

THE SCIENCE OF NATURE

The impact of prolonged frozen storage on the preparation quality of bird skins and skeletons in zoological collections

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SUPPLEMENTARY INFORMATION

Online Resource 1. Sample of bird specimens used in the study.

CATALOG NUMBER	SPECIES	AGE	SEX BY GONAD INSPECTION	YEAR OF FROZEN STORAGE	YEAR OF PREPARATION
MZB 95-0957	<i>Buteo buteo</i>	Euring 6		1995	2012
MZB 95-1002	<i>Buteo buteo</i>	Euring 3		1995	2012
MZB 96-0071	<i>Buteo buteo</i>	Euring 0		1996	2012
MZB 96-0360	<i>Buteo buteo</i>	Euring 5		1996	2012
MZB 96-0362	<i>Buteo buteo</i>	Euring 0		1996	2012
MZB 96-0401	<i>Buteo buteo</i>	Euring 6		1996	2012
MZB 96-0562	<i>Buteo buteo</i>	Euring 6		1996	2012
MZB 96-0564	<i>Buteo buteo</i>	Euring 5		1996	2012
MZB 96-1012	<i>Buteo buteo</i>	Euring 3		1996	2012
MZB 96-1015	<i>Buteo buteo</i>	Euring 4		1996	2012
MZB 96-1022	<i>Buteo buteo</i>	Euring 6		1996	2012
MZB 96-1039	<i>Buteo buteo</i>	Euring 4		1996	2012
MZB 96-1041	<i>Buteo buteo</i>	Euring 4		1996	2012
MZB 96-1066	<i>Buteo buteo</i>	Euring 3		1996	2012
MZB 96-1154	<i>Buteo buteo</i>	Euring 3		1996	2012
MZB 96-1217	<i>Buteo buteo</i>	Euring 5		1996	2012
MZB 96-1218	<i>Buteo buteo</i>	Euring 0		1996	2012
MZB 97-0015	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 97-0016	<i>Buteo buteo</i>	Euring 7		1997	2012
MZB 97-0017	<i>Buteo buteo</i>	Euring 5		1997	2012
MZB 97-0077	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 97-0098	<i>Buteo buteo</i>	Euring 5		1997	2012
MZB 97-0099	<i>Buteo buteo</i>	Euring 5		1997	2012
MZB 97-0113	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 97-0116	<i>Buteo buteo</i>	Euring 5		1997	2012
MZB 97-0117	<i>Buteo buteo</i>	Euring 6		1997	2012
MZB 97-0120	<i>Buteo buteo</i>	Euring 6		1997	2012
MZB 97-0202	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 97-0245	<i>Buteo buteo</i>	Euring 5		1997	2012
MZB 97-0364	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 97-0368	<i>Buteo buteo</i>	Euring 5		1997	2012
MZB 97-0696	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 97-0697	<i>Buteo buteo</i>	Euring 3		1997	2012
MZB 98-0031	<i>Buteo buteo</i>	Euring 5		1998	2012
MZB 98-0218	<i>Buteo buteo</i>	Euring 5		1998	2012
MZB 98-0219	<i>Buteo buteo</i>	Euring 6		1998	2012
MZB 98-0220	<i>Buteo buteo</i>	Euring 5		1998	2012
MZB 98-0221	<i>Buteo buteo</i>	Euring 5		1998	2012
MZB 98-0389	<i>Buteo buteo</i>	Euring 3		1998	2012
MZB 98-0390	<i>Buteo buteo</i>	Euring 3		1998	2012
MZB 98-0931	<i>Buteo buteo</i>	Euring 3		1998	2012
MZB 98-0982	<i>Buteo buteo</i>	Euring 4		1998	2012
MZB 98-1052	<i>Buteo buteo</i>	Euring 4		1998	2012

Online Resource 1. (continued).

