5 is midpleistocene. All this means that the age of the human mandible is 300,000–350,000 years.

¹ Texte de la conférence présentée lors du Colloque.

² N.D.L.R. Voir aussi:

DMANISI H. Ullrich. 1992. Armenia, Azerbaijan, Georgia, Russia, Ukraine and Uzbekistan. In: R. Orban (éd.): *Hominid Remains: an up-date*. Supplément à "*Anthropologie et Préhistoire*", October 1992, 5: 15–16.

BÄUER G. & SCHULTZ M., 1996. The morphological affinities of the Plio-Pleistocene mandible from Dmanisi, Georgia. *Journal of Human Evolution*, 30: 445–481.

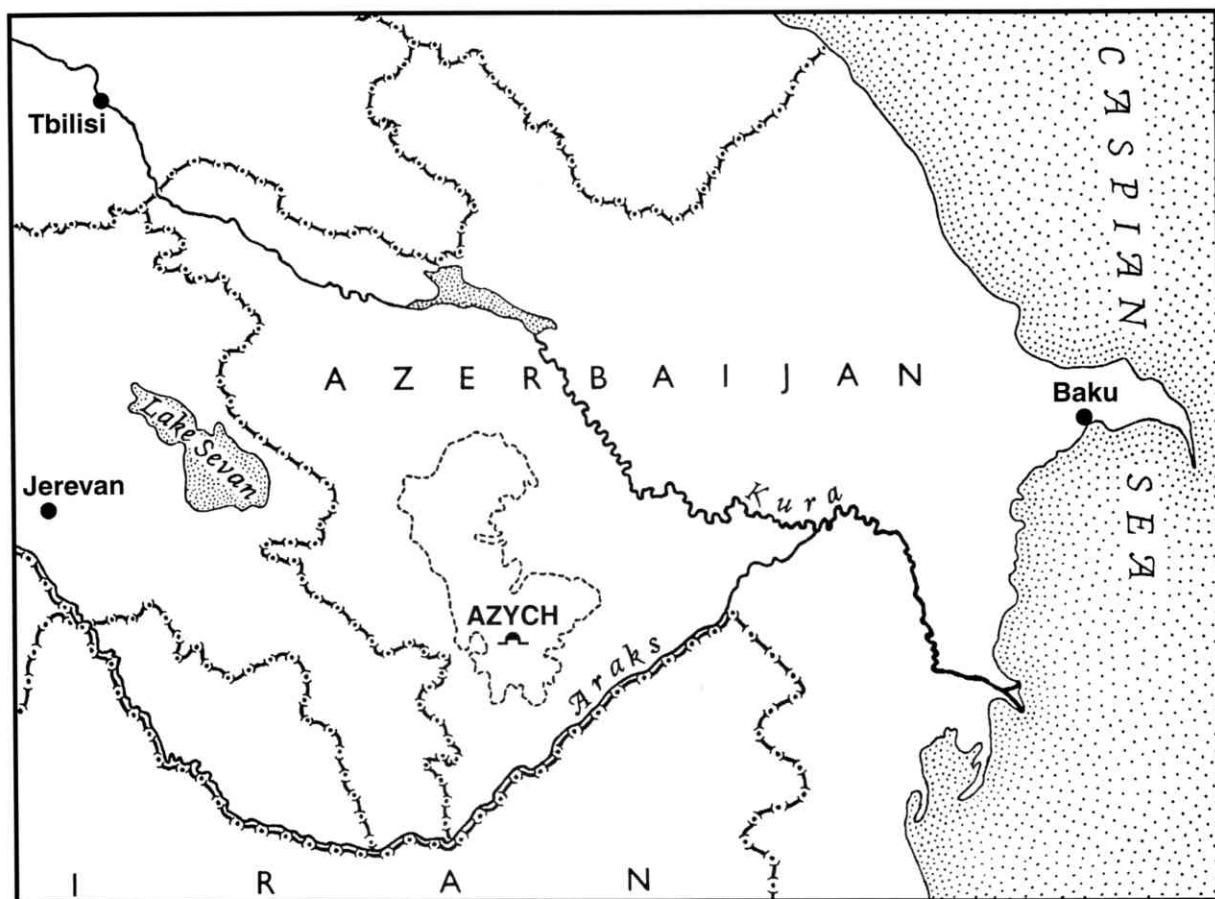


Fig. 1 – The geographical position of the Azych cave.



Fig. 2 – The general view of the Azych cave.

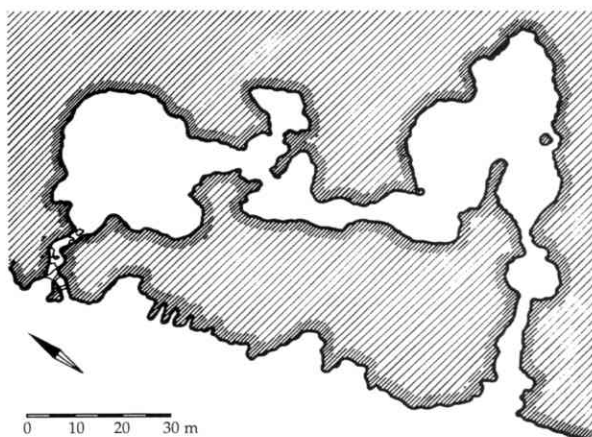


Fig. 3 — The plan of the Azych cave.

