The Elephants of the Orontes

Peter Pfälzner
Résumé – L'article étudie les attestations de la présence d’éléphants dans le bassin de l’Oronte à l’âge du Bronze. La découverte de gros os d’éléphant dans le Palais Royal de Qaṭna, datés du Bronze récent I-IIA, est discutée en relation avec le matériel ostéologique d’éléphants mis au jour à Tell Açana / Alalakh, Kamid el-Loz, Ougarit et d’autres sites dans l’environnement de l’Oronte. Une attention particulière est portée aux contextes de découverte et à leur pertinence, afin de reconstruire le cadre et les modalités des chasses à l’éléphant. Il existait probablement des habitats naturels idéaux pour les éléphants dans le bassin du Ghab, la plaine de la Beqa’a, de même que dans les plaines de l’Amuq et de Karasu. Les conditions naturelles anciennes du bassin du Ghab dans la vallée centrale de l’Oronte sont ainsi étudiées en détail. Nous émettons enfin l’hypothèse que les éléphants étaient indigènes, issus des populations du Pleistocène, et non d’une population « importée » d’éléphants au IIe millénaire afin de constituer une réserve d’éléphants en Syrie.

Mots-clés – Éléphant, Ghab, chasse, réserve animalière, Qaṭna, Beqa’a, Amuq, Karasu, Alalakh, Ougarit, Kamid el-Loz, éléphant de Maraş

Abstract – The article investigates the occurrence of elephants in the environment of the Orontes River System during the Bronze Age. The discovery of large elephant bones in the Royal Palace of Qaṭna dating to the Late Bronze Age I-IIA period is discussed in relation to osteological material of elephants from Tell Açana / Alalakh, Kamid el-Loz, Ugarit and other sites in the environment of the Orontes System. Special attention is given to the find contexts and its relevance for reconstructing the organisational frame of elephant hunts. This leads to the conclusion that there existed ideal natural habitats for elephants in the Ghab Basin, the Beqa’a Plain, as well as in the Amuq and Karasu Plains. The former natural conditions of the Ghab Basin in the central Orontes Valley are studied in detail in order to demonstrate the quality of this region as a particularly favourable elephant habitat. It is argued that the elephants were indigenous to this region deriving from Pleistocene populations and that the theory of an import of elephants in the 2nd mill. BC for an “elephants reserve” in Syria is to be ruled out.

Keywords – Elephant, Ghab Basin, hunts, reserves, Qaṭna, Beqa’a plain, Amuq Plain, Karasu, Alalakh, Ugarit, Kamid el-Loz, Maraş elephant

كلمات محورية – فيلة، حوض الغاب، حوض العمق، سهل البقاع، سهل العمق، كاراسو، آلالاخ، أوغاريت، كميد اللوز، مراش

Syria, Supplément IV (2016), p. 159 à 182
The aim of this paper is to discuss new evidence for the presence of elephants in Western Syria and to investigate the occurrence of elephant remains in the wider Orontes Valley system during the Middle and Late Bronze Age, i.e. throughout the 2nd mill. BC. Related to the archaeological data, the former environmental conditions of the Orontes Valley will be examined in order to assess the suitability of the area as a habitat for elephants. This will create a sound basis for evaluating a long-standing scientific controversy: was the Orontes region a natural habitat for elephants with an indigenous population, or were the elephants brought to the Orontes region in the 2nd mill. BC by humans and placed in an elephant reserve?

A DEPOSIT OF ELEPHANT BONES IN THE ROYAL PALACE OF QAṬNA

A starting point for a re-assessment of the above-mentioned controversy is the discovery of large elephant bones in the Royal Palace of QAṬNA during the campaigns of 2008 and 2009. The finds throw new light on this issue, as the bones were retrieved in an unusually good state of preservation, in well-stratified positions, and in a very peculiar context. They were found in the northwest wing of the Royal Palace of QAṬNA. This architectural unit of twelve rooms was attached to the main sector of the palace during the Middle Bronze Age. The northwest wing stands out for its perfectly well-preserved walls and doorways. This excellent state of preservation is due to the positioning of the construction on the western slope of the palace terrace, which made it possible to set the building at a lower level into the sloping terrain. In consequence, the rooms of the northwest wing formed a lower storey of the palace, situated significantly below the floor level of the main sector of the palace building. Above the rooms of the northwest wing there must have been an upper storey, at roughly the same height as the rest of palace. However, this upper storey was completely lost, except for some of its refuse which had fallen down into the rooms below. In addition, there was a basement level below the rooms of the northwest wing, which has only been excavated partially. All levels taken together, the northwest wing consisted of three storeys.

Despite its good preservation, the former function of the northwest wing is difficult to assess. The rooms of the main lower storey were largely found empty and filled up with soil. The only exceptions are Room DK, with a thick accumulation of debris from the upper storey, and Rooms DD and DF, where the elephant bones were found. Interestingly, the elephant bones were the only finds in both rooms, leaving aside pottery sherds and minor objects embedded in the soil, and thus unintentionally deposited in the fill of the rooms. The depositional character of the elephant bones strongly indicates that they were not discarded here and also were not part of the refuse which fell into these rooms from above. Rather, it is clear that the elephant bones were intentionally laid down and stored in the two rooms.

A possible link to the deposition of elephant bones could be the existence of a rock cut tomb below Room DA. Room DA lies immediately adjacent to the two rooms with the elephant bones, Room DD to the south and Room DF to the east (fig. 1). The tomb (Tomb VII) contained a well-preserved, unlooted inventory, consisting of the bones of at least 75 persons and hundreds of grave goods dating from the Middle Bronze II to the Late Bronze I period. The bones were not primarily buried at this place, but were transferred to this location during the aforementioned period and deposited here as secondary burials. Tomb VII was accessible from the northwest wing, by passing through a doorway from the basement level of Room DF directly into the ante-chamber of the tomb. This architectural connection might suggest that both building parts were also functionally related. Thus, the elephant bone deposits could have been the result of ritual activity (of unknown character) linked to the secondary reburial of the bones in Tomb VII.

4. PFÄLZNER & DOHMANN-PFÄLZNER 2011; PFÄLZNER 2012a; 2014.
In Room DF there were less elephant bones, which, however, might stem from the same animal, due to the bone size and condition. There was one complete tibia (fig. 1, no. 4 and fig. 5) and several vertebrae (fig. 1, no. 5). Here, we encountered a different depositional situation: the bones were found in the basement level of the room within the debris of the floor of the lower ground level which had fallen down into the lower room (fig. 6). Thus, the bones fell from the lower ground floor into the basement, at...
the moment when the floor between the two storeys collapsed. Originally, they must have been deposited above, in the lower ground level, on, or close to, the former floor.

**THE VISUAL NATURE OF THE “SYRIAN ELEPHANT”**

Emmanuelle Vila⁵ who carried out the zoological identification and analysis of the elephant bones, concluded that all bones probably stem from one single animal.⁶ It was a large, fully grown, male elephant, comparable in size to a modern African elephant. Most probably it was a species of the extinct “Syrian Elephant”, or “elephas maximus asurus”.⁷ As clear morphological data on this sub-species have hitherto not yet been available from Syria, our find will help to assess its stature. As will be argued below, the specific animal to which the newly discovered bones belonged could probably once have lived in Western Syria, in the further surroundings of Qatna, and had been hunted and slain there.

