

TABLES OF CONTENTS

	Page
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER	
I. INTRODUCTION	1
II. LITERATURE REVIEWS	4
III. MATERIALS AND METHODS	
III.1 Organisms	13
III.2 Inoculum	13
III.3 Sequential morphogenesis of <i>P. marneffe</i> i conidia on BHIA	13
III.4 Sequential morphogenesis of <i>P. marneffe</i> i conidia in human blood	14
III.5 Effects of nitrogen sources on transformation of <i>P. marneffe</i> i	14
III.6 Growth on glutamine gradient plates of <i>P. marneffe</i> i	15
III.7 Effects of glutamine concentrations on transformation of <i>P. marneffe</i> i	15
III.8 Assimilation reactions of yeast-like forms of <i>P. marneffe</i> i	15
III.9 Effects of carbon source concentrations on transformation of <i>P. marneffe</i> i	16

	Page
III.10 The effect of temperature on transformation of <i>P. marneffeï</i>	17
III.11 The effect of pH on transformation of <i>P. marneffeï</i>	17
III.12 The effect of CO ₂ on transformation of <i>P. marneffeï</i>	17
III.13 Effects of sex steroid hormones on transformation of <i>P. marneffeï</i>	18
III.14 Study on ultrastructure of <i>P. marneffeï</i> using transmission electron microscopy.	18
IV. RESULTS	
IV.1 Sequential morphogenesis of <i>P. marneffeï</i> conidia on BHIA at 37°C	20
IV.2 Sequential morphogenesis of <i>P. marneffeï</i> conidia in human blood	20
IV.3 Effects of nitrogen sources on transformation of <i>P. marneffeï</i>	20
IV.4 Growth of <i>P. marneffeï</i> on glutamine gradient plates	21
IV.5 Effects of glutamine concentrations on transformation of <i>P. marneffeï</i>	21
IV.6 Assimilation reactions of yeastlike forms of <i>P. marneffeï</i>	21
IV.7 Effects of carbon source concentrations on transformation of <i>P. marneffeï</i>	22

	Page
IV.8 The effect of temperature on transformation of <i>P. marneffe</i>	22
IV.9 The effect of pH on transformation of <i>P. marneffe</i>	22
IV.10 The effect of CO ₂ on transformation of <i>P. marneffe</i>	23
IV.11 Effects of sex steroid hormones on transformation of <i>P. marneffe</i>	23
IV.12 Chitin localization in <i>P. marneffe</i> using lectin labelling techniques and transmission electron microscopy	23
V. DISCUSSION	61
VI. CONCLUSIONS	70
REFERENCES	72
BIOGRAPHY	80

LIST OF TABLES

	Page
Table 1. Effects of nitrogen sources on dimorphism of <i>P. marneffei</i>	25
Table 2. Effects of glutamine concentrations on transformation of <i>P. marneffei</i>	26
Table 3. Assimilation reactions of <i>P. marneffei</i>	27
Table 4. Effects of glucose concentrations on transformation of <i>P. marneffei</i>	28
Table 5. Effects of maltose concentrations on transformation of <i>P. marneffei</i>	29
Table 6. The effect of temperature on transformation of <i>P. marneffei</i>	30
Table 7. The effect of pH on transformation of <i>P. marneffei</i>	31
Table 8. The effect of CO ₂ on transformation of <i>P. marneffei</i>	32
Table 9. Effects of sex steroid hormones on transformation of <i>P. marneffei</i>	33

LIST OF FIGURES

	Page
Fig. 1 Microscopic morphology of mycelial form of <i>P. marneffei</i>	34
Fig. 2 Microscopic morphology of yeast-like form of <i>P. marneffei</i>	35
Fig. 3 Microscopic morphology of parasitic form of <i>P. marneffei</i>	36
Fig.4-7 Sequential morphogenesis of <i>P. marneffei</i> conidia on BHIA at 37°C	37-38
Fig. 8-11 Sequential morphogenesis of <i>P. marneffei</i> in human blood	39-40
Fig. 12 Microscopic morphology of <i>P. marneffei</i> cultured on basal medium supplemented with L-cysteine (0.1g %) at 37°C	41
Fig. 13 Microscopic morphology of <i>P. marneffei</i> cultured on basal medium supplemented with L-asparagine (0.1g %) at 37°C	42
Fig. 14 Microscopic morphology of <i>P. marneffei</i> cultured on basal medium supplemented with NaNO ₃ (0.1g %) at 37°C	43
Fig. 15 Microscopic morphology of <i>P. marneffei</i> cultured on basal medium supplemented with L-glutamine (0.1g %) at 37°C	44
Fig. 16 Microscopic morphology of <i>P. marneffei</i> cultured on BHIA at 37°C	45
Fig.17-18 Growth of <i>P. marneffei</i> on glutamine gradient plates	46
Fig.19-22 Effects of L-glutamine concentrations on transformation of <i>P. marneffei</i>	47-48
Fig.23-26 The effect of testosterone on transformation of <i>P. marneffei</i>	49-50
Fig.27-28 Chitin localization of <i>P. marneffei</i> cultured on BHIA at 37°C	51-52

	Page
Fig.29-30 Chitin localization of <i>P. marneffei</i> cultured on basal medium supplemented with L-glutamine (0.1g %) at 37°C	53-54
Fig. 31-32 Chitin localization in septum of <i>P. marneffei</i> yeast-like cells	55-56
Fig. 33-34 Chitin localization in mycelial cells of <i>P. marneffei</i>	57-58
Fig. 35 Cross-section of <i>P. marneffei</i> yeast-like phase	59
Fig. 36 Cross-section of <i>P. marneffei</i> mycelial phase	60