



Article

Antimicrobial Resistance in Rapidly Growing Nontuberculous Mycobacteria among Domestic and Wild Animals Emphasizing the Zoonotic Potential

Irena Reil ^{1,†}, Silvio Špičić ^{1,†}, Ljubo Barbić ², Sanja Duvnjak ^{1,*}, Gordan Kompes ^{1,*}, Miroslav Benić ¹, Dora Stojević ¹, Željko Cvetnić ¹, Jurica Arapović ^{3,4} and Maja Zdellar-Tuk ¹

¹ Croatian Veterinary Institute, 10000 Zagreb, Croatia; irena.reil@gmail.com (I.R.); spicic@veinst.hr (S.Š.); benic@veinst.hr (M.B.); dstojevic@gmail.com (D.S.); cvetnic@veinst.hr (Ž.C.); zdellar-tuk@veinst.hr (M.Z.-T.);

² The Faculty of Veterinary Medicine, University of Zagreb, 10000 Zagreb, Croatia; ljbarbic@gmail.com

³ Department of Infectious Diseases, University Clinical Hospital Mostar, 88000 Mostar, Bosnia and Herzegovina; jurica.arapovic@mef.sum.ba

⁴ School of Medicine, University of Mostar, 88000 Mostar, Bosnia and Herzegovina

* Correspondence: marjanovic@veinst.hr (S.D.); kompes@veinst.hr (G.K.);
Tel.: +385-16123635 (S.D.); +385-16123657 (G.K.)

[†] These authors contributed equally to this work.

Table S1. The results of determining the antimicrobial susceptibility of rapidly-growing NTM isolates.

No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
1	wild boar	<i>M. arupense</i>	≤ 1 (S)	16/8 (I)	16 (I)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
2	wild boar	<i>M. arupense</i>	≤ 1 (S)	8/4 (S)	8 (S)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	≤ 0,12 (S)	16 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
3	cattle	<i>M. chitae</i>	≤ 1 (S)	8/4 (S)	4 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	≤ 0,06/ 0,5 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
4	cattle	<i>M. chitae</i>	4 (S)	4/2 (S)	8 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	> 16 (5 th day) (R)	≤ 0,12 (S)	≤ 2 (S)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	≤ 0,25/ 4,75 (S)
5	cattle	<i>M. chitae</i>	≤ 1 (S)	32/16 (R)	4 (S)	8 (S)	≤ 4 (S)	≤ 0,12 (S)	4/4 (I/I)	≤ 0,12 (S)	16 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	≤ 0,25/ 4,75 (S)
6	cattle	<i>M. chitae</i>	≤ 1 (S)	64/32 (R)	4 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	4/16 (I/R)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
7	roe deer	<i>M. chitae</i>	≤ 1 (S)	≤ 2/1 (S)	4 (S)	8 (S)	≤ 4 (S)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	≤ 0,25/ 4,75 (S)
8	roe deer	<i>M. chitae</i>	≤ 1 (S)	4/2 (S)	32 (R)	≤ 4 (S)	8 (S)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
9	cattle	<i>M. elephantis</i>	≤ 1 (S)	16/8 (I)	8 (S)	≤ 4 (S)	≤ 4 (S)	0,25 (S)	1/1 (S/S)	0,25 (S)	> 64 (R)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	4 (I)	≤ 0,25/ 4,75 (S)
10	cattle	<i>M. fortuitum</i>	≤ 1	16/8	> 32	32	> 64	2	0,25/1	4	NR	8	2	1	2	≤ 1	2/38