As a first conclusion, we can put forward that the evidence from Qatna disproves the often-quoted assumption that the Syrian Elephants were small in stature. This idea was based on the depiction of an elephant on a famous wall painting from Egypt, in the Tomb of Rekhmire (grave TT 100) at Thebes, dating to the time of Thutmose III (ca 1450 BC). The scene depicts tribute to Egypt being carried from

---

⁵ Maison de l’Orient et de la Méditerranée, Lyon.
“Retnu” (the Syrian territories) to the high-ranking Egyptian vizier Rekhmire ⁸ (fig. 7). The objects can be regarded as typical products or species from Syria. Among them is a very small elephant walking beside a man and led by a rope. This depiction should not be misinterpreted as a naturalistic rendering of an animal and, thus, the small size of the depicted animal should not be understood as an indication that the Syrian Elephant was a particularly small species. ⁹ Clearly, the evidence from Qaṭna proves that such an interpretation would be wrong. As a matter of fact, the Qaṭna evidence suggests that the Syrian Elephant seems to have been a comparatively large species. At the same time the information from one single animal found at Qaṭna should not be generalised. It is possible that this specific animal was an exceptionally large example of its species, and exactly for this reason it might have been brought to the palace of Qaṭna after it had been hunted and killed.

Furthermore, the drawing in the Rekhmire Tomb has often been used to interpret the background of elephants in ancient Syria. One could theoretically imagine that the depicted elephant—led by a leash—might symbolize a tamed animal or one which was kept in a reserve. ¹⁰ However, on the basis of the high probability that elephants occurred naturally in Syria, as argued below, this scenario seems to be unlikely. Instead, the elephant in the Rekhmire Tomb probably symbolizes a trapped animal from one of the natural elephant habitats of Syria. The distinctiveness of the elephant in this tribute scene demonstrates that this animal—like the bear in the same scene—was a symbol of the natural wealth of Syria.

⁹ The shortcoming of such an interpretation has been pointed out by Gabolde 2000, p. 134; Lafrenz 2004, p. 50.
¹⁰ Compare the critical discussion of the questionable reality of the scene by Busch 2006, p. 85-87.
THE IMPORTANCE AND MEANING OF ELEPHANTS AT QAṬNA

Another interesting observation by Emmanuelle Vila is that the elephant bones from Qaṭna do not show cut-marks.\(^{11}\) This means that the elephant bones were not de-fleshed by instruments in order to consume their meat.\(^{12}\) Thus, it seems probable that the animal was not eaten, nor was it used for craft production. What, then, could have been the reason for bringing the animal to the Royal Palace of Qaṭna? One possible explanation might be that the animal was hunted by a king of Qaṭna and brought back as a trophy to his palace. Here, it might have been exhibited as a hunting trophy to illustrate the bravery and strength of the king. At a later date, it could have been removed from its place of display and deposited in the basement of the northwest wing. As the selected place was close to Tomb VII, the deposition probably took place in connection with this tomb and the burial rituals therein.

Furthermore, we can conclude from the discovery of the elephant bones at Qaṭna that elephants actually were to be found in Western Syria during the final stage of the Middle Bronze and the initial part of the Late Bronze Age. The hunt of this animal most likely did not happen far away from Qaṭna as the heavy bones—or even the killed animal as a whole—were transported to the city.\(^{13}\) Thus, the “Syrian Elephant” must have lived in the closer vicinity of Qaṭna. The most probable place for this is the humid area of the Orontes River.

Elephants were a matter of prestige for the royalty of Qaṭna for two reasons: Hunting elephants was an activity where the king could demonstrate fortitude, bravery, and power. This meaning is best exemplified in the accounts of the Egyptian and Neo-Assyrian rulers on their successful elephant hunts in Syria.\(^{14}\) Second, the procurement of ivory was essential for the production of highly prestigious ivory artefacts. These objects were very important elements used for the display and communication of prestige in palatial and funerary contexts, as is demonstrated by the high quantity of ivory objects found at Qaṭna.\(^{15}\)

TRACING THE ELEPHANTS IN THE ORONTES REGION

The identification of the Orontes area as one of the home regions of the “Syrian Elephant” is furthermore supported by other archaeological evidence of elephant bones at ancient Bronze Age settlements in the wider Orontes river system.\(^{16}\) They focus on two plains located within the long, North-South oriented depression which is part of the Syro-African Rift valley\(^{17}\) and through which the waters of the Orontes River flow: The Plains of Amuq in the North and of Beqaʿa in the South (fig. 8).

The Plains of Amuq and Karasu

The evidence from Tell Açana, ancient Alalakh, located in the northern part of the Orontes region, on the lower Orontes River, is of particular importance. The eldest osteological material of elephants at Alalakh comes from Level VIII. The recovered fragment of an elephant bone shows saw marks,\(^{18}\) which is a clear indication that the bone was used in craft activities. It, furthermore, is an important

11. PFÄLZNER & VILA 2009, p. 27.
12. It needs to be added that this conclusion is not completely compelling, as detaching meat from such large bones does not necessarily leave cut-marks (Cornelia Becker, personal communication).
13. It is very unlikely that the elephant was brought alive to Qaṭna and kept there for some time, because of the strength of this particular animal and because of the difficulties of keeping elephants in custody, as explained below.
16. In recent studies several compilations of the occurrence of elephant bones at Ancient Near Eastern sites have been made; see: BECKER 1994, 173-178, Tab. 1, fig. 5; 2008, 107, Abb. 06:65; FISCHER 2007, p. 75-78, Tab. 5a-5b; CAUBET & POPLIN 1987; 2010.
18. WOOLLEY 1955, 288, ftn 3; FISCHER 2007, p. 75.
Clue regarding the local availability of elephants in the Middle Bronze IIA period (18th cent. BC),\(^\text{19}\) as the animal might have been hunted in the vicinity. This is based on the notion that a simple bone used in craft activities would most probably not have been transported over long distances. The bone was found below Room 21 of the later Level VII palace, located in the southern half of the building. Woolley thinks that this area was already part of a palatial context during the earlier periods, namely in Levels XII to IX.\(^\text{20}\) Therefore, it is possible, although not demonstrable, that the Level VIII elephant bone from Alalakh belonged to a palatial context. This find marks the earliest evidence for the hunting of elephants in the surroundings of Alalakh, probably carried out, or commanded by, a palatial authority.

In the Level VII palace, dated to the Middle Bronze IIB period, many ivory inlays were found, e.g. in Room 7 in the northern, representative part of the palace and in Rooms 48/3-4 in the southern, economic wing. They suggest a palatial production of ivory artefacts.\(^\text{21}\) A text (\textit{AIT} 366:16) from the Level VII palace reports the purchase of ivory for a price of 30 shekel silver by the palace.\(^\text{22}\) This not only demonstrates the economic value of ivory, but also indicates that the supply of ivory was not exclusively secured by the hunting activities of the palace authorities of Alalakh. Furthermore, an

\(^{19}\) Dates following Heinz 1992.


\(^{21}\) Woolley 1955, p. 61, ftn 1, 98.

\(^{22}\) Wiseman 1953, p. 100-101. From the Akkadian word “\textit{šinnu}” used in the text it cannot be deduced whether this transaction refers to an elephant tusk or to an ivory artefact.
elephant molar was found in the Level VII palace, 21 which might—as the specimen from Level VIII—be what was left over from the production process. Most impressively, the five well-preserved tusks found in the destruction debris on the floor of Room 11 of the Level VII palace 22 demonstrate the availability and value of elephant products (fig. 9-10). They were probably stored in this room in order to be used for the production of luxurious ivory objects. Alternatively, they could have been stored here to be used in trade or in gift exchange. Theoretically, the tusks could have been acquired by the palace from outside, as the mentioned text exemplifies. More likely, however, they would have been obtained through the hunting of elephants in the vicinity of Alalakh, as the animals probably occurred naturally in this area, as is argued below.

The line of evidence of elephants at Alalakh continues into the Late Bronze Age. Woolley found the lower jaw of an elephant in the Level IV palace, in the eastern wing of the building, said to have been added by king Ilim-Ilimma (fig. 11). The bone might have been used for craft activities. The localisation of the room in which it was found is not completely safe, but with all probability it is the tablet Room 22 west of Room 24. 23 Woolley stated that the elephant bone was embedded “in the brickwork fallen from above”. 24 This is a clear indication that the bone once was kept in the upper floor of the palace and fell down during the destruction of the building. The safe-keeping of the jaw-bone in the upper floor hints at a special importance or value of this kind of object.

