

AN EARLY HOABINHIAN SKULL FROM VIETNAM

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In June 1984, human skeletal remains of a single individual found in association with stone tools¹ of the Early Hoa Binh Culture (10,000 BP) were excavated by the Institute of Archaeology (Hanoi) at Mai Da Nuoc, Ha Trung Hamlet, Ba Thuoc District in Thanh Hoa Province, Socialist Republic of Vietnam. The skull from this burial is one of the best preserved specimens representative of the Hoa Binh Culture thus far discovered in Vietnam. This report describes the skull of this important new discovery.

A. Material

1. Skull

The skull, originally broken in fifty-two fragments, has been nearly completely reconstructed (see Plate 1) by Mrs. Nguyen Kim Thuy, a physical anthropologist associated with the Institute of Archaeology in Hanoi. The skull is substantially complete, only the anterior region of the foramen magnum is missing. All 32 teeth of the dentition are present. The cranial vault is partially fossilized.

2. Postcranial Remains

Only portions of some of the upper limb bones and a few other fragments of the postcranial skeleton are present.

B. Description of Skull (Table 1)

1. Norma Verticalis

Viewed superiorly, the general shape of the skull is pentagonal. Vault shape is dolichocranic (cranial index = 70.8). A sagittal crest is present in the anterior region of the sagittal suture.

2. Norma Facialis

The forehead region of the skull is wide (forehead/breadth ratio = 72.5). The junction of the two nasal bones is V-shaped. The superciliary arch is flat. Openings are visible on both sides of the superciliary structure. The opening on the left side is almost certainly the result of postmortem damage. Orbital height is medium (index = 76.2) while orbital shape is rectangular. The face is large

¹ In addition to the stone tools, six small shells were found near the neck region of the skeleton. Intentional grinding of the latter suggests they were used as ornaments.



Figure 1. Facial and right lateral views of the skull (84.MDN.M1) excavated at Mai Da Nuoc, Thanh Hoa Province, Vietnam.

(index = 82.8). The nasal aperture is round and very wide (nasal index = 60.4). The canine teeth have elongated roots. Mental eminence is well developed in the mandible. The chin is bilaterally pointed.

3. Norma Lateralis

The skull from Mai Da Nuoc is high (height index = 65.4) and exhibits a slight sloping forehead. Facial prognathism and protruding nasal bones are evident in lateral profile. The facial angle (M-72) measures 77 degrees. The upper facial height is small. Both the coronal and lambdoidal sutures exhibit incipient fusion.

4. Norma Occipitalis

Viewed posteriorly, the form of the skull is haus-shaped. A single parietal foramen is observed in the sagittal suture.

5. Norma Basalis

The skull exhibits a deep palate and a dental arcade of acute dimensions. The upper dental arcade is displaced lingually while the lower arcade is inclined buccally.

C. Other Observations

1. Sex and Age

The remains are those of a male. Using cranial suture fusion and the amount of wear observed in the teeth, the age at death has been estimated to be more than 40 years.

2. Teeth

The upper incisors exhibit shovelling. Shovel-shaped incisors have not been previously reported in dental remains of the Hoa Binh Culture.

The upper third molar exhibits +3 wear (according to Dahlberg's criteria). The cusp pattern on the lower first molars is Y5. The lower second molar exhibits a Y4 pattern. One of the third molars (from the left side) exhibits an accessory tubercle in the lingual-distal quadrant.

3. Racial affinities

Morphologically, the cranium from Mai Da Nuoc exhibits Australoid affinities. The skull's protruding face, large nose, parietal cresting, an inward curving upper dental arcade, outwardly directed lower arcade and large teeth resemble the Keilor, Cohuna (Australia), Wajak (Indonesia), and Liujiang (South China) crania.

