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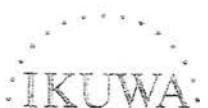
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# Schutz des Kulturerbes unter Wasser

## Veränderungen europäischer Lebenskultur durch Fluß- und Seehandel

Beiträge zum  
Internationalen Kongreß für Unterwasserarchäologie (IKUWA '99)  
18.–21. Februar 1999 in Sassnitz auf Rügen

Lübstorf 2000

## Final Mesolithic and Early Neolithic Coastal Settlements on the Island of Rügen and in Northern Vorpommern

Harald Lübke, Sigrid Schacht and Thomas Terberger

The exploration of Late and Final Mesolithic cultural remains on Rügen and Northern Vorpommern can be traced back to the first half of the 19th century. It was F. von Hagenow who recognized the differences between the newly discovered site Lietzow-Fährbergen and the numerous common Neolithic finds from Rügen.<sup>1</sup> R. Baier first pointed out that there was an affinity to artefacts from Danish Ertebølle sites and dredging finds from Kiel-Ellerbek.<sup>2</sup> Because of the lack of the characteristic pointed-bottom vessels the extensive find material from Rügen has been termed 'Lietzow' culture or group, a term still applied today.

In the 1920s and 1930s the first excavations on the sites Liddow, Ralswiek-Augustenhof and Lietzow-Buddelin were carried out by F. Klinghardt, W. Petzsch and C. Umbreit.<sup>3</sup> B. Gramsch continued surveys on the two latter sites in the 1960s. Complementary scientific examinations delivered first results for the absolute-chronological dating of the cultural layers. They also made it possible to reconstruct the Holocene development of the Baltic coast around Rügen.<sup>4</sup> During a following investigation of the dredging site Prohn, district Northern Vorpommern, by S. Schacht, mainly transferred material was found.<sup>5</sup> No further systematic investigation of Late and Final Mesolithic sites were carried out on the Baltic coast of Vorpommern since that time. Because of this new and interesting finds derive from just one other dredging site near Parow, north of Stralsund. Besides remains of the Final Mesolithic remains of the earliest Neolithic Funnel Beaker culture were also salvaged.<sup>6</sup>

Due to the current state of research the knowledge of the material culture of the 'Lietzow group' is based mainly on the

spectrum of stone artefacts, which is characterized by large core axes, flake axes as well as a high share of blade tools (scraper, truncated blades, borers, edge retouches) and transverse arrowheads.<sup>7</sup> Among the antler and bone tools special emphasis should be placed on T-shaped red deer antler axes, roe deer antler harpoons and ulna daggers. Other types are different kinds of shafts, burnishers, chisels, strikers and punches made of cervid antler and simple bone points. Only occasional fragments of ceramic could be found. According to the knowledge about the neighbouring regions it can be assumed that the locally produced ceramic consisted mainly of pointed bottom vessels and oval lamps.

Based on the <sup>14</sup>C-dates determined so far the 'Lietzow group' has to be regarded as dating from about 5300–4100/4000 cal.B.C. (tab. 1; fig. 2). The finds from Drigge, another dredging site in the Strelasund about which new research results were published recently,<sup>8</sup> belong to the oldest phase. In terms of dating Lietzow-Buddelin is split. Its lower find layer has to be assigned to the middle period whereas the upper layer dates to the beginning of the Early Neolithic. But for this site a check of the dating results is necessary since the sample material consists only of charcoal (Bln-560) and charred wood (Bln-561) respectively. Although they derive from the find layers they cannot be traced to a precise find context, for example a fire place. In this respect an allochthonous origin has to be considered possible. The finds from the settlement Ralswiek-Augustenhof date to a younger phase of the 'Lietzow group' between 4400 and 4200 cal.B.C. since the result of a charcoal sample interpreted as 'mixed date' (Bln-562)<sup>9</sup> was confirmed by

<sup>1</sup> VON HAGENOW 1828.

<sup>2</sup> BAIER 1897.

<sup>3</sup> KLINGHARDT 1924; 1926; PETZSCH 1924; 1925; 1928; UMBREIT 1939; 1940.

<sup>4</sup> GRAMSCH 1967; 1971; 1978.

<sup>5</sup> HEIDELK-SCHACHT 1984; LEHMKUHL 1993.

<sup>6</sup> MERTENS 1996; MERTENS/SCHIRREN 2000.

<sup>7</sup> GRAMSCH 1973; 1978; WECHLER 1993.

<sup>8</sup> TERBERGER 1999a; 1999b; TERBERGER/PIECK 1998.