In contrast to the predominantly palatial find contexts of elephant bones at Alalakh, one such find can be noted to be from a domestic context. It is an elephant bone from Level II at Alalakh, found in the area of House 39 B in Square H 17. The house is situated on the eastern edge of the mound, to the south-east of the palace area and close to the city wall. 25 It can be concluded from this find spot that the hunting of elephants and/or the economic use of elephant bones was not exclusively a palatial domain at Alalakh. Private households seem to have been permitted to be involved in it, too.

To sum up, there is continuous evidence of the utilization of hunted elephants from the Middle to the Late Bronze Age at Alalakh. The find contexts clearly indicate that the production of ivory artefacts and the trade of elephant products, including tusks and elephant bones, were predominantly controlled by the palace. The presence of internal skeletal parts of elephants, such as bones and molars, provide a strong argument that elephants were hunted in the surroundings. This makes it plausible that the tusks, too, might have derived from local hunting activities. Furthermore, the mentioned textual testimony illustrates that ivory seems to have been purchased in exchange for silver. This was probably done to meet an additional demand by the palatial ivory workshops which had exceeded the amount of ivory obtainable through hunting elephants in the surroundings of Alalakh. Accordingly, the palace of Alalakh must have been an important player in an “elephant economy” in 2nd mill. Syria. Most importantly, the evidence hints at

24. WOOLEY 1955, p. 102, Pl. XVIa+b.
25. The question whether the bone was actually found in Room 21 or 22 has been discussed by FISCHER (2007, p. 75, Tab. 5a, ftn 185), concluding that it should stem from Room 21. This conclusion is not shared by the present author, as the situation is far more confusing. First, as Fischer correctly states, the plans fig. 44 and 45 in WOOLEY 1955 carry wrong room numbers: Rooms 21 and 22 have been erroneously mixed, and must be exchanged: Room 21 is the larger, southern one, identified as the courtyard of the so-called Ilim-Ilimma wing (WOOLEY 1955, p. 112 f., 123), and the northern, smaller one is Room 22 (WOOLEY 1955, p. 123). The 16 tablets which in Woolley's text (WOOLEY 1955, p. 123) are said to have been found together with the elephant bone in Room 22, are divided among two Rooms in the publication of the texts (WISEMAN 1953, p. 119). The majority of them (9 texts) is given in Wiseman’s list as being from Room 22, while only 3 are from Room 21. This situation corresponds to the notion of the word “tablets” in the (corrected) Room 22 of the palace plan WOOLEY 1955, fig. 44. In conclusion, the elephant bone could come either from Room 21 or from Room 22. As the association of the bones with the tablets is stressed in Woolley’s text, it seems more probable to the present author that the elephant bone was actually found in the (northern) tablet Room 22 and not in the (southern) courtyard 21.
26. WOOLEY 1955, p. 123, 288. The attribution of the bone find to the upper floor of the palace is not affected by the open question of the exact locality of the room where the bone was found (see the discussion in ftn 25).
27. The bone is not mentioned in WOOLEY 1955; the area is described in WOOLEY 1955, p. 179 f., fig. 63. See also FISCHER 2007, p. 75, Tab. 5a. It is, in this case, not clear whether it is a jaw bone or a femur (see FISCHER 2007, p. 75, Tab. 5a, ftn 187).
Figure 11. Tell Açana / Alalakh, Palace of Level IV with indication (star) of elephant bone find (from Woolley 1955, fig. 45; with addition by P. Pfälzner)

the occurrence of elephants in the northern part of the Orontes system, particularly in the Amuq Plain. Although the Lake of Amuq did not yet exist during this time, at least not in its later size, the area was damp and contained marshes. Thus, it offered good natural living conditions for elephants.

It needs to be added that elephant bones also occur at other places in the Amuq Plain. At Tall Tayinat, only 2 km away from Alalakh, “remains” of an elephant were found, although in an undocumented context. Due to the general chronology of the site the elephant bone probably is of Iron Age date. A fragmented humerus (upper arm) of an elephant was found at the site of Catal Hüyük, located only 16 km to the north-east of Alalakh. Catal Hüyük was one of the larger centres within the region and probably was in some way controlled by the kingdom of Alalakh during the Late Bronze Age. The elephant bone from Catal Hüyük used to be regarded to be Late Bronze in date; however, this assumption needs to be corrected. It was retrieved from the regional phase Amuq N, to be dated to the

29. Collon 1977, p. 222, fn 25; Fischer 2007, p. 76, Tab. 5a, fn 189.
31. See Casana 2009, p. 16-17, fig. 2-3. Catal Hüyük can probably be identified with the important MBA to LBA city of Kullante (see the discussion in Casana 2009, p. 19-21).
32. Gündem & Uerpmann 2003, 123, fn 3. In Reese 1996, quoted in this footnote, a date of 1500-1400 BC is given for Amuq Phase N, however, this is incorrect. The proper date for Phase N is 1200-1000 BC (Haines 1971, p. 2). For this reason, the context of this bone from Catal Hüyük has falsely been regarded as Late Bronze in date in various publications (Gündem & Uerpmann 2003, p. 123, fn 3; Fischer 2007, p. 75, Tab. 5a; Caubet & Poplin 2010, p. 3).
early Iron Age, a period when the site continued to exist and was strengthened by a fortification wall. The architecture at Catal Hüyük in this period comprises simple domestic architecture within the fortified settlement, but the find context of the elephant humerus is, unfortunately, spatially and functionally not specified. The occurrence of elephant bones at two places in the Amuq-Plain during the Iron Age strongly supports the understanding that this region was still an important natural habitat for elephants during the late 2nd and the 1st mill. BC.

In relation to these archaeological finds, the geological discovery of elephant bones at the Gavur Gölü, close to Kahramanmaras in South-Eastern Turkey needs to be mentioned. The Gavur Lake is located in the northern part of the Karasu Fault, which is a northern extension of the Amuq-Plain and constitutes the northernmost part of the Syro-African Rift Valley. The Gavur Gölü is about 27 km to the north of Zincirli and 32 km to the south of Maras. For this reason the discovered skeleton is known as the Maras Elephant, or in Turkish: Maras Fili (fig. 12). The elephant bones represent at least one complete animal and many individual bones of others, particularly teeth, mandibles and skulls. Their preservation is very good because they were embedded in the peat of the wet marshlands of Gavur Gölü. They represent the species of the “elephas maximus” (Indian Elephant) and are to be identified as the subspecies “elephas maximus asurus”, the “Syrian Elephant”. Thus, the skeleton from Maras is the only known complete specimen of a Syrian Elephant.

It has been possible to date the Maras elephant bones through two radiocarbon dates. One gives a calibrated date of 1600-1450 BC, the other a date between 1570-1400 BC (both with a probability of 95%). Thus, both dates fall into the early part of the Late Bronze Age. This means that the elephant

33. HAINES 1971, p. 4.
35. The field number quoted in GÜNDEM & UERPİA 2003, fn 3 (“b-2866 N, find date 23 march 1935”) cannot be further located by this author, without a field documentation at hand. The piece is stored in the Field Museum Chicago (no. 158615).
38. The former lake, now dried up and drained for most part of the year, has its actual drainage towards the north, to the Aksu River, a tributary to the Ceyhan. However, the source of the Karasu near Nurdag is very close (10 km) and the area is part of the same plain extending in North-South orientation, through which the Karasu flows in southern direction.
40. ALBAYRAK 2012, p. 366-367, fig. 3.
41. ALBAYRAK 2012, p. 367-368.
remains are strikingly contemporary to the Qaṭna elephant. In contrast to the Qaṭna specimen, the Maraş elephant, however, was not retrieved in a situation demonstrating contact with humans. The animal must have lived in the marshy environment of the northern Karasu Valley, and was most probably deposited in the ground after it had died naturally (fig. 13). This is a very strong indication of a natural population of elephants living in the Orontes watershed and its continuation to the north, the Karasu Plain.

