

## Chapter 1

### Introduction

The northwest Maghreb occupies a unique geographical position. Spanning the corner of the African continent, the region's coastlines border major and diverse marine ecosystems, the Mediterranean Sea and the Atlantic Ocean, which are joined by the narrow Strait of Gibraltar (Fig. 1.1). Inland, to the east and south-east, the Rif and Atlas Mountains have acted as effective geo-political boundaries for much of the region's development, limiting terrestrial movement and contact with the rest of the continent; in essence, giving the northwest Maghreb an 'island-like' orientation.<sup>1</sup> In antiquity, it was largely due to this orientation that populations looked to the sea to facilitate contact and provide sustenance. The region's rich coastal resources, Pliny's *in Mauretaniae maritimis*, were exploited for fish and shellfish.<sup>2</sup> These resources were not only consumed fresh but were also processed, largely into salted dried foodstuffs, sauces and purple dyes.

The primary objective of this study is to determine the methods, areas and products of this marine resource exploitation within the particular environment of the northwest Maghreb during the mid-1<sup>st</sup> to late 3<sup>rd</sup> centuries AD, when the region constituted the Roman province of *Mauretania Tingitana*. By examining and contextualising relevant archaeological and descriptive data, this study identifies the ways in which the practice and role of fishing and consumption of its products were affected by the incorporation of the region into the Roman Empire. What emerges is a diverse portrait of an activity whose role in the social and economic life of the settlements of *Mauretania Tingitana* has been consistently under-appreciated in archaeo-historical studies.

#### 1.1 Material basis and problems

The first historical study of marine resources in the region was published by M. PONSICH and M. TARRADELL in 1965, focusing on the evidence for the Roman-period fish-salting industry in northern Morocco. The publication deals almost exclusively with the chronology of seven coastal facilities of the province where fish and shellfish were salted and processed into dried foodstuffs, sauces and purple dyes: Sania e Torres, Ksar-es-Seghir, Zahara, Cotta, Tahadart, Kouass and *Lixus*. PONSICH and TARRADELL's work remains a fundamental investigation and important point of departure for such analyses of the industry.<sup>3</sup> Since its

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<sup>1</sup> SHAW 1976: 144–145; 1986: 66–67.

<sup>2</sup> Pliny, *NH* 9.56.115; see App. 4.1: Text 6.8. In this study, the term 'fish' also includes marine mammals and cartilaginous fish; the term 'shellfish' also includes coral, sea urchin and crustaceans.

<sup>3</sup> PONSICH & TARRADELL 1965, selectively reprinted in PONSICH 1988.