<sup>9</sup> GRAMSCH 1978, 162.

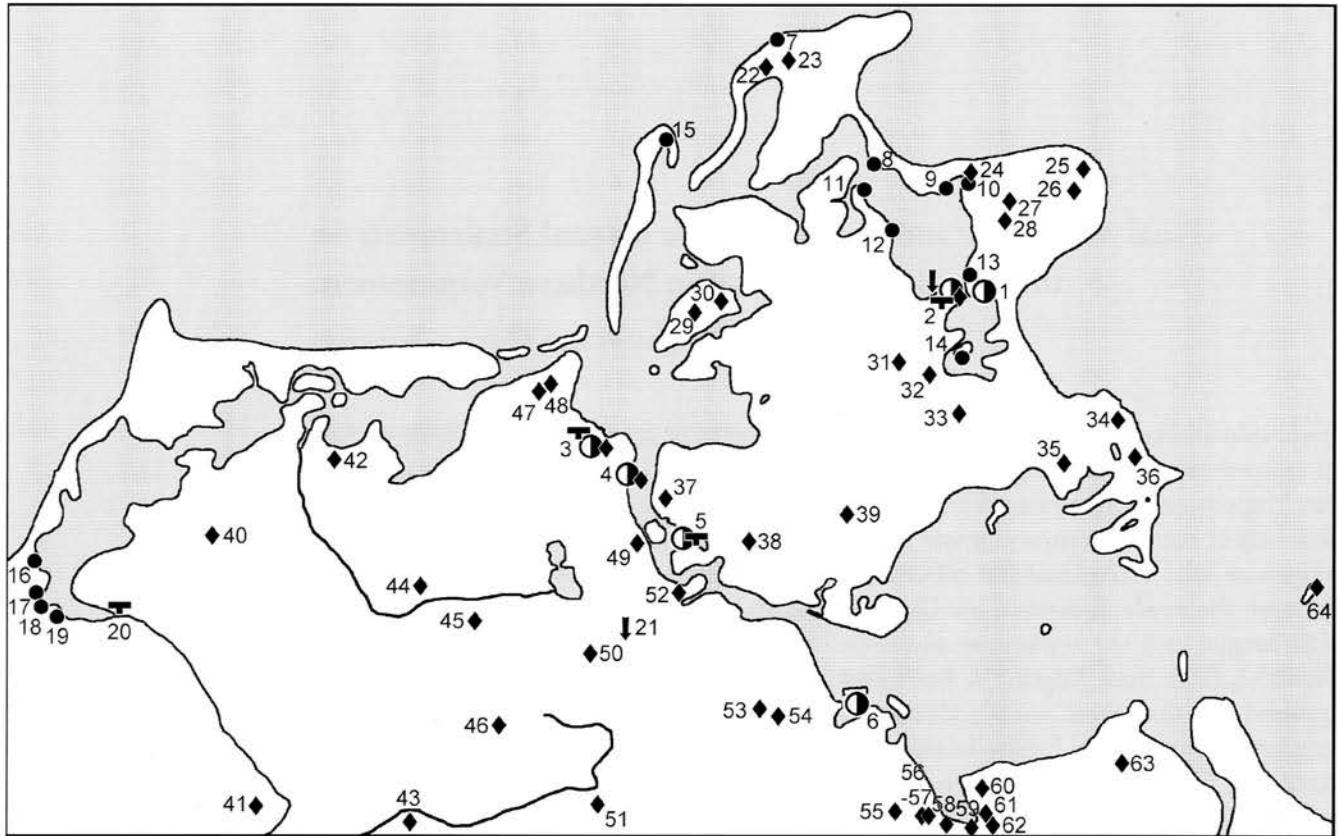


Fig. 1 The Location of Final Mesolithic sites and characteristic single finds on the Island of Rügen and in Vorpommern.