CATALOG NUMBER	SPECIES	AGE	SEX BY GONAD INSPECTION	YEAR OF FROZEN STORAGE	YEAR OF PREPARATION
MZB 98-1398	<i>Buteo buteo</i>	Euring 3		1998	2012
MZB 98-1399	<i>Buteo buteo</i>	Euring 5		1998	2012
MZB 99-0017	<i>Buteo buteo</i>	Euring 4		1999	2012
MZB 99-0018	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0019	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0020	<i>Buteo buteo</i>	Euring 6		1999	2012
MZB 99-0021	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0022	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0023	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0024	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0025	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0026	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0027	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0028	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0029	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0030	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0057	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0058	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0059	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0060	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0061	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0062	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0093	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0094	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0095	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0463	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0464	<i>Buteo buteo</i>	Euring 6		1999	2012
MZB 99-0466	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0467	<i>Buteo buteo</i>	Euring 7		1999	2012
MZB 99-0468	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 99-0469	<i>Buteo buteo</i>	Euring 6		1999	2012
MZB 99-0470	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0471	<i>Buteo buteo</i>	Euring 8		1999	2012
MZB 99-0508	<i>Buteo buteo</i>	Euring 7		1999	2012
MZB 99-0789	<i>Buteo buteo</i>	Euring 5		1999	2012
MZB 99-0790	<i>Buteo buteo</i>	Euring 3		1999	2012
MZB 2000-0521	<i>Buteo buteo</i>	Euring 5		2000	2012
MZB 2000-0558	<i>Buteo buteo</i>	Euring 3		2000	2012
MZB 2000-0561	<i>Buteo buteo</i>	Euring 5		2000	2012
MZB 2000-1056	<i>Buteo buteo</i>	Euring 6		2000	2012
MZB 2000-1057	<i>Buteo buteo</i>	Euring 5		2000	2012
MZB 2001-0786	<i>Buteo buteo</i>	Euring 3		2001	2012
MZB 2001-0789	<i>Buteo buteo</i>	Euring 3		2001	2012
MZB 2001-0800	<i>Buteo buteo</i>	Euring 3		2001	2012
MZB 2001-0854	<i>Buteo buteo</i>	Euring 6		2001	2012

Online Resource 1. (continued).

CATALOG NUMBER	SPECIES	AGE	SEX BY GONAD INSPECTION	YEAR OF FROZEN STORAGE	YEAR OF PREPARATION
MZB 2002-0021	<i>Buteo buteo</i>	Euring 8		2002	2012
MZB 2002-0022	<i>Buteo buteo</i>	Euring 3		2002	2012
MZB 2002-0204	<i>Buteo buteo</i>	Euring 4		2002	2012
MZB 2002-0238	<i>Buteo buteo</i>	Euring 2		2002	2012
MZB 2002-0241	<i>Buteo buteo</i>	Euring 2		2002	2012
MZB 2002-0243	<i>Buteo buteo</i>	Euring 2		2002	2012
MZB 2002-0248	<i>Buteo buteo</i>	Euring 5		2002	2012
MZB 2002-0301	<i>Buteo buteo</i>	Euring 3		2002	2012
MZB 2002-0302	<i>Buteo buteo</i>	Euring 5		2002	2012
MZB 2002-0305	<i>Buteo buteo</i>	Euring 3		2002	2012
MZB 2002-0307	<i>Buteo buteo</i>	Euring 3		2002	2012
MZB 2002-0309	<i>Buteo buteo</i>	Euring 5		2002	2012
MZB 2005-0024	<i>Buteo buteo</i>	Euring 5		2005	2012
MZB 2005-0027	<i>Buteo buteo</i>	Euring 5		2005	2012
MZB 2005-0029	<i>Buteo buteo</i>	Euring 3		2005	2012
MZB 2005-0037	<i>Buteo buteo</i>	Euring 3		2005	2012
MZB 2005-0050	<i>Buteo buteo</i>	Euring 6		2005	2012
MZB 2006-0107	<i>Buteo buteo</i>	Euring 3		2006	2012
MZB 2006-0573	<i>Buteo buteo</i>	Euring 3		2006	2012
MZB 2008-0157	<i>Buteo buteo</i>	Euring 7		2008	2012
MZB 2008-0158	<i>Buteo buteo</i>	Euring 8		2008	2012
MZB 2008-0159	<i>Buteo buteo</i>	Euring 3		2008	2012
MZB 2008-0169	<i>Buteo buteo</i>	Euring 3		2008	2012
MZB 2008-0181	<i>Buteo buteo</i>	Euring 3		2008	2012
MZB 2009-0348	<i>Buteo buteo</i>	Euring 3		2009	2012
MZB 2010-1198	<i>Buteo buteo</i>	Euring 3		2010	2012
MZB 2010-1199	<i>Buteo buteo</i>	Euring 5		2010	2012
MZB 2010-1202	<i>Buteo buteo</i>	Euring 5		2010	2012
MZB 2010-1203	<i>Buteo buteo</i>	Euring 4		2010	2012
MZB 95-0808	<i>Tyto alba</i>	Euring 4		1995	2012
MZB 95-0815	<i>Tyto alba</i>	Euring 2		1995	2012
MZB 96-0203	<i>Tyto alba</i>	Euring 4		1996	2012
MZB 96-0242	<i>Tyto alba</i>	Euring 6		1996	2012
MZB 96-0350	<i>Tyto alba</i>	Euring 4		1996	2012
MZB 96-0351	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-0395	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-0396	<i>Tyto alba</i>	Euring 6	male	1996	2012
MZB 96-0407	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-0408	<i>Tyto alba</i>	Euring 4	male	1996	2012
MZB 96-0619	<i>Tyto alba</i>	Euring 5	not sexable	1996	2013
MZB 96-0620	<i>Tyto alba</i>	Euring 4	female	1996	2013
MZB 96-0621	<i>Tyto alba</i>	Euring 4	male	1996	2013
MZB 96-0622	<i>Tyto alba</i>	Euring 5	not sexable	1996	2012
MZB 96-0672	<i>Tyto alba</i>	Euring 4	male	1996	2013
MZB 96-0990	<i>Tyto alba</i>	Euring 0		1996	2012

