

This is an appendix to the paper by Wiens 1999 Phylogenetic evidence for multiple losses of a sexually selected character in phrynosomatid lizards. *Proc. R. Soc. Lond. B* **266**, 1529–1535.

Electronic appendices are refereed with the paper. However, no attempt has been made to impose a uniform editorial style on the electronic appendix.

APPENDIX A

Data matrix. “0” indicates absence of the trait and “1” indicates presence. Characters are (1) male belly patches (MAXHOM coding), (2) distinct female belly patches (MAXHOM), (3) sexual dichromatism (MAXHOM), (4) male belly patches (MINHOM), (5) distinct female belly patches (MINHOM), (6) sexual dichromatism (MINHOM), (6) terrestriality, (7) arboreality, (8) saxicolity. P indicates polymorphism that could not be resolved with majority coding (i.e., trait frequencies unknown or equal), coded using the polymorphic method. Outgroup data are taken from Reeder & Wiens (1996).

Taxon	Character		Taxon	Character	
	1	5		1	5
Outgroup	0000	0???	<i>S. torquatus torquatus</i>	101101001	
<i>Uma notata</i>	110000	100	<i>S. torquatus binocularis</i>	101101001	
<i>Callisaurus draconoides</i>	101101	100	<i>S. torquatus melanogaster</i>	101101001	
<i>Cophosaurus texanus</i>	101101	100	<i>S. insignis</i>	101101001	
<i>Holbrookia maculata</i>	101000	100	<i>S. lineolateralis</i>	101101001	
<i>Phrynosoma douglasi</i>	000000	100	<i>S. prezygus</i>	110110010	
<i>P. asio</i>	000000	100	<i>S. serrifer</i>	110110010	
<i>P. modestum</i>	000000	100	<i>S. jarrovii jarrovii</i>	110110001	

<i>P. cornutum</i>	000000100	<i>S. macdougalli</i>	101101001
<i>Uta palmeri</i>	1??0??100	<i>S. mucronatus aureolus</i>	101101001
<i>U. stansburiana</i>	110000100	<i>S. mucronatus</i>	101101001
		<i>omiltemanus</i>	
<i>Petrosaurus mearnsi</i>	101101001	<i>S. dugesii dugesii</i>	101101001
<i>P. thalassinus</i>	000000001	<i>S. poinsettii</i>	101101001
<i>Urosaurus graciosus</i>	101101010	<i>S. jarrovii oberon</i>	101101001
<i>U. ornatus</i>	101101011	<i>S. jarrovii cyanostictus</i>	101101001
<i>U. auriculatus</i>	000000011	<i>S. cyanogenys</i>	101101001
<i>U. clarionensis</i>	000000001	<i>S. mucronatus</i>	101101001
		<i>mucronatus</i>	
<i>U. lahtelai</i>	101101011	<i>S. jarrovii</i>	101101001
		<i>erythrocyaneus</i>	
<i>U. nigricaudus</i>	101101011	<i>S. jarrovii minor</i>	101101001
<i>U. microscutatus</i>	101101011	<i>S. jarrovii</i>	101101001
		<i>immucronatus</i>	
<i>U. bicarinatus</i>	101101010	<i>S. jarrovii sugillatus</i>	101101001
<i>U. gadovi</i>	101101010	<i>S. ornatus ornatus</i>	101101001
<i>Sceloporus angustus</i>	101101111	<i>S. ornatus caeruleus</i>	101101001
<i>S. grandaevus</i>	000000111	<i>S. clarkii</i>	101101010
<i>S. utiformis</i>	101000101	<i>S. melanorhinus</i>	101101010
		<i>melanorhinus</i>	
<i>S. siniferus</i>	000000100	<i>S. melanorhinus stuarti</i>	101101010
<i>S. carinatus</i>	000000100	<i>S. magister</i>	101101110
<i>S. squamosus</i>	000000100	<i>S. lineatulus</i>	110110???
<i>S. cupreus</i>	000000100	<i>S. zosteromus</i>	110110100
<i>S. couchii</i>	101101100	<i>S. orcutti</i>	1??1??001
<i>S. parvus</i>	101101100	<i>S. hunsakeri</i>	101101001
<i>S. cozumelae</i>	000000100	<i>S. licki</i>	1PP1PP010
<i>S. chrysostictus</i>	000000100	<i>S. edwardtaylori</i>	000000010

<i>S. teapensis</i>	101101100	<i>S. formosus formosus</i>	101101010
<i>S. variabilis variabilis</i>	101101100	<i>S. formosus scitulus</i>	101101010
<i>S. variabilis marmoratus</i>	101101100	<i>S. adleri</i>	101101010
<i>S. smithi</i>	101101100	<i>S. stejnegeri</i>	1PP1PP001
<i>S. merriami</i>	101101001	<i>S. taeniocnemis</i>	1??1??010
<i>S. maculosus</i>	101101001	<i>S. salvini</i>	101101??0
<i>S. gadoviae</i>	101101001	<i>S. tanneri</i>	1??1??010
<i>S. ochoterenae</i>	101101101	<i>S. smaragdinus</i>	101101010
<i>S. jalapae</i>	101101100	<i>S. malachiticus</i>	101101010
<i>S. pyrocephalus</i>	110110001	<i>S. acanthinus</i>	101101010
<i>S. nelsoni</i>	1PP1PP001	<i>S. lunaei</i>	101101010
<i>S. vandenburgianus</i>	101101100	<i>S. internasalis</i>	101101010
<i>S. graciosus</i>	101101100	<i>S. cryptus</i>	101101??0
<i>S. arenicolus</i>	101101100	<i>S. subpictus</i>	101101100
<i>S. subniger</i>	101101100	<i>S. lundelli</i>	101101010
<i>S. scalaris scalaris</i>	101101100	<i>S. spinosus spinosus</i>	101101110
<i>S. scalaris samcolemani</i>	101101100	<i>S. horridus horridus</i>	101101110
<i>S. scalaris unicanthalis</i>	P0PP0P100	<i>S. horridus albiventris</i>	000000110
<i>S. aeneus</i>	101101100	<i>S. spinosus</i>	101101110
		<i>caerulopunctatus</i>	
<i>S. bicanthalis</i>	000000100	<i>S. olivaceus</i>	101101010
<i>S. goldmani</i>	101101100	<i>S. undulatus undulatus</i>	101101010
<i>S. chaneyi</i>	000000100	<i>S. undulatus</i>	101101010
		<i>hyacinthinus</i>	
<i>S. scalaris slevini</i>	101101100	<i>S. woodi</i>	101101110
<i>S. pictus</i>	101101100	<i>S. undulatus</i>	101101001
		<i>erythrocheilus</i>	
<i>S. megalepidurus</i>	000000100	<i>S. undulatus tristichus</i>	110110111
<i>S. halli</i>	000000100	<i>S. occidentalis</i>	110110011
<i>S. grammicus</i>	101101010	<i>S. undulatus elongatus</i>	110110111

<i>S. palaciosi</i>	101101010	<i>S. virgatus</i>	000000100
<i>S. asper</i>	101101010	<i>S. exsul</i>	000000100
<i>S. heterolepis</i>	101101010	<i>S. cautus</i>	101101100
<i>S. shannonorum</i>	101101010	<i>S. undulatus</i>	101101111
		<i>consobrinus</i>	
<i>S. dugesii intermedius</i>	101101001	<i>S. undulatus garmani</i>	101101100
<i>S. bulleri</i>	110110001		