The find represents a part of the mandibular body—left part—with the adjacent part of the ascending mandibular branch (fig. 5). Unfortunately the basal part of the body, the gonial angle and the posterior margin of the ascending branch are damaged so that their direct measurements cannot be taken. Also the muscular and articular processes of the ascending branch are damaged and their shape and size cannot be followed. Only the deepest point of the mandibular notch is present.

The external side of the mandible is divided into part of the mandibular body and part of the ascending branch. This branch has a flat surface with a large region representing lateral eminence in its center. On the external side of the body part of the mental foramen is seen, which was simple and of medium size, situated low in the



Fig. 4 — The archaeological trench in the entry to the Azych cave with layers no. 6, 7, 8 and 9.

mandibular body, mesially to the remains of the M_1 alveol. The distance of the mental foramen from the alveolar rim is of 17.9 mm. In its lateral protuberance the body breadth is of 19 mm

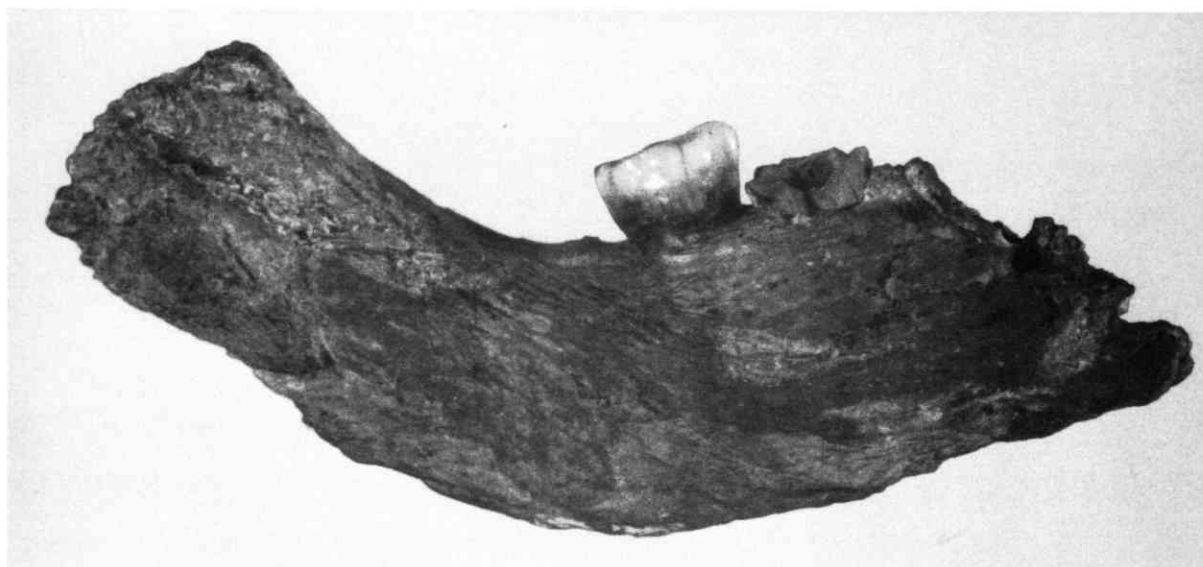


Fig. 5 — The Azych mandible. Lateral view.

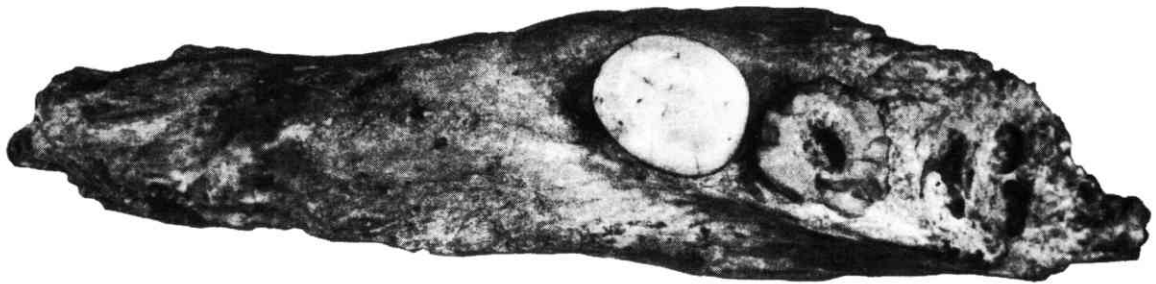


Fig. 6 — The Azych mandible. Superior view.