Online Resource 1. (continued).

CATALOG NUMBER	SPECIES	AGE	SEX BY GONAD INSPECTION	YEAR OF FROZEN STORAGE	YEAR OF PREPARATION
MZB 96-1003	<i>Tyto alba</i>	Euring 1		1996	2012
MZB 96-1009	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1016	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1029	<i>Tyto alba</i>	Euring 4	male	1996	2012
MZB 96-1047	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1059	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1071	<i>Tyto alba</i>	Euring 4	not sexable	1996	2012
MZB 96-1100	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1122	<i>Tyto alba</i>	Euring 1		1996	2012
MZB 96-1143	<i>Tyto alba</i>	Euring 6	female	1996	2012
MZB 96-1190	<i>Tyto alba</i>	Euring 2		1996	2012
MZB 96-1205	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1206	<i>Tyto alba</i>	Euring 4	female	1996	2012
MZB 96-1240	<i>Tyto alba</i>	Euring 4	female	1996	2012
MZB 96-1242	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1243	<i>Tyto alba</i>	Euring 6	male	1996	2012
MZB 96-1244	<i>Tyto alba</i>	Euring 2		1996	2012
MZB 96-1245	<i>Tyto alba</i>	Euring 6	not sexable	1996	2012
MZB 96-1246	<i>Tyto alba</i>	Euring 0		1996	2012
MZB 96-1247	<i>Tyto alba</i>	Euring 4	female	1996	2012
MZB 97-0023	<i>Tyto alba</i>	Euring 3		1997	2013
MZB 97-0024	<i>Tyto alba</i>	Euring 4	not sexable	1997	2013
MZB 97-0025	<i>Tyto alba</i>	Euring 2		1997	2012
MZB 97-0026	<i>Tyto alba</i>	Euring 2		1997	2012
MZB 97-0027	<i>Tyto alba</i>	Euring 4	not sexable	1997	2012
MZB 97-0028	<i>Tyto alba</i>	Euring 4	not sexable	1997	2012
MZB 97-0029	<i>Tyto alba</i>	Euring 3		1997	2013
MZB 97-0030	<i>Tyto alba</i>	Euring 2		1997	2012
MZB 97-0087	<i>Tyto alba</i>	Euring 4	female	1997	2012
MZB 97-0088	<i>Tyto alba</i>	Euring 4	male	1997	2012
MZB 97-0198	<i>Tyto alba</i>	Euring 4	female	1997	2012
MZB 97-0241	<i>Tyto alba</i>	Euring 4	not sexable	1997	2012
MZB 97-0318	<i>Tyto alba</i>	Euring 6	female	1997	2012
MZB 97-0418	<i>Tyto alba</i>	Euring 4	male	1997	2012
MZB 97-0419	<i>Tyto alba</i>	Euring 4	female	1997	2012
MZB 97-0420	<i>Tyto alba</i>	Euring 4	female	1997	2012
MZB 97-0421	<i>Tyto alba</i>	Euring 0		1997	2012
MZB 97-0422	<i>Tyto alba</i>	Euring 0		1997	2012
MZB 97-0423	<i>Tyto alba</i>	Euring 4	male	1997	2012
MZB 97-0424	<i>Tyto alba</i>	Euring 4	female	1997	2012
MZB 97-0425	<i>Tyto alba</i>	Euring 1		1997	2012
MZB 97-0470	<i>Tyto alba</i>	Euring 6	not sexable	1997	2012
MZB 97-0562	<i>Tyto alba</i>	Euring 3		1997	2012
MZB 97-0563	<i>Tyto alba</i>	Euring 4	not sexable	1997	2013
MZB 97-0564	<i>Tyto alba</i>	Euring 3		1997	2013

