

This chapter reviews the evidence for deliberate human burial practices in Vietnam from the Late Pleistocene through to the Mid-Holocene (or the Hòabìnhian to Đa Bút cultural periods) and contextualizes the findings with developments in the rest of Mainland and Island Southeast Asia. It discusses burial practices, and associated evidence for dating, for 18 Hòabìnhian cave sites, three Đa Bút open air cemeteries, and a range of early burials from Thailand, Laos, Malaysia, and Indonesia. Key findings include: (1) burial practices from the Late Pleistocene through to the Mid-Holocene were clearly varied and diverse; (2) despite the earliest clear evidence of Anatomically Modern Human remains at circa 50,000 years ago, the first clear signs of deliberate mortuary behavior does not occur until circa 20,000 years ago; (3) three main burial positions can be observed: side flexed (body on side and legs/arms flexed), supine flexed (body on back with flexed legs/arms), and squatting (body seated/squatting in upright position), with no clear evidence for extended supine burial positioning until the Neolithic; (4) in general, during the Hòabìnhian individuals have either their feet or heads oriented toward cave openings, while in the Đa Bút cemeteries squatting burials (which are the norm) face in an easterly direction; (6) cremation and the use of ocher were not uncommon, while there is limited verifiable evidence for the use of grave goods in pre-Neolithic Southeast Asia.

Vietnam, burial practice, Neolithic, Hoabinhian, mortuary, variability

Chapter 10

Hunter-Gatherer Mortuary Variability in Vietnam

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Introduction

Anatomically Modern Humans (AMHs) make an appearance in northeastern Eurasia by at least 46,000 years ago (ya), are clearly present in northern China at circa 40,000 ya (e.g.,

Tianyuan), the Japanese archipelago by circa 20,000 ya (e.g., Minatogawa), and circa 50,000 ya in Southeast Asia (e.g., Tam Pa Ling, Laos) (see review in Oxenham and Buckley, 2016). Despite Southeast Asia furnishing the earliest evidence for the arrival of AMH in our region, clear and consistent evidence for deliberate burial does not appear in Southeast Asia until circa 20,000 ya during the cultural phase often referred to as the Hòabìnhan. Lacking the Upper Paleolithic (UP) tool tradition that contributes to the identification of the UP in eastern Eurasia and Northeast Asia (Oxenham and Buckley, 2016a), post–Last Glacial Maximum (LGM) Vietnam, if not Mainland Southeast Asia as a whole, is often referred to as the Hòabìnhan culture period, extending through to the mid-Holocene in some instances. The Neolithic in Vietnam, characterized by the “emergence of communities that grew domesticated crops and raised domesticated animals” (Oxenham and Buckley 2016b:589) circa 2500 to 2000 BC, is not specifically dealt with in this review (see Bellwood and Piper, this volume, for a discussion of the Neolithic in Vietnam). The Hòa Bình culture, or Hòabìnhan culture, was named after several cave sites were discovered in Hòa Bình province in Vietnam with a similar style of flaked tools. The term has become widely used to characterize Late Pleistocene and Holocene cultures associated with particular flaked-stone tool complexes in Island and Mainland Southeast Asia. Many Hòabìnhan sites in Vietnam contain human burials.

The aim of this chapter is to review those Vietnamese sites with ostensibly intentional and for the most part relatively complete burials. We have sourced a range of published and unpublished material, with Hoàng (1989) being a key secondary source, and have made the assumption that if information is not presented on a burial (such as sex, age, associated grave goods) that this information was not available or that particular items did not occur in the grave environment. In order to contextualize the Vietnamese Late Pleistocene to Early Holocene funerary data, we have included references to a number of contemporaneous Island

Mainland Southeast Asian burial sites. As with the Vietnamese data, these comparative sites are not meant to be exhaustive, but rather illustrative of the pattern seen in the region generally. Following the results section (which essentially describes the burials at each site) we provide a discussion that explores the pattern and diversity of Late Pleistocene to Early Holocene funerary practices in Vietnam and Southeast Asia as a whole.

Results

Four main forms of burial positioning are referred to in the following descriptions. It should be noted that at times the original published descriptions of burial position are either unclear or use inconsistent terminology. An “extended supine” interment indicates a body placed on its back, legs extended and unflexed, but with variable flexure of the arms (hands on chest, pelvis, at sides, etc.; see [Figure 10.1](#)). When referring to “side flexed,” this indicates a body placed on either its left or right side with the legs flexed at the hip and knees to a varying degree (see [Figure 10.2](#)). Often descriptions of side-flexed cases in the Vietnamese literature do not make reference to the position or relative flexure of the arms or placement of the hands. “Supine flexed” indicates a body lying on its back, with variable arm positioning, but with the legs always flexed at the hip and knees (see [Figure 10.3](#)). Finally, “squatting” refers to a body in an upright squatting or seated position with extreme flexure at the hip and knees and with variable flexure and positioning of the arms and hands (see [Figure 10.4](#)).

INSERT FIGURE 10.1 HERE

INSERT FIGURE 10.2 HERE

INSERT FIGURE 10.3 HERE

INSERT FIGURE 10.4 HERE

With respect to dating, very few of the interments mentioned have direct radiocarbon dates, with the majority of dates relating to shell (freshwater or terrestrial), charcoal, or even organic residues located in stratigraphic levels (or within the grave fill) associated with the burials. Clearly this is problematic, as it must be assumed that all burials are intrusive into the

variously dated deposits reported for these sites. In each case, and where available, all radiocarbon dates for each site are listed (see [Tables 10.1 and 10.2](#)) with appropriate calibrations undertaken by us. As such, reported dates for any particular set of remains, or series of remains, are given as a range of the oldest to youngest for the site under consideration, except if a direct date is given or there is reason to believe a more fine-tuned approach can be undertaken. In some cases, reported calibrated dates may differ from previously published calibrations due to our use of the more recent IntCal 13 curve (Reimer et al. 2013). It will also be observed (see [Tables 10.1 and 10.2](#)) that many dates are based on terrestrial and/or fresh water shell with an unknown reservoir effect. Gorsdorf and Nguyễn (1995) have argued that the reservoir effect may be as large as 800 ± 300 years for such material in northern Vietnamese caves. We have not factored in otherwise unknown reservoir effects in our calibrations. [Table 10.3](#) provides a summary of burial features within each of the following Vietnamese Hòabìnhian sites.

INSERT TABLE 10.1 HERE

INSERT TABLE 10.2 HERE

INSERT TABLE 10.3 HERE

Hòabìnhian Burial Practices

Động Can

Động Can is a cave located in Độc lập commune, Kỳ Sơn district, Hà Sơn Bình (now Hòa Bình) province. It opens northwest at an altitude of 20 m above sea level, and is 6 m wide and 52 m deep. The cultural layer, which is 1 m deep, revealed one burial at a depth of 0.55 m (Hoàng 1985, 1989). This individual was represented by cranial and postcranial fragments and the cranial fragments were reportedly burned (Nguyễn 1994a). The remains were identified as an old male (Hoàng 1985, 1989; Nguyễn 1991, 1994a) who was lying on his

side, with his lower limbs flexed (Nguyễn 1994a) and head oriented to the northwest. Động Can is dated from 15,183 to 9460 cal. BC.

Đú Sáng

Đú Sáng is a rock shelter in Đú Sáng commune, Kim Bôi District, Hòa Bình province, that includes both early Holocene and late Pleistocene Hòa bìnhian deposits (Nguyễn 2015).

Burial 1 is a middle-aged supine flexed female, head oriented to the north and interred within the early Holocene Hòa bìnhian layer. Four large rocks were arranged just above the head and chest, while three edge-ground stone axes were found 90 cm from the feet (Nguyễn 2015).

Burial 2 is a poorly preserved and apparently secondary burial within the late Pleistocene Hòa bìnhian layer. The jaw of an unspecified carnivore and a perforated tooth were associated with the burial (Nguyễn 2015). No radiometric dates currently exist for Đú Sáng.

Hang Chỗ

Hang Chỗ is a limestone cave in Cao Răm commune, Lương Sơn district, Hòa Bình province. It opens southwest, is 20 m wide and 18 m deep, and the cultural layer is between 1 and 1.5 m deep (Matsumura et al. 2008). One burial, an old adult female, was located near a hearth feature and was lying in a supine position with an unflexed left arm, hand palmar down, right arm slightly flexed (c. 140°), hand also palmar down. While the lower limbs were missing, presumably lost through postburial disturbance, the presence of os coxae fragments (in anatomical position) and much of the left and right foot just distal to the hands suggests the legs were tightly flexed at the knees and hips. The burial was oriented approximately east (head) to west (feet) (Matsumura et al. 2008), while the cranium was resting on its left side with its face directed to the south. No grave goods were noted during the excavation. The direct dating of the root of one of the canines provides a date of 9206 to 7970 cal. BC. A series of well-provenanced dates have also been published for the cave (Yi et al. 2008; Yi et al. 2004).

Hang Chùa

Hang Chùa is a large rockshelter in a limestone massif situated in Núi Roi in Kỳ Sơn commune, Tân Kỳ district, Nghệ Tĩnh (now Nghệ An) province with the Hiếu River to the southeast. It opens southeast at an altitude of 5 m above sea level and is 13.5 m wide and 14 m deep (Hà 1976; Hoàng 1989; Nguyễn 1972; Võ 1973). The cultural layer was 1.6 to 1.8 m deep. Two burials have been recorded, one of which was a late secondary burial in a small coffin associated with five rusted coins at a depth of 0.5 m. The second burial comprised a set of human remains represented by cranial fragments, the maxilla, the mandible, and some limb bones (Nguyễn 1972), found at a depth of 1.5 m and apparently oriented to the northwest. The body, believed to be female, and the position of the remains suggest it was squatting and surrounded by stone boulders (Hà 1976; Hoàng 1989; Võ 1973) and perhaps tied before being buried (Nguyễn 1972; Võ, 1973). The relevant Hang Chùa deposits are dated to between 9119 and 7873 cal. BC.

