Appendix

Main statistics and species lists in rank order for the assemblages of adult bugs and beetles (excluding Aphidoidea and Coccidoidea) from Papcastle, Cumbria.

Site: PC84 Context: 118 Sample: 12/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 0.100kg

```
Number of individuals estimated as                      N =      33
Number of taxa                                          S =      23
Index of diversity (alpha)                          alpha =      34
Standard error of alpha                          SE alpha =      12
Number of 'certain' outdoor taxa                      SOA =       3
Percentage of 'certain' outdoor taxa                 %SOA =      13
Number of 'certain' outdoor individuals               NOA =       3
Percentage of 'certain' outdoor individuals          %NOA =       9
Number of 'certain' and probable outdoor taxa         SOB =       6
Percentage of 'certain' and probable outdoor taxa    %SOB =      26
Number of 'certain' and probable outdoor individuals  NOB =       6
Percentage 'certain' and probable outdoor individuals %NOB =     18
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                                 SW =       1
Percentage of aquatic taxa                            %SW =       4
Number of aquatic individuals                          NW =       1
Percentage of aquatic individuals                     %NW =       3
Number of damp ground/waterside taxa                   SD =       0
Percentage of damp ground/waterside taxa              %SD =       0
Number of damp ground/waterside individuals            ND =       0
Percentage of damp ground/waterside individuals       %ND =       0
Number of strongly plant-associated taxa               SP =       1
Percentage of strongly plant-associated taxa          %SP =       4
Number of strongly plant-associated individuals        NP =       1
Percentage of strongly plant-associated individuals   %NP =       3
Number of heathland/moorland taxa                      SM =       0
Number of heathland/moorland individuals               NM =       0
Percentage of heathland/moorland individuals          %NM =       0
Number of wood-associated taxa                         SL =       0
Number of wood-associated individuals                  NL =       0
Percentage of wood-associated individuals             %NL =       0
Number of decomposer taxa                             SRT =       8
Percentage of decomposer taxa                        %SRT =      35
Number of decomposer individuals                      NRT =      10
Percentage of decomposer individuals                 %NRT =      30
Number of 'dry' decomposer taxa                       SRD =       3
Percentage of 'dry'decomposer taxa                   %SRD =      13
Number of 'dry' decomposer individuals                NRD =       5
Percentage of 'dry'decomposer individuals            %NRD =      15
Number of 'foul' decomposer taxa                      SRF =       1
Percentage of 'foul' decomposer taxa                 %SRF =       4
Number of 'foul' decomposer individuals               NRF =       1
Percentage of 'foul' decomposer individuals          %NRF =       3
Diversity index for RT not calculated, NRT = SRT or NRT < 20
Number of individuals of grain pests                   NG =      10
Percentage of individuals of grain pests              %NG =      30
Number of individuals of grain pests                   NG =      10
Number of uncoded taxa                                 SU =       6
Percentage of uncoded individuals                     PNU =      24
```

Site: PC84 Context: 118 Sample: 12/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	4	12	1	g
Aleocharinae sp.	3	9	2	u
Cryptolestes ferrugineus (Stephens)	3	9	2	g
Cryptophagus sp.	2	6	4	rd
Lathridius minutus group	2	6	4	rd
Sitophilus granarius (Linnaeus)	2	6	4	g
Hemiptera sp.	1	3	7	u
Pterostichus sp.	1	3	7	ob
Carabidae sp.	1	3	7	ob
Helophorus sp.	1	3	7	oa w
Cercyon sp.	1	3	7	u
Carpelimus pusillus group	1	3	7	u
Anotylus sculpturatus group	1	3	7	rt
Xantholinus linearis or longiventris	1	3	7	rt
Falagria or Cordalia sp.	1	3	7	rt
Aleochara sp.	1	3	7	u
Aphodius sp.	1	3	7	ob rf
Ephistemus globulus (Paykull)	1	3	7	rd
Palorus ratzeburgi (Wissman)	1	3	7	g
?Alphitobius sp.	1	3	7	rt
Rhinoncus sp.	1	3	7	oa p
Curculionidae sp.	1	3	7	oa
Coleoptera sp.	1	3	7	u

Site: PC84 Context: 163 Sample: 17/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	3
Number of taxa	S =	2

Site: PC84 Context: 163 Sample: 17/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	2	67	1	g
Aphodius sp.	1	33	2	ob rf

Site: PC84 Context: 174 Sample: 18/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 2; Weight = 1.000kg