<u>Source</u>	<u>Value</u>	<u>Measurement/Index</u>
Martin No. 38	1429.7	Cranial capacity
Martin No. 1	185	Cranial Length (glabello-occipital)
Martin No. 1d	183	Cranial Length (nasio-occipital)
Martin No.2	175	Cranial length(glabello-inion)
Martin No.3	181	Cranial length
Martin No.8	131	Maximum Cranial breadth
Martin No.20	121	Porion-bregma height
Martin No.22a	113	g-i
Martin No.9	95	Minimum frontal breadth
Martin No.10	115	Maximum frontal breadth
Martin No.11b	118	Biauricular breadth
Martin No.12	109	Biasterionic breadth
Martin No.23	518	Circumference (crossing glabella)
Martin No.24	315	Tranverse arc
Martin No.25	384	Sagittal arc
Martin No.26	129	Frontal arc
Martin No.27	133	Parietal arc
Martin No.28	122	Occipital arc
Martin No.29	113	Frontal chord
Martin No.30	118	Parietal chord
Martin No.31	104	Occipital chord
Howells MDH	29	Mastoid height
Howells MDB	24	Mastoid width
8:1	70.8	Cranial index
20:1	65.4	Height/length index
20:8	92.4	Height/breadth index
9:8	72.5	Frontal/breadth index
22a:2	64.6	Cranial height index
9:10	82.6	Frontal index
9:12	87.2	Frontal/lambdoidal index I
10:12	105.5	Frontal/lambdoidal index II
1:25	48.2	Sagittal chord/length arc index
29:1	61.1	Frontal chord/length index
30:1	63.8	Parietal chord/length index
31:1	56.2	Occipital chord/length index
29:26	87.6	Frontal curve index
30:27	88.7	Parietal curve index
31:28	88.3	Occipital curve index
Martin No. 32	84 deg.	Frontal angle
	78 deg.	Frontal angle g-m
Martin No. 32a	87 deg.	Frontal angle g-m with g-i line
Martin No. 32(1)	65 deg.	Frontal angle n-b with n-i line
Martin No. 32(2)	75 deg.	Frontal angle g-b with g-i line

Table 1. Measurements and indices of the skull from Mai Da Nuoc.

Martin No. 32(5)	130 deg.	Angle of frontal curve
Sub NB	26	Frontal curve height
	22	Frontal height/minimum frontal breadth
Martin No. 43	108	Upper facial breadth
Martin No. 43(1)	102	Interorbital length
Sub 10W	15	N - Height
Martin No. 45	134	Cheek breadth (bizygomatic breadth)
Martin No. 46	103	Mid facial breadth
	105	Facial breadth (zygomaxillare-zygomaxillare)
Martin No. 47	111	Facial height
Martin No. 48	62	Upper facial height
Martin No. 49a	26	Interorbital breadth
Martin No. 50	22	Middle orbital breadth
Martin No. 51	42	Left orbital breadth (maxillofrontale))
Martin No. 52	32	Left orbital height
Martin No. 54	29	Nasal breadth
Martin No. 55	48	Nasal height
Martin No. 63	41	Palatal breadth
Martin No. 60	59	Maxillo-aveolar length
Martin No. 61	65	Maxillo-aveolar breadth
SC.	10.4	Simotic chord
SS.	3.8	Simotic height
45:8	102.3	Cheek breadth/cranial breadth
43(1):43	94.4	Inter-orbital index
47:45	82.8	Facial index
48:45	46.3	Upper Facial Index
52:51	76.2	Left orbital index from mf.
54:55	60.4	Nasal index
55:50	36.5	Simotic index
Martin No. 72	77 deg.	General facial angle
Martin No. 75(1)	22 deg.	Nasal protruding angle
Martin No. 73	81 deg.	Middle facial angle.
Martin No. 74	59 deg.	Dental arc angle
Martin No. 75	56 deg.	Nasal slope
Martin No. 77	149 deg.	Nasio-frontal angle (frontomalarae)
	136 deg.	Nasio-frontal angle (zygo maxillare)
Martin No. 65	120	Bicondylar breadth
Martin No. 66	108	Bigonial breadth
Martin No. 67	49	Mental foramen breadth
Martin No. 68	72	Mandible length
Martin No. 68(1)	109	Mandible length from the condyle
Martin No. 69	36	Mandibular corpus height
	15	Mandibular corpus thickness
	41.7	Mandibular corpus index

Table 1. Continued.

Martin No. 69(1)	32	Symphysis height
Martin No. 69(3)	14	Symphysis breadth
69(3):69(1)	43.8	Thickness/height at Symphysis
Martin No. 69(2)	31	Corpus height at (the point between M1 and M2)
	16	Corpus thickness at between M1 and M2
	51.6	Corpus thickness/height index
Martin No. 71	62	Ramus height
Martin No. 71	44	Ramus breadth
Martin No. 71a	34	Minimum Ramus breadth
Martin No. 79	132 deg.	Mandibular angle
71:70	71.0	Mandibular breadth index
	31	M1-M3 length.

¹Martin (1982)

²Howells (1973)

Table 1. Continued.

Given the relative absence of well preserved crania from Southeast Asia and adjacent regions which date to the late Paleolithic and Mesolithic periods, the new discovery of a 10,000-year-old skull in the Ba Thuoc District of Thanh Hoa Province of Vietnam provides palaeoanthropology with an important new opportunity for describing the prehistoric inhabitants of Southeast Asia.

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