Hang Con Moong

Hang Con Moong is a limestone cave located in Bản Mạ village, Thành Yên commune, Thạch Thành district, Thanh Hóa province. It is situated at an altitude of 40 m above sea level, with two openings, the main opening to the southeast. The cultural deposit is 3.5 m thick (Hoàng 1976, 1977, 1989; Nguyễn 1977; Phạm 1980). Four burials were recovered, one from cultural layer II at 2.2 m, and three from cultural layer I at 3.4 and 3.5 m (Hoàng 1989; Phạm 1980). The burials are described as either being flexed, with the lower limbs flexed or squatting (Hoàng 1977). The burial in layer II, oriented northeast (head), is represented by a skull and limb bones, and is believed to be an old male. The description of the remains suggests that he was lying on his side with his lower limbs flexed. There was a grinding stone and top stone (muller or pestle) near the skull and a fairly large freshwater shell near the lower limbs (Hà 1990; Hoàng 1977; Hoàng and Nguyễn 1976). The deeper burials have been

attributed to the Sonvian (a poorly defined period believed to predate the Hòabìnhian) and are described to be positioned in a similar manner to the layer II burial. One of these ostensibly older burials is described as being in a contracted position, the right arm under the left and extended, the left hand near the chest and the lower limbs flexed with an unspecified stone tool in the abdominal area and a sea shell near the feet (Hà 1990). All the burials from both layers are described as having traces of ocher. Further, with the exception of one burial, all had associated tools although what these were is not specified. There were no rocks used in the lower burials (Hoàng 1977; Nguyễn 1977) while the layer II burial had two large rocks placed near the skull (Hà 1990). Hang Con Moon deposits are believed to span both the Sonvian and Hòa Bình cultural phases. The dating range for the cave deposits are 13,760 to 7462 cal. BC.

Hang Đấng

Hang Đấng is a cave located in Mớ Sung hamlet, Hạ Bì commune, Kim Bôi district, Hà Sơn Bình (now Hòa Bình) province. It opens east and is 6 m wide and 4 m deep. The occupation layer is 2.05 m thick (Chử 1967; Hà 1976; Hoàng 1989; Kohl and Quitta 1978). Three burials were discovered in 1966, but only the second two are described in the reports. Burial 2 was found at a depth of 1.37 m, buried lying on the side with the lower limbs flexed, the body was oriented with the head to the southeast. Grave goods included a rhinoceros tooth and a large shell. Burial 3 was surrounded by a combination of small and large stones (which ranged in depth from 0.24 to 1.25 m) arranged in a circular fashion around the burial forming two grave compartments. There were skull fragments and some postcranial remains, and the head was oriented to the south. Apparent grave goods included a bear tooth, a shell scraper, and a monkey mandible (Chử, 1967; Hoàng 1989). There are two dates based on terrestrial land snail shell: 6635 to 6252 cal. BC. The samples were taken at a depth of 0.6 m (Kohl and Quitta 1978).

Hang Đồng Trưng

Hang Đồng Trưng is located in Hội Sơn commune, Anh Sơn district, Nghệ An province (Nguyễn 2014). Originally excavated by the Institute of Archaeology, Hanoi, and the Nghệ An provincial Museum in 2004, the site was recently reassessed in 2014. Very little is known regarding the site with the exception of photographs and descriptions presented in a website (Nguyễn 2014). A total of 13 burials (8 adults, 4 subadults, and one unknown) have been recorded, with 5 of these having a clear burial position. Burial B is an adult in a squatting position buried at 1.12 m and associated with several lithic artifacts. Burial C, at 1.16 m, is a subadult (4- to 6-year-old child) side-flexed interment. Burial E, 0.6 m and close to the eastern wall of the cave, is a supine-flexed adult male. Burial H, 0.95 m, is a side-flexed adult male, while Burial M, 0.72 m, is an adult of indeterminate sex placed in a squatting position. There are no radiometric dates for Hang Đồng Trưng, and the remains are attributed to the Hòa Bìnhian based on associated lithics.

Hang Làng Gạo

Hang Làng Gạo is a rockshelter located in Thanh Lương commune, Lương Sơn district, Hòa Bình province, west of the Red River. It opens east and is 7 m wide and 24 m deep. The cultural layer is 1 m thick at the sunlit opening, but extends to 2.3 m at the southern end of the rock shelter (Colani, 1927a; Hoàng, 1989). Twenty human skulls (although it is unclear whether all had mandibles) with associated postcranial remains were located in an area of approximately 25 m². Several were buried within approximately the same layer about 60 cm deep, while four to five (apparently much older) were interred at a depth of 1.5 m at the southern end of the rock shelter. Some of the skulls apparently rested on their bases, while in four instances the skull was leaning laterally against the limestone wall, almost vertical. Close to all the skulls were observed long bones, including humeri, femora, phalanges, and a few fragments of os coxae and ribs, although the latter were rarer. Scapulae and vertebrae are

not recorded as being represented, which, along with those elements that were present, indicated to Colani that some form of excarnation or body processing occurred prior to final burial. It was argued that the skulls are contemporaneous with the midden (cultural layers) and it was observed that they were impregnated and coated in calcium bicarbonate. Apparently the majority of remains were interred within deposits that were subsequently capped with calcium bicarbonate (flowstone) (Colani 1927a). No artifacts or apparent grave goods were associated with the human remains, although within the burial matrix and throughout the midden small red fragments were observed, assumed to be a baked clay substance. If this substance was used to color the remains (in the manner of an ocher substitute), no evidence for this was apparent on the skeletal remains. Colani (1927a) notes that lifting the remains was difficult and they were often poorly preserved. The calcium carbonate coating prevented them from being analyzed. There are no radiometric dates for Hang Làng Gạo, and the remains are dated relatively by the type of lithics identified in the cultural layers: Hòabìnhian. Notwithstanding, Colani (1927a) suggested that the presence of polished edged adzes may make the remains contemporaneous with the Bắc Sơn culture period.

Hang Muối

Hang Muối is a cave located in Mẫn Đức commune, Tân Lạc district, Hà Sơn Bình (now Hòa Bình) province. At an altitude of 4 m, it is 26 m wide and 13 m deep with high ceilings reaching 11.5 m. The cultural layer is 1.5–1.7 m thick (Hoàng 1989; Hoàng and Nguyễn 1966; Phạm et al. 1967). Two burials are recorded; Burial 1 being found at a depth of 0.3 m in a rock niche. The skeleton was supine with the arms and legs extended while the head was oriented west. There was a layer of ocher under Burial 1 and also three stone artifacts found near the body; two adzes and a top stone (muller) (Phạm et al. 1967). There is no direct or indirect date for Burial 1, and its shallow depth potentially suggests a relatively late date

(Neolithic?). Burial 2 was found near the sterile layer and is reported to have been placed in a squatting position (Hoàng and Nguyễn 1966). Burial 2 (incorrectly designated as Burial 1 in Bulbeck et al. 2007) is an adult male (Nguyễn 1967) and is directly dated to 12,059 to 11,804 cal. BC (95.4%) based on a fragment of carbonized clavicle (Bulbeck et al. 2007).

Hang Phia Vài

Hang Phia Vài is located in Cốc Ngận village, Xuân Tân commune, Nà Hang district, Tuyên Quang province. It opens west toward the Năng River at an altitude of 15 m, it is 35 m wide and 11 m deep and the ceiling reaches a height of 4 m (Nguyễn, 2007). Two burials were discovered at Hang Phia Vài. The first is probably Neolithic (directly dated to 2118–1750 cal. BC) and is of no further concern here, while the second is attributed to the Hòabìnhian. This individual, an old female, was lying in a supine position with the arms extended by the sides and the legs flexed. The left hand (cannot assess the right) was palmar on the floor of the grave. She was well preserved and complete except for the femora, tibiae, and fibulae, which are thought to have been disturbed by later activity in the cave. The left foot is plantar and is positioned just below the right os coxae (the right foot is missing), suggesting the legs were tightly flexed at the knees and hips with the feet possibly crossed. The burial was oriented to the northeast (head), and a boar tooth was ostensibly associated with the burial. The most interesting feature of this burial were two marine gastropod mollusk shells of the species *Mauritia arabica* (cowrie shells), which were placed in the eye sockets of the individual. This burial practice appears to be unique and has not been observed elsewhere in Vietnam. The deposits associated with the second, older, burial are dated from 6490 to 5630 cal. BC.

Hang Thẳm Hoi

Hang Thẳm Hoi is a limestone cave site located in Bồng Khê commune, Con Công district, Nghệ Tĩnh (now Nghệ An province) along the Ca River. It opens west and is 21.3 m wide and 25.7 m deep and is situated at an altitude of 15.3 m above sea level. The cultural layer

was 1.65 m thick (Hà, 1976; Hoàng 1989; Hoàng et al. 1974; Nguyễn 1973). Three burials were discovered at Hang Thảm Hoi in 1972: Burial 1, an old male, was represented by cranial fragments, the maxilla, the mandible, a few vertebrae, and a fragment of the right tibia. Grave goods included a spindle whorl and some ceramics with decorative patterns indicative of a Neolithic age. Burial 2, also believed to be Neolithic or post-Neolithic, estimated to be a mid-aged female, was represented by part of a humerus and two fragments of rib. Burial 3, represented by burned fragmented adult male remains jumbled in a round pit feature, is thought to be associated with the Hòa Bình culture (Nguyễn 1972). The question as to why Neolithic or perhaps Bronze Age burials were included in the cave is unclear, as this practice is quite rare during this period. As with the example from Hang Phia Vài, these later cave burials may represent regional variations on the norm (Nguyễn 1972). The stratigraphy and dating thereof is poorly described, however 11,166 to 9291 cal. BC seems to include the range for Burial 3.

Hang Xóm Trại

Hang Xóm Trại is located in Tân Lập commune, Lạc Sơn district, Hòa Bình province. An apparently side-flexed male burial, poorly preserved, was located close to the cave mouth. The burial is dated to 20,207–17,495 cal. BC based on an associated *Antimelania* shell (Nguyễn 2015). This date is consistent with a series of well-provenanced dates for the cave (Gorsdorf and Nguyễn 1995; Hoàng 1989).