Online Resource 1. (continued).

CATALOG NUMBER	SPECIES	AGE	SEX BY GONAD INSPECTION	YEAR OF FROZEN STORAGE	YEAR OF PREPARATION
MZB 97-0565	<i>Tyto alba</i>	Euring 2		1997	2013
MZB 97-0566	<i>Tyto alba</i>	Euring 2		1997	2012
MZB 97-0567	<i>Tyto alba</i>	Euring 2		1997	2012
MZB 97-0606	<i>Tyto alba</i>	Euring 6	male	1997	2012
MZB 97-0607	<i>Tyto alba</i>	Euring 4	female	1997	2012
MZB 97-0608	<i>Tyto alba</i>	Euring 4	not sexable	1997	2012
MZB 97-0706	<i>Tyto alba</i>	Euring 3		1997	2013
MZB 97-0709	<i>Tyto alba</i>	Euring 3		1997	2013
MZB 97-0710	<i>Tyto alba</i>	Euring 1		1997	2013
MZB 98-0229	<i>Tyto alba</i>	Euring 5	male	1998	2013
MZB 98-0231	<i>Tyto alba</i>	Euring 4	not sexable	1998	2012
MZB 98-0232	<i>Tyto alba</i>	Euring 4	male	1998	2013
MZB 98-0233	<i>Tyto alba</i>	Euring 4	male	1998	2013
MZB 98-0234	<i>Tyto alba</i>	Euring 4	male	1998	2012
MZB 98-0235	<i>Tyto alba</i>	Euring 4	male	1998	2013
MZB 98-0395	<i>Tyto alba</i>	Euring 0		1998	2012
MZB 98-0396	<i>Tyto alba</i>	Euring 6	not sexable	1998	2012
MZB 98-0397	<i>Tyto alba</i>	Euring 4	female	1998	2012
MZB 98-0398	<i>Tyto alba</i>	Euring 4	female	1998	2013
MZB 98-0681	<i>Tyto alba</i>	Euring 2		1998	2013
MZB 98-0682	<i>Tyto alba</i>	Euring 4	female	1998	2013
MZB 98-0683	<i>Tyto alba</i>	Euring 4	female	1998	2012
MZB 98-0761	<i>Tyto alba</i>	Euring 4	female	1998	2012
MZB 98-0762	<i>Tyto alba</i>	Euring 4	female	1998	2013
MZB 98-0763	<i>Tyto alba</i>	Euring 6	not sexable	1998	2012
MZB 98-0764	<i>Tyto alba</i>	Euring 5		1998	2012
MZB 98-0765	<i>Tyto alba</i>	Euring 2		1998	2012
MZB 98-0811	<i>Tyto alba</i>	Euring 7	not sexable	1998	2012
MZB 98-0974	<i>Tyto alba</i>	Euring 4	male	1998	2012
MZB 98-0975	<i>Tyto alba</i>	Euring 4	not sexable	1998	2013
MZB 98-0976	<i>Tyto alba</i>	Euring 1		1998	2012
MZB 98-0977	<i>Tyto alba</i>	Euring 4	female	1998	2012
MZB 98-1358	<i>Tyto alba</i>	Euring 0		1998	2013
MZB 98-1360	<i>Tyto alba</i>	Euring 6	not sexable	1998	2012
MZB 98-1361	<i>Tyto alba</i>	Euring 2		1998	2013
MZB 98-1431	<i>Tyto alba</i>	Euring 6	not sexable	1998	2013
MZB 98-1445	<i>Tyto alba</i>	Euring 2		1998	2013
MZB 99-0304	<i>Tyto alba</i>	Euring 3		1999	2013
MZB 99-0305	<i>Tyto alba</i>	Euring 4	male	1999	2012
MZB 99-0306	<i>Tyto alba</i>	Euring 0		1999	2012
MZB 99-0308	<i>Tyto alba</i>	Euring 4	female	1999	2012
MZB 99-0309	<i>Tyto alba</i>	Euring 4	female	1999	2012
MZB 99-0343	<i>Tyto alba</i>	Euring 3		1999	2012
MZB 99-0482	<i>Tyto alba</i>	Euring 6	female	1999	2013
MZB 99-0483	<i>Tyto alba</i>	Euring 6	not sexable	1999	2013