Number of individuals estimated as	N =	48
Number of taxa	S =	35
Index of diversity (alpha)	alpha =	58
Standard error of alpha	SE alpha =	18
Number of 'certain' outdoor taxa	SOA =	11
Percentage of 'certain' outdoor taxa	%SOA =	31
Number of 'certain' outdoor individuals	NOA =	11
Percentage of 'certain' outdoor individuals	%NOA =	23

```
Number of 'certain' and probable outdoor taxa            SOB =        15
Percentage of 'certain' and probable outdoor taxa        %SOB =       43
Number of 'certain' and probable outdoor individuals     NOB =        15
Percentage 'certain' and probable outdoor individuals    %NOB =       31
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                                   SW =          1
Percentage of aquatic taxa                               %SW =         3
Number of aquatic individuals                            NW =          1
Percentage of aquatic individuals                        %NW =         2
Number of damp ground/waterside taxa                     SD =          1
Percentage of damp ground/waterside taxa                 %SD =         3
Number of damp ground/waterside individuals              ND =          1
Percentage of damp ground/waterside individuals          %ND =         2
Number of strongly plant-associated taxa                 SP =          6
Percentage of strongly plant-associated taxa             %SP =        17
Number of strongly plant-associated individuals          NP =          6
Percentage of strongly plant-associated individuals      %NP =        13
Number of heathland/moorland taxa                        SM =          0
Number of heathland/moorland individuals                 NM =          0
Percentage of heathland/moorland individuals             %NM =         0
Number of wood-associated taxa                           SL =          0
Number of wood-associated individuals                    NL =          0
Percentage of wood-associated individuals                %NL =         0
Number of decomposer taxa                                SRT =        15
Percentage of decomposer taxa                            %SRT =       43
Number of decomposer individuals                         NRT =        22
Percentage of decomposer individuals                     %NRT =       46
Number of 'dry' decomposer taxa                          SRD =         4
Percentage of 'dry'decomposer taxa                       %SRD =       11
Number of 'dry' decomposer individuals                   NRD =         4
Percentage of 'dry'decomposer individuals                %NRD =        8
Number of 'foul' decomposer taxa                         SRF =         6
Percentage of 'foul' decomposer taxa                     %SRF =       17
Number of 'foul' decomposer individuals                  NRF =         6
Percentage of 'foul' decomposer individuals              %NRF =       13
Index of diversity of decomposer component            alpha RT =      21
Standard error                                     SE alpha RT =       9
Number of individuals of grain pests                     NG =          9
Percentage of individuals of grain pests                 %NG =        19
Number of individuals of grain pests                     NG =          9
Number of uncoded taxa                                   SU =          6
Percentage of uncoded individuals                        PNU =        13
```

Site: PC84 Context: 174 Sample: 18/T - species list in rank order

```
Taxon                                    Number    %   Rank Ecodes

Corticaria sp. A                            7      15    1  rt
Cryptolestes ferrugineus (Stephens)         5      10    2  g
Sitophilus granarius (Linnaeus)             3       6    3  g
Corticaria ?punctulata Marsham              2       4    4  rt
Cimicidae sp.                               1       2    5  u
Heteroptera sp. A                           1       2    5  u
Heteroptera sp. B                           1       2    5  u
Auchenorhyncha sp.                          1       2    5  oa p
Dyschirius globosus (Herbst)                1       2    5  oa
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Agonum albipes (Fabricius)                      1    2    5    oa d
Carabidae sp.                                   1    2    5    ob
Helophorus sp.                                  1    2    5    oa w
Cercyon haemorrhoidalis (Fabricius)             1    2    5    rf
Omalium caesum or italicum                      1    2    5    rt
Platystethus arenarius (Fourcroy)               1    2    5    rf
Xantholinus ?linearis (Olivier)                 1    2    5    rt
Staphylininae sp.                               1    2    5    u
Aleocharinae sp.                                1    2    5    u
Geotrupes sp.                                   1    2    5    oa rf
Aphodius sp. A                                  1    2    5    ob rf
Aphodius sp. B                                  1    2    5    ob rf
Aphodius sp. C                                  1    2    5    ob rf
Phyllopertha horticola (Linnaeus)               1    2    5    oa p
Ptinus sp.                                      1    2    5    rd
Meligethes sp.                                  1    2    5    oa p
Oryzaephilus surinamensis (Linnaeus)            1    2    5    g
Cryptophagus sp.                                1    2    5    rd
Lathridius minutus group                        1    2    5    rd
Typhaea stercorea (Linnaeus)                    1    2    5    rd
Anthicus sp.                                    1    2    5    rt
Halticinae sp. A                                1    2    5    oa p
Halticinae sp. B                                1    2    5    oa p
Apion sp.                                       1    2    5    oa p
Curculionidae sp.                               1    2    5    oa
Coleoptera sp.                                  1    2    5    u
```

Site: **PC84 Context: 019 Sample: 22/T - beetle/bug main statistics**

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

```
Number of individuals estimated as                  N  =      19
Number of taxa                                      S  =      17
Index of diversity not calculated, n = s or n < 20
Number of 'certain' outdoor taxa                    SOA =      4
Percentage of 'certain' outdoor taxa                %SOA =     24
Number of 'certain' outdoor individuals             NOA =      4
Percentage of 'certain' outdoor individuals         %NOA =     21
Number of 'certain' and probable outdoor taxa       SOB =      5
Percentage of 'certain' and probable outdoor taxa   %SOB =     29
Number of 'certain' and probable outdoor individuals NOB =     5
Percentage 'certain' and probable outdoor individuals %NOB =   26
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                              SW  =      2
Percentage of aquatic taxa                          %SW =      12
Number of aquatic individuals                       NW  =      2
Percentage of aquatic individuals                   %NW =      11
Number of damp ground/waterside taxa                SD  =      1
Percentage of damp ground/waterside taxa            %SD =      6
Number of damp ground/waterside individuals         ND  =      1
Percentage of damp ground/waterside individuals     %ND =      5
Number of strongly plant-associated taxa            SP  =      0
Percentage of strongly plant-associated taxa        %SP =      0
Number of strongly plant-associated individuals     NP  =      0
Percentage of strongly plant-associated individuals %NP =      0
Number of heathland/moorland taxa                   SM  =      0
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```
Number of heathland/moorland individuals              NM =      0
Percentage of heathland/moorland individuals          %NM =     0
Number of wood-associated taxa                        SL =      0
Number of wood-associated individuals                 NL =      0
Percentage of wood-associated individuals             %NL =     0
Number of decomposer taxa                             SRT =     4
Percentage of decomposer taxa                         %SRT =   24
Number of decomposer individuals                      NRT =     4
Percentage of decomposer individuals                  %NRT =   21
Number of 'dry' decomposer taxa                       SRD =     2
Percentage of 'dry'decomposer taxa                    %SRD =   12
Number of 'dry' decomposer individuals                NRD =     2
Percentage of 'dry'decomposer individuals             %NRD =   11
Number of 'foul' decomposer taxa                      SRF =     1
Percentage of 'foul' decomposer taxa                  %SRF =    6
Number of 'foul' decomposer individuals               NRF =     1
Percentage of 'foul' decomposer individuals           %NRF =    5
Diversity index for RT not calculated, NRT = SRT or NRT < 20
Number of individuals of grain pests                  NG =      4
Percentage of individuals of grain pests              %NG =    21
Number of individuals of grain pests                  NG =      4
Number of uncoded taxa                                SU =      7
Percentage of uncoded individuals                     PNU =    37
```

