STUDENT CODE:

22nd INTERNATIONAL BIOLOGY OLYMPIAD

July 10-17, 2011

Taipei, Taiwan

PRACTICAL TEST 3

ECOLOGY AND SYSTEMATICS

Total Points: 100

Duration: 90 minutes

ANSWER KEY

STUDENT CODE:

Q.1.1.1. (4 points for each correct spider; 16 points total)

Note: each spider code can only be used once, or the grades of these cells will not be counted.

Taxon name	Spider code
A. aus	
C. gus	
L. ous	**Z**
M. bus	
N. pus	**Y**
O. lus	**W**
P. eus	

Taxon name	Spider code
P. mus	**X**
P. nus	
S. dus	
T. fus	
T. kus	
Z. cus	
Z. hus	

Q.1.1.2. (0.65 points for each right answer cell; 13 points total)

(Penalty of 0.2 point for each wrong answer, minimum 0 point)

Spider Code / **Character**	**W**	**X**	**Y**	**Z**
Eyes in two rows	–	–	+	+
Tarsi with three claws	+	+	+	+
Bases of both anterior spinnerets in contact	+	+	+	+
Calamistrum present on metatarsus IV	–	–	–	–

A cluster of double-rowed trichobothria present on femora IV	–	–	–	+

Please put all spider specimens back to the original vials.

Up to 4 points bonus will be granted to students who keep the intact specimens.

Q1.2. (1.2 points for each cell; 18 points total)

1	2	3	4	5
a-1 or b-1	**b-1 or a-1**	**s-2**	**h-1 or m-1 or n-1**	**h-1 or m-1 or n-1**

6	7	8	9	10
h-1 or m-1 or n-1	**d-1**	**e-4**	**s-1**	**t-3**

11	12	13	14	15
d-1	**e-6**	**e-3**	**o-1**	**g-1**

Q1.3.1.	Q1.3.2.	Q1.3.3.
19	**d-1**	**B**

(2 points for each cell)

Q1.3.4. **(Each correct answer will get 0.4 points, 2 points total)**

Character	True	False
s-1		X
s-2	X	
a-1	X	
g-1		X
d-1		X

Q1.3.5. (1 point for each cell; 5 points total)

Taxon	Kind of grouping
{H}	**III**
{B, C, G, H}	**II**
{C, D, E, F}	**II**
{B, G, H}	**III**
{B, E, G}	**I**

Q2.1.1. (1 point each; 9 points total)

Table 2-1-1

Plant-A(○)	Spider (*)		Total
	Present	Absent	
Present	**2**	**10**	**12**
absent	**4**	**24**	**28**
Total	**6**	**34**	**40**

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Q2.1.2a.	Q2.1.2b.	Q2.1.2c.	Q2.1.2d.	Q2.1.2e.
0.3	**0.15**	**0.045**	**1.8**	**P**

(0.6 points for each cell)

Q2.1.3.(2 points)

0.0373

Q2.1.4a. (2 points)

0.0306

Q2.1.4b. (2 points)

Association V value	Strong − -1=V≦-0.6	Moderate − -0.6<V≦-0.2	None -0.2<V<0.2	Moderate + 0.2≦V<0.6	Strong + 0.6≦V=1
			X		

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Q2.2.1a. (2 points)

N

Q2.2.1b. (2 points)

Association V value	Strong − -1=V≦-0.6<	Moderate − -0.6<V≦-0.2	None -0.2<V<0.2	Moderate + 0.2≦V<0.6	Strong + 0.6≦V=1
		X			

	Q2.2.2a. (2 points)	Q2.2.2b. (2 points)	Q2.2.2c. (2 points)
True			X
False	X	X	

Q2.3.1. (0.5 points for each cell; 3 points total)

Table 2-3-1

Species	Species of nearest neighbor		Total
	Plant-A (○)	Plant-B (●)	
Plant-A (○)	**24**	**16**	**40**
Plant-B (●)	**21**	**19**	**40**
Total	**45**	**35**	**80**

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Q2.3.2a. (2 points)

0.4571

Q2.3.2b. (3 points)

randomly distributed	X
associated	
segregated	

	Q2.4.1 (2 points)	Q2.4.2 (2 points)
True	X	X
False		

STUDENT CODE:

Check list of the spider condition in their original vials

(Filled out by the LAB ASSISTANTS after test)

Taxon	W	X	Y	Z
Damaged				
Undamaged				

Signed by Inspector:_____Student Code:_____

(Without Student Code written here, the 4 bonus points will not be awarded)