No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
			(S)	(I)	(R)	(I)	(R)	(I)	(S/S)	(I)		(S)	(I)	(S)		(S)	(S)
11	cattle	<i>M. fortuitum</i>	8 (S)	64/32 (R)	32 (R)	32 (I)	8 (S)	2 (I)	≤ 0,06/ 0,25 (S/S)	4 (I)	NR	4 (S)	4 (I)	1 (S)	2	4 (I)	1/19 (S)
12	cattle	<i>M. fortuitum</i>	≤ 1 (S)	16/8 (I)	> 32 (R)	64 (I)	> 64 (R)	0,25 (S)	> 16 (5 th day) (R)	≤ 0,12 (S)	8 (I)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
13	cattle	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	128 (R)	> 64 (R)	0,25 (S)	> 16 (5 th day) (R)	≤ 0,12 (S)	≤ 2 (S)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
14	cattle	<i>M. fortuitum</i>	2 (S)	8/4 (S)	8 (S)	≤ 4 (S)	8 (S)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	0,5 (S)	≤ 2 (S)	4 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
15	domestic pig	<i>M. fortuitum</i>	2 (S)	64/32 (R)	> 32 (R)	64 (I)	> 64 (R)	2 (I)	4/16 (I/R)	> 16 (R)	NR	16 (I)	> 8 (R)	1 (S)	2	> 16 (R)	2/38 (S)
16	wild boar	<i>M. fortuitum</i>	2 (S)	32/16 (R)	> 32 (R)	≤ 4 (S)	64 (R)	≤ 0,12 (S)	4/8 (I/R)	2 (I)	8 (I)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	2 (S)	≤ 0,25/ 4,75 (S)
17	wild boar	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	16 (I)	8 (S)	32 (I)	≤ 0,12 (S)	4/4 (I/I)	0,5 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
18	wild boar	<i>M. fortuitum</i>	≤ 1 (S)	8/4 (S)	16 (I)	16 (S)	64 (R)	≤ 0,12 (S)	4/>16 (I/R)	8 (R)	4 (S)	4 (S)	4 (I)	≤ 0,25 (S)	0,1	8 (R)	0,5/9,5 (S)
19	wild boar	<i>M. fortuitum</i>	2 (S)	32/16 (R)	> 32 (R)	16 (S)	> 64 (R)	≤ 0,12 (S)	8/8 (R/R)	4 (I)	8 (I)	2 (S)	2 (I)	≤ 0,25 (S)	0,3	8 (R)	0,5/9,5 (S)
20	wild boar	<i>M. fortuitum</i>	≤ 1 (S)	16/8 (I)	> 32 (R)	64 (I)	> 64 (R)	0,5 (S)	> 16 (5 th day) (R)	0,5 (S)	8 (I)	4 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
21	wild boar	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	≤ 0,06/1 (S/S)	2 (I)	≤ 2 (S)	≤ 1 (S)	2 (I)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
22	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	0,5/ 0,5 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	2 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
23	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	8/4 (S)	32 (R)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,25/ 0,5 (S/S)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
24	roe deer	<i>M. fortuitum</i>	2 (S)	16/8 (I)	8 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	2 (I)	≤ 0,25 (S)	0,1	2 (S)	≤ 0,25/ 4,75 (S)
25	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	32 (R)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	4 (I)	≤ 2 (S)	2 (S)	2 (I)	≤ 0,25 (S)	0,1	2 (S)	≤ 0,25/ 4,75 (S)
26	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	8 (S)	> 64 (R)	0,5 (S)	≤ 0,06/ 2 (S/S)	0,25 (S)	NR	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	2 (S)	≤ 0,25/ 4,75 (S)
27	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	16 (I)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	2 (I)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0	2 (S)	≤ 0,25/ 4,75 (S)
28	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	16/8 (I)	> 32 (R)	4 (S)	> 64 (R)	≤ 0,12 (S)	0,5/ 0,5	4 (I)	≤ 2 (S)	2 (S)	4 (I)	≤ 0,25 (S)	0,1	2 (S)	1/19 (S)