Site: PC84 Context: 019 Sample: 22/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Oryzaephilus surinamensis (Linnaeus)	3	16	1	g
Dyschirius sp.	1	5	2	oa
Colymbetinae sp.	1	5	2	oa w
Helophorus sp.	1	5	2	oa w
Cercyon sp.	1	5	2	u
Hydrophilidae sp.	1	5	2	u
Carpelimus sp.	1	5	2	u
Anotylus tetracarinatus (Block)	1	5	2	rt
?Lathrobium sp.	1	5	2	u
Staphylininae sp.	1	5	2	u
Aleocharinae sp.	1	5	2	u
Aphodius sp.	1	5	2	ob rf
Dryops sp.	1	5	2	oa d
Ptinus ?fur (Linnaeus)	1	5	2	rd
Cryptolestes ferrugineus (Stephens)	1	5	2	g
Lathridius minutus group	1	5	2	rd
Coleoptera sp.	1	5	2	u

Site: PC84 Context: 142 Sample: 23/T - beetle/bug main statistics

Erosion = 0 Fragmentation = 0; Weight = 1.000kg

```
Number of individuals estimated as                    N =      1
Number of taxa                                        S =      1
```

Site: PC84 Context: 142 Sample: 23/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Coleoptera sp.	1	100	1	u

Site: PC84 Context: 139 Sample: 24/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 4; Weight = 1.000kg

Number of individuals estimated as	N =	25
Number of taxa	S =	21
Index of diversity (alpha)	alpha =	60
Standard error of alpha	SE alpha =	31
Number of 'certain' outdoor taxa	SOA =	6
Percentage of 'certain' outdoor taxa	%SOA =	29
Number of 'certain' outdoor individuals	NOA =	7
Percentage of 'certain' outdoor individuals	%NOA =	28
Number of 'certain' and probable outdoor taxa	SOB =	9
Percentage of 'certain' and probable outdoor taxa	%SOB =	43
Number of 'certain' and probable outdoor individuals	NOB =	11
Percentage 'certain' and probable outdoor individuals	%NOB =	44
Diversity index for OB not calculated, NOB = SOB or NOB < 20		
Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	10
Number of aquatic individuals	NW =	3
Percentage of aquatic individuals	%NW =	12
Number of damp ground/waterside taxa	SD =	3
Percentage of damp ground/waterside taxa	%SD =	14
Number of damp ground/waterside individuals	ND =	3
Percentage of damp ground/waterside individuals	%ND =	12
Number of strongly plant-associated taxa	SP =	2
Percentage of strongly plant-associated taxa	%SP =	10
Number of strongly plant-associated individuals	NP =	2
Percentage of strongly plant-associated individuals	%NP =	8
Number of heathland/moorland taxa	SM =	0
Number of heathland/moorland individuals	NM =	0
Percentage of heathland/moorland individuals	%NM =	0
Number of wood-associated taxa	SL =	0
Number of wood-associated individuals	NL =	0
Percentage of wood-associated individuals	%NL =	0
Number of decomposer taxa	SRT =	5
Percentage of decomposer taxa	%SRT =	24
Number of decomposer individuals	NRT =	6
Percentage of decomposer individuals	%NRT =	24
Number of 'dry' decomposer taxa	SRD =	0
Percentage of 'dry'decomposer taxa	%SRD =	0
Number of 'dry' decomposer individuals	NRD =	0
Percentage of 'dry'decomposer individuals	%NRD =	0
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	10
Number of 'foul' decomposer individuals	NRF =	3
Percentage of 'foul' decomposer individuals	%NRF =	12
Diversity index for RT not calculated, NRT = SRT or NRT < 20		
Number of individuals of grain pests	NG =	5
Percentage of individuals of grain pests	%NG =	20

```
Number of individuals of grain pests                    NG =      5
Number of uncoded taxa                                  SU =      6
Percentage of uncoded individuals                       PNU =    24
```

Site: PC84 Context: 139 Sample: 24/T - species list in rank order

```
Taxon                                   Number    %   Rank  Ecodes

Oryzaephilus surinamensis (Linnaeus)       3     12     1   g
Helophorus sp.                             2      8     2   oa w
Aphodius ?prodromus (Brahm)                2      8     2   ob rf
Carabidae sp.                              1      4     4   ob
Hydroporinae sp.                           1      4     4   oa w
?Lesteva sp.                               1      4     4   oa d
Platystethus ?nodifrons (Mannerheim)       1      4     4   oa d
Anotylus nitidulus (Gravenhorst)           1      4     4   rt d
Anotylus tetracarinatus (Block)            1      4     4   rt
Staphylininae sp.                          1      4     4   u
Tachinus ?signatus Gravenhorst             1      4     4   u
Aleocharinae sp. A                         1      4     4   u
Aleocharinae sp. B                         1      4     4   u
Aphodius sp.                               1      4     4   ob rf
Cryptolestes ferrugineus (Stephens)        1      4     4   g
Corticarina or Cortinicara sp.             1      4     4   rt
Palorus ratzeburgi (Wissman)               1      4     4   g
Longitarsus sp.                            1      4     4   oa p
Ceutorhynchus contractus (Marsham)         1      4     4   oa p
Coleoptera sp. A                           1      4     4   u
Coleoptera sp. B                           1      4     4   u
```