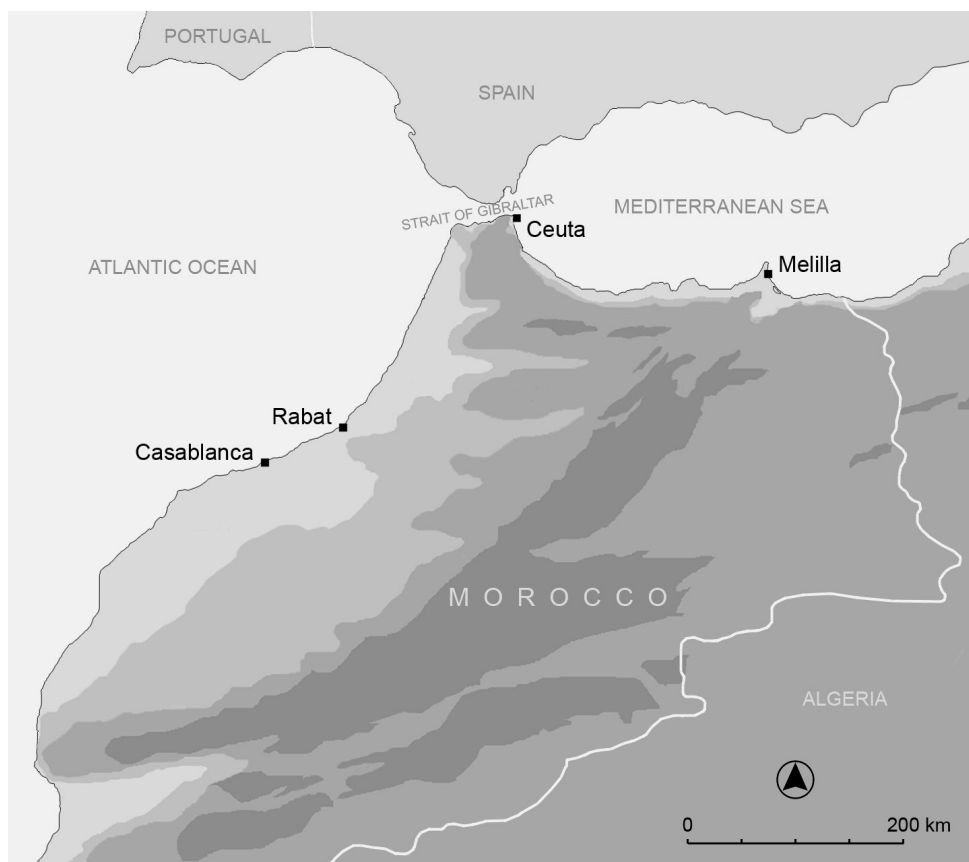


Fig. 1.1: The modern geo-political area of this study: the northwestern Maghreb, encompassing the northern part of the Kingdom of Morocco and the Spanish North African autonomous cities. Image: AT.

publication, however, additional contemporary fish-salting facilities have been identified within *Mauretania Tingitana* at such sites as Metrouna, *Septem Fratres*, Dchar 'Askfane, Essaouira, and possibly *Banasa* and *Thamusida*.<sup>4</sup>

These data provide an outstanding basis for an examination of ancient marine resource exploitation, but relate exclusively to the fish-salting industry of the province. Firstly, there is no synthetic and comprehensive investigation of all fish-salting sites now known in *Mauretania Tingitana*. Secondly, there exists little overall appraisal of the methods and equipment by which the marine resources were extracted to supply this industry, nor of the location of fishing effort in the past marine environments, the species caught, the relationship between

<sup>4</sup> REBUFFAT 1977; JODIN 1967; HITA RUIZ & VILLADA PAREDES 1994; AKERRAZ & EL KHAYARI 2005; CHEDDAD 2006b; BERNAL CASASOLA & PÉREZ RIVERA 1999; BERNAL CASASOLA 2006b; BERNAL et al. 2008b; BERNAL CASASOLA et al. 2014a; CERRI 2007a; 2007b.

the fish-salting industry and other natural resources required for the processing, such as salt and fresh water.<sup>5</sup> Moreover, there are fundamental lacunae in the previous studies, such as the reconstruction of human actions within the maritime landscapes that impact accessibility and use of specific fishing technology. As is the case with extant archaeologically-oriented regional analyses of the fish-salting industry in the Graeco-Roman world, such approaches ultimately prohibit any attempts to quantify the industry's varied products, even at a general level, and establish the role of these in the ancient economy.<sup>6</sup>

It is only recently that new excavations in the region, at *Lixus*, *Septem Fratres*, *Metrouna*, *Tamuda*, *Essaouira* and *Rirha*, have included the identification of ichthyo-archaeological and malacological finds in their analyses. In addition, several recent kiln discoveries along the Atlantic coastal plain, where amphorae used to transship the salted-fish products were manufactured, have been published. In the last decade, coastal and underwater archaeological surveys in the Strait of Gibraltar have also identified areas and types of ancient fishing methods. Significantly, adjustments to ceramic chronologies and re-evaluations of excavated material have in some cases considerably affected the dating of some of the fish-salting sites that were investigated over 50 years ago.<sup>7</sup> These developments, as well as the state of previous scholarship, demonstrate a clear need for comprehensive re-evaluation and new approaches to analysing marine resource exploitation in *Mauretania Tingitana*.

## 1.2 The present study

This study's temporal focus is the Roman period in *Mauretania Tingitana*, when the province was annexed in AD 42/43 until the end of the last Imperial governorship at *Volubilis* (AD 277–280). Through the chronological extension of the examined data sets to the preceding Punico-Mauretanian and following Late Roman periods, this study also explores the diachronic changes of the exploitation, from the 5<sup>th</sup> century BC to the 6<sup>th</sup> century AD.<sup>8</sup> The analysis of pre- and post-Roman materials makes it possible to determine the impact of 'Romanisation' upon fishing practices, human use of and relationship to the environment, consumption patterns and the urbanisation of the region.<sup>9</sup>

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<sup>5</sup> Exceptions include BERNAL CASASOLA 2006a; HESNARD 1998; BERNAL et al. 2014b. See TRAKADAS 2015 for a gazetteer of sites, expanded from TRAKADAS 2009 (see n. 11).

