

SOnerd's SSSS 2018-2019 Herpetology Key

Station 1

1. (3 points) Identification:
 - a. Order: Lacertilia/Sauria
 - b. Family: Crotophytidae
 - c. Genus if applicable: N/A
2. (1 point) False;
3. (1 point) False;
4. (1 point) They use their short, thick, and sticky tongue to capture the prey, and they stalk it on the ground. Waving their tails before grabbing it;
5. (2 points) The male bobs his head at the female, drags his belly/hips in circles on the floor. The female will bob her head back if interested, and the male bites the back of her neck. He then climbs on top of her to pin her down.

Station 2

6. (3 points) Identification:
 - a. Order: Testudines
 - b. Family: Emydidae
 - c. Genus if applicable: Chrysemys
7. (1 point) 5-11cm (2-4in);
8. (1 point) Least concern (<http://www.iucnredlist.org/details/163467/0>);
9. (2 points) High reproduction rate; Ability to survive in polluted wetlands and artificially made ponds;
10. (1 point) 72-80 days;

Station 3

11. Identifications:
 - a. (1 point) Genus Plethodon;
 - b. (1 point) Genus Desmognathus;
 - c. (1 point) Genus Eurycea;
 - d. (1 point) Genus Plethodon;
12. (2 points) Many have the ability to regenerate limbs, which of interest to the medical field; Life cycle traits (pedomorphosis, neoteny, and differentiation between aquatic/terrestrial stages) give insight into evolution;
13. (2 points) Cerebrum; Houses the olfactory/vomer nasal organs, which are important in communication/social structure in many groups in this order;
14. (1 point per correct selection) D,E,F;
15. (1 point, accept +/- 50 due to frequent taxonomic revisions) 655;

Station 4

16. (3 points) Identification:
 - a. Order: Caudata/Urodela;
 - b. Family: Plethodontidae;
 - c. Genus if applicable: Hydromantes;
17. (2 points) Webbed toes; Short tail;
18. (1 point) It allows them to roll down a sloped surface, escaping the predator more quickly;
19. (1 point) Note: This specific map shows the distribution of the Mount Lyell Salamander (*Hydromantes platycephalus*), but the genus is endemic this general area;
20. (1 point) On land;



Station 5

21. (3 points) Identification:
 - a. Order: Squamata;
 - b. Family: Viperidae;
 - c. Genus if applicable: Sistrurus;
22. (1 point) B
23. (2 points, circle one for each parentheses set) Keeled; Single;
24. (1 point) C
25. (2 points) Hatched/born in an advanced state, able to feed itself/find its own territory almost immediately; Yes;

Station 6

26. Identifications:
 - a. (1 point) Family Chelydridae;
 - b. (1 point) Genus Terrapene;
 - c. (1 point) Family Testudinidae;
27. (1 point) 4km/h; (2.4mph);
28. (1 point) "Chelonia" is the proper name for living turtles, while "Testudines" also refers to turtles' dead ancestors;
29. (1 point) They release carbonate buffers and uptake lactic acid, which allows for anaerobic respiration;
30. (1 point) False (turtles don't have teeth);

Station 7

31. Identification:
 - a. (1 point) Order: Squamata;
 - b. (1 point) Family: Colubridae;
 - c. (1 point) Genus if applicable: Pituophis;
32. (1 point) Chemoreception/Smelling;
33. (1 point) A;
34. (1 point) They force a stream of air up from their trachea, which vibrates the epiglottis, producing the hissing sound;
35. (2 points) They need well-drained, sandy soils with little vegetation; To use as nesting and hibernation sites;

Station 8

36. (3 points) Identification:
 - a. Order: Crocodylia;
 - b. Family: Alligatoridae;
 - c. Genus if applicable: N/A;
37. (1 point) The blue shows where alligators can be found in the US (ignore the red dot);



38. (2 points) Temperature of the nest during the middle third of incubation; Colder temperatures produce females (~86 deg F), while warmer temperatures produce males (~93 deg F);

39. (1 point) Females respond to sounds from the eggs and dig them up when they are ready to hatch. She defends the nest from predators, assists the hatchlings to the water, and will remain near them for 1-1.5 years if they remain in the area;
40. (2 point) Raccoons, skunks, foxes (prey on juveniles/eggs); Jaguars, humans (prey on adults);

Station 9

41. (3 points) Identification:
- Order: Squamata;
 - Family: Phrynosomatidae;
 - Genus if applicable: *Uma*;
42. (1 point) 60 days;
43. (1 point) 20-23mph;
44. (4 points, 1 point for correct habitat and 1 point for each correct adaptation) Found in low deserts with fine, loose sand; Adaptations include a shovel-shaped head to help them dig into the ground, a flattened body, the ability to close their nostrils at will, fringe-like scales on their hind toes to assist in walking on top of loose sand, flaps that close against their ear opening while they move through sand;
45. (1 point) 5;