Mái đá Điều

Mái đá Điều is a rockshelter located in Khiêng hamlet, Hạ Trung commune, Bá Thước district, Thanh Hóa province. It opens southwest at an altitude of 6.5 m above sea level and is 6.6 m wide and 43 m deep. A total of 26 Hòa Bìnhian burials and one Sonvian burial have been recorded to date. There have been four excavation seasons reportedly undertaken at Mái đá Điều (Nguyễn and Nguyễn 2008). A test excavation in 1984 (Nguyễn and Đăng 1984),

and three subsequent excavations in 1986 (Đặng 1991; Nguyễn et al. 1986), 1988–1991 (Nguyễn 1994b) and 1995 (Nguyễn 1998). It is thought that the cave deposits represent two phases of cultural occupation, one that extends 0.8 m from the surface associated with Hòabìnhian cultural material and one that extends from 0.8 to 1.4 m below the surface associated with Son Vi cultural material (Nguyễn 1986b), although additional nonspecified layers are sometimes referred to in the various reports. Three burials from the Hòabìnhian phase were recovered in 1984 during the test excavation and reported by Nguyễn (1986b). Fifteen Hòabìnhian burials and one Sonvian burial were discovered during the 1986 excavation. Eight Hòabìnhian burials were recovered during the 1988 excavation. Finally, one Bronze Age burial, presumably intrusive into older layers, was recovered during the 1995 excavation (Nguyễn and Nguyễn 2008).

1984: Three Burials

The three burials from the 1984 excavation have been analyzed and published by Nguyễn (1986b). Burial 1 was discovered 0.7 m below the surface, it was represented by an almost complete skull and was estimated to be female, approximately 18 years of age. Burial 2 was discovered 0.4 m below the surface and is represented by fragile craniomaxillary fragments and deciduous teeth. It is estimated to be a subadult approximately 3 years of age. Burial 3 was found at a depth of 0.68 m it is represented by fragments of the appendicular skeleton and permanent dentition and is estimated to be a young adult male (Nguyễn 1986b).

1986: Sixteen Burials

Fourteen burials were recovered from layer 3 (0.2–1.2 m) and were tightly flexed or had their lower limbs flexed; it is unclear whether these are side- or supine flexed from the reports. Two burials were recovered from the lower layer 2 (1.0–2.4 m) and were apparently supine flexed (Ciochon and Olsen 1986; Đặng 1991; Hà 1990; Nguyễn et al. 1986). Presumably one

of the two burials from layer 2 is the single Sonvian burial mentioned earlier (Nguyễn 1986b).

1988: Eight Burials

Only five of the best-represented burials from this season have been described (Nguyễn 1994b). Burial 7 in layer 2 was the deepest at 3.0–3.27 m. The bones were crushed, but the position of the individual could still be determined as side flexed, oriented northeast (head). A grinding stone with small holes on the surface and a few lithic flakes were associated with the burial (Nguyễn 1994b). Four graves were recovered from the higher cultural layer 3. Burial 3 was at a depth of 1.05–1.15 m and the majority of the bones were broken, but the position of this old female could be determined as side flexed. The burial was oriented in a northeasterly (head) direction and was positioned against a stone shelf, with fragments of stone, ocher, and shell scattered around the bottom of the grave. A grinding stone and a stone with circular depressions were believed to be associated with the burial (Nguyễn 1994b). Burial 5 was found at a depth of 1.35–1.45 m. Two individuals were represented in this burial: the main individual, a young to middle-aged male, is in a squatting position, the bones in anatomical position, in a pit about 40 cm in diameter. The second individual, with no information on burial position, is estimated to be a subadult approximately 10 years old (Nguyễn 1994b). Burial 6 was at a depth of 2.45–2.50 m. It was discovered during the 1986 excavation where only the skull was recovered. The postcranial remains, not recovered in 1986, were crushed, although it could still be determined that this individual was side flexed and oriented southwest (head) (Nguyễn 1994b). Finally, Burial 8 was at a depth of 0.86–1.23 m. This individual was side flexed and oriented in a northeast (head) direction. The reported description of this case is almost identical to that of burial 3. It was positioned against a stone shelf and fragments of stone, shell, charcoal, and ocher were scattered around the bottom of

the grave. There was a grinding stone, a stone with circular depressions, and a few lithic flakes associated with the burial (Nguyễn 1994b).

In terms of dating, three charcoal (1986 excavation at depths of 1.6–1.8 m, 1.8–2.0 m and 3.0–3.1 m) and four terrestrial snail shell dates (1995 excavation—depths not provided) are available, with one of the charcoal dates being anomalously old (Table 10.1). Excluding this anomalous date, and noting that potential reservoir effects for the snails have not been factored in, the date range for Mái đá Điều is 3533 to 7937 cal. BC.

Mái đá Làng Vành

Mái đá Làng Vành is a limestone cave located near the western edge of Núi Tang Mountain beside the river Dôm in Yên Phú commune, Lạc Sơn district, Hà Sơn Bình (now Hòa Bình) province. It opens southward at an altitude of 2 m above sea level. The cultural layer is 3.7 m thick (Colani 1929; Hoàng 1989). While very little information is reported for this site, the cranial remains of at least eight individuals were noted to be coated in calcium bicarbonate and covered in red ocher. Colani (1929) suggested that there was little information that could be attained from the fragments except perhaps from the mandibles. There are no radiometric dates for Mái đá Làng Vành, and the remains are attributed to the Hòabìnhian based on associated lithics.

Mái đá Mộc Long

Mái đá Mộc Long is a cave located in Mộc Long village, Thành Minh commune, Thạch Thành district, Thanh Hóa province. It opens southwest at an altitude of 25 m above sea level and is 10 m long and 9 m deep. The cultural layer is 1.8 m thick (Chử 1967; Hoàng 1989). Five burials were discovered at 0.3 m, 0.7 m, 1.3 m, 1.8 m, and (at a somewhat surprising) 9.9 m (Chử 1967; Hoàng 1989). Burial 1, associated with two large boulders, was side flexed and found at a depth of 0.3 m close to the cave wall, the limestone foundation forming a base to the grave. The individual is represented by crushed bone, but the pelvis and femora were

still discernible. Within the grave was a top stone for a grinding stone and a few fragments of pottery (Chữ 1967; Hoàng 1989). Burial 2, side flexed, was found at a depth of 1.0 m, the bones at 1.8 m close to the cave wall, eight boulders surround the burial, which lay on a large rock with three large rocks capping it above at 1 m. The grave was lined with ash and the bones were crushed, which meant that the orientation could not be identified (Chữ 1967; Hà 1990; Hoàng 1989). Burial 3, side flexed, was found at 0.7 m close to the cave wall, there were no boulders used to line the grave, which was oriented south (head), and one large shell appeared to be associated with the burial. Burial 4, male, found at 1.30 m, was oriented south (head), side flexed with arms extended, and associated with a shell and a pig's tooth. Burial 5 was side flexed with an extended right arm and left arm flexed on chest. It was oriented north (head) with a stone tool in the abdominal area and a shell at the feet. There are no radiometric dates for Mái đá Mộc Long, and the remains are attributed to the Hòa Bìnhian (with the possible exception of Burial 1) based on associated grave goods.

Mái đá Ngườm

Mái đá Ngườm is a rockshelter located in Trung Sơn village, Thần Sa commune, Võ Nhai district, Bắc Thái (now Thái Nguyên) province. It opens north at an altitude of 30 m above sea level, to the left of the Thần Sa River, it is 60 m wide and 12 m deep, while the Hòa Bìnhian cultural deposits extend from the surface to 0.7 m (Đặng 1982; Hoàng 1984; Nguyễn 2016; Quàng and Trịnh 1981). Three burials are reported with Burial 1, an adult of indeterminate sex, being side flexed with the arms also flexed and the hands next to the skull. A fish vertebra was recovered from the chest region. Burial 2 was a double burial designated 2a and 2b, with the graves separated by a low wall of boulders. Burial 2a, a middle-aged female, was side flexed (Hoàng 1989; Nguyễn et al. 1982). Burial 2b, supine flexed with arms parallel to body, was an elderly individual of indeterminate sex, and the body was oriented west (head) (Nguyễn et al. 1982). Mái đá Ngườm is believed to include both

Sonvian and Hòa Bình cultural phases, while the three burials derive from a layer dated to 22,027–20,025 cal. BC.

Mái đá Nước

Mái đá Nước is a rockshelter located in Hạ Trung commune, Bá Thước district, Thanh Hóa province. It opens southeast at an altitude 25 m above sea level. The cultural layer was 0.9 m thick (Hoàng 1989; Nguyễn and Đăng 1984; Nguyễn 1987). One burial, discovered in 1984 at a depth of 0.8 m, is estimated to be a middle-aged adult male and is represented by an almost complete skull with 32 teeth, a right humerus, some right hand bones, and some other fragments of the postcranial skeleton (Nguyễn 1993). The upper body is reported to be supine while the position of the lower limbs is not reported or known (Nguyễn 1994a). At the neck region were six ground sea shells, thought to be a necklace (Nguyễn 1986b, 1987). There are no dates available for Mái đá Nước, however, based on the associated material culture the burial is likely slightly earlier than Mái đá Điều (Nguyễn 1986b).

Mái đá Triềng Xén

Mái đá Triềng Xén is a cave located in Triềng Xén village, Tân Lạc district, Hà Sơn Bình (now Hòa Bình province). It opens southward and is 12 m wide and 15 m deep with a 2 m thick cultural layer (Colani 1927b). Very little information is available apart from the discovery of bone fragments which showed evidence for burning and ocher (Colani 1927b). The site is relatively dated (based on the lithics present) to the Hòabìnhian.

Đa Bút Burial Practices

While the Hòa Bình cultural period is characterized by the high archaeological visibility of the use of caves in mortuary ritual, the Đa Bút cultural period is characterized by open cemetery and midden sites, for the most part on coastal plains circumscribed by karstic limestone outcrops. The Đa Bút cultural period is named after the archaeological site of Đa

Bút, located in Vĩnh Tân commune, Vĩnh Lộc district, Thanh Hóa province (Bùi 1991). The site of Đa Bút was first excavated by Étienne Patte in 1926 (Bùi 1991; Nguyễn 2005; Patte 1932). Đa Bút sites are distributed throughout Thanh Hóa, Ninh Bình, and Hà Nam provinces in northern Vietnam, and the Đa Bút culture is characterized by its distinctive pottery and polished stone tool tradition (Nguyễn 2005). It has been suggested that the Đa Bút pottery represents a transition between two distinct temporal and stylistic phases. The earliest pottery is described as “mat impressed” with parallel impressions from unspun fibers, while the later pottery is described as cord-marked (Nguyễn 2005). Although many sites have been attributed to the Đa Bút culture, the focus of this section is to describe the burials from the Đa Bút cultural period. Three Đa Bút sites have burials: Đa Bút itself, Bản Thủy, and Cồn Cỏ Ngựa.