Site: PC84 Context: 150 Sample: 25/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 4; Weight = 0.750kg

```
Number of individuals estimated as                      N =      32
Number of taxa                                          S =      20
Index of diversity (alpha)                          alpha =      23
Standard error of alpha                          SE alpha =       8
Number of 'certain' outdoor taxa                      SOA =       2
Percentage of 'certain' outdoor taxa                 %SOA =      10
Number of 'certain' outdoor individuals               NOA =       2
Percentage of 'certain' outdoor individuals          %NOA =       6
Number of 'certain' and probable outdoor taxa         SOB =       4
Percentage of 'certain' and probable outdoor taxa    %SOB =      20
Number of 'certain' and probable outdoor individuals  NOB =       4
Percentage 'certain' and probable outdoor individuals %NOB =     13
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                                 SW =       0
Percentage of aquatic taxa                            %SW =       0
Number of aquatic individuals                          NW =       0
Percentage of aquatic individuals                     %NW =       0
Number of damp ground/waterside taxa                   SD =       0
Percentage of damp ground/waterside taxa              %SD =       0
Number of damp ground/waterside individuals            ND =       0
Percentage of damp ground/waterside individuals       %ND =       0
```

```
Number of strongly plant-associated taxa              SP  =      2
Percentage of strongly plant-associated taxa          %SP =     10
Number of strongly plant-associated individuals       NP  =      2
Percentage of strongly plant-associated individuals   %NP =      6
Number of heathland/moorland taxa                     SM  =      0
Number of heathland/moorland individuals              NM  =      0
Percentage of heathland/moorland individuals          %NM =      0
Number of wood-associated taxa                        SL  =      0
Number of wood-associated individuals                 NL  =      0
Percentage of wood-associated individuals             %NL =      0
Number of decomposer taxa                             SRT =      9
Percentage of decomposer taxa                         %SRT=     45
Number of decomposer individuals                      NRT =      9
Percentage of decomposer individuals                  %NRT=     28
Number of 'dry' decomposer taxa                       SRD =      4
Percentage of 'dry'decomposer taxa                    %SRD=     20
Number of 'dry' decomposer individuals                NRD =      4
Percentage of 'dry'decomposer individuals             %NRD=     13
Number of 'foul' decomposer taxa                      SRF =      1
Percentage of 'foul' decomposer taxa                  %SRF=      5
Number of 'foul' decomposer individuals               NRF =      1
Percentage of 'foul' decomposer individuals           %NRF=      3
Diversity index for RT not calculated, NRT = SRT or NRT < 20
Number of individuals of grain pests                  NG  =     16
Percentage of individuals of grain pests              %NG =     50
Number of individuals of grain pests                  NG  =     16
Number of uncoded taxa                                SU  =      4
Percentage of uncoded individuals                     PNU =     13
```

Site: PC84 Context: 150 Sample: 25/T - species list in rank order

```
Taxon                                   Number    %    Rank Ecodes

Oryzaephilus surinamensis (Linnaeus)       7     22      1  g
Cryptolestes ferrugineus (Stephens)        5     16      2  g
Palorus ratzeburgi (Wissman)               2      6      3  g
Sitophilus granarius (Linnaeus)            2      6      3  g
Carabidae sp.                              1      3      5  ob
Cercyon analis (Paykull)                   1      3      5  rt
Acritus nigricornis (Hoffmann)             1      3      5  rt
Oxytelus sculptus Gravenhorst              1      3      5  rt
Staphylininae sp. A                        1      3      5  u
Staphylininae sp. B                        1      3      5  u
?Mycetoporus sp.                           1      3      5  u
Aleocharinae sp.                           1      3      5  u
Aphodius sp.                               1      3      5  ob rf
?Phyllopertha horticola (Linnaeus)         1      3      5  oa p
?Ptinidae sp.                              1      3      5  rd
Cryptophagus sp.                           1      3      5  rd
Lathridius minutus group                   1      3      5  rd
Typhaea stercorea (Linnaeus)               1      3      5  rd
?Alphitobius sp.                           1      3      5  rt
?Barynotus sp.                             1      3      5  oa p
```