Station 10

46. (3 points) Identification:
- Order: Testudines;
 - Family: Emydidae;
 - Genus if applicable: *Actinemys*;
47. (1 point) 40-50 years;
48. (1 point) Vulnerable;
49. (2 points) Turtles have been put into stock ponds/other man-made water sources; "Head start" programs have raised the young in captivity until their shells begin to harden, and then they release them (one of the main reasons so many of these organisms die is egg/hatching predation);
50. (1 point) False;

Station 11

51. (4 points) Identification:
- Genus *Elaphe*;
 - Genus *Lampropeltis*;
 - Family Elapidae;
 - Genus *Coluber*;
52. (1 point) Ecdysis;
53. (1 point) A;
54. (1 point) ABCD;
55. (1 point) (TB-1) Hyaluronidase;

Station 12

56. (3 points) Identification:
- Order: Squamata;
 - Family: Typhlopidae;
 - Genus if applicable: *Ramphotyphlops*;
57. (1 point) 49;
58. (1 point) Many are parthenogenetic, which means that the female produce viable offspring without male fertilization; Females are said to give "virgin birth", producing many genetically identical offspring;
59. (1 point) "Ramphotyphlops" comes from Greek "Ramphos" meaning a curving beak or bill, and "typhlops", meaning blind;
60. (1 point) True;

Station 13

61. (3 points) Identification:
- Order: Anura/Salentia;
 - Family: Microhylidae;
 - Genus if applicable: N/A;
62. (1 point) Ants and termites;
63. (1 point) 1.5cm;
64. (1 point) 9-14 months;
65. (1 point) The young of arboreal species bypass the tadpole stage, undergoing direct development from egg to frog, which eliminates the need for a pond for the aquatic tadpoles;

Station 14

66. (3 points) Identification:
- Order: Caudata/Urodela;
 - Family: Salamandridae;
 - Genus if applicable: N/A;
67. (1 point) Using the lateral line system, organs in skin that allow for perception of minute water currents;
68. (2 points) No, it is a red eft (juvenile);
69. (1 point) 2;
70. (1 point) 0;

Station 15

71. (3 points) Identification:
- Order: Anura/Salentia;
 - Family: Bufonidae;
 - Genus if applicable: N/A;
72. (2 points) Yes (they are wood frog eggs). The egg mass does not have a second protective outer gelatinous layer that salamander egg masses have.
73. (1 point) Nocturnal;
74. (1 point) False (they are poisonous, but the wart statement is an untrue myth);
75. (2 points) A, B, G;

Station 16

76. (3 points) Identification:
- Order: Squamata;
 - Family: Teiidae;
 - Genus if applicable: Cnemidophorus;
77. (4 points) Fill in the following table relating to the habitat preferences of this group:

Attribute	Description of Preference
Elevation Range (give a range in ft)	3200-8000ft;
Vegetation Density (high/low)	Low;
Soil Type (brief description)	Loose, porous, dry;
Sun exposure (high/low)	High;

78. (1 point) Helps them in chewing up arthropod exoskeletons;

79. (2 points) 2-3 clutches of 3-4 eggs annually;
 80. (1 point) A;

Station 17

81. (3 points) Identification:
 a. Order: Testudines;
 b. Family: Emydidae;
 c. Genus if applicable: *Glyptemys*;
 82. (1 point) True;
 83. (1 point) The softer bottom is ideal for overwintering;
 84. (2 points) C;
 85. (1 point) This action imitates the sound of falling rain, which makes earthworms rise to the surface and become easy prey;

Station 18

86. (3 points) Identification:
 a. Order: Caudata/Urodela;
 b. Family: Ambystomatidae;
 c. Genus if applicable: N/A;
 87. (1 point) True;
 88. (1 point) 4 toes on the forelegs, 5 on the hindlegs;
 89. (2 points) SW; These salamanders do not thrive in desert regions;
 90. (2 points) Serve as model organisms in developmental biology; Are of great interest to the medical community because of regeneration abilities; Serve as fish bait;

Station 19

91. (2 points) An amniotic egg; This allowed them to move to a fully terrestrial life cycle because it retains water, eliminating the need for the eggs to develop while submerged;
 92. (1 point) Urea;
 93. (1 point) They have permeable skin, which makes them very sensitive to pollutants in water;
 94. (1 point) Levator bulbi;
 95. (4 points) Graph A: Lizards, alligators; Graph B: Most turtles; Graph C: Crocodiles;

Station 20

(Sounds found here: https://drive.google.com/drive/folders/1OQRmspTi13qv_yTLLK_Yy_VRie42ISqE?usp=sharing)

96. (1 point) Microhylidae;
 97. (1 point) Bufonidae;
 98. (1 point) Ranidae;
 99. (1 point) *Pseudacris*;
 100. (1 point) *Acris*;