Bản Thủy

Bản Thủy is located in Bản Thủy village, Vĩnh Thịnh commune, Vĩnh Lộc district, Thanh Hóa province, 1 km from the Mã River (Bùi 2002, 2003). It is a shell midden approximately 50 × 40 m and 1.5 m deep located among low-lying fields. The complete stratigraphic profile was largely intact (Bùi 2002, 2003), and the cultural layer is composed of two layers about 1 m thick covered in a thick blue-gray clay layer about 50 cm thick, similar to Cồn Cỏ Ngựa (Bùi 2002, 2003). The location of Bản Thủy has been known since 1960 (Hà and Trần 1961), a test excavation was carried out in 1978 (Hào and Chiến 1961), and it was excavated again in 2001 when two trenches totaling 11 m² were opened (Bùi et al. 2002).

Two burial pits, with three squatting individuals, were discovered at Bản Thủy at a depth of between 60 cm and 1.3 m (Bùi 2003; Nguyễn 2002). The burials were located 1 m apart at the interface between the midden and the sterile soil, they were interred in pits 60–70 cm in diameter (Bùi 2003), dug from the midden layer based on the description of the burial matrix, and the remains were obscured by the high water table (Bùi 2003; Nguyễn 2002). The

first burial pit contained the remains of two individuals, the second contained the remains of one individual (Nguyễn 2002, 2003a). Burial 1a was represented by the anterior portion of the mandible and is estimated to be a middle-aged female (Nguyễn 2002, 2003a). Burial 1b, an old female, was represented by the mandible and fragments of the humeri, femora, tibiae, and burned metatarsals and phalanges (Nguyễn 2002, 2003a). There was one top stone for a grinding stone, two fragments of grinding stone, and some fragments of quartz associated with the burial (Bùi 2003). Burial 2, a young female, was represented by cranial fragments and associated maxillary and mandibular dentition (Nguyễn 2002, 2003a). There was one grinding stone, three top stones, and one fragment of the butt of a trapezoid-shaped ground and polished stone adze with traces of flaking (Bùi 2003) ostensibly associated with the burial. Material from the 2001 excavation was dated to 4955 to 3637 cal. BC (see [Table 10.2](#)).

Đa Bút

Đa Bút is located in Đa Bút village, Vĩnh Tân commune, Vĩnh Lộc district, Thanh Hóa province. It represents a shell midden approximately 50 × 32 m with a depth of almost 5 m, 3.30 m represented by the mound above the surrounding low-lying rice fields, which extended to a depth of 1.5 m below the surface (Patte 1932, 1965). Đa Bút was first discovered in the 1920s by Pajot and was subsequently excavated by Patte in 1926 and Bùi Vinh in 2001 (Bùi, 2003; Nguyễn 2003a; Patte 1932). Two skulls were recovered by Pajot's reconnaissance, and 12 burials were recovered from Patte's excavation, also one skull was recovered by Nguyễn Văn Khoa in 1962 from an eroding midden on a roadside embankment (Nguyễn 2003a).

The following discusses those observations of the in situ burials by Patte (1932). The complete burials were in a squatting position. There were cases where multiple individuals were represented in one grave pit, and often elements of subadults were interred with adults.

Of particular interest, Patte (1932) suggests that burial 6 included the cranium of a subadult used as an urn to hold the postcranial remains. After removing the top cranial fragments, the post cranial remains were found within the skull, without any inclusions such as soil or shells.

It has been suggested that the articulation of contiguous joints in the burials indicates that they were primary burials with subsequent movement due to the decomposition processes (Patte 1932) as observed at Cồn Cỏ Ngựa in 2013. It has also been suggested that they may have been tied before burial (Patte 1932). Patte suggests that potential grave goods in the burials included pierced bivalve and univalve shells, polished adzes, shells coated in ocher, and cowrie shells. The age for Đa Bút is 5617 to 4401 cal. BC, based on one date from 1971 (Kohl and Quitta 1978) and seven dates from 1986 (Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b, 2005) (see [Table 10.2](#)).

Cồn Cỏ Ngựa

Cồn Cỏ Ngựa is located in Tiên Hòa village, Hà Lĩnh commune, Hà Trung district, Thanh Hóa province, about 4 km from the Mã River (Bùi 1980a). It represents a shell midden estimated to be about 600 × 100 m and up to circa 2 m deep (Bùi 1980a). The stratigraphic profile is likely not intact, as it appears that the top of the midden was truncated in the past due to use of the area in modern times as a rice field. The cultural layer is circa 1 m thick covered in a thick blue-gray clay layer. Three test excavations have been conducted at Cồn Cỏ Ngựa in 1979 (Bùi and Nguyễn 1979), 2001 (Bùi 2003) and 2011 (by one of us, MFO). Two full excavations have been undertaken, one between 1979–1980 (Bùi 1980a, 1980b) that included two excavation squares totaling 228.5 m²; and one in 2013 (by MFO) that included a single excavation square of 84 m² (Oxenham et al., 2018).

At least 95 burials (Bùi 1980a) representing 96 individuals (Oxenham 2001, 2016) were recovered from Cồn Cỏ Ngựa in 1979–1980, while a further 172 individuals were recovered in 2013 (Oxenham et al., 2018). The burials were interred in two positions, side

flexed (in the higher levels of the site) and squatting (found throughout the site). In both the 1979–1980 (see Bui 1980a; Oxenham 2001) and 2013 seasons (Oxenham et al., 2018), the vast majority of squatting burials were oriented (facing) toward an easterly (NE through to SE) direction. While stone grave markers, stag horns, and other artifacts have been reported to have been included as grave goods at contemporaneous sites (Colani 1929; Phạm et al. 1967), with the exception of the occasional use of ocher, there is no clear evidence for this practice, except for one burial from the 2013 season (see discussion that follows). The age for Cồn Cỏ Ngựa includes dates ranging from 4578–3711 cal. BC (Bui 2003; Bui and Nguyễn 2002; Nguyễn and Bui 2003; Nguyễn 2003b, 2005), with two younger dates (see [Table 10.2](#)) being too late, while recent work suggests the site was occupied in the early seventh millennium BP (Oxenham et al., 2018).

Other Southeast Asian Pre-Neolithic Burial Practices

While contemporaneous with the Neolithic, at least six clear examples of supine-flexed burials occur in the earliest phases of Ban Non Wat, Thailand (Higham and Kijngam 2011), see [Table 10.4](#). Similarly, a single instance of a squatting burial occurs in the earliest layers of Nong Nor (Higham and Thosarat 1998). Turning to the early to mid-Holocene, a single side-flexed burial is reported from Ban Tha Si, dated to 6049–5844 cal. BC (Zeitoun et al. 2013). Two early burials were recovered from Tham Lod, one of which was clearly supine flexed (14,819–14,241 cal. BC) and apparently had large rocks arranged in a circle above the remains (Pureepatpong 2006; Shoocongdej 2006). A supine-flexed burial is also published for Ban Rai (9293–8921 cal. BC), with large rocks reportedly placed above the skull (Higham 2013; Pureepatpong 2006).

INSERT TABLE 10.4 HERE

Finally, with regard to Thailand, six adults and two subadults (see [Table 10.4](#)) have been identified in a range of positions including side flexed, supine flexed, and torso supine

(where the legs are invariably missing) at Moh Khiew (Auetrakulvit et al. 2012; Pookajorn 1994). The cultural layers at Moh Khiew are labeled 5 (highest and youngest) through to 1 (oldest), with a single date of $25,000 \pm 600$ (29,010–26,684 cal. BC) at the interface of layers 1 and 2 (Pookajorn 1994). The first burial to be excavated (Burial S1 in [Table 10.4](#)) originates in cultural layer 2 (at a depth of 240–245 cm below the datum), while the remainder were excavated from cultural layer 3 (only burial 3 is provided with a depth below the datum of 180–185 cm) (Pookajorn 1991). Given the clustering of all four burials, a difference of only 60 cm between the putatively older burial 1 and the other 3 burials, and the observation by Pookajorn (1991) that the burials may be intrusive into these layers, it is perhaps best to tentatively assign all four burials to between 7601–7192 and 11,212–10,738 cal. BC) (Pookajorn 1994). In terms of mortuary treatment, Burial 1 (S1) is reported to have had a large rock slab placed over the pelvis, while Burial 2 (S2) included large rocks above the arm and skull (Pookajorn, 1994). Subsequent to Pookajorn’s excavations, Auetrakulvit et al. (2012) recovered a further four burials, ostensibly within Pookajorn’s cultural layer 3: three adults with supine torsos but disturbed or missing lower limbs and one adult in a side-flexed position.

Turning to northeast Laos, a single side-flexed burial dated to 5886–5721 cal. BC from Pha Phen has recently been reported (Tayles et al. 2015). Staying on Mainland Southeast Asia, Gua Cha, peninsular Malaysia, has furnished at least 17 adult pre-Neolithic interments. This figure is based on the work of Bulbeck (2000, 2005a, pers. comm.) in his reassessment of Sieveking’s (1954) publication and skeletal material subsequently curated at the Duckworth Laboratory, Cambridge, UK. Of these burials, eight are side-flexed adults (5 male, 3 female), three are possible supine-flexed adults (2 males, 1 unknown sex), one adult male is flexed but unknown whether side or supine flexed, while there is also one adult secondary burial (Sieveking’s Burial 29). Burial 29 is unique in as much as disarticulated

cranial and postcranial remains have been boxed or framed within borders formed by the two femora of the same individual. A further Malaysian burial worth mentioning is the middle-aged adult male from Gua Gunung Runtuh (Perak Man) buried in a supine-flexed position, with hips and knees tightly flexed (left knee on chest, right knee just lateral to the chest), right arm beneath lower limbs and flexed circa 45° at elbow with hand by right side of skull, left arm (also below lower limbs) flexed at elbow circa 70° with hand resting on lower stomach area (description based on our interpretation of photo provided in Matsumura and Zuraina 1999). A range of lithic artifacts, fragmentary (and sometimes burned) faunal remains, and several thousand shells have been interpreted as grave goods (Zuraina 1994), although in our view these appear to be simply fortuitously associated midden material. Dating of freshwater shell in the spits associated with the burial suggests a maximum age (assuming the burial is younger than the midden in which it was interred) of $10,010 \pm 70$ BP to 9460 ± 90 BP, or 9850–9301 to 9157–8548 cal. BC (note, calibration does not take into account any unknown reservoir effect with the freshwater shells).