Online Resource 1. (continued).

CATALOG NUMBER	SPECIES	AGE	SEX BY GONAD INSPECTION	YEAR OF FROZEN STORAGE	YEAR OF PREPARATION
MZB 99-0484	<i>Tyto alba</i>	Euring 4	female	1999	2012
MZB 99-0520	<i>Tyto alba</i>	Euring 5	male	1999	2012
MZB 99-0542	<i>Tyto alba</i>	Euring 1		1999	2012
MZB 99-0793	<i>Tyto alba</i>	Euring 0		1999	2012
MZB 99-1026	<i>Tyto alba</i>	Euring 4	female	1999	2013
MZB 99-1027	<i>Tyto alba</i>	Euring 8	male	1999	2013
MZB 99-1028	<i>Tyto alba</i>	Euring 3		1999	2012
MZB 2000-0083	<i>Tyto alba</i>	Euring 2		2000	2012
MZB 2000-0084	<i>Tyto alba</i>	Euring 4	female	2000	2012
MZB 2000-0085	<i>Tyto alba</i>	Euring 3		2000	2012
MZB 2000-1091	<i>Tyto alba</i>	Euring 6	not sexable	2000	2012
MZB 2000-1362	<i>Tyto alba</i>	Euring 6	male	2000	2012
MZB 2000-1378	<i>Tyto alba</i>	Euring 3		2000	2013
MZB 2001-0858	<i>Tyto alba</i>	Euring 4	not sexable	2001	2012
MZB 2002-0218	<i>Tyto alba</i>	Euring 4	not sexable	2002	2012
MZB 2002-0317	<i>Tyto alba</i>	Euring 4	not sexable	2002	2012
MZB 2002-0327	<i>Tyto alba</i>	Euring 6	male	2002	2013
MZB 2002-0332	<i>Tyto alba</i>	Euring 4	female	2002	2012
MZB 2002-0346	<i>Tyto alba</i>	Euring 5		2002	2013
MZB 2002-0468	<i>Tyto alba</i>	Euring 6	female	2002	2012
MZB 2002-0469	<i>Tyto alba</i>	Euring 6	male	2002	2012
MZB 2002-0493	<i>Tyto alba</i>	Euring 4	male	2002	2012
MZB 2002-0494	<i>Tyto alba</i>	Euring 7	male	2002	2013
MZB 2003-0061	<i>Tyto alba</i>	Euring 5		2003	2013
MZB 2003-0062	<i>Tyto alba</i>	Euring 4	male	2003	2013
MZB 2003-1131	<i>Tyto alba</i>	Euring 6	female	2003	2012
MZB 2003-1135	<i>Tyto alba</i>	Euring 4	not sexable	2003	2013
MZB 2005-0036	<i>Tyto alba</i>	Euring 4	female	2005	2013
MZB 2005-0058	<i>Tyto alba</i>	Euring 2		2005	2012
MZB 2010-0194	<i>Tyto alba</i>	Euring 4	female	2010	2012
MZB 2010-1128	<i>Tyto alba</i>	Euring 4	not sexable	2010	2012
MZB 2011-0848	<i>Tyto alba</i>	Euring 6	female	2011	2012
MZB 2012-1420	<i>Tyto alba</i>	Euring 0		2012	2012