(Legend: Large circle = sites with stone artefacts and faunal remains; circlet = sites with stone artefacts; T-symbol = T-shaped red deer antler axes; arrow = red deer antler harpoons; rhomb = central European shaft hole axes). 1 Lietzow-Buddelin; 2 Ralswiek-Augustenhof; 3 Prohn; 4 Parow; 5 Driegge; 6 Insel Riems; 7 Gramtitz-Bakenberg; 8 Gelmer Ort; 9 Spycker; 10 Baldereck; 11 Liddow; 12 Banzelwitz; 13 Lietzow-Fährberge; 14 Halbinsel Pulitz; 15 Kloster auf Hiddensee; 16 Dierhagen; 17 Dändorf A; 18 Dändorf B; 19 Körkowitz; 20 Pützitz; 21 Alt Zarendorf; 22 Lancken; 23 Gramtitz; 24 Ruschwitz; 25 Stubbenkammer; 26 Stubnitz; 27 Polkowitz; 28 Sagard; 29 Ummannz; 30 Tankow; 31 Bergen; 32 Tetel; 33 Karow; 34 Sellin; 35 Granitz; 36 Baabe; 37 Altefähr; 38 Warksow; 39 Garz; 40 Hermannshof; 41 Bad Sülze; 42 Barth; 43 Tribsees; 44 Starkow; 45 Lendershagen; 46 Franzburg; 47 Mohrdorf; 48 Hohendorf; 49 Stralsund; 50 Elmenhorst; 51 Grimen; 52 Devin; 53 Miltzow; 54 Dömitzow; 55 Steffenshagen; 56 Greifswald; 57 Greifswald; 58 Friedrichshagen; 59 Diedrichshagen; 60 Loissin; 61 Neuendorf; 62 Kemnitzerhagen; 63 Wusterhusen; 64 Greifswalder Oie. 1–2.5.7–15.22–39 District Rügen; 3–4.21.40 district Northern Vorpommern; 16–20 district Ribnitz-Damgarten; 6 Hanse town Greifswald. (After GRAMSCH 1973; HEIDELK-SCHACHT 1984; KEILING 1986; TERBERGER 1999a and own supplements).

the accelerator dating of a human skull (UtC-7452). But again further analyses of stratified sample materials are necessary. So far no  $^{14}\text{C}$ -dates can be delivered from the mainland sites Parow and Prohn, both district Northern Vorpommern, concerning the Final Mesolithic phase of the settlement.

In Northern Vorpommern the 'Lietzow group' was replaced by the Funnel Beaker culture between 4100 and 4000 cal.B.C. at the latest. This is indicated by the  $^{14}\text{C-AMS}$ -analyses of charred food remains (UtC-

8109-8112; compare tab. 1; fig. 2) which stem from Early Neolithic ceramic of the site Parow.<sup>10</sup> It constitutes the first extensive complex of the oldest Funnel Beaker culture found on the Baltic coast of Vorpommern. The Funnel Beaker settlements hitherto known such as Gristow, district Northern Vorpommern<sup>11</sup>, or Ralswiek, district Rügen<sup>12</sup>, belong to the younger Middle Neolithic phase of this culture. To what extent a continuity of settlement existed until the Early Neolithic on the other Final Mesolithic coastal sites is a question still

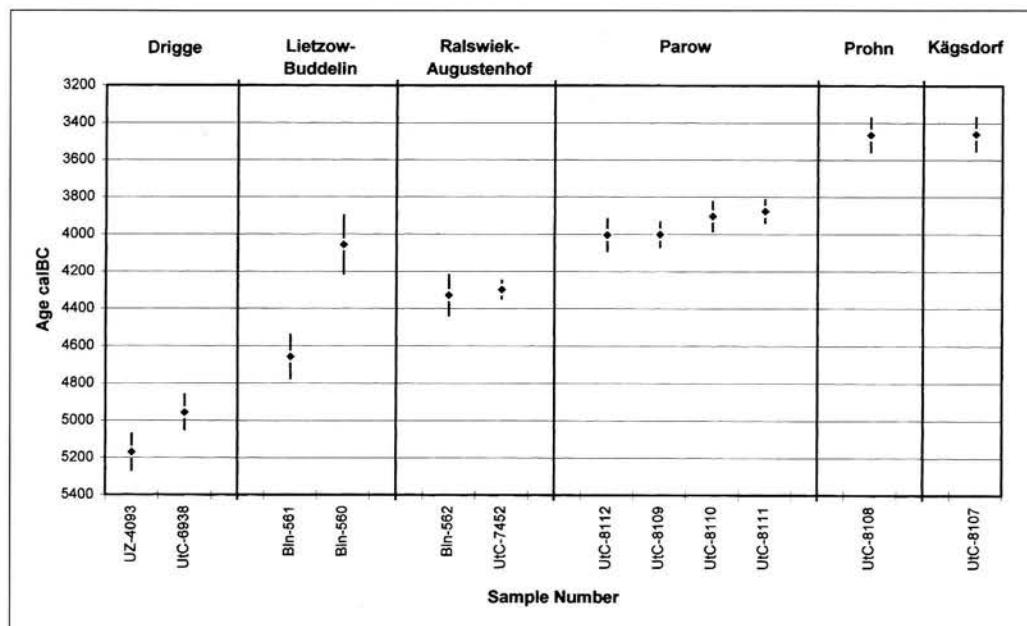
<sup>10</sup> MERTENS 1996;  
MERTENS/SCHIRREN 2000.