No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day) (S/S)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
29	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	16/8 (I)	> 32 (R)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	4/4 (I/I)	2 (I)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day) (S/S)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
30	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	64/32 (R)	> 32 (R)	8 (S)	> 64 (R)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	4 (I)	≤ 2 (S)	4 (S)	2 (I)	≤ 0,25 (S)	0,1	2 (S)	0,5/9,5 (S)
31	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	32 (I)	64 (R)	≤ 0,12 (S)	4/ > 16 (I/R)	16 (R)	NR	4 (S)	8 (R)	≤ 0,25 (S)	0,5	≤ 1 (S)	0,5/9,5 (S)
32	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	8 (S)	> 64 (R)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	8 (R)	4 (S)	2 (S)	4 (I)	≤ 0,25 (S)	0,1	2 (S)	≤ 0,25/ 4,75 (S)
33	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	>64/32 (R)	> 32 (R)	16 (S)	> 64 (R)	≤ 0,12 (S)	≤ 0,06/ 0,25 (S/S)	4 (I)	8 (I)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	16 (R)	0,5/9,5 (S)
34	roe deer	<i>M. fortuitum</i>	2 (S)	64/32 (R)	> 32 (R)	16 (S)	> 64 (R)	≤ 0,12 (S)	2/8 (S/R)	4 (I)	4 (S)	≤ 1 (S)	2 (I)	≤ 0,25 (S)	0,3	> 16 (R)	0,5/9,5 (S)
35	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	8 (S)	> 64 (R)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	4 (I)	4 (S)	2 (S)	1 (S)	≤ 0,25 (S)	0,1	2 (S)	0,5/9,5 (S)
36	roe deer	<i>M. fortuitum</i>	≤ 1 (S)	32/16 (R)	16 (I)	32 (I)	> 64 (R)	≤ 0,12 (S)	8/ > 16 (R/R)	16 (R)	NR	8 (S)	8 (R)	≤ 0,25 (S)	0,1	16 (R)	0,5/9,5 (S)
37	sheep	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	> 32 (R)	8 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	0,5/9,5 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day) (S/S)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
38	chicken	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	16 (I)	8 (S)	16 (I)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
39	wild boar	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	> 32 (R)	8 (S)	64 (R)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
40	wild boar	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	16 (I)	8 (S)	> 64 (R)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	16 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	2 (S)	≤ 0,25/ 4,75 (S)
41	wild boar	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	16 (I)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
42	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	32 (R)	≤ 4 (S)	8 (S)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
43	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	> 32 (R)	8 (S)	64 (R)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
44	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	> 32 (R)	8 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day) (S/S)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT

No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
									14 th day)								
45	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	32 (R)	8 (S)	64 (R)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	16 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
46	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	> 32 (R)	8 (S)	32 (I)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
47	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	8/4 (S)	> 32 (R)	8 (S)	64 (R)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
48	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	4 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
49	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	32 (R)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
50	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	> 32 (R)	8 (S)	32 (I)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
51	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	16 (I)	8 (S)	16 (I)	≤ 0,12 (S)	≤ 0,06/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
									14 th day)								
52	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	> 32 (R)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,25 (S/S)	≤ 0,12 (S)	≤ 2 (S)	4 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	8 (R)	≤ 0,25/ 4,75 (S)
53	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	> 32 (R)	8 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
54	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	16 (I)	≤ 4 (S)	8 (S)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
55	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	32 (R)	8 (S)	16 (I)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
56	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	≤ 1 (S)	8 (S)	≤ 4 (S)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	0,5/9,5 (S)
57	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	> 32 (R)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
									14 th day)								
58	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	4/2 (S)	32 (R)	8 (S)	8 (S)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
59	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	≤ 2/1 (S)	32 (R)	≤ 4 (S)	16 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
60	roe deer	<i>M. neoaurum</i>	≤ 1 (S)	64/32 (R)	4 (S)	>128 (R)	32 (I)	≤ 0,12 (S)	16/16 (R/R)	1 (S)	≤ 2 (S)	> 32 (R)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	8/152 (R)
61	roe deer	<i>M. neoaurum</i>	8 (S)	≤ 2/1 (S)	> 32 (R)	128 (R)	> 64 (R)	0,5 (S)	≤ 0,06/ ≤ 0,06 (S/S)	0,25 (S)	≤ 2 (S)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0	4 (I)	≤ 0,25/ 4,75 (S)