Moving to Island Southeast Asia a young adult male, supine flexed, has been reported from Braholo Cave, southern central Java, and dated to 10,086–8575 cal. BC (Détroit 2002; Simanjuntak 2004). In southern central Java at Song Terus a middle-aged adult male in a side-flexed position, dated to 8801–8301 cal. BC (95.4%) has also been noted (Détroit 2002; Sémah et al. 2004). The oldest Island Southeast Asian clearly deliberate burial derives from Liang Lemdubu in the Aru Islands, eastern Indonesia, and is directly electron spin resonance dated (using a tooth from the burial) to $18,800 \pm 2300$ years BP (O'Connor et al. 2005). Bulbeck (2005b) suggests this adult female may have been processed postmortem, due to the presence of cut marks, and subsequently interred beneath a large boulder while, minimally, in a state of very advanced decomposition. Some 25 early Holocene (pre-Neolithic) burials have been described for Niah cave, Sarawak, Malaysia. The following information is based on the

work by Barbara Harrisson (1967) and subsequent reanalyses by Lloyd-Smith (2012, 2013, pers. comm.). Seven adults (including 2 males, 2 females) and one subadult are side flexed; five adults (including 2 males, 2 females) are supine flexed; three adults and a subadult are flexed but a side or supine cannot be determined; and one female, two subadults, and an individual of indeterminate age and sex are categorized as secondary burials. Two of the secondary burials are also reported to have been cremated, while three of the four squatting burials were charred to some degree. Finally, Ille cave, Palawan, Philippines, has furnished seven cremation burials dated to between 6500 and 7500 cal. BC (Lara et al. 2015). While not all of these burials have been described in detail, it appears all seven were subjected to elaborate postmortem processing (including skinning, defleshing, and bone/element breakage) prior to being cremated and subsequently buried (Lara et al. 2016; Lara et al. 2015).

Discussion

Our presentation of Hòabinhian and Đa Bút burial practices has focused on the most complete published examples, for the most part in Vietnamese with some key French publications, and is no doubt incomplete. Notwithstanding, one of our main aims was to bring these data to a broader audience and provide some preliminary interpretation of what are clearly varied and diverse burial practices from the Late Pleistocene through to the Mid-Holocene of Vietnam. Similarly, we provide a broad overview, rather than a definitive review, of pre-Neolithic burial practices in neighboring Mainland and Island Southeast Asian countries in order to help contextualize the Vietnamese data.

Emergence of Burial Behavior

Debates over the beginning of deliberate burial practices (Middle v. Upper Paleolithic) seen in Europe (e.g., see Riel-Salvatore and Clark 2001) are absent for the most part in Southeast Asia. Despite the earliest clear evidence for AMHs in East Asia dating to circa 50,000 years ago (Tam Pa Ling, Laos; Demeter et al. 2012), the earliest clear evidence for deliberate burial

occurs much later, roughly contemporaneously in both Mainland and Island Southeast Asia at circa 20,000 years ago (e.g., Mái đá Ngườm in Vietnam and Liang Lemdubu in eastern Indonesia). The massive landmass loss at the close of the LGM is perhaps not coincidental with the subsequent archaeological visibility and preservation of early burial sites.

Burial Position

Three main burial positions have been identified, which all include some form of lower limb flexion of at least 90° at the knees: (1) Lying on the side; (2) Lying supine; and (3) Squatting. Unfortunately, the literature seldom revealed which side (left or right) an individual was placed on or the positioning of the arms and hands. When arm positioning was reported, there was variation regarding the first two body positions; the arms flexed with the hands usually near the chest, or the arms extended. The position of the arms and the hands with respect to the third body position (squatting) would be largely dictated by decomposition. For squatting burials at Cồn Cỏ Ngựa, for instance, the elbows were slightly flexed and the hands placed in the lap. A fourth position, extended supine, has been reported in at least one report: Hang Muối Burial 1 (0.3 m below the surface), which is possibly a more recent (Neolithic?) interment.

There appears to be no geographic or temporal patterning for these burial positions within the Hòa Bình cultural period. There is no clear chronological change in position over time, even in cases where the chronological depositional sequence extends over several periods. Mái đá Điều perhaps provides the best sequence, ostensibly extending from the Sơn Vi through to Hòa Bìnhian periods. While its excavation history is complex, with apparent inconsistencies in the reporting of cultural layers and stratigraphy, it seems clear that the earliest burial at Mái đá Điều (Burial 7 in layer 2 at a depth of >3 m) was a side-flexed interment. Other layer 2 burials have been described as extended (supine) flexed, while the only clear example of a squatting interment derives from the higher (younger) layer 3. It

would seem that squatting burials during the Hòabìnhan are quite rare, and when they occur it is relatively late in the sequence, at Mái đá Điều at least. We could only find reference to two other squatting interments among the Hòabìnhan reports, a female from Hang Chùa dated to the Early Holocene and a male, Hang Muối Burial 2, dated to the Terminal Pleistocene.

There is, nonetheless, a marked change in burial positioning in the mid-Holocene during the Đa Bút culture phase. The vast majority of burials during this phase, as seen at Đa Bút, Bản Thủy and Cồn Cổ Ngựa, are squatting, and it is only at Cồn Cổ Ngựa that side-flexed burials also occur, albeit in a later stage of the burial sequence. Chronologically, the radiocarbon sequences and archaeological analyses suggest that Đa Bút is older than Bản Thủy and Cồn Cổ Ngựa. There is also a suggestion that due to the high water table the lower levels of Đa Bút have never been completely excavated or dated (Nguyễn 2005). The appearance of side-flexed burials in the later phases of the Cồn Cổ Ngựa cemetery potentially suggests a further cultural transition. While not the focus of this chapter, it is intriguing to note that while the emergence of the Neolithic in the region saw an almost universal change to extended supine interments (jar burial practices aside), Neolithic Man Bac included three side-flexed (MB99M5b, MB05M15, and MB07H1M9) burials (Oxenham et al. 2011). Further, in northeast Thailand, at least 12 individuals from the Neolithic levels of Ban Non Wat (1741–1055 BC) are either side or supine flexed. The reason(s) for the late retention into the Neolithic of side- and supine-flexed interments is unclear. A final observation regarding burial position is that three of the sexed supine-flexed Vietnamese Hòabìnhan burials are female with the other one male, while five of the sexed side-flexed burials are male with the other one female. However, the sexed sample is very small and any arguments for sex-based differences in Vietnamese Hòabìnhan burial position is tenuous at this stage. Further, as seen

in [Table 10.4](#), this apparent sex-based pattern does not occur in the rest of Mainland and Island Southeast Asia.

Burial Orientation

It has been suggested that there is no consistency in the orientation of the Hòabìnhian burials in the caves of Vietnam (Chử 1967; Hà 1990; Hoàng 1989), however, this could be a function of the direction of the caves, the openings of which vary in accordance with the local geology. Notwithstanding, in 10 cases (see [Table 10.3](#)) there is information on the direction of the cave opening and also the orientation of the burial described. In 9/10 cases the axis of the body is oriented to within 90° of the cave opening, with the head toward the cave opening in half of these cases and the feet toward the cave opening in 4/10 instances. An isolated instance (1/10) of the long axis of the burial being perpendicular to the cave opening has also been described.

With regard to the Đa Bút period, the best data is from the 2013 excavation (MFO and AW field observations) where orientation (here defined as the direction the head and feet were facing when in a squatting position) could be determined for 88 squatting burials. In 90.9% of cases, the body was oriented between 1° and 180°, 51.1% of all squatting burials were oriented between 45° and 135°, or northeast through southeast, or the direction of the rising sun. For the side-flexed burials, 10/26 (38.5%) were oriented (long axis of the body with the head pointing in the cardinal direction) northwest to northeast, 8/26 (30.8%) southwest through southeast, with the remaining burials scattered between these two main directions.

Body Treatment

Key aspects of body treatment have been dealt with under the headings of positioning and orientation. In the majority of cases, where body position could be ascertained, there is an

assumption that these are examples of primary interment. Little can be said, or assumed, regarding those cases where a body position could not be determined.

Evidence of burning, partial or complete cremation(?), on Hòa Bìnhian human remains have been observed and noted at Mái đá Triềng Xén and Mái đá Làng Vành (Nguyễn 1986a), Hang Dắng (Nguyễn 1972, 1986a), Hang Thẳm Hoi (Nguyễn 1972), Động Can (Nguyễn 1994a) and possibly Hang Muối due to the presence of carbonized postcranial remains (Bulbeck et al. 2007). Several suggestions have been put forward to explain the occurrence of burning, including the close proximity of the burials to hearths in the caves, or the practice of cremation. Nguyễn (1972, 1986a) suggests that neither of these explanations is satisfactory because they do not explain the splitting, chopping, or cutting observed on some of the burials seen at sites like Hang Dắng and Thẳm Hoi. The suggestion that some of the bones have evidence for cutting is interesting in regard to what has been observed at the excavation of Cồn Cỏ Ngựa in 2013 (Oxenham et al., 2018). Also, whether the bones were actually burned, or whether they were just stained from manganese dioxide for example, a common geochemical reaction observed in caves (Gunn 2004), is not known or able to be investigated. Hang Thẳm Hoi Burial 3 is also worth mentioning inasmuch as it is the only clear example we have found of the interment of fragmented and burned remains within a clear round pit feature, suggestive of both cremation and secondary burial as opposed to incidental burning or in situ cremation.

While we have not undertaken an exhaustive review of Mainland and Island Southeast Asian pre-Neolithic sites, it is clear that burning and/or cremation occurred in the region as a whole. Three of the four squatting burials at Niah cave are reported to be charred, while two of the four secondary burials are said to represent cremations. Roughly contemporaneous with the Niah cremation and charred burials are the seven cremation bundles reported from Palawan in the Philippines. While reports on burning/cremation are not particularly clear or

detailed for Vietnam, it does appear that burning/cremation occurs somewhat earlier in Vietnam (or the mainland) than in Island Southeast Asia.

