

## TABLE OF CONTENTS

I. INTRODUCTION.....	1
II. REVIEW OF LITERATURE.....	3
Evolution and Distribution.....	3
Biology, Habitat and Behavior .....	3
Reproductive Biology and Polyembryony.....	11
Kin Selection and Altruism.....	13
III. MATERIALS AND METHODS.....	20
Study Site.....	20
General Methods.....	20
Behaviors Recorded.....	21
Data Collection .....	21
Analyses.....	25
Comparative Analysis.....	26
IV. RESULTS .....	34
General Patterns of Time Allocation .....	34
Temporal Effects.....	34
Animal Identity Effects.....	35
Environmental Influences .....	37
Comparative Analysis.....	38
V. DISCUSSION .....	57
Time Allocation as an Evolutionary Constraint.....	58
Temporal Effects.....	62
Animal Identity Effects.....	63
Environmental Influences .....	65

Summary .....	66
BIBLIOGRAPHY .....	68
APPENDIX A: Institutional Animal Care and Use Committee (IACUC) Approval .....	85

## LIST OF FIGURES

Figure 1: Distribution of the nine-banded armadillo .....	18
Figure 2: Depiction of <i>Dasypus novemcinctus</i> adult and juveniles .....	19
Figure 3: Map of the primary study regions at Yazoo National Wildlife Refuge.....	31
Figure 4: Representative images of three primary sampling areas at Yazoo National Wildlife Refuge.....	32
Figure 5: Average armadillo time budgets using 2007 Focal Data.....	54
Figure 6: Average armadillo time budgets using 2008 Focal Data.....	55
Figure 7: Average armadillo time budgets using pooled Scan Data.....	56

## LIST OF TABLES

Table 1: Definitions of Behaviors Recorded.....	28
Table 2: Schedule of Focal Observations .....	30
Table 3: Time Budget Data for Wild Nine-banded Armadillos.....	39
Table 4: Differences in Time Allocation between Evening and Night Time Blocks .....	41
Table 5: Results of Regression Analyses Examining Potential Temporal Effects on Time Allocation.....	42
Table 6: Time Budget Data of Adult Female Nine-banded Armadillos that Differed in Lactational Status.....	43
Table 7: Results of Regression Analyses to Examine Relationships between Time Budgets and Weather Conditions .....	44
Table 8: Comparative Analysis of Mammalian Time Budgets.....	45
Table 9: Average Percent Time Spent Feeding Different Orders of Mammals.....	52
Table 10: Results of Regression Analyses Examining Relationships between Time Spent Feeding and Body Size, Group Size and Metabolic Rate .....	53