Alytes dickhilleni		Region:	10			
Taxonomic Authority: Arntzen and García-París, 19	995					
Synonyms:		Common Names:				
	Betic Midwife Toad English					
Ondon Apuro		Sapo Parter		Spanish		
Order: Anura		Family:	Discoglossidae			
Notes on taxonomy:						
<b>General Information</b>						
Biome   ✓ Terrestria	al 🗸 F	reshwater	☐ Mari	ne		
Geographic Range of species:			l Ecology Informa			
This species is restricted to the mountains of southeast populations are very fragmented (it has a small Area of within its Extent of Occurrence). It occurs at altitudes of 2,140m asl (Sierra Nevada, Almería).	The species is present in pine and oak forests, most often on calciferous substrate, in open very rocky landscapes. Adults occur in rock fissures and in stones next to water sources. Reproduction and larval development takes place in permanent mountain streams, man made reservoirs and cattle troughs, and the larvae may take a long time to mature. The species is largely confined to valleys and populations are often isolated from one another. Almost all known breeding habitats are in human-modified water bodies.					
Conservation Measures:		Threats:				
This species is listed on Appendix III of the Berne Conv listed in regional Red Data Books and is present in the post of Parque Nacional Sierra Morena, Parque Nacional de and the Natural Park of Cazorla, Segura y las Villas. Promeasures in Castilla-La Mancha, Andalusia (such as re construction of new breeding habitats) are underway.	The species is threatened by loss of suitable breeding habitat through excessive water withdrawal, droughts, and modernisation of agricultural practices leading to the abandonment of cattle troughs and other man made water sources. Stochastic dynamics may impact small, isolated populations. A potential future threat is the fungal disease chytridiomycosis, which has already impacted the related Alytes obstetricans in Spain.					
Species population information:  Populations of this species are very fragmented, many confined to isolated mountains. It is relatively common i Segura, and Cazorla mountains, but it is rare in drier m (Filabres, Baza, Gádor), where it is associated with spri Populations in drier areas may consist of only a few address.	n the Alcaraz, ountains ngs.					
Native - Presence Country Distribution Confirmed	Native - Presence Ext Possible	inct Reintrod	luced Introduced	Vagrant		
Spain 🗸						
Native - Presence Confirmed	Native - Presence Ext Possible	inct Reintroc	duced Introduced			
Major Lakes						
<u>Major Rivers</u>						
Upper Level Habitat Preferences	Score	Lower I 4	evel Habitat Pr	eferences	Score	
1.4 Forest - Temperate	1	Grass Crop		0.0.0.000	2	
5.7 Wetlands (inland) - Permanent Freshwater Marsh (under 8ha)	Urban			1		
5.8 Wetlands (inland) - Seasonal/Intermittent Freshwa Marshes/Pools (under 8ha)						
11.2 Artificial/Terrestrial - Pastureland	2					
12.2 Artificial/Aquatic - Ponds (below 8ha) 12.3 Artificial/Aquatic - Aquaculture Ponds	1 1					
12.3 Artificial/Aquatic - Aquaculture Fortus	· ·					
Major threats			ation Measure			
<u>.                                      </u>			servation measur	es	In place Needed	
1 Habitat Loss/Degradation (human induced)			cy-based actions			
1.1 Agriculture 1.1.1 Crops		1.2 Legi	islation			
1.1.1 Crops		1.2.1 Dev	elopment			

1.1.5	Abandonment	<b>✓</b>	<b>✓</b>	<b>✓</b>	1.2.1.2	2 National level	<b>✓</b>	
1.3	Extraction	<b>✓</b>	<b>✓</b>	<b>✓</b>	1.2.2	Implementation	<b>✓</b>	
1.3.6	Groundwater extraction	<b>✓</b>	<b>✓</b>	<b>✓</b>	1.2.2.	1 International level	<b>✓</b>	
1.3.8	Unknown	<b>✓</b>	<b>✓</b>	<b>✓</b>	1.2.2.2	2 National level	<b>✓</b>	
8	Changes in native species dynamics			<b>✓</b>	2	Communication and Education	<b>✓</b>	<b>✓</b>
8.5	Pathogens/parasites			<b>✓</b>	2.2	Awareness	<b>✓</b>	<b>✓</b>
9	Intrinsic factors	<b>✓</b>	<b>✓</b>	<b>✓</b>	3	Research actions		<b>✓</b>
9.7	Slow growth rates	<b>✓</b>	<b>✓</b>	<b>✓</b>	3.2	Population numbers and range		<b>✓</b>
9.9	Restricted range	<b>✓</b>	✓	<b>✓</b>	3.3	Biology and Ecology		<b>✓</b>
					3.4	Habitat status		<b>✓</b>
					3.5	Threats		<b>✓</b>
					3.8	Conservation measures		<b>✓</b>
					3.9	Trends/Monitoring		<b>✓</b>
					4	Habitat and site-based actions	<b>✓</b>	<b>✓</b>
					4.1	Maintenance/Conservation		<b>✓</b>
					4.4	Protected areas	<b>✓</b>	<b>✓</b>
					4.4.1	Identification of new protected areas		<b>✓</b>
					4.4.2	Establishment	<b>✓</b>	<b>✓</b>
					4.4.3	Management		<b>✓</b>