No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
62	roe deer	<i>M. peregrinum</i>	≤ 1 (S)	>64/32 (R)	> 32 (R)	16 (S)	> 64 (R)	≤ 0,12 (S)	(5 th day) (S)	4 (I)	NR	4 (S)	4 (I)	≤ 0,25 (S)	0,3	8 (R)	0,5/ 9,5 (S)
63	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	16/8 (I)	4 (S)	8 (S)	≤ 4 (S)	≤ 0,12 (S)	(5 th day) (S)	0,25 (S)	NR	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
64	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	8/4 (S)	4 (S)	8 (S)	≤ 4 (S)	≤ 0,12 (S)	(5 th day) (S)	0,25 (S)	NR	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,5	≤ 1 (S)	≤ 0,25/ 4,75 (S)
65	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	32/16 (R)	8 (S)	≤ 4 (S)	16 (I)	≤ 0,12 (S)	(5 th day) (S)	≤ 0,12 (S)	NR	2 (S)	2 (I)	≤ 0,25 (S)	0,3	≤ 1 (S)	0,5/ 9,5 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
66	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	16/8 (I)	16 (I)	8 (S)	≤ 4 (S)	≤ 0,12 (S)	(5 th day) (S)	0,25 (S)	NR	≤ 1 (S)	2 (I)	≤ 0,25 (S)	0,5	≤ 1 (S)	1/19 (S)
67	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	(5 th day) (S)	≤ 0,12 (S)	4 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	≤ 0,015	≤ 1 (S)	2/38 (S)
68	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	≤ 2/1 (S)	8 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	(5 th day) (S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
69	wild boar	<i>M. phocaicum</i>	≤ 1 (S)	≤ 2/1 (S)	4 (S)	8 (S)	8 (S)	0,25 (S)	(5 th day) (S)	4 (I)	≤ 2 (S)	2 (S)	2 (I)	≤ 0,25 (S)	1	8 (R)	0,5/ 9,5 (S)
70	wild boar	<i>M. porcinum</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	16 (S)	> 64 (R)	≤ 0,12 (S)	8/16 (R/R)	> 16 (R)	8 (I)	4 (S)	> 8 (R)	≤ 0,25 (S)	0,3	16 (R)	0,5/ 9,5 (S)
71	wild boar	<i>M. porcinum</i>	≤ 1 (S)	16/8 (I)	32 (R)	8 (S)	> 64 (R)	≤ 0,12 (S)	8/8 (R/R)	16 (R)	4 (S)	2 (S)	4 (I)	≤ 0,25 (S)	0,1	8 (R)	0,5/ 9,5 (S)
72	wild boar	<i>M. pulveris</i>	≤ 1 (S)	≤ 2/1 (S)	8 (S)	≤ 4 (S)	16 (I)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	0,25 (S)	≤ 2 (S)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
73	roe deer	<i>M. septicum</i>	≤ 1 (S)	4/2 (S)	4 (S)	≤ 4 (S)	8 (S)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	2 (I)	8 (I)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
74	cattle	<i>M. vaccae</i>	≤ 1 (S)	≤ 2/1 (S)	> 32 (R)	8 (S)	32 (I)	≤ 0,12 (S)	1/1 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	0,5/ 9,5 (S)
75	cattle	<i>M. vaccae</i>	≤ 1 (S)	16/8 (I)	> 32 (R)	≤ 4 (S)	> 64 (R)	≤ 0,12 (S)	0,25/ 0,25 (S/S)	0,5 (S)	16 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	2 (S)	0,5/ 9,5 (S)
76	wild boar	<i>M. vaccae</i>	≤ 1 (S)	8/4 (S)	32 (R)	16 (S)	> 64 (R)	1 (S)	1/2 (S/S)	4 (I)	4 (S)	4 (S)	≤ 1 (S)	1 (S)	0,5	4 (I)	1/19 (S)
77	wild boar	<i>M. vaccae</i>	≤ 1 (S)	32/16 (R)	> 32 (R)	32 (I)	> 64 (R)	≤ 0,12 (S)	2/16 (S/R)	> 16 (R)	32 (R)	16 (I)	> 8 (R)	≤ 0,25 (S)	0,5	> 16 (R)	2/38 (S)
78	wild boar	<i>M. vaccae</i>	≤ 1 (S)	≤ 2/1 (S)	4 (S)	≤ 4 (S)	64 (R)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	≤ 1 (S)	2/38 (S)
79	wild boar	<i>M. vaccae</i>	≤ 1 (S)	≤ 2/1 (S)	8 (S)	≤ 4 (S)	32 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	1/19 (S)