Site: PC84 Context: 153 Sample: 26/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

```
Number of individuals estimated as                      N =      82
Number of taxa                                          S =      34
Index of diversity (alpha)                          alpha =      22
Standard error of alpha                          SE alpha =       4
Number of 'certain' outdoor taxa                      SOA =       5
Percentage of 'certain' outdoor taxa                 %SOA =      15
Number of 'certain' outdoor individuals               NOA =       5
Percentage of 'certain' outdoor individuals          %NOA =       6
Number of 'certain' and probable outdoor taxa         SOB =       7
Percentage of 'certain' and probable outdoor taxa    %SOB =      21
Number of 'certain' and probable outdoor individuals  NOB =       7
Percentage 'certain' and probable outdoor individuals %NOB =       9
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                                 SW =       2
Percentage of aquatic taxa                            %SW =       6
Number of aquatic individuals                          NW =       2
Percentage of aquatic individuals                     %NW =       2
Number of damp ground/waterside taxa                   SD =       0
Percentage of damp ground/waterside taxa              %SD =       0
Number of damp ground/waterside individuals            ND =       0
Percentage of damp ground/waterside individuals       %ND =       0
Number of strongly plant-associated taxa               SP =       3
Percentage of strongly plant-associated taxa          %SP =       9
Number of strongly plant-associated individuals        NP =       3
Percentage of strongly plant-associated individuals   %NP =       4
Number of heathland/moorland taxa                      SM =       0
Number of heathland/moorland individuals               NM =       0
Percentage of heathland/moorland individuals          %NM =       0
Number of wood-associated taxa                         SL =       1
Number of wood-associated individuals                  NL =       1
Percentage of wood-associated individuals             %NL =       1
Number of decomposer taxa                             SRT =      20
Percentage of decomposer taxa                        %SRT =      59
Number of decomposer individuals                      NRT =      26
Percentage of decomposer individuals                 %NRT =      32
Number of 'dry' decomposer taxa                       SRD =       6
Percentage of 'dry'decomposer taxa                   %SRD =      18
Number of 'dry' decomposer individuals                NRD =      11
Percentage of 'dry'decomposer individuals            %NRD =      13
Number of 'foul' decomposer taxa                      SRF =       2
Percentage of 'foul' decomposer taxa                 %SRF =       6
Number of 'foul' decomposer individuals               NRF =       2
Percentage of 'foul' decomposer individuals          %NRF =       2
Index of diversity of decomposer component       alpha RT =      41
Standard error                                SE alpha RT =      19
Number of individuals of grain pests                   NG =      44
Percentage of individuals of grain pests              %NG =      54
NB - over 10% grain pests and n > 50: for corrected re-run see over.
Number of individuals of grain pests                   NG =      44
Number of uncoded taxa                                 SU =       3
Percentage of uncoded individuals                     PNU =       6
```

Site: PC84 Context: 153 Sample: 26/T - beetle/bug main statistics
re-run after subtraction of grain pest component

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	38
Number of taxa	S =	30
Index of diversity (alpha)	alpha =	65
Standard error of alpha	SE alpha =	25
Number of 'certain' outdoor taxa	SOA =	5
Percentage of 'certain' outdoor taxa	%SOA =	17
Number of 'certain' outdoor individuals	NOA =	5
Percentage of 'certain' outdoor individuals	%NOA =	13
Number of 'certain' and probable outdoor taxa	SOB =	7
Percentage of 'certain' and probable outdoor taxa	%SOB =	23
Number of 'certain' and probable outdoor individuals	NOB =	7
Percentage 'certain' and probable outdoor individuals	%NOB =	18

Diversity index for OB not calculated, NOB = SOB or NOB < 20

Number of aquatic taxa	SW =	2
Percentage of aquatic taxa	%SW =	7
Number of aquatic individuals	NW =	2
Percentage of aquatic individuals	%NW =	5
Number of damp ground/waterside taxa	SD =	0
Percentage of damp ground/waterside taxa	%SD =	0
Number of damp ground/waterside individuals	ND =	0
Percentage of damp ground/waterside individuals	%ND =	0
Number of strongly plant-associated taxa	SP =	3
Percentage of strongly plant-associated taxa	%SP =	10
Number of strongly plant-associated individuals	NP =	3
Percentage of strongly plant-associated individuals	%NP =	8
Number of heathland/moorland taxa	SM =	0
Number of heathland/moorland individuals	NM =	0
Percentage of heathland/moorland individuals	%NM =	0
Number of wood-associated taxa	SL =	1
Number of wood-associated individuals	NL =	1
Percentage of wood-associated individuals	%NL =	3
Number of decomposer taxa	SRT =	20
Percentage of decomposer taxa	%SRT =	67
Number of decomposer individuals	NRT =	26
Percentage of decomposer individuals	%NRT =	68
Number of 'dry' decomposer taxa	SRD =	6
Percentage of 'dry'decomposer taxa	%SRD =	20
Number of 'dry' decomposer individuals	NRD =	11
Percentage of 'dry'decomposer individuals	%NRD =	29
Number of 'foul' decomposer taxa	SRF =	2
Percentage of 'foul' decomposer taxa	%SRF =	7
Number of 'foul' decomposer individuals	NRF =	2
Percentage of 'foul' decomposer individuals	%NRF =	5
Index of diversity of decomposer component	alpha RT =	41
Standard error	SE alpha RT =	19
Number of individuals of grain pests	NG =	44
Number of uncoded taxa	SU =	3
Percentage of uncoded individuals	PNU =	13

Site: PC84 Context: 153 Sample: 26/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	23	28	1	g
Oryzaephilus surinamensis (Linnaeus)	17	21	2	g
Lathridius minutus group	4	5	3	rd
Xylodromus concinnus (Marsham)	2	2	4	rt
Aleocharinae sp. A	2	2	4	u
Aleocharinae sp. B	2	2	4	u
Cryptophagus sp. A	2	2	4	rd
Cryptophagus sp. B	2	2	4	rd
Palorus ratzeburgi (Wissman)	2	2	4	g
Sitophilus granarius (Linnaeus)	2	2	4	g
Carabidae sp.	1	1	11	ob
Helophorus sp.	1	1	11	oa w
Ochthebius sp.	1	1	11	oa w
Acrotrichis sp.	1	1	11	rt
Coprophilus striatulus (Fabricius)	1	1	11	rt
Carpelimus ?bilineatus Stephens	1	1	11	rt
Platystethus arenarius (Fourcroy)	1	1	11	rf
Anotylus rugosus (Fabricius)	1	1	11	rt
Oxytelus sculptus Gravenhorst	1	1	11	rt
Gyrohypnus fracticornis (Muller)	1	1	11	rt
Philonthus sp.	1	1	11	u
Aphodius sp.	1	1	11	ob rf
Phyllopertha horticola (Linnaeus)	1	1	11	oa p
Anobium punctatum (Degeer)	1	1	11	l
Ptinus ?fur (Linnaeus)	1	1	11	rd
Omosita colon (Linnaeus)	1	1	11	rt
Atomaria sp.	1	1	11	rd
Corticaria sp.	1	1	11	rt
Corticarina sp.	1	1	11	rt
Typhaea stercorea (Linnaeus)	1	1	11	rd
Alphitobius diaperinus (Panzer)	1	1	11	rt
Anthicus sp.	1	1	11	rt
Longitarsus sp.	1	1	11	oa p
?Psylliodes sp.	1	1	11	oa p