Burning aside, it was commonly reported that skeletal elements were covered with red ochre, for example, ochre was noted on burials at Hang Con Moong (Hoàng and Nguyễn 1976), Mái đá Làng Vành (Colani 1929), Mái đá Triềng Xén (Colani 1927b) and Mái đá Điều (Nguyễn 1994b). The use of ochre was also mentioned by Nguyễn (1994a) in his review paper at Hang Con Moong, Hang Muối, and Hang Dắng. Hang Muối 1, the relatively shallow supine-extended burial of unclear date (but likely Neolithic), was described as resting on a bed of ochre (Phạm et al. 1967). Clearly the observation of ochre on skeletal elements indicates postdecomposition manipulation of bodies, presumably as part of an extended mortuary process. In terms of the use of ochre in the region, Hang Con Moong (13,760–7462 cal. BC) would seem to be the earliest instance of its use in a burial context. In the wider region, Mungo 3 in Australia denotes the earliest use of ochre in a mortuary context at circa 40,000 ± 2,000 years ago (Bowler et al. 2003), while ochre was commonly used in mortuary contexts during the European early UP (Riel-Salvatore and Clark 2001). The use of ochre, as with any other feature of mortuary ritual, presumably had symbolic (e.g., representing the life force of blood, transformations involving ancestral power, etc.) (Boivin 2012) and/or utilitarian (putrefaction retardant) (Riel-Salvatore and Clark 2001) functions, although reasons remain unclear for Southeast Asia.

Another form of secondary mortuary ritual appears to be related to some form of skull veneration, which may be related to ancestor worship in some form. For instance, it has been reported that 20 crania were apparently deliberately positioned, albeit surrounded by postcranial material, at Hang Làng Gạo (Colani 1927a). It was also suggested that some elaborate form of body processing, excarnation, was involved, although this is difficult to test without an examination of the skeletal material, which seems to be no longer extant.

Similarly, at Mái đá Làng Vành eight isolated crania were reported by Colani (1929), seemingly without associated postcranial remains, and this time covered in ocher. Finally, a somewhat unique case is reported by Patte where the postcranial remains of a subadult were deliberately placed within the cranium of the same Đa Bút individual.

The burial of isolated crania, and otherwise complete burials either lacking their cranium or having it displaced from the neck, occur during the Neolithic at Niah (Lloyd-Smith et al. 2016) and at least four cases of cranial removal have been noted in the early Holocene burial sample (Lloyd-Smith 2012). A tradition of cranial removal, perhaps associated with some form of ancestor worship, is seen to extend from the northern Philippines, to eastern Indonesia and out to Vanuatu during the Neolithic (Oxenham et al. 2016) but the source (if indeed it is singular) for this practice is unknown, but could conceivably be Vietnam.

Grave Construction

Very little can be said regarding Hòabìnhian grave construction as the grave itself is seldom mentioned in any detail in published reports. Notwithstanding, large stones have been reported as either lining or demarcating/separating burials at three sites. Hang Đẳng Burial 3 was reported to be surrounded by large stones while the graves of Mái đá Ngườm Burials 2a and 2b were said to be separated by an arrangement of rocks. Mái đá Mộc Long Burial 2 appears to be the most elaborate Hòabìnhian grave construction reported with the grave being lined with ash and rocks and subsequently capped with three large stones. The use of large rocks to frame, mark or even cover pre-Neolithic burials outside Vietnam is also seen in Thailand, Malaysia (Gua Cha), and Indonesia (Liang Lemdubu) (see [Table 10.4](#)). Presumably such placements served to mark graves, provide a visible boundary to the deceased and perhaps (in the case of rocks and stone slabs covering burials) may also have served to prevent the deceased from returning to the world of the living (Murphy 2008).

In the later Đa Bút period, the majority of burials are seated and required the excavation of circular pits. During the 2013 excavation of Cồn Cổ Ngựa, the authors were able to observe the grave cuts of the lower burials where they had been excavated into the yellow sterile layer from the higher dark-brown cultural layer. In the majority of cases it was apparent that single circular pits had been excavated that were just wide enough to accommodate a fleshed squatting individual. As all of the side-flexed burials at Cồn Cổ Ngựa were concentrated in a higher cultural level, there was no opportunity to observe their grave construction.

Grave Goods

While a range of material culture (see previous discussion regarding ocher) has been reported as being associated with Hòa Bìnhian burials (shells, stone flakes, and adzes/axes, grinding stones, and pestles) it is almost always the case that the deliberate placement of such objects within the grave cannot be verified. The ground shells found by the neck of the Mái đá Nước individual and the shells placed in the eye sockets of Hang Phia Vài are clearly exceptions.

Grave goods are also rare or of dubious identification as actual grave goods in the Đa Bút culture period. One of the main issues in these Đa Bút period cemeteries is that the burial matrix is invariably midden that is rich in discarded faunal remains and material culture, many items of which end up as grave fill. This was particularly problematic in the 2013 reexcavation of Cồn Cổ Ngựa by the authors. Indeed, of over 150 burials recorded during this excavation only one individual possessed a clear example of a deliberately placed grave good, in this instance a personal ornament in the form of a modified porcupine incisor bracelet.

Conclusions

The purpose of this chapter was to review the evidence for Hòa Bìnhian and later Đa Bút period mortuary traditions in Vietnam, with some contextualizing data from the broader

region. While modern humans were in the region by circa 50,000 years ago, clear evidence for deliberate mortuary treatment of the dead does not appear until the end of the LGM circa 20,000 years ago. Three main forms of burial position can be observed, with side- and supine-flexed burials apparently predating squatting burials. Squatting burials become the norm in the Đa Bút period, with some rare evidence for side and supine burials extending into the Neolithic of both Thailand and Vietnam. Further positional elaboration occurs with arm placement, although unfortunately little data are available on this. There is some indication, in Vietnam only, that supine-flexed positions occur more commonly with females and side-flexed with males. What does seem clear is that there is currently no evidence for extended supine positioning in Mainland or Island Southeast Asia until the emergence of the Neolithic. Mortuary variability is also seen in terms of body treatment, with evidence for partial through to ostensibly more or less complete cremation occurring in Vietnam and the region as a whole. In some instances, postmortem disarticulation or processing of remains has been noted. Indeed, secondary burial treatment is not uncommon in the Hòabìnhian, with, apart from cremation, the use of ocher on defleshed (or decomposed) remains occurring as well as some possible form of ancestor worship where crania are curated and positioned in caves. The latter form of body treatment may be related to a similar practice seen in pre-Neolithic Niah cave and later in Neolithic contexts from the northern Philippines through to eastern Indonesia and out to Vanuatu. While not a great deal of information is available on grave construction, the use of boulders or rocks to demarcate, line, or even cover graves is not uncommon in Vietnam or the region as a whole. Finally, there seems to be a paucity of grave goods in Hòabìnhian contexts, and when they are reported on they could very well simply be incidental grave inclusions or objects that were combined with the grave fill. The unique case of cowrie shells placed in the eyes of mid-Holocene Hang Phia Vài 2 being an exception. What is apparent from this review is that the mortuary tradition in Vietnam, and the Southeast

Asian region (Mainland and Island), has a deep antiquity and that an enormous amount of variability across space and through time occurs.

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Table 10.1

Dates for Vietnamese Hòa Bình Sites with Substantive Human Remains

Name	Lab-code	14C date	Uncertainty	Calibrated date BC			Material dated	Year	Layer	Depth	References
				from	to	%					
Động Can	Gd 4218	13,650	310	15,501	13,712	95.4	Shell (unspecified)	1987	Layer 2 top	-	Hoàng 1989
Động Can	Gd 4217	13,510	270	15,183	13,553	95.4	Shell (unspecified)	1987	Layer 2 top	-	Hoàng 1989
Động Can	Gd 2781	13,360	200	14,736	13,479	95.4	Shell (unspecified)	1987	Layer 2/4	-	Hoàng 1989
Động Can	Gd 5254	13,450	130	14,651	13,858	95.4	Shell (unspecified)	1987	Layer 2 middle	-	Hoàng 1989
Động Can	Gd 5252	13,400	130	14,574	13,801	95.4	Shell (unspecified)	1987	Layer 2/3	-	Hoàng 1989

Động Can	Gd 2780	11,5 90	180	11,8 23	11,1 34	95. 4	Charcoal (unspecifi ed)	198 7	Laye r 2 midd le	-	Hoàng 1989
Động Can	Gd 5250	11,6 00	90	11,6 56	11,2 94	95. 4	Charcoal (unspecifi ed)	198 7	Laye r 2 botto m	-	Hoàng 1989
Động Can	Gd 2779	11,3 30	150	11,5 16	10,9 06	95. 4	Charcoal (unspecifi ed)	198 7	Laye r 2 top	-	Hoàng 1989
Động Can	Gd 2782	10,2 90	140	10,6 08	9460	95. 4	Charcoal (unspecifi ed)	198 7	Laye r 1	-	Hoàng 1989
Hang Chỏ	-	9259	206	9206	7970	95. 4	Human canine root	200 4	Laye r 3	0.82 m	Matsum ura et al. 2008
Hang Chùa	Bln 1274 II	9325	120	9119	8285	95. 4	Shell land snail and freshwater snail (<i>Angulyag ra</i> sp., <i>Brotia variabilis</i> , <i>Cyclophor us siamensis</i>)	197 2	-	1.5 m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978; ¹ Hà 1976; Hoàng 1989; Kohl and Quitta 1978; ¹ Hà 1976; Hoàng 1989; Kohl and