No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
80	wild boar	<i>M. vaccae</i>	≤1 (S)	>64/32 (R)	> 32 (R)	64 (I)	> 64 (R)	≤ 0,12 (S)	16/16 (R/R)	0,5 (S)	> 64 (R)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	8 (R)	≤ 0,25/ 4,75 (S)
81	wild boar	<i>M. vaccae</i>	2 (S)	≤ 2/1 (S)	4 (S)	8 (S)	64 (R)	≤ 0,12 (S)	16/16 (R/R)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	4 (I)	0,5/ 9,5 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
82	wild boar	<i>M. vaccae</i>	≤1 (S)	≤ 2/1 (S)	4 (S)	8 (S)	64 (R)	≤ 0,12 (S)	> 16 (5 th day) (R)	≤ 0,12 (S)	8 (I)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	2 (S)	2/38 (S)
83	wild boar	<i>M. vaccae</i>	≤1 (S)	8/4 (S)	≤1 (S)	≤ 4 (S)	≤ 4 (S)	≤ 0,12 (S)	≤ 0,06/ ≤ 0,06 (S/S)	0,25 (S)	16 (I)	≤ 1 (S)	≤ 1 (S)	0,5 (S)	0,3	≤ 1 (S)	≤ 0,25/ 4,75 (S)
84	wild boar	<i>M. vaccae</i>	≤ 1 (S)	≤ 2/1 (S)	32 (R)	≤4 (S)	16 (I)	≤ 0,12 (S)	0,12/ 0,12 (S/S)	≤ 0,12 (S)	≤ 2 (S)	≤ 1 (S)	≤ 1 (S)	≤ 0,25 (S)	0,1	≤ 1 (S)	≤ 0,25/ 4,75 (S)
85	wild boar	<i>M. vaccae</i>	≤ 1 (S)	16/8 (I)	4 (S)	≤4 (S)	≤4 (S)	4 (R)	0,5/ 0,5 (S/S)	0,5 (S)	16 (I)	2 (S)	≤ 1 (S)	1 (S)	0,1	≤ 1 (S)	0,5/ 9,5 (S)
86	wild boar	<i>M. vaccae</i>	≤ 1 (S)	16/8 (I)	16 (I)	≤4 (S)	64 (R)	≤ 0,12 (S)	2/16 (S/R)	8 (R)	4 (S)	4 (S)	> 8 (R)	≤ 0,25 (S)	0,1	4 (I)	0,5/ 9,5 (S)
87	roe deer	<i>M. vaccae</i>	32 (I)	≤ 2/1 (S)	> 32 (R)	64 (I)	> 64 (R)	0,25 (S)	≤ 0,06/ ≤ 0,06 (S/S)	0,25 (S)	≤ 2 (S)	2 (S)	≤ 1 (S)	≤ 0,25 (S)	0,3	2 (S)	≤ 0,25/ 4,75 (S)
No. in list	Animal species	NTM species	Interpretation of susceptibility test and MIC (µg/ml)														
			AMI	AUG2	FEP	FOX	AXO	CIP	CLA (5 th day/ 14 th day)	DOX	IMI	LZD	MIN	MXF	TGC	TOB	SXT
	Positive control	<i>M. smegmatis</i> ATCC 19420	/	/	/	/	/	0,5	/	/	/	/	/	/	/	/	/

AMI, amikacin; ATCC, American Type Culture Collection; AUG2, amoxicillin/clavulanic acid, ratio 2:1; AXO, ceftriaxone; CIP, ciprofloxacin; CLA, clarithromycin; DOX, doxycycline; FEP, cefepime; FOX, cefoxitin; I, intermediate susceptible; IMI, imipenem; LZD, linezolid; MIC, minimum inhibitory concentration; MIN, minocycline; MXF, moxifloxacin; NR, not reported due to antibiotic instability; NTM, non-tuberculous mycobacteria; R, resistant; S, susceptible; SXT, trimethoprim – sulfamethoxazole; TGC, tigecycline; TOB, tobramycin.