<sup>11</sup> NILIUS 1973; NAGEL/  
WECHLER 1991;  
WECHLER 1993.

<sup>12</sup> NILIUS/WARNKE 1984.

*Tab. 1 List of calibrated radiocarbon dates of Final Mesolithic and Early Neolithic coastal sites at the Island of Rügen and in Vorpommern.*

Site	Sample Nr.	Sample Material	Age BP	Age calBC	* <sup>13</sup> C
Drigge, Lkr. Rügen	UZ-4093	human calvarium	6250±80	5170±100	-19,7
	UtC-6938	cervid antler	6070±60	4957±96	-
Lietzow-Buddelin, Lkr. Rügen	Bln-561	charred wood	5815±100	4658±119	-
	Bln-560	charcoal	5190±120	4057±158	-
Ralswiek-Augustenhof, Lkr. Rügen	UtC-7452	human calvarium	5471±41	4298±49	-17,1
	Bln-562	charcoal	5455±100	4328±110	-
Parow, Lkr. Nordvorpommern	UtC-8112	charred food remains	5170±60	4004±88	-26,2
	UtC-8109	charred food remains	5158±43	4002±68	-27,6
	UtC-8110	charred food remains	5138±43	3903±80	-28,0
	UtC-8111	charred food remains	5088±47	3876±63	-25,9
Prohn, Lkr. Nordvorpommern	UtC-8108	human calvarium	4720±39	3463±93	-21,1
Kägendorf, Lkr. Doberan	UtC-8107	human calvarium	4718±39	3459±91	-20,1



outstanding. Adequate ceramic is known from Prohn and Lietzow-Buddelin, at least. Dates of such ceramics from the East Holstein site Wangels LA 505<sup>13</sup> point to a comparable period. So, contrary to former opinions<sup>14</sup>, the turn from the Final Mesolithic Ertebølle culture to the Early Neolithic Funnel Beaker culture begins on the south-western Baltic coast under the influence of expanding farming cultures from the south-west<sup>15</sup> not earlier than 4200 cal.B.C. In the whole of Denmark ceramic remains of settlements of the oldest Funnel Beaker culture do not date before 4000/3900 cal.B.C.<sup>16</sup>

When mapped out the sites of the 'Lietzow group' (fig. 1) known today show a dense population of the big and small Jasmunder Bodden as well as the Strelasund. The settlements were preferably constructed on straits or the mouth of bigger brooks which indicates the intensive use of

maritime resources. From the table of the proven faunal remains it follows that people's diets were mainly determined by hunting land and sea mammals, apart from gathering and fishing. Because of the existing import finds – for instance 'Danubian' rock tools – close contacts to southern farming cultures must have existed especially in Vorpommern.<sup>17</sup> Nevertheless for the 'Lietzow group' neither domestic animals (except dogs) nor the cultivation of grain is proven yet, in contrast to the 'Ellerbek' group of the Ertebølle culture in Schleswig-Holstein.<sup>18</sup>

Beside the well-known settlements Lietzow-Buddelin and Ralswiek-Augustenhof on Rügen as well as the newly discovered site Parow, district Northern Vorpommern, the site Prohn on the northwestern end of the Strelasund, district Northern Vorpommern, contains the up to now most extensive and varied material of the 'Lietzow

*Fig. 2 Calibrated radiocarbon dates of Final Mesolithic and Early Neolithic coastal sites on the Island of Rügen and in Vorpommern.*

<sup>13</sup> HARTZ 1997/98.

<sup>14</sup> SCHWABEDISSEN 1979; 1994.