Site: PC84 Context: 154 Sample: 30/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

Number of individuals estimated as	N =	48
Number of taxa	S =	23
Index of diversity (alpha)	alpha =	18
Standard error of alpha	SE alpha =	4
Number of 'certain' outdoor taxa	SOA =	4
Percentage of 'certain' outdoor taxa	%SOA =	17
Number of 'certain' outdoor individuals	NOA =	4
Percentage of 'certain' outdoor individuals	%NOA =	8
Number of 'certain' and probable outdoor taxa	SOB =	7
Percentage of 'certain' and probable outdoor taxa	%SOB =	30
Number of 'certain' and probable outdoor individuals	NOB =	7
Percentage 'certain' and probable outdoor individuals	%NOB =	15

Diversity index for OB not calculated, NOB = SOB or NOB < 20

```
Number of aquatic taxa                              SW =      0
Percentage of aquatic taxa                          %SW =     0
Number of aquatic individuals                       NW =      0
Percentage of aquatic individuals                   %NW =     0
Number of damp ground/waterside taxa                SD =      0
Percentage of damp ground/waterside taxa            %SD =     0
Number of damp ground/waterside individuals         ND =      0
Percentage of damp ground/waterside individuals     %ND =     0
Number of strongly plant-associated taxa            SP =      3
Percentage of strongly plant-associated taxa        %SP =     13
Number of strongly plant-associated individuals     NP =      3
Percentage of strongly plant-associated individuals %NP =     6
Number of heathland/moorland taxa                   SM =      0
Number of heathland/moorland individuals            NM =      0
Percentage of heathland/moorland individuals        %NM =     0
Number of wood-associated taxa                       SL =      2
Number of wood-associated individuals                NL =      2
Percentage of wood-associated individuals           %NL =     4
Number of decomposer taxa                           SRT =     10
Percentage of decomposer taxa                       %SRT =    43
Number of decomposer individuals                    NRT =     12
Percentage of decomposer individuals                %NRT =    25
Number of 'dry' decomposer taxa                     SRD =     5
Percentage of 'dry'decomposer taxa                  %SRD =    22
Number of 'dry' decomposer individuals              NRD =     7
Percentage of 'dry'decomposer individuals           %NRD =    15
Number of 'foul' decomposer taxa                    SRF =     2
Percentage of 'foul' decomposer taxa                %SRF =    9
Number of 'foul' decomposer individuals             NRF =     2
Percentage of 'foul' decomposer individuals         %NRF =    4
Diversity index for RT not calculated, NRT = SRT or NRT < 20
Number of individuals of grain pests                NG =      26
Percentage of individuals of grain pests            %NG =     54
Number of individuals of grain pests                NG =      26
Number of uncoded taxa                              SU =      2
Percentage of uncoded individuals                   PNU =     4
```

Site: PC84 Context: 154 Sample: 30/T - species list in rank order

```
Taxon                                 Number    %   Rank Ecodes

Oryzaephilus surinamensis (Linnaeus)    17     35     1  g
Cryptolestes ferrugineus (Stephens)      8     17     2  g
Lathridius minutus group                 3      6     3  rd
Carabidae sp.                            1      2     4  ob
Cercyon atricapillus (Marsham)           1      2     4  rf
Cercyon sp.                              1      2     4  u
Histerinae sp.                           1      2     4  u
Oxytelus ?sculptus Gravenhorst           1      2     4  rt
Falagria or Cordalia sp.                 1      2     4  rt
Aphodius sp.                             1      2     4  ob rf
Elateridae sp.                           1      2     4  ob
Anobium punctatum (Degeer)               1      2     4  l
Ptinus sp.                               1      2     4  rd
Cryptophagus sp.                         1      2     4  rd
Atomaria sp. A                           1      2     4  rd
```

```
Atomaria sp. B                                  1    2    4   rd
Alphitobius sp.                                 1    2    4   rt
Longitarsus sp.                                 1    2    4   oa p
Chrysomelidae sp.                               1    2    4   oa p
Sitophilus granarius (Linnaeus)                 1    2    4   g
Ceutorhynchus contractus (Marsham)              1    2    4   oa p
Curculionidae sp.                               1    2    4   oa
?Scolytidae sp.                                 1    2    4   l
```