											Quitta 1978 ¹
Hang Chùa	Bln 1304	9175	120	8752	8012	95. 3	Shell land snail and freshwater snail (<i>Angulyag ra</i> sp., <i>Brotia variabilis</i> , <i>Cyclophor us siamensis</i>)	197 2	-	1.5 m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978
Hang Chùa	Bln 1274 I	9075	120	8625	7873	95. 4	Shell land snail and freshwater snail (<i>Angulyag ra</i> sp., <i>Brotia variabilis</i> , <i>Cyclophor us siamensis</i>)	197 2	-	1.5 m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978
Hang Con Moo ng	Bln 3496 I	12,9 20	70	13,7 60	13,2 55	95. 4	Freshwate r mollusk shell (<i>Antimela nia</i>)	197 6	-	3.5 m	Gorsdor f and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3496 II	12,8 60	70	13,6 73	13,1 80	95. 4	Freshwate r mollusk shell (<i>Antimela nia</i>)	197 6	-	3.5 m	Hoàng 1989
Hang Con Moo ng	Bln3495 II	12,4 30	70	13,0 17	12,2 26	95. 4	Freshwate r mollusk shell (<i>Antimela nia</i>)	197 6	-	2.8– 3.0 m	Gorsdor f and Nguyễn 1995;

											Hoàng 1989
Hang Con Moo ng	Bln 3490 II	12,3 50	70	12,8 35	12,1 33	95. 4	Terrestrial mollusk shell (<i>Cyclopho rus</i>)	197 6	-	3.5 m	Gorsdor f and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3490 I	12,1 70	100	12,5 13	11,8 06	95. 4	Terrestrial mollusk shell (<i>Cyclopho rus</i>)	197 6	-	3.5 m	Hoàng 1989
Hang Con Moo ng	Bln 3495 I	12,1 50	70	12,2 57	11,8 34	95. 4	Freshwate r mollusk shell (<i>Antimela nia</i>)	197 6	-	2.8– 3.0 m	Hoàng 1989
Hang Con Moo ng	Bln 3494 II	12,1 10	70	12,1 94	11,8 20	95. 4	Freshwate r mollusk shell (<i>Antimela nia</i>)	197 6	-	2.4– 2.6 m	Gorsdor f and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3494 I	12,0 40	70	12,1 33	11,7 96	95. 4	Freshwate r mollusk shell (<i>Antimela nia</i>)	197 6	-	2.4– 2.6 m	Hoàng 1989
Hang Con Moo ng	Bln3489 I	12,0 20	70	12,1 29	11,7 82	95. 4	Terrestrial mollusk shell (<i>Cyclopho rus</i>)	197 6	-	2.8– 3.0 m	Gorsdor f and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3488 II	11,9 40	70	12,0 38	11,6 25	95. 4	Terrestrial mollusk shell (<i>Cyclopho rus</i>)	197 6	-	2.4– 2.6 m	Gorsdor f and Nguyễn 1995;

											Hoàng 1989
Hang Con Moo ng	Bln 3489 II	11,9 00	70	12,0 05	11,6 07	95. 4	Terrestrial mollusk shell (<i>Cyclopho rus</i>)	197 6	-	2.8– 3.0 m	Hoàng 1989
Hang Con Moo ng	Bln 1713 II	11,8 40	75	11,8 42	11,5 24	95. 4	Shell land snail and freshwater snail (<i>Cyclopho rus siamensis</i> and <i>Antimelan ia siamensis</i>)	197 6	-	3.2 m	Hoàng 1989; Kohl and Quitta 1978; ² Hoàng 1989; Kohl and Quitta 1978 ²
Hang Con Moo ng	Bln 3488 I	11,8 30	70	11,8 24	11,5 32	95. 4	Terrestrial mollusk shell (<i>Cyclopho rus</i>)	197 6	-	2.4– 2.6 m	Hoàng 1989
Hang Con Moo ng	Bln 1713 I	11,7 55	55	11,7 79	11,5 13	95. 4	Shell land snail and freshwater snail (<i>Cyclopho rus siamensis</i> and <i>Antimelan ia siamensis</i>)	197 6	-	3.2 m	Hoàng 1989; Kohl and Quitta 1978; ³ Hoàng 1989; Kohl and Quitta 1978 ³
Hang Con Moo ng	Bln 3493 I	11,0 70	90	11,1 36	10,7 94	95. 4	Freshwate r mollusk shell	197 6	-	2.0– 2.2 m	Gorsdor f and Nguyễn 1995;

							(<i>Antimelania</i>)				Hoàng 1989
Hang Con Moo ng	Bln 3493 II	10,870	70	10,982	10,726	95.4	Freshwater mollusk shell (<i>Antimelania</i>)	1976	-	2.0–2.2m	Hoàng 1989
Hang Con Moo ng	Bln 3485	10,330	70	105,63	9882	95.3	Charred fruit stone (<i>Canarium</i>)	1976	-	2.0–2.2m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3492	9900	60	9655	9255	95.4	Freshwater mollusk shell (<i>Antimelania</i>)	1976	-	1.0–1.2m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3484	9380	60	8807	8474	95.4	Charcoal (unspecified)	1976	-	1.2–1.4m	Hoàng 1989
Hang Con Moo ng	Bln 3491	9230	60	8606	8301	95.4	Freshwater mollusk shell (<i>Antimelania</i>)	1976	-	0.4–0.6m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3487	9200	70	8603	8285	95.4	Terrestrial mollusk shell (<i>Cyclophorus</i>)	1976	-	1.0–1.2m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3483	9150	60	8546	8269	95.4	Charcoal (unspecified)	1976	-	0.6–0.8m	Hoàng 1989

Hang Con Moo ng	Bln3497	9110	60	8532	8236	95.4	Charred fruit stone (<i>Canarium</i>)	1976	-	1.0–1.2m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3486	8510	60	7631	7468	95.4	Terrestrial mollusk shell (<i>Cyclophorus</i>)	1976	-	0.4–0.6m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Con Moo ng	Bln 3482	8500	60	7607	7462	95.4	Charred fruit stone (<i>Canarium</i>)	1976	-	0.4–0.6m	Gorsdorf and Nguyễn 1995; Hoàng 1989
Hang Đắ ng	Bln 913 I	7665	65	6635	6429	95.4	Shell land snail (<i>Cyclophorus siamensis</i>)	1969	-	0.6m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978 ⁴
Hang Đắ ng	Bln 913 II	7580	80	6594	6252	95.4	Shell land snail (<i>Cyclophorus siamensis</i>)	1969	-	0.6m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978 ⁵
Hang Muối	HANGHUM 19660	12,020	40	12,059	11,804	95.4	Burned human bone	1963–1965	-	-	Bulbeck et al. 2007

Hang Phia Vài	HNK 287 II	7610	25	6490	6427	95. 4	Terrestrial mollusk shell (<i>Cyclophorus</i>)	200 5	Laye r 7	0.70 m	Nguyễn and Lê 2007
Hang Phia Vài	HNK 287 I	7050	115	6206	5716	95. 4	Terrestrial mollusk shell (<i>Cyclophorus</i>)	200 5	Laye r 6	0.60 m	Nguyễn and Lê 2007
Hang Phia Vài	HNK 260	6920	115	6011	5630	95. 4	Terrestrial mollusk shell (<i>Cyclophorus</i>)	200 5	Laye r 5	0.50 m	Nguyễn and Lê 2007
Hang Phia Vài	HNK 263	3570	55	2118	1750	95. 4	Terrestrial mollusk shell (<i>Cyclophorus</i>)	200 5	Laye r 4 (Burial M1)	0.40 – 0.50 m	Nguyễn and Lê 2007
Hang Thả m Hoi	Bln 1275 I	10,8 75	175	11,1 66	10,4 77	95. 4	Shell freshwater snails mostly <i>Brotia variabilis</i>	197 2	-	0.6 m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978 ⁶
Hang Thả m Hoi	Bln 1276 II	10,5 35	150	10,7 76	10,0 51	95. 4	Shell freshwater snails mostly <i>Brotia variabilis</i>	197 2	-	0.6 m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978 ⁷
Hang Thả m Hoi	Bln 1305	10,5 50	120	10,7 61	10,1 53	95. 4	Shell (unspecified)	197 2	-	0.6 m	Hà 1976; Hoàng 1989

Hang Thảm Hoi	Bln 1276 I	10,255	150	10,581	9449	95.4	Shell freshwater snails mostly <i>Brotia variabilis</i>	1972	-	0.6m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978
Hang Thảm Hoi	Bln 1275 II	10,125	175	104,39	9291	95.4	Shell freshwater snails mostly <i>Brotia variabilis</i>	1972	-	0.6m	Hà 1976; Hoàng 1989; Kohl and Quitta 1978 ⁸
Hang Xóm Trại	HNK 530	17,100	545	20,207	17,495	95.4	Freshwater mollusk shell (<i>Antimelania</i>)	2008	-	3.0m	Nguyễn 2015
Mái đá Điều	Bln 3542	19,700	150	22,167	21,382	95.4	Charcoal (unspecified)	1986	-	3.0–3.1m	Hoàng 1989; Nguyễn 2005a
Mái đá Điều	ANU-10377	8610	80	7937	7520	95.5	Land snail (unspecified)	1995	Layer 30a	-	Nguyễn 2005a
Mái đá Điều	Bln 3541	8200	70	7451	7059	95.4	Charcoal (unspecified)	1986	-	1.8–2.0m	Hoàng 1989; Nguyễn 2005a ⁹
Mái đá Điều	Bln 3540	7970	70	7061	6661	95.4	Charcoal (unspecified)	1986	-	1.6–1.8m	Hoàng 1989; Nguyễn 2005a ¹⁰
Mái đá Điều	ANU-10367	7720	70	6678	6442	95.4	Land snail (unspecified)	1995	Layer 20a	-	Nguyễn 2005a

Mái đá Điền	NU-1118	6360	125	5558	5026	95. 4	Land snail (unspecifi ed)	199 5	Laye r 10a	-	Nguyễn 2005a
Mái đá Điền	NU-1119	4940	90	3957	3533	95. 4	Land snail (unspecifi ed)	199 5	Laye r 17a	-	Nguyễn 2005a
Mái đá Ngư ò	Bln 2692 I	23,0 00	200	25,7 36	24,9 38	95. 4	Shell (unspecifi ed)	198 1– 198 2	-	1.1 m	Hoàng 1989; Nguyễn 2016 ¹¹
Mái đá Ngư ò	Bln 2692 II	23,0 00	200	25,7 36	24,9 38	95. 4	Shell (unspecifi ed)	198 1– 198 2	-	1.1 m	Hoàng 1989; Nguyễn 2016 ¹²
Mái đá Ngư ò	Bln 2691 I	19,0 40	400	22,0 27	20,1 92	95. 4	Shell (unspecifi ed)	198 1– 198 2	-	0.7 m	Hoàng 1989; Nguyễn 2016 ¹³
Mái đá Ngư ò	Bln 2691 II	18,6 00	200	20,9 93	20,0 25	95. 4	Shell (unspecifi ed)	198 1– 198 2	-	0.7 m	Hoàng 1989; Nguyễn 2016 ¹⁴