Azych	19.0
Pithecanthropus B	17.8
Sinanthropus G 1	19.6
Sinanthropus H 1	15.4
Arago XIII	24.0
Arago II	18.0
Atapuerca 1 (right)	19.0
Mauer (right)	21.4
Ternifine 1	23.0
Ternifine 2	21.6
Ternifine 3	23.3
Montmaurin	17.1
Malarnaud	16.8
La Quina H 5	15.5
Regourdou	15.2

Table 1 — The comparison of mandibular body thickness between second and third molars in some Archanthropines and some Neanderthals.

(between M_1 and M_2). This dimension is larger than in majority of Neanderthal jaws (see table 1) and comparable to the majority of archaic sapiens finds. It is especially striking with the Azych mandible which is very small in its general size. This is evident in superior view on the mandible. Another feature observed in this view is the retromolar space which is usually considered to be a neanderthalian character. But it is known also in some non-Neanderthal mandibles. Here in the Azych jaw the retromolar space is very limited as it is clearly seen in superior view, when prolongating the dental line (fig. 6).

When observing the inner side of the mandible a large mandibular foramen can be seen. Its position helps to imagine the original breadth of the ramus, which, considering the general mandibular size, was a broad one. The lingula is absent. Also the position of the long mylohyoid

Find	Dimensions of M_3		Robusticity	l-b index
	m-d	b-l		
Azych	11.2	8.8	98.72	78.57
Dmanisi right	11.2	10.6	118.72	94.64
left	10.7	10.6	113.42	99.06
Tighenif 1	12.0	12.2	146.40	101.66
Tighenif 2	13.4	12.5	166.50	93.28
Tighenif 3	12.0	11.5	138.0	95.83
Arago XIII	13.4	13.0	184.20	97.01
Sinanthropus mean	11.7	11.3	132.21	96.58
Atapuerca 76	9.4	9.6	90.24	102.12
Atapuerca 1 right	10.6	9.9	104.94	93.39
Atapuerca 13	12.7	11.3	143.51	88.97
Atapuerca (n 9)	11.4	10.1	115.14	88.59
Pithecanthropus B	14.5	12.5	181.25	86.20
Sinanthropus H 1	11.7	11.2	131.04	95.72
Sidi Abderahman	11.8	12.0	141.60	101.69
Modern man mean	11.5	9.8	112.70	85.21

Table 2 — Comparison of size shape and dimensions of some Archanthropine third molars.



Fig. 7 — The Azych mandible. Medial view.

sulcus gives us some idea of how much of the gonion is lacking. Higher up the crista endocondyloidea is seen meeting crista endocoro-noidea in torus triangularis. The mylohyoid ridge is not a sharp line, but clear enough to be seen. The mandibular foramen continues with a long mylohyoid sulcus which crosses large oval internal pterygoid fossa. Between the mylohyoid ridge and mandibular base the submaxillar fossa can be recognized (fig. 7).

The dimensions of the third permanent molar, the only fully preserved tooth, are very small. In its size, represented by absolute dimensions, robusticity index and length-breadth index, it is comparable only with some Atapuerca third molar (see table 2). If its long shape is considered, it is comparable to the Dmanisi third molar but only from the right side. On the left side of the Dmanisi jaw it is shorter, an asymmetric condition which is not rare in fossil dentitions. The Dmanisi molars are small in their dimensions but their length-breadth index is higher, which means that the teeth are more cuboid. Interesting is the diminishing size in the Dmanisi molars from the first to the third, which is the smallest in the row. In the Azych jaw the crown of the second molar is broken off, but we can measure the neck, and this points to a similar situation, namely that the

third molar is smaller than the second. This is a feature, considered by a majority of students as a advanced one. It is certainly fairly frequent with postpleistocene *Homo sapiens sapiens* but not in earlier fossil finds. If we consider the third molars from Atapuerca we find a very variable situation (Aguirre *et al.*, 1987; Bermúdez de Castro, 1992). In the mandible At 1. the third molar is similar in shape and dimensions, but only on the left side. On the right side it is bigger and more cuboid. In Atapuerca no. 13 the third molar on the left side is oblong (length-breadth index: 88.97) but much bigger (robusticity index: 143.51). The present table 2 demonstrates that the shape and size of the third molar from the Azych cave is quite exceptional among the Archanthropines, on the lower limit of variability, best comparable only with some Atapuerca molars.

After the first molar only parts of an empty alveol remain. The root alveols demonstrate that this root was taurodont.

The mean degree of attrition in M_3 from the Azych cave is usual for an Archanthropine individual round 30 years of age. The cusps are badly worn out but the dentine is not seen. The small size of the tooth as well as of the mandible

support the idea that it belonged to a female, better to a small female.

The significance of the Azych mandible is not only in its age and in its geographical position (Sud-Caucasian region, where middle and lower palaeolithic human existence was proved), but in some advanced morphological features combined with general plesiomorphic features of the mandible.

This condition brings the difficulty to decide between two taxa of *Homo erectus* or *Homo sapiens* and the author, not recognizing *Homo erectus* as a reasonable taxon (Jelínek, 1978, 1980a, 1980b, 1981, 1982), considers taxonomically the Azych individual as a regional type of *Homo sapiens erectus*.

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