Site: PC84 Context: 188 Sample: 33/T - beetle/bug main statistics

Erosion = 3 Fragmentation = 3; Weight = 1.000kg

```
Number of individuals estimated as                    N =      28
Number of taxa                                        S =      20
Index of diversity (alpha)                        alpha =      32
Standard error of alpha                        SE alpha =      13
Number of 'certain' outdoor taxa                    SOA =       4
Percentage of 'certain' outdoor taxa               %SOA =      20
Number of 'certain' outdoor individuals             NOA =       4
Percentage of 'certain' outdoor individuals        %NOA =      14
Number of 'certain' and probable outdoor taxa       SOB =       5
Percentage of 'certain' and probable outdoor taxa  %SOB =      25
Number of 'certain' and probable outdoor individuals NOB =      5
Percentage 'certain' and probable outdoor individuals %NOB =   18
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                               SW =       0
Percentage of aquatic taxa                          %SW =       0
Number of aquatic individuals                        NW =       0
Percentage of aquatic individuals                   %NW =       0
Number of damp ground/waterside taxa                 SD =       0
Percentage of damp ground/waterside taxa            %SD =       0
Number of damp ground/waterside individuals          ND =       0
Percentage of damp ground/waterside individuals     %ND =       0
Number of strongly plant-associated taxa             SP =       3
Percentage of strongly plant-associated taxa        %SP =      15
Number of strongly plant-associated individuals      NP =       3
Percentage of strongly plant-associated individuals %NP =      11
Number of heathland/moorland taxa                    SM =       0
Number of heathland/moorland individuals             NM =       0
Percentage of heathland/moorland individuals        %NM =       0
Number of wood-associated taxa                       SL =       0
Number of wood-associated individuals                NL =       0
Percentage of wood-associated individuals           %NL =       0
Number of decomposer taxa                           SRT =       9
Percentage of decomposer taxa                      %SRT =      45
Number of decomposer individuals                    NRT =      12
Percentage of decomposer individuals               %NRT =      43
Number of 'dry' decomposer taxa                     SRD =       5
Percentage of 'dry'decomposer taxa                 %SRD =      25
Number of 'dry' decomposer individuals              NRD =       8
Percentage of 'dry'decomposer individuals          %NRD =      29
Number of 'foul' decomposer taxa                    SRF =       2
Percentage of 'foul' decomposer taxa               %SRF =      10
Number of 'foul' decomposer individuals             NRF =       2
Percentage of 'foul' decomposer individuals        %NRF =       7
```

```
Diversity index for RT not calculated, NRT = SRT or NRT < 20
Number of individuals of grain pests                    NG =     9
Percentage of individuals of grain pests               %NG =    32
Number of individuals of grain pests                    NG =     9
Number of uncoded taxa                                  SU =     4
Percentage of uncoded individuals                      PNU =    14
```

Site: PC84 Context: 188 Sample: 33/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	4	14	1	g
Lathridius minutus group	4	14	1	rd
Oryzaephilus surinamensis (Linnaeus)	3	11	3	g
Auchenorhyncha sp.	1	4	4	oa p
Cercyon sp.	1	4	4	u
Silpha atrata Linnaeus	1	4	4	u
Xylodromus ?concinnus (Marsham)	1	4	4	rt
Carpelimus sp.	1	4	4	u
Aleocharinae sp.	1	4	4	u
Geotrupes sp.	1	4	4	oa rf
Aphodius or Colobopterus sp.	1	4	4	ob rf
Dascillus cervinus (Linnaeus)	1	4	4	oa p
Ptinus ?fur (Linnaeus)	1	4	4	rd
Cryptophagus ?scutellatus Newman	1	4	4	rd
Cryptophagus sp.	1	4	4	rd
?Typhaea stercorea (Linnaeus)	1	4	4	rd
Palorus ratzeburgi (Wissman)	1	4	4	g
?Anthicus sp.	1	4	4	rt
Apion sp.	1	4	4	oa p
Sitophilus granarius (Linnaeus)	1	4	4	g

Site: PC84; Context: 302; Sample: 37/T

NO RECORDS OF BEETLES OR BUGS

Site: PC84; Context: 017; Sample: 50/T

NO RECORDS OF BEETLES OR BUGS

Site: PC84 Context: 353 Sample: 60/T - beetle/bug main statistics

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

```
Number of individuals estimated as                       N =    58
Number of taxa                                           S =    38
Index of diversity (alpha)                           alpha =    48
Standard error of alpha                           SE alpha =    12
Number of 'certain' outdoor taxa                       SOA =     8
Percentage of 'certain' outdoor taxa                  %SOA =    21
```

```
Number of 'certain' outdoor individuals                  NOA =      8
Percentage of 'certain' outdoor individuals             %NOA =     14
Number of 'certain' and probable outdoor taxa            SOB =      9
Percentage of 'certain' and probable outdoor taxa       %SOB =     24
Number of 'certain' and probable outdoor individuals     NOB =      9
Percentage 'certain' and probable outdoor individuals   %NOB =     16
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                                    SW =      1
Percentage of aquatic taxa                               %SW =      3
Number of aquatic individuals                             NW =      1
Percentage of aquatic individuals                        %NW =      2
Number of damp ground/waterside taxa                      SD =      1
Percentage of damp ground/waterside taxa                 %SD =      3
Number of damp ground/waterside individuals               ND =      1
Percentage of damp ground/waterside individuals          %ND =      2
Number of strongly plant-associated taxa                  SP =      7
Percentage of strongly plant-associated taxa             %SP =     18
Number of strongly plant-associated individuals           NP =      7
Percentage of strongly plant-associated individuals      %NP =     12
Number of heathland/moorland taxa                         SM =      0
Number of heathland/moorland individuals                  NM =      0
Percentage of heathland/moorland individuals             %NM =      0
Number of wood-associated taxa                            SL =      1
Number of wood-associated individuals                     NL =      1
Percentage of wood-associated individuals                %NL =      2
Number of decomposer taxa                                SRT =     15
Percentage of decomposer taxa                           %SRT =     39
Number of decomposer individuals                         NRT =     22
Percentage of decomposer individuals                    %NRT =     38
Number of 'dry' decomposer taxa                          SRD =      6
Percentage of 'dry'decomposer taxa                      %SRD =     16
Number of 'dry' decomposer individuals                   NRD =      9
Percentage of 'dry'decomposer individuals               %NRD =     16
Number of 'foul' decomposer taxa                         SRF =      3
Percentage of 'foul' decomposer taxa                    %SRF =      8
Number of 'foul' decomposer individuals                  NRF =      4
Percentage of 'foul' decomposer individuals             %NRF =      7
Index of diversity of decomposer component          alpha RT =     21
Standard error                                   SE alpha RT =      9
Number of individuals of grain pests                      NG =     17
Percentage of individuals of grain pests                 %NG =     29
NB - over 10% grain pests and n > 50: for corrected re-run see over.
Number of individuals of grain pests                      NG =     17
Number of uncoded taxa                                    SU =     10
Percentage of uncoded individuals                        PNU =     17
```