The Plain of Beqaʿa

In the southern part of the Orontes System there is also evidence for the hunting of elephants during the 2nd mill. BC. It comes from the site of Kamid el-Loz in the Beqaʿa Valley of Lebanon. The site is situated close to the Litani River in the southern part of the Beqaʿa, but the area is immediately adjacent and geographically connected to the northern part of the Beqaʿa, drained by the upper Orontes River. For the Middle Bronze Age, elephants are attested at Kamid el-Loz through the discovery of a fragment of an elephant *femur*. It was found as refuse in a drainage channel (building level 14) in area IE15, which was presumably a domestic area located about 30 m to the north of the contemporary temple area of level T4. The context dates to the Middle Bronze Age IIB (late 17th to early 16th cent. BC). The bone is interesting because of its cut-marks which, according to Bökönyi, hint at a local consumption of elephant meat. However, it is difficult to assume that the animal was only hunted for its meat. Rather, it might have been killed for other purposes, for example to obtain ivory. The meat consumption might have just been a side effect of this. Regardless of the actual motivation of the hunt, the evidence at Kamid el-Loz suggests that the Beqaʿa Valley most probably was a habitat of elephants.

---

43. Echt 1984, p. 112, fig. 14a, Pl. 15. The context cannot be attributed to a specific functional context, because the size of the sondage into the MBA levels was too small.
44. Level 14 is assigned to Building Period 6 and dated to the end of the MB IIB period (Echt 1984, p. 55-57, fig. 3).
47. In contrast, Bökönyi (1986, p. 188) thinks that this elephant might have been imported from Egypt, probably in the form...
For the Late Bronze Age there is also an attestation of elephants at Kamid el-Loz. This is provided by an elephant rib fragment. It was found in the temple area in level T3, sub-phase T3d, dated to the very beginning of the Late Bronze Age I period (2nd half of the 15th cent. BC). The bone was located in the entrance area to the T3 temple, immediately to the south of the temple room B and close to the door leading into the main room B/C or “cella” (square IG16 south). This location was probably used as an open area in front of the temple. The bone fragment could be refuse from a temple workshop or was a leftover from a temple feast.

To sum up, the evidence from Kamid el-Loz suggests that the broad rift valley of the Beqa‘a between the Lebanon and Anti-Lebanon mountains, which is drained by the Orontes River in the north and the Litani River in the South, was a preferred region to hunt elephants in the 2nd mill. bc. The sources of both rivers are located not far north of Kamid el-Loz, in the wider area of Baalbek. They supply the valley with abundant water. In ancient times, there used to be a lake in the middle of the Beqa‘a, north of Kamid el-Loz, surrounded by marshes. Thus the ecological situation was similar to the Ghab and the Amuq Plains. Where the lake once was, today, cultivated land can be found, as the lake has been drained. In the small, protected zone of the Aamiq Wetland, near to Houch al-Saaluk at a distance of 12 km to the north of Kamid, the remains of swamps still exist today. Thus, the area used to be very moist in antiquity and offered excellent natural conditions for elephants.

The special case of Ugarit

If we look at sites where elephant bones were found —Alalakh in the northern part, Kamid el-Loz in the southern part, and Qatna in the central part of the Orontes system— it becomes significantly clear that they all concentrate along the Orontes Valley. In this respect, another site needs to be taken into consideration: Ugarit. It is a special case in two ways: first, because the site is located on the coast, at a fair distance from the possible natural habitats of elephants in the Orontes River system; and second, because here the un-worked osteological remains of elephants —in contrast to most of the carved ivory artefacts from the same site— were not found in palatial but primarily in domestic contexts.

Ugarit is located close to the shore of the Mediterranean Sea, but has easy access to the central part of the Orontes Valley, the Ghab Basin. At Ugarit, the evidence of elephants, although not unambiguously, even goes back to the Early Bronze Age. The Early Bronze Age sample from Ugarit comprises foot bones and vertebrae of an elephant (or hippopotamus). They were found in one of a group of five large domestic silos. These were secondarily filled with a range of different objects, such as pottery sherds, animal bones, and damaged bronze artefacts, which Schaeffer interpreted as refuse. However, it was not common practice in the Ancient Orient to throw away damaged bronze objects, because the precious material could always be recycled. Therefore, Schaeffer’s interpretation as refuse is not convincing, and, of a royal gift. He based this assumption on the close relations of Kumidi with Egypt. However, these close relations are historically not attested before the LBA, during the New Kingdom.

49. ECHT 1984, p. 60, fig. 3.
50. METZGER 1991, p. 73-75, 115-128, fig. 10, Pl. 39.
51. METZGER 1993, p. 142 (Kat. No. 44). The object was found at a short distance to the south of wall 7, the southern wall of temple room B.
52. Because of the close temporal proximity of the two levels (compare ECHT 1984, fig. 3), BOKONYI (1990, p. 71) thinks that this rib fragment from the T3 Temple and the femur fragment from MBA IIB building phase 14 (see above) once belonged to the same animal living at the turn of the MBA to the LBA. However, both fragments were found 30 m away from each other in totally different functional areas and in different levels (see localisations presented in this paper), so that this assumption is not regarded as plausible by the present author.
53. CAUBET & POPLIN 2010.
54. SCHAFFER 1962, p. 233; COLLON 1977, p. 222, ftn 15 (Schaeffer’s account leaves open whether the bones are from elephants or hippopotamuses).
55. SCHAFFER 1962, XXIX, p. 233.
56. SCHAFFER 1962, XXIX.
consequently, the same holds true for the possible elephant bones from the same context. Alternatively, a ritual deposition can be considered for both the bronze objects and these specific bones. Although the functional question cannot be answered definitively, due to the insufficient documentation of the find context, the discovery demonstrates that elephants (or hippopotamuses) were already hunted during the Early Bronze Age. The geographically closest region where this could theoretically have happened is the Ghab Basin of the Orontes Valley.

While no elephant bones have yet been found in layers dating to the Middle Bronze Age at Ugarit, there are several instances from Late Bronze Age contexts (fig. 14). Of particular importance is the large amount of ivory artefacts found in the Royal Palace. In addition to this, several elephant molars were found at different places spread over the city. Interestingly, they were not retrieved in the palace. One molar was found in the “Ville Basse Ouest”, the western lower city (Chantier A), a residential area on the northern edge of the city to the north-west of the Acropolis. It was retrieved in a house obviously belonging to a wealthy family and connected to the richly furnished Tomb 13 (Point 1 on fig. 14).

59. Schaeffer 1936, p. 137-140, fig. 9-15, Pl. XIII.1; XXIII; Yon 1997, p. 128 f., fig. 69.
Another molar was found in the 1932 excavations on the Acropolis, in what is an area of houses between the two main temples (Tranchée 2) (Point 2 on fig. 14). The third example comes from a location labelled “125 W / point topographique 2973”, which is situated in the area of the large square (Grande Place) within the domestic quarter of the so-called “Ville Sud” (Point 3 on fig. 14). Another molar was found within the refuse deposited in Rue 1228, a small street between Houses F and G in the city centre (Centre de la Ville) excavation area (Point 4 on fig. 14). A long bone fragment was discovered immediately to the west of this street, in House F (Room 1222), which is interpreted as an artisans house in the city centre excavation area (Point 5 on fig. 14). It seems probable that the previously mentioned molar found in the street in front of House F was once discarded from this artisan’s house.

