

M. Cremaschi and S. Di Lernia, editors, Wadi Teshuinat: Palaeoclimate and Prehistory in Southwestern Fezzan (Libyan Sahara). Survey and Excavations in the Tadrart Acacus, Erg Uan Kasa, Messak Settafet, and Edeyen of Murzuq, 1990-1995. Centro Interuniversitario di Recerca per le Civiltà e l'Ambiente del Sahara Antico. Milan, C. N. R. Quaderni di Geodinamica Alpina e Quaternaria, 1998.

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The Wadi Teshuinat monograph reports on a five-year collaborative Italian - Libyan excavation and regional survey project in the Fezzan of southwestern Libya, which includes the Tadrart Acacus and Messak Settafet highlands and the sand deserts of the Erg Uan Kasa and the Edeyen of Murziq, formerly lake and marsh systems during Holocene moist phases. The Wadi Teshuinat itself transects the Acacus highlands and has key sites known from earlier publications: Uan Muhuggiag, Uan Tabu, and Uan Afuda, itself the subject of its own monograph (Di Lernia 1999). As noted by the volume editors, the monograph builds on other researchers' investigations in the Fezzan (Aumassip and al. 1982; Barich 1987; Le Quellec 1998; Mori 1998; Di Lernia 1999).

Fourteen detailed chapters on geology and paleoenvironmental reconstruction (Cremaschi), paleosols (Trombino), the nature and age of travertine deposits in the region (Carrara et al.), Tl and OSL dating of fossil dunes associated with key archaeological sites (Martini et al.), molluscs and their paleoenvironmental signification (Girod), faunal remains (Corridi), pollen data from Uan Muhuggiag (Mercuri et al.), archaeology of Holocene pre-pastoral groups (di Lernia), archaeology of older deposits, including Aterian and

Epipalaeolithic "Acacus" industry (Garcea), ceramics from the region (Ponti et al.), the middle and later Pastoral phases from Uan Telocat, funerary practices (di Lernia and Manzi), and a summary of the results of regional survey of geology and archaeology in the Tadrart Acacus region. Chapters are supplemented throughout by photographs and other graphics, and by twenty-four color plates of landscape and sedimentary petrography, plus an Appendix summarizing all sites encountered in the survey. A brief Arabic summary by E. S. Azzabi of the Libyan Department of Antiquities ends (or begins, depending on one's orthographic orientation) the volume.

The Tadrart Acacus data support reconstructions of Saharan climate from other regions, with a Terminal Pleistocene hyper-arid phase succeeded 10,000-9000 BP by a very moist period, then a dry phase in the ninth millennium BP, another moist phase with high lake stands through the eighth and seventh millennia BP, and a final onset of aridity from around 5000 BP. It documents in the Acacus Phase an early Holocene transition of mobile hunter-gatherer adaptations to intensified use of wild grains, production of ceramic vessels, and manipulations of the Barbary sheep (Ammotragus lervia) that included penning and foddering (see Di Lernia 1999 for more detail). The Late Acacus phase was succeeded in the late eighth into the sixth millennia BP by increasingly densely packed sites with domestic cattle and, over time, a growing proportion of domestic caprines. The authors replace often unsuitable phase classifications (e.g. Epipalaeolithic, Mesolithic, Neolithic) with more locally specific, descriptive industrial or economic terms (e.g. Early and Late Acacus, the Pastoral phase), with "Neolithic" being specifically rejected, a welcome departure from evolutionist perspectives implied by the still common term "neolithicization," in some literature.

The volume provides comprehensive and thorough regional documentation that can be related to other areas of the Sahara. For example, Acacus Pastoral artifacts and animal bone processing practices for the phase display some affinities to those of the Adrar Bous and Tin Ouaffadene sites farther south on the edges of the Ténéré Desert (eg. Roset et al. 1990). Artifacts from the latter sites have themselves long been noted as similar to those from "Mesolithic" Es-Shaheinab on the Sudan Nile.

This suggests that Pastoral people in the Fezzan were part of a much wider network of interactions with groups south and east, as well as with Tassili to the west. The Acacus data do not resolve current debates over a possible African center of domestication of cattle (Troy et al. 2001). However, in the Acacus sites reported here, as in Ténérian faunas, cattle are the only domestic ungulate for a few hundred years. This suggests at the very least that there was no single entry of a unitary Southwest Asian "package" of domestic ungulates into Saharan Africa.

This volume sets a standard for research and documentation on Holocene human ecology in Africa. Documentation and analysis is very high, and inferences appear to be well-warranted. Archaeological syntheses, notably Di Lernia's, benefit from a sophisticated reading of global archaeological literature on hunter-gatherer ecology and settlement patterns and on the origins of food production. Temporal changes in the degree of logistical planning, mobility, or sedentism are targets of analysis. Monograph chapters are in English, with English and Italian abstracts, meaning that this world-class scholarship is accessible to scholars of many nationalities, including those taking a comparative approach to the emergence of food production.

## References Cited

Aumassip, G. et al.

1982 Le Shati: Lac pleistocène du Fezzan (Libye). Paris: Editions du Centre National de la Recherche Scientifique.

## Barich, B.

1987 Adaptation in archaeology: an example from the Libyan Sahara. Prehistory of Arid North Africa. In A. Close, editor, *Essays in Honor of Fred Wendorf*. Dallas: Southern Methodist University Press, pp. 189-210.

Di Lernia, S., editor

1999 The Uan Afuda Cave. Hunter-gatherer Societies of Central Sahara. Arid Zone Archaeology Monographs. Rome: All'Insegna del Giglio.

Le Quellec, J.-L.

1998 Art Rupestre et Préhistoire du Sahara. Le Messak Libyen. Paris: Editions Payot et Rivages.

Mori, F.

1998 The Great Civilizations of the Ancient Sahara. Neolithisation and the Earliest Evidence of Anthropomorphic Religions.
Rome: L'Erma di Bretschneider.

Roset, J.-P. et al.

1990 La faune de Tin Ouaffadene et d'Adrar Bous 10, deux gisements archéologiques de l'Holocène ancien au Niger nord-oriental. Géodynamique 5(1): 67-89.

Troy, C. S., D. E. MacHugh, J. F. Bailey, D. A Magee, R Loftus, P. Cunningham, A.T. Chamberlain, B. C. Sykes, and D. G. Bradley

2001 Genetic evidence for Near-Eastern origins of European cattle. *Nature* 410: 1088-1091.