¹Reported as 9570 ± 120 in Hà 1976

²Reported as 3.0–3.2 m depth in Kohl and Quitta 1978

³Reported as 11 755 ± 7 5 and 3.0–3.2 m depth in Kohl and Quitta 1978

⁴Reported as 7665 ± 100 in Hà 1976

⁵Reported as 7580 ± 100 in Hà 1976

⁶Reported as 10,125 ± 175 in Hà 1976

⁷Reported as 10,815 ± 150 in Hà 1976 and Kohl and Quitta 1978

⁸Reported as 10,875 ± 175 in Hà 1976

⁹Reported as 7970 ± 70 in Nguyễn 2005a

¹⁰Reported as 8200 ± 70 in Nguyễn 2005a

¹¹Reported as Bln 2691/II

¹²Reported as Bln 2691/II

¹³Reported as Bln 2691/III

¹⁴Reported as Bln 2691/IV

Table 10.2

Dates for Vietnamese Đa Bút Sites with Substantive Human Remains

Name	Lab code	14C date	Uncertainty	Calibrated date BC			Material dated	Year	Layer	Depth	Reference
				from	to	%					
Bản Thủy 94	HNK 94	5860	95	4955	4496	95.4	-	2001	Layer 2	-	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003
Bản Thủy 90	HNK 90	5560	95	4678	4233	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	2001	Layer 2	0.7–1.0 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005 ¹
Bản Thủy 93	HNK 93	5020	95	3987	3641	95.4	-	2001	Layer 1	-	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003
Bản Thủy 89	HNK 89	5000	95	3981	3637	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	2001	Layer 1	0.5–0.7 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005 ²

Cồn Cỏ Ngựa	HNK 88	5520	95	4578	4067	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	2001	Layer 2	1.5 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005 ³
Cồn Cỏ Ngựa	HNK 95	5140	95	4229	3711	95.4	-	2001	Layer 2	-	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003 ⁴
Cồn Cỏ Ngựa	Bln 2697	3020	100	1499	996	95.4	-	1980	-	1.0 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003
Cồn Cỏ Ngựa	ZK 375	2600	80	923	433	95.4	-	1975	-	0.7 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003
Đa Bút	Bln 3510/II	6540	60	5617	5376	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	1986	-	1.2 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn

											2003b; Nguyễn 2005 ⁵
Đa Bút	Bln 3509	6540	60	5617	5376	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	1986	-	1.0 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005 ⁶
Đa Bút	Bln 3510/I	6430	60	5491	5303	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	1986	-	1.2 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003
Đa Bút	Bln 3508/II	6400	60	5482	5231	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	1986	-	0.8 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005
Đa Bút	Bln 3508/I	6390	60	5479	5229	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	1986	-	0.8 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003

Đa Bút	Bln 1407	6095	60	5212	4848	95.4	Terrestrial mollusk shells (<i>Corbicula</i>)	1971	-	0.7 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005 ⁷
Đa Bút	Bln 3507/II	5810	50	4785	4544	95.4	Terrestrial mollusk shells (<i>Cyclophorus</i>)	1986	-	0.6 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003; Nguyễn 2003b; Nguyễn 2005 ⁸
Đa Bút	Bln 3507/I	5710	60	4711	4401	95.4	Terrestrial mollusk shells (<i>Cyclophorus</i>)	1986	-	0.6 m	Bùi 2003; Bùi and Nguyễn 2002; Nguyễn and Bùi 2003

¹Reported as 5640 ± 95 and 1.0 m in Nguyễn 2003b and 1.0 m in Nguyễn 2005

²Reported as 0.4 m in Nguyễn 2003b and Nguyễn 2005

³Reported as 0.7–0.8 m in Nguyễn 2003b and Nguyễn 2005

⁴Reported as HNK 88 in Bùi and Nguyễn 2002

⁵Reported as 12 m in Bùi and Nguyễn 2002; reported as 6460 ± 60 in Nguyễn 2003b and Nguyễn 2005

⁶Reported as Bln 3059 in Bùi 2003; Bùi and Nguyễn 2002, and Nguyễn and Bùi 2003

⁷Reported as Bln 1047 in Nguyễn 2003b and Nguyễn 2005

⁸Reported as 0.4 m in Nguyễn 2003b and Nguyễn 2005

Table 10.3

Vietnam Hòa bình Burial Summary

					Head	Feet	Orient.			Ocher	Grave
Site	Date (calibrated 94%)	Position	sex	Age	90°	90°	Other/uk	Grave Goods	Burning	Bones	Features
Động Can	15,183 to 9460	side flexed	M	A	yes				yes		
Đú Sáng 1	Early Holocene	supine flexed	F	A			uk	3 × edge-ground axes			4 large rocks above the head and chest
Đú Sáng 2	Late Pleistocene	jumbled		A			uk	secondary?			
Hang Chỗ	9,206 to 7970	supine flexed	F	A	yes				no		
Hang Chùa	9,119 to 7873	squatting	F	A		yes			no		
Hang Con Moon g 1 (layer II)	13,760 to 7462	side flexed	M	A		yes		grinding stone and muller, large shell	no	yes	surrounded by rocks
Hang Con Moon g 2 (Layer I)	“	side flexed					uk	unspecified tools	no	yes	
Hang Con Moon	“	side flexed					uk	unspecified tools	no	yes	

g 3 (Layer I)											
Hang Con Moon g 4 (Layer I)	“	side flexed					uk	unspecified tools	no	yes	
Hang Đấng 1	6,635 to 6252	?	?	A			uk	uk	uk		
Hang Đấng 2	“	side flexed		A	yes			rhinoceros tooth, large shell	yes		
Hang Đấng 3	“	?		A			perpendicular.	bear tooth, shell scraper, monkey mandible	uk		surrounded by rocks
Hang Đồng Truong B	Hoabinhan	squatting		A			uk	unspecified stone tools	no		
Hang Đồng Truong C	“	side flexed		C			uk		no		
Hang Đồng Truong E	“	supine flexed	M	A			uk		no		
Hang Đồng Truong H	“	side flexed	M	A			uk		no		

Hang Đổng Truong M	“	squattin g	M	A			uk		no		
Hang Làng Gạo	Hoabinhi an	seconda ry × 20							no		positioned skulls
Hang Muối 1	Neolithic (?)	supine, extended		A			uk	2 adzes, pestle	uk		On a bed of ocher
Hang Muối 2	12,059–11,804	squattin g	M	A			uk	uk	yes		
Hang Phia Vài 1	2,118 - 1750	uk							uk		
Hang Phia Vài 2	6,490 - 5630	supine flexed	F	A		yes		boar tooth, cowrie shell eyes	no		
Hang Thảm Hoi 3	11,166–9291	seconda ry	M	A					yes		
Hang Xóm Trại	20,207–17,495	side flexed	M ?	A							
Mái đá Điều (27 burials)	7,937 to 3533	unknow n position × 7						grinding stones, flakes found	no	no	

		squattin g × 1						with some of the burials			
		side flexed x 3									
		supine flexed × 2									
		side or supine flexed × 14									
Mái đá Làng Vanh (MNI = 8)	Hoabinhi an	seconda ry × 8	?	?			N/A	N/A	yes	positioned (?) skulls, ocher covered	
Mái đá Mộc Long 1	Neolithic (?)	side flexed	?	A			uk	muller, pottery			
Mái đá Mộc Long 2	Hoabinhi an	side flexed	?	A			uk			lined with rocks and ash, capped with large rocks	
Mái đá Mộc Long 3	Hoabinhi an	side flexed	?	A	yes			large shell			

Mái đá Mộc Long 4	Hoabinhi an	side flexed	M	A	yes			shell, pig's tooth			
Mái đá Mộc Long 5	Hoabinhi an	?	?	?		yes		shell, unspecifi ed stone tool			
Hang Thâm Hoi 3	11,166 - 9291	uk	M	A			N/A		yes		fragmente d, burned, round pit feature
Mái đá Ngườ m 1	22,027 to 20,025	side flexed	?	A			uk	fish vertebra			
Mái đá Ngườ m 2a	“	side flexed	F	A			west				2a and b separated by large rocks
Mái đá Ngườ m 2b	“	supine flexed	?	A			west				
Mái đá Nước	(late?) Hoabinhi an	unclear	M	A	?		uk	ground sea shell necklace			
Mái đá Triền g Xén	Hoabinhi an	?	?	?			uk		yes	yes	

See text for references

Body orientation:

Head 90° = head was oriented within 90° of the cave opening

Gua Cha	Malaysia , Peninsul a	Early to mid-		side flexed	8	M × 5, F × 3	A × 8		
		Holocene		supine (flexed?)	3	M × 2, U K × 1	A × 3		
				flexed ⁴	1	M	A		covered in large rock sheets
				secondary	1	uk	A		elements framed with 2 × femora
Gua Gunung Runtah		10,010 ±70 BP	9,850– 9301 to 9157– 8548	supine flexed	1	M	A		
		to 9460 ± 90 BP	Cal. BC (94.5%)						

See text for References

¹ The authors report 11 adult burials belonging to the “flexed” group, although position for 5 could not be determined

² S = excavations by Surin Pookajorn; P = excavations by Prasit Auetrakulvit

³ torso supine indicates only the torso, and sometimes upper limbs, were preserved

⁴ unclear if side or supine flexed

⁵ ESR date of a human tooth

Figure 10.1

Extended supine burial (MB07H2M32 from Neolithic Man Bac, Vietnam). (Photo from Marc Oxenham.)

Figure 10.2

Side-flexed burial (13CCNM9 from Con Co Ngua, Vietnam). (Photo from Marc Oxenham.)

Figure 10.3

Supine-flexed burial (Gua Cha 1, from the reexcavation of Gua Cha by Adi Haji Taha).

(Photo from Peter Bellwood.)

Figure 10.4

Squatting burial (13CCNM70 from Con Co Nguu, Vietnam). (Photo from Marc Oxenham.)