Another molar was discovered —together with Hippopotamus tusks— at the Ugaritian harbour of Minet el-Beidha. They were found in small, stone-built rooms between tombs V and VI. These were identified by Schaeffer as “ritual enclosures” for a funerary cult, an interpretation which is, however, not convincing. Rather, the rooms seem to represent simple houses on top of the tombs, where trade goods (such as quantities of imported Mycenaean and Cypriote pottery) were stored.

In conclusion, all reported finds at Ugarit come from domestic contexts. It is interesting to note that no elephant bones were found in the Royal Palace of Ugarit, although it was so rich in ivories. The distribution of elephant bones/molars over the residential areas of the city—even though the individual items probably were deposited as refuse— signals that there was no palatial monopolization of elephant products at Ugarit. This applies both to consumption as well as production activities.

As far as provenance is concerned, the elephant bones at Ugarit could have been brought — as the nearest possible source — from animals hunted in the Orontes Valley, probably its central area, the Ghab Basin. This central part of the Orontes valley is situated some 50 km to the east of Ugarit, across the steep Al-Ansariyeh coastal mountains. This comparatively long distance might explain why mainly small parts of the animals, generally molars—with only one fragment of a long-bone attested— were present at Ugarit. As Gündem and Uerpmann suggest as a probable explanation, the flat enamel lamellae of elephant molars could have been used for the production of jewellery. This would connect the molar finds from Ugarit to the wide set of handicraft activities of the city. The special manufacture of jewellery, or other objects from molars, can be regarded as a by-product of the “elephant economy”.

Conclusions from the distribution of elephant remains

To sum up, there is ample evidence of the hunting of elephants in Western Syria all along the Orontes River System from south to north. It is probable that a local population of elephants which once lived in the humid Orontes valley was exploited. The surrounding cities and kingdoms could have shared in the exploitation of this valuable and prestigious resource. Qatna might have focused on the central Orontes valley, especially the southern Ghab Plain, where a very humid area around the lake of Niya can be reconstructed. Following this model, Kamid el-Loz would have been active in the elephant habitats of

60. Schaeffer 1933, p. 108-126; 1934, Pl. XVII.
61. The find position has been wrongly stated in Hoijer 1978, p. 187-189 and Caubet & Poplin 1987, Tab. 2., where the molar is said to come from “125 W / point topographique 2971”; after consulting the Ugarit field journal of the 1960 season V. Matooian informed me that the object was found close to point topographique 2973, profondeur 1 m (V. Matooian, personal communication, September 2011). I am very grateful for this information.
63. According to the personal communication by V. Matooian (September 2011).
64. Yon, Lombardo & Renisio 1987, p. 13, 18-21. fig. 1, 6a-a.
65. Yon, Lombardo & Renisio 1987, p. 13, fig. 1, Pl. VI; Caubet & Poplin 1987, fig. 26, Tab. 2.
68. Yon 1997, p. 53, 146-149.
70. Pfälzner 2013, p. 119 f.
the Southern Orontes and Litani valley in the Beqa’a Plain with its former swamps and the Beqa’a-Lake. Alalakh then would have focused on hunting in the northern part of the Orontes Valley, where the Plain of Amuq with its marshlands provided a favourable natural habitat for elephants. Finally, Ugarit had direct access to the northern Ghab Plain through the valley of the northern Nahr al-Kabir and over the ridge of Bdama at an altitude of 500 m, i.e. 370 m above the Orontes plain. This was the main route linking Ugarit and Aleppo. This route descends from the heights of Bdama into the Orontes Valley at modern Jisr ash-Shughur, located to the north of the ancient Lake of Niya. Thus, each of the mentioned Western Syrian kingdoms of the Middle and Late Bronze Age had access to different possible hunting grounds of elephants in their vicinity.

It has to be pointed out that the Orontes Valley System surely was not the only region in Syria where elephants could be hunted. A similar situation is attested for other parts of Syria. The Euphrates Valley seems to have been a major hunting region for elephants as is indicated by elephant bone finds at Tell Munbaqa, Emar and El-Qitar. The Balikh Valley could have served as a hunting region in the Late Bronze Age, as is demonstrated by the elephant bones discovered at the Middle-Assyrian administrative centre of Tell Sabi Abyad. The Khabur Valley could have been used for the same purpose during the Middle-Assyrian period, as is shown by the elephant bones found at the provincial palace of Tell Sheikh Hamad / Dur Katlimmu.

The hunting grounds of elephants in the Orontes region

The political importance of the elephant hunt in ancient Western Syria is most prominently demonstrated by the famous account of the Egyptian pharaoh Thutmose III’s hunt close to Niya. In 1446 BC the pharaoh led a campaign to Syria to repel the Kingdom of Mittani. On his way back he hunted 120 elephants near the Lake of Niya, located close to the city of Niya in the Orontes Valley. There are several slightly divergent accounts of this episode: The stela from Jebel Barkal (fig. 15) mentions 120 hunted elephants at the “Lake of Niya”, while the stela from the Temple of Month at Armant mentions 120 killed elephants in the “steppe of Niya”. One wonders why there appears to be a discrepancy in the geographical situation of the hunt. The inscription in the tomb of Amun-em-hab (ʾImn-m-ḥb), an officer in the army of Thutmose III, at Thebes (Abd el-Gurna) discloses more detail on this incident: The largest of the animals threatened to attack the king, whereon Amun-em-hab fought back the animal by cutting his trunk. Thus, he rescued his king. Only the place name of “Niya” is given as the location of this event in this text, without further specification. However, in the text there is an indirect reference to a more specific location of the hunt: Amunemhab was standing in water between two stones, while striking the elephant. This means that the hunt must have taken place close to a lake or another body of water. Thus, the Lake of Niya was a place where large groups of elephants could be hunted.

There is textual evidence from Egypt, although somewhat insecure, that also one of the above-mentioned king’s predecessors, Thutmose I (1493-1482 BC), already hunted elephants in Syria. It is often claimed that Thutmose I was the first ruler to have done so. In an inscription dated to his reign, the elephants of Niya are definitely mentioned. It is a fragmentary inscription in the Punt Hall of the Temple

72. Pfälzner 2013, p. 115-121.
74. Finkbeiner 2001, p. 58, fig. 6; 2002, p. 118; Gündem & Uerpmann 2003, p. 120-122, fig. 1; Gündem 2010, p. 136.
76. Akkermans & Rossmeisl 1990, p. 19-20; Fischer 2007, fig. 5a.
of Hatshepsut at Deir el-Bahari mentioning the city of “Niya” as well as “elephants”. However, the textual evidence is not completely clear, as has been discussed recently. Based on an analogy to the later account of Thutmose III, the fragmentary words are generally combined in a way that suggest Thutmose I conducted an elephant hunt at Niya, as did his third successor some 50 years later. The details and circumstances of this event, however, remain obscure. Nevertheless, this text supports further evidence that the area of Niya was a good hunting ground for elephants. Probably, the Qaṭna elephant also was hunted in this region or its surroundings at approximately the same time.

The exact location of the city of Niya is still unclear. It is generally assumed that Niya is to be identified with the site of Qalaʿat al-Mudiq, located at the eastern fringe of the Ghab Basin (fig. 20). Here, the remains of the Hellenistic city of Apamea and the medieval citadel of Mudiq can be found. The latter was erected on top of an ancient settlement mound. The very limited excavations on the south flank of this mound, carried out in the Seventies by Dominique Collon, brought to light a sequence of occupation from the Obeid period to the Middle Bronze Age, as well as layers of the Late Iron Age. Unfortunately, the Late Bronze Age and the Early Iron Age are not attested yet. This might be due to the limited size of the trenches. Notably, no excavation trenches have yet been laid on the steep slope of the *tell* above sondage B1, which provided the Middle Bronze Age remains. Therefore, the stratigraphic evidence is not clear enough to verify an identification of the site with Niya. Alternative options are equally possible. One candidate is the large mound of Tell Sqalbiye, with a diameter of 400 m. It is located only five km to the south of Qalaʿat al-Mudiq, and is even slightly larger than the mound of Mudiq, which measures 300 x 250 m (fig. 20). Sqalbiyeh, in contrast to Mudiq, has a prominent Middle and Late Bronze Age occupation. Thus, the site would perfectly meet the chronological requirements for an identification with Niya.