<sup>6</sup> E.g., CURTIS 1991; LOWE 1997; EDMONDSON 1987; ÉTIENNE & MAYET 2002; WILSON 2002b.

<sup>7</sup> Fish bones/shellfish: GRAU ALMERO et al. 2001; RODRÍGUEZ SANTANA & RODRIGO GARCÍA 2005; SAGRARIO CARRASCO PORRAS 2005; ROSELLÓ IZQUIERDO 1992; CHAMORRO MORENO 1988; OUESLATI 2016; BECKER & KÜCHELMANN 2010; kilns: LIMANE & REBUFFAT 2004; MLILOU 1991; KBIRI ALAOU 2007; CERRI 2007a; 2007b; GLIOZZO & CERRI 2009; EL KHAYARI & LENOIR 2012; underwater surveys: TRAKADAS 2004a; 2010a; ERBATI & TRAKADAS 2008; re-evaluations: HABIBI 2007.

<sup>8</sup> With the exceptions of fish-salting at *Lixus* and Sidi Bou Hayel, which date into the 7<sup>th</sup> century AD.

<sup>9</sup> 'Romanisation' refers to events or concepts that take many different forms, and has been used to mean not only the introduction of different material culture and urban structures in regions that were Roman provinces or bordering these, but also the assumption of selected identity and language; see WOOLF 1997; FENTRESS 2006: 31–33; RHORFI 2004a; FEAR 1996: 270–276; LÓPEZ CASTRO 1992: 161; BOWMAN & WILSON 2009: 17–18; MATTINGLY 2004; GOZALBES CRAVIOTO 2010. 'Romanisation' is used in this study to refer to the introduction of the Latin language, material goods, governance, intensified urbanisation and establishment of distinct architecture and structures. See also Chapter 4.

A range of sources relating to marine resource exploitation during these periods are compiled and analysed. These include:

1. *Archaeological data*: marine animal remains from archaeological contexts; finds of fishing equipment from the region; fish-salting facilities (and related industries such as salt sources, kilns and salazón amphorae).
2. *Descriptive data*: written sources relating to fishing, marine life and salted products of the northwest Maghreb; pictorial representations of marine life and fishing from the same area; regional ethnographic examples of fishing techniques.

These data are contextualised within the specific marine, estuarine/lagoonal and riverine environments of the province. Through regional characterisations and case studies of topographically-diverse sites, the types of resources sought, the methods used to obtain them and the areas of fishing effort are reconstructed and evaluated. In order to determine the role this exploitation played in the provincial diet/foodways and economy, seafood is compared to the consumption of agricultural goods and processing (salting) is compared to other foodstuff production activities.

This study does not seek to re-analyse the province's fish-salting industry, nor aim to detail the ancient Roman economy of the northwest Maghreb. Rather, it assesses the environmental, social and economic consequences of the Roman incorporation of *Mauretania Tingitana*, its 'Romanisation', through the lens of marine resource exploitation. Although parts of North Africa have been subject to regional-geographical approaches in landscape and resource use in antiquity, such applications have yet to be realised fully in archaeological studies relating to the former province.<sup>10</sup> It is apparent, however, that with the unique geographical situation and wealth of marine resources, such approaches particularly relating to maritime analyses are warranted for furthering our understanding of the region's past.

This study sheds light upon the links and patterns that existed between land and sea through human interaction with the marine environment. Using the landscapes, seascapes, and a diverse body of material culture as a foundation, this study illustrates synthetically the ways in which a key natural resource of *Mauretania Tingitana* was exploited prior to, during, and after the Roman period. The aim of this analysis is to clarify previous assumptions and misconceptions regarding the past marine environment and its exploitation, answer more accurately outstanding questions of the resource's role and raise new paths of enquiry, ultimately affecting interpretations of Roman resource use and economy. Hopefully the results of this comprehensive work will serve as a significant contribution to the environmental, social and economic history of Roman North Africa, perhaps providing a new and relevant theoretical approach for examining past anthropogenic impacts on marine life, the evolution of ancient foodways and the urbanisation of the region.<sup>11</sup>

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<sup>10</sup> Some North African examples include MATTINGLY 1986; SLIM et al. 2004.

<sup>11</sup> This volume is based on a PhD thesis (TRAKADAS 2009) that has been revised and expanded, with ten sites and 204 catalogue entries from the region added to the previous study. As a result, the present volume provides a much fuller and more nuanced picture of the subject than was possible almost a decade ago. All data and comparanda updated to 2016.