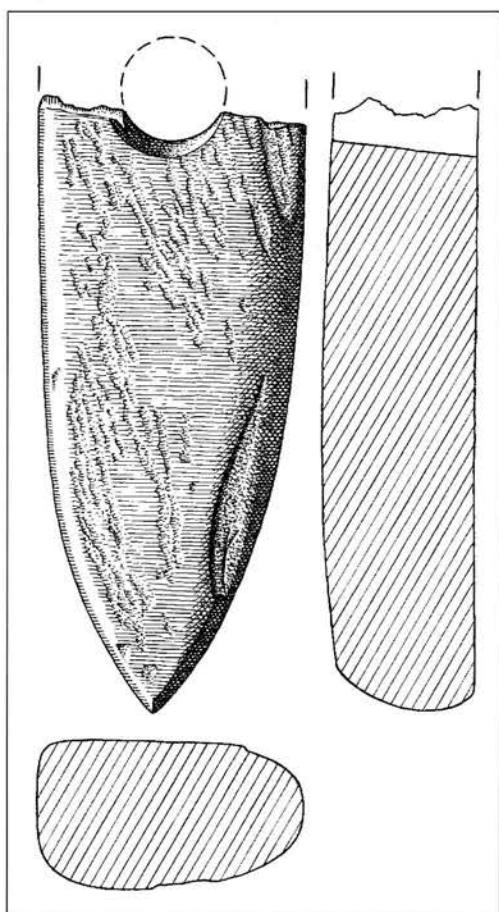
<sup>15</sup> LÜNING 1998.

<sup>16</sup> ANDERSEN 1991, 91; FISCHER 1993, 63; KOCH 1998, 172.

<sup>17</sup> MERTENS/SCHIRREN 2000.

<sup>18</sup> KALIS/MEURERS-BALKE 1998; HARTZ ET AL. 2000; in print.

*Fig. 3 Prohn, district Northern Vorpommern.  
Fragment of a tall central European shaft hole axe.  
Scale 1:3. (Drawing:  
K. Utpatel).*



group'. During large-scale drainage works between 1971 and 1976 finds of the Funnel Beaker culture, the Bronze Age, the Slavonic and German Middle Ages as well as numerous Final Mesolithic flint and antler artefacts were salvaged from the dredging material out of the depression of the Prohn brook. For the interesting spectrum of types S. Schacht undertook a survey of the site in 1979. The Final Mesolithic finds derive from a sandy layer of turf in a depth of approximately 5.5–6.0 m below the current earth's surface. They were covered by mighty marine sediments. This indicates that at the time of the settlement the site was situated directly on the mouth of the brook into the Baltic whereas today it lies 1.5 km southwest of the Prohner Wiek.

The dominant types of big tools in the lithic artefact spectrum of Prohn are core axes with a mostly rhombic or rhomboid cross-section (fig. 4, 1–5), but in which samples with a specialized cutting edge are missing. Also edge-trimmed or flat flaked flake axes (fig. 4, 6) as well as core tools with points (so-called picks), are quite rare

compared to other sites. The small tools consist mainly of blades which can be produced by soft or hard hammer blade technique. Specialized blade cores do not exist (fig. 4, 7–9). Samples with serrated or partial edge retouch (fig. 5, 13–25) are represented beside scrapers (fig. 5, 1–5) and truncated blades (fig. 5, 6–12) partly with a basal shaft retouch. Furthermore large flake scrapers (fig. 5, 26–33), partially retouched flakes (fig. 5, 34–36) and different shapes of borers (fig. 4, 10–13) should be mentioned, but some of them presumably already belong to the Neolithic phase of settlement. The lack of characteristic transverse arrowheads has to be put down to the find circumstances since smaller flint artefacts are in general underrepresented. Among the few rock tools the fragment of a tall central European shaft hole axe (fig. 3) should be emphasized specifically.

The extensive bone and antler artefact material features for instance two T-shaped red deer antler axes (fig. 6, 1–2) as well as adequate waste material (fig. 6, 4.9–10). There are also different tools made of sawn-off tines, among them strikers for the flint blade production or red deer antler picks and burnishers (fig. 6, 5–8). Several points and awls are made of bone (fig. 7, 1.4.7). Apart from other waste material (fig. 7, 2–3.5–6) scapulae (fig. 7, 8–9) were found where rectangular bone discs had been cut out.

The majority of the recovered faunal material are remains of land mammals.<sup>19</sup> Red deer is frequently represented; there is evidence of wild boar, roe deer, aurochs and badger. Several bones of seals give evidence of sea mammal hunting (tab. 2).

Without an AMS-dating of the existing bones it remains uncertain at Prohn how far sheep and goats were kept as domestic animals beside dogs because it is problematic to evaluate the Final Mesolithic spectrum of artefacts and fauna with the interference of younger find material, specifically from the Funnel Beaker culture of the late Early Neolithic Age. Thus based on the only <sup>14</sup>C-dating carried out for this site a human calvarium has to be assigned to this younger phase of settlement (fig. 2).