**Site: PC84 Context: 353 Sample: 60/T - beetle/bug main statistics
re-run after subtraction of grain pest component**

Erosion = 2 Fragmentation = 3; Weight = 1.000kg

```
Number of individuals estimated as                         N =     41
Number of taxa                                             S =     34
Index of diversity (alpha)                             alpha =     92
Standard error of alpha                             SE alpha =     37
Number of 'certain' outdoor taxa                         SOA =      8
```

```
Percentage of 'certain' outdoor taxa                    %SOA =      24
Number of 'certain' outdoor individuals                  NOA =       8
Percentage of 'certain' outdoor individuals             %NOA =      20
Number of 'certain' and probable outdoor taxa            SOB =       9
Percentage of 'certain' and probable outdoor taxa       %SOB =      26
Number of 'certain' and probable outdoor individuals     NOB =       9
Percentage 'certain' and probable outdoor individuals   %NOB =      22
Diversity index for OB not calculated, NOB = SOB or NOB < 20
Number of aquatic taxa                                    SW =       1
Percentage of aquatic taxa                               %SW =       3
Number of aquatic individuals                             NW =       1
Percentage of aquatic individuals                        %NW =       2
Number of damp ground/waterside taxa                      SD =       1
Percentage of damp ground/waterside taxa                 %SD =       3
Number of damp ground/waterside individuals               ND =       1
Percentage of damp ground/waterside individuals          %ND =       2
Number of strongly plant-associated taxa                  SP =       7
Percentage of strongly plant-associated taxa             %SP =      21
Number of strongly plant-associated individuals           NP =       7
Percentage of strongly plant-associated individuals      %NP =      17
Number of heathland/moorland taxa                         SM =       0
Number of heathland/moorland individuals                  NM =       0
Percentage of heathland/moorland individuals             %NM =       0
Number of wood-associated taxa                            SL =       1
Number of wood-associated individuals                     NL =       1
Percentage of wood-associated individuals                %NL =       2
Number of decomposer taxa                                SRT =      15
Percentage of decomposer taxa                           %SRT =      44
Number of decomposer individuals                         NRT =      22
Percentage of decomposer individuals                    %NRT =      54
Number of 'dry' decomposer taxa                          SRD =       6
Percentage of 'dry'decomposer taxa                      %SRD =      18
Number of 'dry' decomposer individuals                   NRD =       9
Percentage of 'dry'decomposer individuals               %NRD =      22
Number of 'foul' decomposer taxa                         SRF =       3
Percentage of 'foul' decomposer taxa                    %SRF =       9
Number of 'foul' decomposer individuals                  NRF =       4
Percentage of 'foul' decomposer individuals             %NRF =      10
Index of diversity of decomposer component          alpha RT =      21
Standard error                                   SE alpha RT =       9
Number of individuals of grain pests                      NG =      17
Number of uncoded taxa                                    SU =      10
Percentage of uncoded individuals                        PNU =      24
```

Site: PC84 Context: 353 Sample: 60/T - species list in rank order

Taxon	Number	%	Rank	Ecodes
Cryptolestes ferrugineus (Stephens)	10	17	1	g
Oryzaephilus surinamensis (Linnaeus)	4	7	2	g
Cryptophagus sp. R	3	5	3	rd
Corticaria sp.	3	5	3	rt
Cercyon haemorrhoidalis (Fabricius)	2	3	5	rf
Megasternum obscurum (Marsham)	2	3	5	rt
Lathridius minutus group	2	3	5	rd
Sitophilus granarius (Linnaeus)	2	3	5	g

```
Drymus sylvaticus (Fabricius)              1    2    9    oa p
Heteroptera sp.                            1    2    9    u
Auchenorhyncha sp.                         1    2    9    oa p
Helophorus sp.                             1    2    9    oa w
Histerinae sp.                             1    2    9    u
Ptenidium sp.                              1    2    9    rt
Xylodromus concinnus (Marsham)             1    2    9    rt
Platystethus arenarius (Fourcroy)          1    2    9    rf
Anotylus nitidulus (Gravenhorst)           1    2    9    rt d
Stenus sp.                                 1    2    9    u
Othius sp.                                 1    2    9    rt
Neobisnius sp.                             1    2    9    u
Staphylininae sp.                          1    2    9    u
Tachyporus sp.                             1    2    9    u
Aleocharinae sp. A                         1    2    9    u
Aleocharinae sp. B                         1    2    9    u
Aleocharinae sp. C                         1    2    9    u
Aleocharinae sp. D                         1    2    9    u
Aphodius sp.                               1    2    9    ob rf
Anobium punctatum (Degeer)                 1    2    9    l
Ptinus ?fur (Linnaeus)                     1    2    9    rd
Atomaria sp. A                             1    2    9    rd
Atomaria sp. B                             1    2    9    rd
Typhaea stercorea (Linnaeus)               1    2    9    rd
Palorus ratzeburgi (Wissman)               1    2    9    g
Phyllotreta nemorum group                  1    2    9    oa p
Halticinae sp. A                           1    2    9    oa p
Halticinae sp. B                           1    2    9    oa p
Apion sp.                                  1    2    9    oa p
Ceuthorhynchidius troglodytes (Fabricius)  1    2    9    oa p
```