## **Utilisation of Species**

Purpose/Type of Use Subsistence National International Other purpose:

Primary forms removed from the wild 100% >75% 51-75% 26-50% <25% Other forms removed from the wild:

Source of specimens in commercial trade 100% >75% 51-75% 26-50% <25% Other source of specimens:

Trend in wild offtake/harvest in relation to total wild population numbers over last five years:

Trend in offtake/harvest produced through domestication/cultivation over last five years:

CITES: Not listed

**Red Listing** 

Red List Assessment: Vulnerable (VU) Possibly Extinct

Red List Criteria: B2ab(iii,iv)

Rationale for the Red List Assessment: Listed as Vulnerable, because its Area of Occupancy is less than 2,000 km2, its distribution is

severely fragmented, and there is a continuing decline in the extent and quality of its habitat and in

the number of subpopulations.

Current Population Trend: Decreasing Date of Assessment: 12/17/2004

Assessor(s): Jaime Bosch, Miguel Tejedo, Miguel Lizana, Iñigo Martínez-Solano, Alfredo Salvador, Mario García-París, Ernesto Recuero Gil,

Notes on Red listing:

## **Bibliography**

Arnold, E.N., 2003, , , Reptiles and amphibians of Europe, , , 288, Princeton University Press,

Arntzen, J.W. and García-París, M., 1995, Morphological and allozyme studies of midwife toads (Genus Alytes), including the description of two new taxa from Spain, Contributions to Zoology, , , 65(1), 5-34, ,

Benavides, J., Viedma, A., Clivilles, J., Ortiz, A. and Gutiérrez, J.M., 2000, Albinismo en Altyes dickhilleni y Salamanadra salamandra en la Sierra de Castril (Granada), Boletín de la Asociación Herpetológica Española, , , 11(2), 83, ,

, 1997, , , Atlas of Amphibians and Reptiles in Europe, Gasc, J.-P., , 494, Societas Europea Herpetologica & Museum National d'Histoire Naturelle. Paris

Márquez, R. and Bosch, J., 1996, Advertisement call of the midwife toad from the Sierras Béticas Alytes dickhilleni Arntzen & García-Paris, 1995 (Amphibia, Anura, Discoglossidae), Herpetological Journal, , , 6(1), 9-14, ,

Pleguezuelos, J.M., Márquez, R. and Lizana, M., 2002, , , Atlas y Libro Rojo de los Anfibios y Reptiles de España, , , pp 584, Dirección General de la Conservación de la naturaleza-Associación Herpetológica Española, Madrid

Martínez-Solano, I., Gonçalves, H.A., Arntzen, J.W. and García-París, M., 2004, Phylogenetic relationships and biogeography of midwife toads (Discoglossidae: Alytes), Journal of Biogeography, , , 31(4), 603-618, ,

Fromhage, L., Vences, M. and Veith, M., 2004, Testing alternative vicariance scenarios in Western Mediterranean discoglossid frogs, Molecular Phylogenetics and Evolution, , , 31(1), 308-322, ,

Martínez-Solano, I., París, M., Izquierdo, E. and García-París, M., 2003, Larval growth plasticity in wild populations of the betic midwife toad, Alytes dickhilleni (Anura: Discoglossidae), Herpetological Journal, , , 13(2), 89-94, ,

Pleguezuelos, J.M., 1997, , , Distribucion y Biogeografia de los Anfibios y Reptiles en España y Portugal, , , , Asociacion Herpetologica Española, Las Palmas de Gran Canarias

García-Cardenete, L., González de la Vega, J.P., Barnestein, J.A.M. and Pérez-Contreras, J., 2003, Consideraciones sobre los límites de distribución en altitud de anfibios y reptiles en la Cordillera Bética (España), y registros máximos para cada especie, Acta Granatense, . . . 2(3-4), .

,