The identification of the “Lake of Niya” is even less secure. Different ideas have been proposed, geographically ranging from the lake of Homs in the South to the Lake of Jabbul close to Aleppo in the North. These inconsistent opinions are due to the fact that today there is no other lake in the area between Homs and Aleppo. However, the modern picture does not reflect the ancient situation. There is strong evidence of the existence of former lakes in the Ghab Basin, the central part of the Orontes valley.

**The natural environment of the Ghab Plain**

The Ghab Plain was once covered by extended swamps and lakes. These were drained and cultivated as late as the 1960s by the Syrian government, thus fundamentally changing the natural environment. Nowadays, the complete valley is subject to intensive cultivation and, as a result, the population in the valley has increased considerably. Geographical descriptions of the area dating to the first half of the 20th cent. give an indication of how the area looked like originally. These accounts, despite being from the 1930s, may reflect a situation which characterized the Ghab for centuries and even millennia.

82. Redford 1979, p. 276; Gabolde 2000, p. 129 f.
85. Courtois 1973, p. 68-70, fig. 7.
86. Collon et al. 1975.
87. Dimensions following Courtois 1973; Sqalbiya has a size of 500 x 300 m when measured from a Google image.
88. Courtois 1973, p. 58, fn 1, p. 65-68, fig. 5-6.
89. Lastly by Caubet & Poplin 2010, p. 3. However, this option is not plausible as the Lake of Homs (Lake of Qattineh) is an artificial lake created by a dam of the Roman period (Weulersse 1940a).
92. Thoumin 1936; Weulersse 1940a; 1940b.
93. For an assessment of the effects of changes in the natural environment and climatic changes during the last millennia in the
The huge Ghab Basin, extending over 70 km from North to South and 11 km from East to West, is very flat and used to be filled with water during the winter months and springtime, as the geographical sources of the 1930s tell us (fig. 16). The water came from the Orontes, which was filled by the winter rains and the melting snows of the Lebanon mountains, as well as from smaller streams coming down from the adjoining mountains to the West (the Ansariyeh Mountains) and to the East (the Jebel Zawiyeh), and also from powerful springs within the plain. As a result a huge lake was formed every year, covering hundreds of acres of land. The lake started to expand in November, when the winter rains began, and remained continuously filled with water until April. From then on it gradually reduced in size until June, when the valley finally dried out. Only between June and October did the lakes in the Ghab disappear completely. However, even in this season the depression remained swampy, as it retained the humidity like a sponge. During the dry season large parts of the valley were still covered by swamps, while other parts became a dry steppe. 94 Most probably, this circumstance is responsible for the obvious confusion in the Egyptian sources from the time of Thutmose III, which mention a “lake of Niya”, while another source makes reference to the “steppe of Niya”. Both designations, thus, are proven to be correct, as—depending on the time of year—there is a lake or a steppe in the area.

There were three major seasonal lakes, each with a nearly contiguous surface of water during the winter (fig. 20). The southernmost one was a small lake east of Asharne to both sides of the Orontes, ca 13 x 3 km in size; the second one was the central lake of Ghab with a size of ca 10 x 50 km. This latter one was the largest of the three lakes and it extended mainly to the east of the bed of the Orontes between Asharneh in the south and Qarqur in the north. A third lake, formerly called Lake Beloua, occupied the Roudj Valley, a side valley of the Ghab, and measured ca 5 x 12 km in size. 95 In principle, the central, large lake of the Ghab Basin is the most plausible candidate for the “Lake of Niya”. Its eastern edge was only 3 km away from Qala’at al-Mudiq, which—as discussed above—is thought to have been the ancient Niya. However, it must be kept in mind that this lake was neither permanent nor had a fixed outline. All three lakes only existed during part of the year, for a period of 5 to 7 months. For the remainder of the year, it was a swampy, but still largely inaccessible area.

94. THOUMIN 1936, p. 468-485; WÜLLESSE 1940a, p. 73-75; 1940b, p. 353.
95. See WIRTH 1971, fig. 43; COURTOIS 1973, fig. 1.
As a consequence of the abundance of water, the vegetation to a large part was made up of reeds. The modern name “Ghab” refers to this type of vegetation. The abundance of reeds led to the development of a reed architecture in the basin, comparable to that of Southern Iraq (fig. 18). The reeds were surrounded by grasslands, suitable as rich pastures for cattle.

On the other hand very few trees used to exist in the Ghab during the early 20th cent., with the exception of poplars at the southern and northern ends of the Ghab. Although the early 20th cent. geographers pointed out that trees were missing in the vegetation of the Ghab, theoretically they might have been present during the Bronze and Iron Age in the drier parts of the southern plain and along the edges of the plain. Palynological investigations in the Ghab demonstrate that deciduous oak forests existed in prehistoric times at the foot of the slopes of the Ansariyeh Mountains, which border the Ghab plain on the western side. They flourished until approx. 7000 BC and then were drastically reduced by anthropogenic factors. Instead, after 7000 BC, pine and evergreen oak trees increased as secondary forest vegetation, together with cultivated olive trees. After 4500 BC the forest vegetation recovered. Deciduous oak forest was dramatically reduced a second time during the Early Bronze Age, while pines and evergreen oaks were still present in the environment during the 3rd to 2nd mill. BC. The latter were probably also extending down to the foot of the Ansariyeh Mountains along the border areas of the Ghab plain in dispersed and sporadic stands. Another interesting observation in the pollen diagrams refers to the rapid increase of Ranunculus (of Batrochium type) — a plant which favours aquatic and very humid conditions — at around 1450 BC, i.e. during the Late Bronze Age. This suggests that the water level of the Ghab lakes rose during this period. It definitely proves the existence and specifically the extension of the Ghab lakes during the Late Bronze Age and supports the reconstruction of the Bronze Age environment of the Ghab as very similar to the documented early 20th cent. situation.

As a result of the huge expanses of water and the extensive grasslands the early 20th cent. geographers further report that the economy of the central Ghab was exclusively based on the breeding of buffalos, which made use of extended grazing grounds, and on fishing (fig. 17). In the southern part of the

96. THOUIN 1936, p. 479.
97. THOUIN 1936, p. 483, 485, 517.
98. WHEELERSSE 1940b, p. 354. THOUIN (1936, p. 486) deliberated whether the total lack of trees might be due to a high degree of acidity in the soil as a consequence of the yearly inundations. This is somehow contradicted by the extended olive tree cultivation in the valley bottom nowadays (YASUDA et al. 2000, p. 128).
99. The 20th cent. situation, an area devoid of trees, does not necessarily represent the ancient environmental situation, which is indirectly indicated by the fact that anthropogenic deforestation of the Ghab region and the adjoining mountain areas already started in prehistoric times, thus hinting at the potential suitability of the region for forest vegetation (FORTIN 2007b, p. 260; YASUDA et al. 2000).
100. YASUDA et al. 2000, p. 130 (palynological zone 2).
103. YASUDA et al. 2000, p. 133 (palynological zone 5).
104. YASUDA et al. 2000, fig. 7 and 8.
105. YASUDA et al. 2000, p. 133.
106. It has been noted that the pastures of the Ghab are only suitable for cattle, but not for sheep or camels (THOUIN 1936, p. 517).
107. THOUIN 1936, p. 485-487; WHEELERSSE 1940a, p. 59-61; 1940b, p. 374f. The Ghab waters were characterized by an extraordinary abundance of catfish (fr.: silures; ger.: Wels), which were intensively fished and traded throughout Syria from Aleppo to Damascus (WHEELERSSE 1940a, p. 60).
Ghab, south of Asharneh, cereal cultivation was practised as well. The population settled only on the fringes of the Ghab in order to avoid the water, or sporadically also on the very few low elevations within the plain. Here, reed architecture was present (fig. 18), which is an architectural adaptation comparable to the marshes of southern Iraq. Some of these small settlements were only accessible by boat during the winter season, or were abandoned in the inundation periods (fig. 19).

