MODELS FOR ANALYSIS OF VARIANCE

Nesting is indicated by brackets around the parent factor. R= Random factor, F = Fixed factor.

Part 1 Metal Levels in Prawns

1.1 The effect of size: Metal levels in tail flesh of medium and small *P. esculentus* at the northern site only. (tables 5 and 6 refer)

ANOVA Model:

Factor	R F	No of Levels	degrees of freedom	MS denominator in F ratio
Size	F	2	1	Size x Night
Night	R	2	1	Residual
Size x Night			1	Residual
Residual	R		29	

Sample Sizes:

Prawn size:	Night 1	Night 2
Medium	10	10
Small	7	6

1.2 The effect of size: Metal levels in tail flesh of medium and large *P. esculentus* at the southern site only. (tables 7 and 8 refer)

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Size	F	2	1	Size x Night
Night	R	3	2	Residual
Size x Night			2	Residual
Residual	R		60	

Sample Sizes:

Prawn size:	Night 1	Night 2	Night 3
Medium	14	16	15
Large	7	7	7

1.3 The effect of tissue type and site: Metal levels in different tissue types of medium sized *P. esculentus* from different sites (tables 9, 10 and 11 refer).

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Tissue	F	3	2	Tissue x Night
Site	F	2	1	Night
Night (Site)	R	3,2	3	Residual
Tissue x Site			2	Tissue x Night
Tissue x Night			6	Residual
Residual	R		132	

Sample Sizes:

Tissue	North (2 days)	South (3 days)
Tail	10,10	14,16,15
Shell	10,10	7,7,7
Head	10,10	7,7,7

1.4 The effect of sex: Metal levels in male and female medium sized *P. esculentus* tail flesh from the southern site (tables 12 and 13 refer).

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Sex	F	2	1	Sex x Night
Night	R	3	2	Residual
Sex x Night			2	Residual
Residual	R		60	

Sample Size:

Sex	Night 1	Night 2	Night 3
Male	7	7	7
Female	14	16	15

1.5 The effect of moult stage: Metal levels in tail flesh from pre- and post- moult medium sized female *P. esculentus* from the southern site (tables 14 and 15 refer).

Factor	RF	No Levels	degrees of freedom	MS denominator in F ratio
Moult Stage	F	2	1	Moult Stage x Night
Night	R	3	2	Residual
Moult Stage x Night			2	Residual
Residual	R		53	

Sample Sizes:

Moult Stage	Night 1	Night 2	Night 3
Pre-moult	8	9	4
Post-moult	12	13	13

1.6 The effect of handling method: Metal levels in tail flesh from medium sized *P. esculentus* from the southern site, subjected to four different handling treatments (tables 16 and 17 refer).

Factor	RF	No Levels	degrees of freedom	MS denominator in F ratio
Treatment	F	4	3	Treatment x Night
Night	R	3	2	Residual
Treatment x Night			6	Residual
Residual	R		48	

Sample Sizes:

Treatment	Night 1	Night 2	Night 3
Clean	5	5	5
Chilled	5	5	5
Green	5	5	5
Cooked	5	5	5

1.7 The effect of site, and differences between species: Metal levels in tail flesh of *P. esculentus*, *M. endeavouri* and *P. longistylus* from the northern and southern sites (tables 8, 9 and 20 refer).

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Species	F	3	2	Species x Night
Site	F	2	1	Night
Night (Site)	R	2,3	3	Residual
Species x Site			2	Species x Night
SpeciesxNight			6	Residual
Residual	R		105	

Sample Sizes:

Species:	North (2 nights)	South (3 nights)
Penaeus esculentus	10,10	7,7,7
Penaeus longistylus	9,10	5,7,7
Metapenaeus endeavouri	10,10	7,7,7

1.8 The effect of season and differences between species: Inter-seasonal comparison of metal levels in tail flesh of *P. esculentus*, *M. endeavouri* and *P. longistylus* from the northern site (tables 21, 22 and 23 refer).

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Species	F	3	2	Species x Night
Season	F	2	1	Night
Night(Season)	R	2,3	3	Residual
Species x Season			2	Species x Night
Species x Night			6	Residual
Residual	R		105	

Sample Sizes:

Species:	Pre Wet (2 nights)	Post Wet (3 nights)
Penaeus esculentus	15,15	7,7,7
Penaeus longistylus	8,6	7,7,7
Metapenaeus endeavouri	9,4	7,7,7

Part 2 Metal Levels in Crayfish

The following table (duplicate of table 31) denotes sample sizes of collections from June and October 1992, across locations, sites and size categories, as used for analyses 2.1–2.3 (below).

Location	Period	Site	Sample size per tail width (mm) category						
			30–40	40–50	50–60	60–70	70–80	80–90	Total
Cape York	June'92	1	0	0	0	1	3	1	5
		2	1	1	0	1	2	0	5
		3	2	0	1	1	1	0	5
	Oct/Nov '92	1	1	2	2	2	1	0	8
		2	0	3	3	0	0	0	6
		3	0	1	2	2	0	0	5
Dungeness	June'92	1	2	2	1	2	3	0	10
		2	0	0	0	1	3	1	5
	Oct/Nov '92	1	0	1	1	2	0	1	5
		2	0	1	3	1	0	0	5
		3	0	1	3	0	1	0	5
South Orman	June'92	1	0	0	2	1	2	0	5
		2	0	0	1	2	0	2	5
Kakope	Oct/Nov '92	1	0	0	2	0	0	1	3
		2	0	2	1	0	0	0	3
		3	0	1	1	0	1	0	3

2.1 The effect of location: Metal levels in tail flesh of *P. ornatus* collected in June 1992, at locations Cape York, Dungeness Reef and Sth Orman Reefs. Tail width is included as a co-variate. (tables 26 and 27 refer)

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Tail width		covariate	1	Residual
Location	F	3	2	Site
Site(Loc'n)	R	3,2,2	4	Residual
Residual			32	

2.2 The effect of location: Metal levels in tail flesh of *P. ornatus* collected in October/November 1992, at locations Cape York, Dungeness Reef and Kakope Reef. Tail width is included as a co-variate. (tables 28 and 29 refer)

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Tail width		covariate	1	Residual
Location	F	3	2	Site
Site(Loc'n)	R	3,3,3	2	Residual
Residual			37	

2.3 The effect of season: Metal levels in tail flesh of *P. ornatus* collected from Cape York and Dungeness Reef, in June and October/November 1992. (tables 30 and 31 refer)

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Tail Width		covariate	1	Residual
Location	F	2	1	Site
Season	F	2	1	Site
Site(Loc,Seas)	R	3,3;2,3	2	Residual
Loc x Seas			1	Residual
Residual				

2.4 The effect of sex: Metal levels in tail flesh of male and female *P. ornatus* with tail width of 40-60 millimetres, collected from all sites combined in October/November 1992. (table 32 refers) n=15 per sex.

Factor	R F	No Levels	degrees of freedom	MS denominator in F ratio
Sex	F	2	1	Residual
Residual			28	

2.5 The effect of handling: Metal levels in tail flesh of *P. ornatus* collected from Sth Orman Rfs in June 1992, collected according to 'clean' and 'industry' handling protocols. (tables 33 and 34 refer) n=5 per site per treatment.

Factor		No Levels	degrees of freedom	MS denominator in F ratio
Treatment	F	2	1	Site
Site(treat)	R	2	2	Residual
Residual			16	