The evaluation of the Final Mesolithic diet gained from the find material corresponds with two  $\delta^{13}\text{C}$ -dates from human

<sup>19</sup> LEHMKUHL 1993.

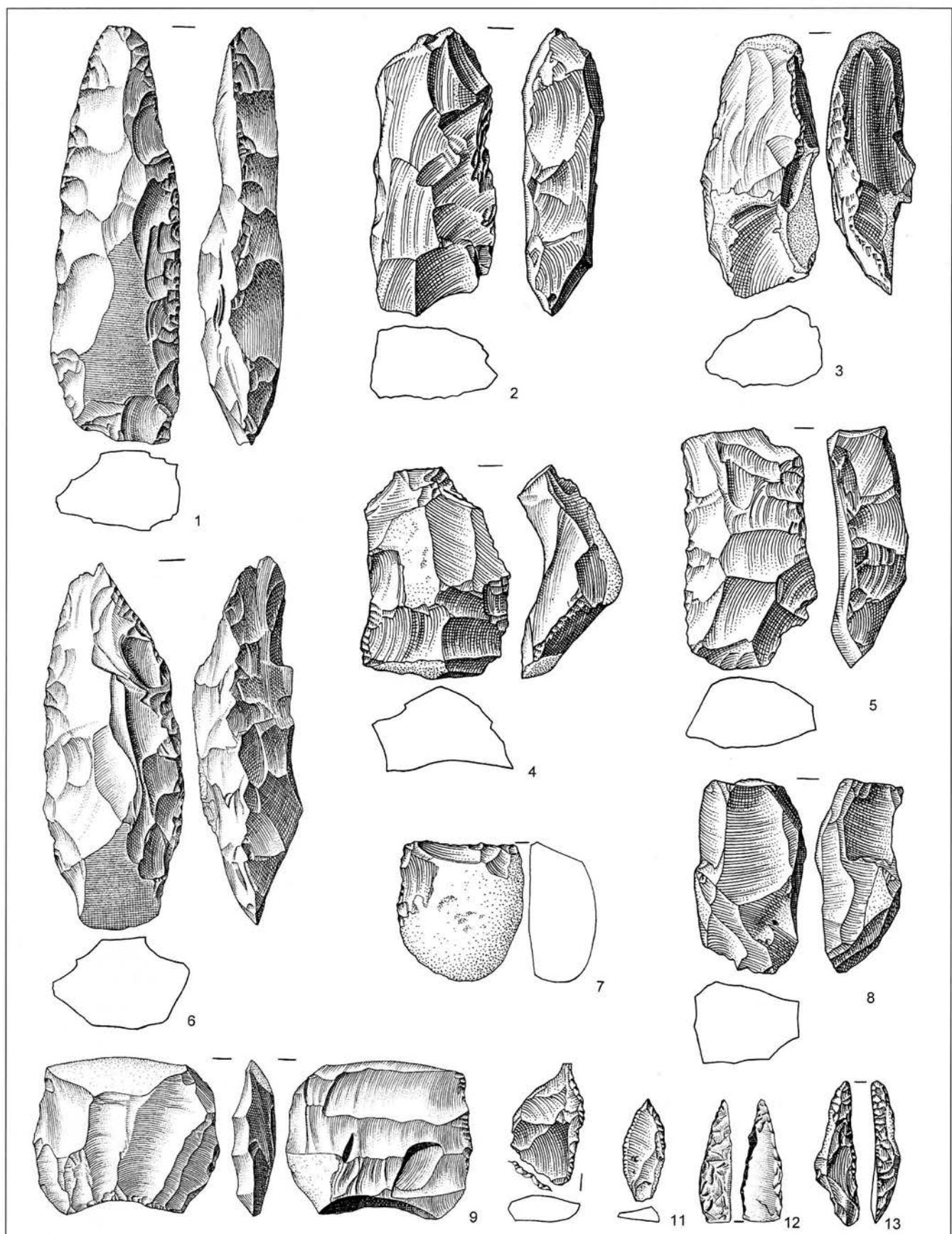


Fig. 4 Prohn, district Northern Vorpommern. Stone artefacts. 1–5 Core axes; 6 flake axe; 7–9 cores; 10–13 borer. Scale 1:2.  
(Drawings: K. Utpatel).