For these environmental reasons the Ghab Basin used to be one of the least productive and most deserted regions of all Syria during the Ottoman times and beyond. In this period larger settlements in the Ghab were nearly exclusively aligned along the western and eastern borders of the humid plain.

The occupation of the Ghab Basin during the Bronze Age does not seem to have differed fundamentally from the situation in the early 20th cent. As Courtois observed in an archaeological survey of the Ghab and Roudj regions, the Bronze and Iron Age settlements were mainly aligned along the eastern fringe of the Ghab Basin (fig. 20): Tell Squalbiye (EB, MB, LB), Tell Qala’at al-Mudiq (EB, MB, LB, IA, Classic), Tell Ibrahim (EB), Tell Aamqiye (EB, MB, LB), Tell Qleidine (EB, MB), Tell Qastoun (EB, Classic), and Tell Qarqur are the visible tell sites. It is noticeable that all these large sites are located east of the eastern border of the Ghab Lake, thus indicating that the lake must have existed in a similar extension during the Bronze and Iron Ages. In addition, it is interesting to note that there are a number of flat tells within the area of the early 20th cent. Ghab Lake. These sites are as yet un-dated and possibly reflect small village settlements within the swamps. They might even have been constructed of perishable reed architecture, as represented by more modern examples. The middle part of the area where the early 20th cent. Ghab lake existed, i.e. south of Aamkiye and north of Squalbiye, is devoid of any flat tell sites. This indicates that a lake seems to have existed here throughout all previous periods. The absence of ancient tells can also be observed in the central part of the Roudj Basin. Here, the Bronze Age tells are arranged around the outline of the former Lake Beloua. In contrast, the southern part of the Ghab was intensively occupied during the Bronze Age, which is attested by a dense cluster of settlements around

110. Thoumin 1936, p. 496-515.
112. Courtois 1973, fig. 1 (sites 27-35 as northern cluster and sites 36-42 as southern cluster in the map); compare Fortin 2007b, 254 f., Tab. 1 (no. 27-42).
Tell Asharneh. This proves that the water did not expand into the southern part of the Ghab Basin in ancient times, a situation similar to the early 20th cent. In conclusion, the settlement and population system within the Ghab during the Bronze Age was principally similar to the situation in the 19th and early 20th cent. AD, characterized by a low population density with a nearly exclusive concentration along the edges of the plain.

The remains of the swamps and ponds to a very limited extent are still visible nowadays in the Ghab. Only in the area between al-Hattan and Mardash, on the western fringe of the Ghab Plain, there are some small ponds surrounded by reeds (fig. 21). Here, even fishing is carried out by local residents today, at least as a weekend pleasure (fig. 22).

**THE ORONTES VALLEY: A NATURAL HABITAT OF ELEPHANTS**

The environmental situation as described can be regarded an ideal natural habitat for elephants. They especially favour swampy regions with small ponds for drinking and bathing. The Ghab Basin offered a number of favourable environmental conditions for elephants: the availability of water all year round, easily accessible in shallow ponds; the abundance of plant nutrition in the form of reeds and grass; and even trees were available at the edge of the plain, which are an additional source of food for elephants. Another advantageous factor is the scarcity of human populations and lack of cultivated agricultural land in the centre of the plain. This prevented people from making larger modifications to the environment until very recently in history. Therefore, the natural habitat for elephants remained stable during the early historical periods, particularly the Bronze Age. The natural population of elephants was not repelled by advancing human occupation and cultivation. In conclusion, the Ghab Basin, and other geographically similar entities within the Orontes and Litani River Systems along the Syro-African rift, formed favourable natural habitats for elephants and offered ideal conditions for these animals (fig. 23).

This assumption is supported by the discovery of elephant bones in the area of the former Gavur Gölü near Marash (see above). These animals lived during the Late Bronze Age in the marshy region of the northernmost part of the Orontes River System, the valley of the Karasu, a tributary to the Amuq Lake and formerly to the Orontes. The natural environment of this part of the Syro-African rift must

---

115. For ecological and dietary requirements of elephants, see LAFRENZ 2004, p. 102-109.
117. For the hydrological situation, modern and ancient, see www.crane.utoronto.ca.
have been very similar to that of the Ghab Plain, as is indicated by the existence of a former lake, of
marshlands and of a substantial accumulation of peat, which forms one of the largest peat-land areas
of Turkey. A study utilising strontium isotope analysis was carried out to test whether the elephant
tusk found in the Uluburun shipwreck could derive from the elephant population of the Gavur Lake.
However, the analysis unfortunately remained inconclusive in this point due to analytical deficiencies.
Nevertheless, the example of the Maraş elephant clearly demonstrates that elephants used to live in
fairly similar ecological situations all along the Orontes River System during the 2nd mill. BC.

These observations, presented above, add a very important argument to the debate about the possible
existence of an elephant reserve in the 2nd mill. BC in Syria. This idea was brought forward for the first
time by Sidney Smith in 1949. He based his opinion on the account of Thutmose III’s elephant hunt
at the “Lake of Niya” and argued that the lake close to Qala’ at al-Mudiq / Apameia would not have been
a probable location for this, because it does “not provide suitable sites for watering a big herd, or herds,
of elephants”, due to the seasonal character of this lake. Therefore, he concluded that the elephants
hunted by Thutmose must have been kept in what he calls a “park” or “preserve” of elephants. He was
convinced that this “compound”, which he thought was located on the western bank of the Euphrates,
was intentionally created for keeping and killing elephants and was employed by a “factory” in order to
secure the ivory supply. By this measure, the founders intended to secure the constant supply of ivory
for kingdoms such as Alalakh.

The idea of an elephant “preserve” was adopted in later research by many other scholars. Dominique
Collon believes that the Syrian elephant became extinct long ago and that, therefore, live animals were
imported to Syria during the 2nd and the 1st mill. BC from India to be kept in feeding grounds in the
Orontes valley. A similar view has been expressed by Irene Winter. Marc Gabolde argues that, in
view of the scarcity of evidence of elephant hunting and ivory production during the Early and Middle
Bronze Age, it has to be assumed that the elephants hunted by Thutmose III in the Orontes Region were
imported only shortly before his time and that their number did not exceed the 120 animals killed by
Thutmose, which were living in a “réserve d’élevage”. A. Caubet finds it “difficult to imagine the
presence of herds of wild animals” (i.e. elephants) in inland Syria during the 2nd mill. BC, because the
region was so densely urbanized. Therefore, she argues for an isolated colony of Asian elephants in the
Syrian hinterlands, or for a “royal preserve” near the present-day Lake of Homs. In a publication
of 2010 A. Caubet and F. Poplin deliberate whether the elephants of Syria could have been imported
by men from India or Central Asia during the Middle Bronze Age, and they contemplate how the
regeneration of the animals could have been organized based on a small number of imported individual
animals. In addition, they find it difficult to believe that wild herds of elephants could have lived in
the region of Niya, in view of the intensive agricultural exploitation and the dense settlement patterns
of the area during the 2nd mill. In consequence, they favour the interpretation that the elephants of Niya
lived in a “reserve” or “zoological park”. Very recently Caubet pointed out that “the hypothesis of a
Syrian breed of E. [i.e. elephants] surviving from prehistoric times may be ruled out”. Instead, she is
convinced that the animals were imported, probably from India, “acclimated” by man and held in “royal

119. Lafrenz 2004, p. 159-177.
120. Smith 1949.
121. Smith 1949, p. 49.
122. Smith 1949, p. 49.
129. Caubet 2013, p. 452.
zoological reserves.” Also Vila in 2010 argued that the elephants in Syria could have been imported from India in the frame of international trade relations during the 2nd mill. BC. 130

The present author does not believe that this assumption is justified. There are several arguments which contradict the idea of an elephant reserve:

1. The natural environment in the Ghab Basin and the larger Orontes Valley offered ideal living conditions for elephants. There was an abundant supply of water, grass, and even trees, which secured a stable natural nutrition for these animals. Thus, the area is a perfectly suitable natural habitat for elephants, from early times onwards. This makes it very probable that the “Syrian Elephant” used to live here throughout the Holocene and before.

2. As we know from archaeological investigations, the Ghab Plain was not densely populated and not intensively used for agriculture in the Bronze Age (see above). Thus, there is no reason to believe that there was a substantial human impact on the natural living space of the elephants which would have hindered their movements in search of water and food. Existing elephant populations were not threatened by Bronze Age settlement and agricultural expansion in the adjoining areas.

3. The biological behaviour of elephants poses a principal obstacle for keeping them under human control in restricted areas or reserves. This is due to several factors: the animals have an extremely high demand for food; they eat between 100 and 200 kg of plant food per day. 131 Thus, procuring the necessary amount of food for elephants under human custody on a constant level is an enormously difficult task. Furthermore, elephants are highly mobile; they can roam up to 50 km per day in search of food and water. In total, they normally have an average home range of 130 km in diameter. 132 Within this huge area, it is nearly impossible to control their movements. Even nowadays in Africa they regularly leave the huge game reserves. Confinement would not help as they are strong enough to break through any fence or barrier.

4. It is very difficult to breed elephants in reserves because they have an extremely slow reproduction rate. This is due to several factors: they have a very long maturation period reaching sexual maturity only at the age of 12 to 13 years; they have a long gestation period of 2 years, and cows can only get pregnant every 5 years. 133 Taken together, this makes any attempt to breed elephants in human custody extremely difficult. Even nowadays, it is hardly possible to breed elephants in zoos. Therefore, it would have been totally uneconomic to breed elephants for the sake of their tusks or for the purpose of hunting.

5. Elephants cannot be domesticated. When living in human custody they normally are not willing to reproduce, due to their sensibility and sexual selectivity. Thus, reproduction cannot be instigated or enforced externally by human will. 134 As the zoologist J. Clutton-Brock formulates it, “except when it happens in zoos, tamed elephants have never been bred in captivity over many generations and subjected to artificial selection as has been the practice with other domesticated animals.” 135 As a consequence, even if a reserve did exist at one point in time, it would not have been possible to maintain the elephant population over several generations of animals. It would, thus, have been completely inefficient to bring selected animals from a long distance to a reserve with the intention to keep elephants available over a longer period of time.

6. There are strong organisational constraints attached to the import of elephants from the distant lands of Sudan or India into Syria during the Bronze Age. For this purpose it would have been necessary to cross vast regions; these would have been controlled by a multitude of different political entities. Especially in the 2nd mill. BC these regions were characterized by a high political fragmentation, making long-range special expeditions a very difficult endeavour. The Hellenistic era, when large regions

134. C. Becker, personal communication.
between the Levant and India were under common political control, cannot be used as a comparison. This allowed king Seleucus to bring 500 elephants for his army from the Punjab in India to Apameia in Syria in 302 BC, as is reported by Strabo.\textsuperscript{136} It was logistically possible, because Seleucus controlled all territories between Anatolia and the Punjab. During the 2nd mill. BC this would have meant crossing boundaries of numerous independent states and innumerable tribal territories. The assumption of long-range expeditions for the purpose of bringing elephants to a possible animal reserve in Syria during the 2nd mill. BC is all the more improbable as it would not have been enough to carry out such an endeavour once. Instead, it would have been necessary to repeat this expedition regularly, as elephants cannot be bred in captivity, as discussed in the previous point. Thus, a reserve —if it had existed— would have been doomed to fail on a logistical level.

7. Also from a political-historical perspective, the assumption of the existence of an elephant reserve is highly improbable. The political situation in the Orontes Valley changed constantly from the Middle down to the Late Bronze Age. While during the Middle Bronze Age the area was under the control of Qaṭna and Halab, the Late Bronze Age witnessed a number of different political entities with changing hegemony over the area, such as the kingdoms of Alalakh, Nuḥašše, Niya, Amurru and others, in addition to the foreign powers Mittani, Hatti and Egypt (\textit{fig. 23}).\textsuperscript{137} An elephant reserve would have needed care and administration on a continuous basis in the hands of one institution. This would have needed constant attention by one particular political entity. Therefore, one needs to ask the question: what would have happened when the direct political control of the area changed, such as for example, from Qaṭna to Mittani, or from Niya to Amurru, or from Mittani to the Hittite empire? From an organisational point of view, it is unlikely that it would have been possible to maintain an elephant reserve over a longer period during this era of constantly changing political situations.

All the arguments presented above —in the author’s view— clearly rule out the possibility that an elephant reserve existed in the Orontes Valley. Instead, the elephants had a perfectly suitable habitat in this region where they enjoyed ideal living conditions (\textit{fig. 24-25}). Thus, populations of elephants could very likely have inhabited this region naturally for a very long time. This idea is further supported by the recent publication of new evidence of \textit{Elephas cf. hysudricus}, a precursor of the modern Asian elephant, at two Middle Pleistocene sites in the Southern Levant, at Ma’ayan Baruch in the Hule Valley of Northern Israel and in ‘Ayn Soda in the Jordanian Desert, dated between 500 000 and 220 000 BP.\textsuperscript{138} It has to be pointed out that the former site is situated in the southern continuation of the rift valley of Western Syria and Lebanon. Here, the upper Jordan River flows through the valley and the area is made up of vast marshlands, very much similar to the situation in the Ghab and Beqa’a plains. The \textit{Elephas cf. hysudricus} remains are chronologically intermediate between the elder, Early Pleistocene attestations of \textit{Elephas sp.} in Israel and the Holocene elephant remains (\textit{Elephas maximus}) found in the Near East and mentioned above. Thus, these remains support the idea of a chronological continuity of elephants and their predecessors in the Near East —although this is not beyond doubt, because these various attestations through time could theoretically also represent independent East-to-West movements of these animals, as has been pointed out by Lister \textit{et al.}\textsuperscript{139} At least, this evidence makes the idea of an indigenous Holocene elephant population in the Near East more plausible from an ecological point of view.\textsuperscript{140}

In the specific environment of the Orontes River System, the natural population of elephants could flourish continuously over a very long time. Even human occupation during the Early to Late Bronze Age need not have repelled the elephant herds, as human settlements and agricultural activities were situated far away from the marshy river basins. This balanced situation was only negatively influenced and ultimately disrupted by the hunting activities, mainly carried out by kings and princes, during the

\textsuperscript{136} Dodge 1955, p. 19; Becker 1994, p. 173.
\textsuperscript{137} Klingel 1969; 1992; 2000; Pfälzner 2012b.
\textsuperscript{138} Lister \textit{et al.} 2013.
\textsuperscript{139} Lister \textit{et al.} 2013, p. 126-128.
\textsuperscript{140} Lister \textit{et al.} 2013, p. 128.
Middle and Late Bronze Age, and the Neo-Assyrian period. As a result of this, the Syrian Elephant became extinct in the region during the Iron Age II period. 141 At the latest, this must have happened by the time of the Neo-Assyrian ruler Shalmaneser III in the mid 9th cent. BC. 142 This is one of the most remarkable and most deplorable acts of anthropogenic extermination of an animal species that can be observed in the history of the Ancient Orient.

142. No elephant hunts are reported in the Assyrian sources after Shalmaneser III, i.e. after the third quarter of the 9th cent. BC (for the latest reference, compare Grayson 1996, p. 41, 84).