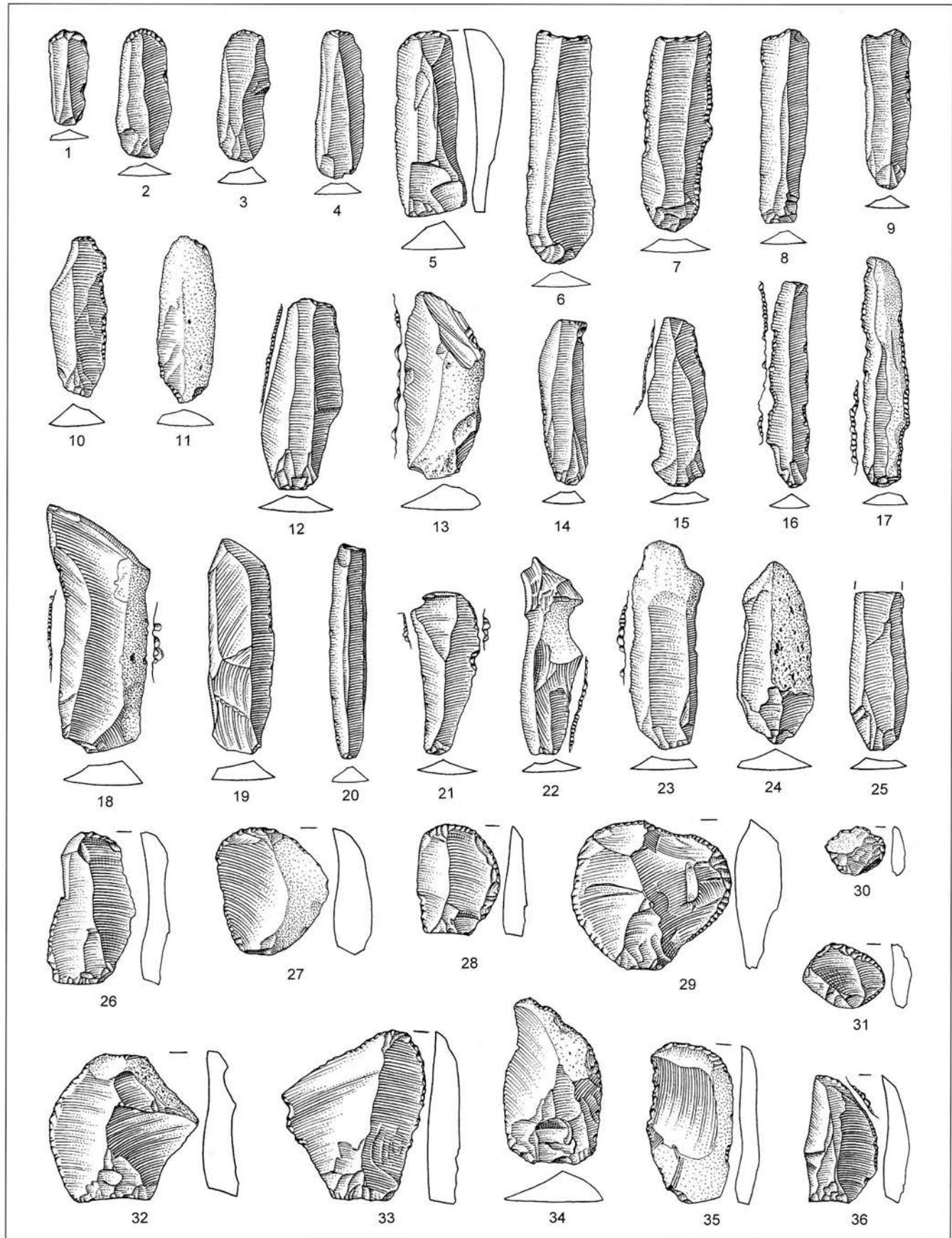


Fig. 5 Prohn, district Northern Vorpommern. Stone artefacts. 1–5 Blade scrapers; 6–12 truncated blades; 13–25 blades with serrated or partial edge retouch; 26–33 flake scrapers; 34–36 partially retouched flakes. Scale 1:2. (Drawings: K. Utpatel).



Fig. 6 Prohn, district Northern Vorpommern. 1–3 T-shaped red deer antler axes (3 semi-finished product); 4.10 bases of red deer antler with working traces; 5–8 sawn-off tines of red deer antler; 9 sawn-off surroyal of red deer antler. Scale 1:3. (Photos: A. Bötefür).



Fig. 7 Prohn, district Northern Vorpommern. 1.4.7 Bone points; 2–3.5–6.8–9 raw bone specimens with working traces. Scale 1:3.  
(Photos: A. Bötefür).

Species	Drigge	Lietzow-Buddelin	Ralswiek-Augustenhof	Ralswiek-Augustenhof	Prohn
		Excavation 1964/65	Excavation 1966/67	Older excavations	
red dear	●	●	●	●	●
wild boar	●	●	●	●	●
roe deer		●	●	●	●
aurochs			●	●	●
aurochs/cattle			●	●	
sheep/goat		○			○
horse				○	○
dog		●	●		●
wolf	●				
fox				●	
badger		●			●
marten		●			
otter		●		●	
seal	●	●	●	●	●
beluga	●				
birds		●		●	●
fishes		●			

Tab. 2 List of faunal remains identified on sites of the 'Lietzow group'. Black circle: species frequently present; black circlet: species present (open circle: dating uncertain).

remains (tab. 1). The  $\delta^{13}\text{C}$ -dates of -19,7 (Drigge) and -17,1 (Ralswiek-Augustenhof) reflect that marine food resources tend to play a secondary role to terrestrial hunting. Similar results were obtained for the Final Mesolithic human remains from Schonen.<sup>20</sup>

It is in the general trend to observe an increasing share of marine food in the Final Mesolithic Age as it becomes apparent in higher  $\delta^{13}\text{C}$ -results of human remains from Ralswiek-Augustenhof. As a single find a skull fragment from Kägendorf, district Bad Doberan, presumably belongs to a Neolithic site underwater (tab. 1). It exemplarily indicates with its  $\delta^{13}\text{C}$ -result of -20,1 (alike the above mentioned skull from Prohn with a  $\delta^{13}\text{C}$ -result of -21,1) the expected decrease of the share of marine food with the beginning of the Neolithic economy.

### Zusammenfassung

Obwohl die ersten endmesolithischen Fundplätze auf der Insel Rügen bereits in der ersten Hälfte des 19. Jahrhunderts entdeckt wurden, beruhten die Kenntnisse zur Besiedlung der Ostseeküste Nordvorpommerns und der Insel Rügen jener Zeit weitgehend auf Oberflächen- und Baggerfundstellen. Schon an der Wende vom 19. zum 20. Jahrhundert wurde die Verwandtschaft des Kulturgutes mit dem der dänisch-schleswig-holsteinischen „Ertebølle-Ellerbek“-Kultur erkannt, wegen der nicht vorhandenen charakteristischen Spitzbodenkeramik aber unter dem Begriff „Lietzow“-Kultur oder „Lietzow“-Gruppe zusammengefaßt. Abgesehen von Altgrabungen aus den 1920er und 1930er Jahren wurden sy-

stematische Untersuchungen mesolithischer Fundstellen lediglich durch B. Gramsch in den 1960er Jahren auf den Fundplätzen Ralswiek-Augustenhof und Lietzow-Buddelin durchgeführt.

Die Kartierung der heute bekannten Fundstellen zeigt eine dichte Besiedlung des großen und des kleinen Jasmunder Bodden sowie des Strelasundes, was auf eine intensive Nutzung maritimer Ressourcen hinweist (Abb. 1). Obwohl aufgrund der vorhandenen Importfunde gerade in dieser Region enge Kontakte zu südlich beheimateten Bauernkulturen bestanden haben müssen,<sup>21</sup> beruhte die Ernährungsweise nach Auswertung der vorhandenen Faunenreste neben dem Sammeln und dem Fischfang im wesentlichen auf der Jagd auf Land- und Meeressäuger. Eine Tierhaltung oder der Anbau von Getreide ist für „Lietzow“ – im Gegensatz zur schleswig-holsteinischen „Ertebølle-Ellerbek“-Gruppe – bislang nicht nachgewiesen.

Kenntnisse zur materiellen Kultur der Lietzow-Gruppe liegen infolge des Forschungsstandes im wesentlichen durch das Steinartefaktspektrum vor, das durch große Kernbeile, Scheibenbeile sowie einen hohen Anteil von Klingengeräten und Pfeilschneiden gekennzeichnet ist (Abb. 3–5). Unter den Geweihgeräten sind Tüllengeweihäxte, Rehgehörnharpenen, Knochen-dolche und einfache Spitzen hervorzuheben (Abb. 6–7). Keramik ist nur in geringem Umfang überliefert. Aufgrund der Kenntnisse aus den Nachbarregionen ist aber anzunehmen, daß zu der einheimisch produzierten Töpferware vor allem Spitzbodenkruken und Tonlampen gehört haben werden.

<sup>20</sup> MEIKLEJOHN ET AL. 1998, 204.

<sup>21</sup> MERTENS/SCHIRREN 2000.

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