



THE INTERNATIONAL REGISTER OF FETAL MORPHOLOGISTS

RABBIT ALIZARIN RED S SPECIMEN IMAGES FOR CERTIFICATION

Sara
Flynn

Name of Applicant (Laboratory):	Jenna Smallwood, Charles River Laboratory, Horsham, PA
Examination type assessed (species):	SKELETAL RABBIT
Date of assessment:	22Aug2024

Specimens used for assessment: [insert fetus ID in each box]

3	6	13			
---	---	----	--	--	--

Key for abbreviations:

P - Needed prompting

N - Nervous

DK - Didn't know the answer

PP - Needed frequent prompting

VIP - Volunteered information previously

NC - Not consistent in technique

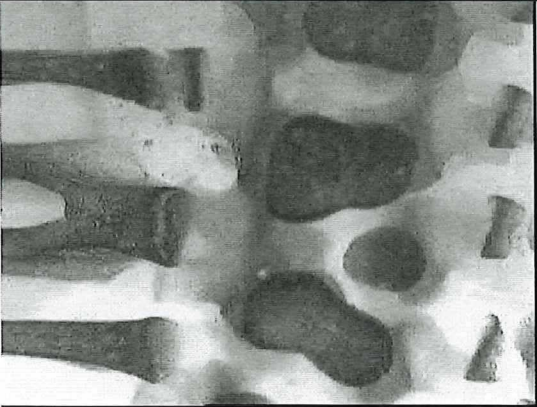
Assessor signature



Date 22Aug2024

RABBIT ALIZARIN RED S SPECIMEN IMAGES FOR CERTIFICATION

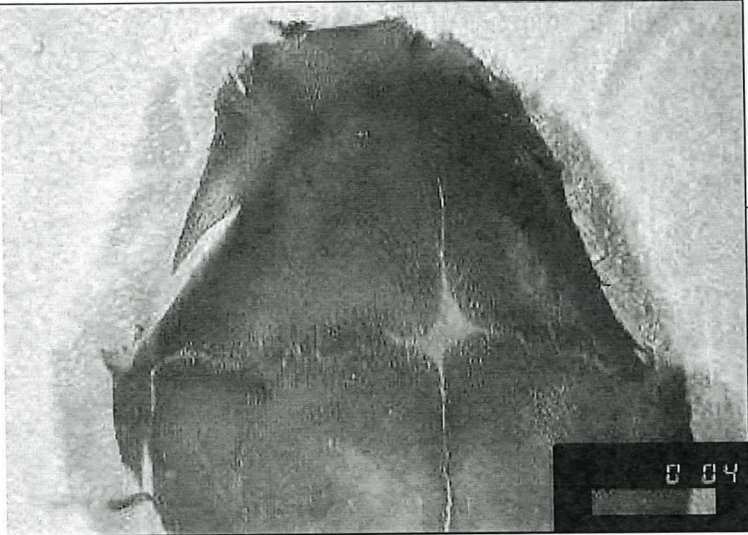
Sara
Flynn

Image 3	Questions (annotate responses)	Comments
	<p>What might you want to say about this? / Describe what you see</p> <ul style="list-style-type: none"> • <u>Right ribs fused</u>, proximal (discuss whether branched or fused right ribs [look at width of rib proximal region] what observations helped you to reach your conclusion?) • Right side vertebral centrum probably absent (i.e. hemicentrum); unlikely to be unossified as there is not space - how would you differentiate between absent/unilaterally ossified right <u>thoracic</u> hemicentrum (look at cartilage and intervertebral discs) • Right vertebral arches fused; probably just 2 fused but could be a third involved. • Left ribs damaged 	<p>Possible hemivertebra Would possibly be arch, but hard to tell</p> <ul style="list-style-type: none"> - Fusion - 2 ribs together vs 1 rib split into 2 - location, size, arch vs 2 arches 1 arch branched
	<p>What else might you be thinking about</p> <ul style="list-style-type: none"> • <u>Not</u> strictly a hemivertebra (Both arches present albeit reduced in size on right) • What terms might you use to describe the shape/positioning of the upper and lower vertebral centra in the image? Are the centra incompletely ossified or misshapen/asymmetric • Could be left-sided fusion above hemicentrum • Some of the vertebrae could be misaligned 	

	<p>How would you make sure you were recording the correct finding/position?</p> <ul style="list-style-type: none"> Count ribs and associated vertebral arches/costal cartilage Would looking at dorsal and ventral views aid interpretation? 	
	<p>What else might be associated with this?</p> <ul style="list-style-type: none"> Scoliosis? What are the consequences for the vertebrae, ribs and costal cartilage/sternebrae? How could you clarify the vertebral centra observations (intervertebral discs; vertebral arches) - mention double staining? <p>Would you expect this observation to be visible externally?</p>	

RABBIT ALIZARIN RED S SPECIMEN IMAGES FOR CERTIFICATION

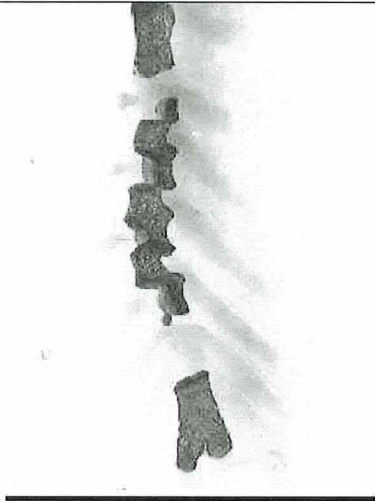
Sara
Flynn

Image 6	Questions (annotate responses)	Comments
	What might you want to say about this? <ul style="list-style-type: none"> Name bones affected (partially <u>fused/fused</u> frontals) 	Nasals, misshapen, small
	What else might you expect to see with this? <ul style="list-style-type: none"> Are there other <u>fusion's</u> i.e. nasals/<u>premaxillae</u>? Are the orbital sockets displaced? Is the anterior fontanelle affected? (Is the anterior fontanelle likely to be that shape in reality?) 	
	What might you expect to see at external examination? <ul style="list-style-type: none"> Domed cranium? Frontal ridge/bump seen in profile view? Any change in distance between orbital sockets? <p>Need rest of skull to do proper assessment</p> <p>[What consequences might there</p>	short snout

RABBIT ALIZARIN RED S SPECIMEN IMAGES FOR CERTIFICATION

Sara
Flynn

	be to brain formation]	
--	------------------------	--

Image 13	Questions (annotate responses)	Comments
	What might you want to say about this? <ul style="list-style-type: none"> Misaligned and fused 2nd to 5th sternobral hemicentres (or sternbrae 2-5 offset/offset ossification and <u>fused</u>)? How would you describe the observations for each sternbrae (<u>asymmetric ossification</u>; bridge of ossification/fusion; offset ossification centres; <u>bifurcated sternbra</u>) Why have you chosen those terms Are all the sternbrae present, how can you tell? <u>Bifurcated 6th sternbra</u> (<u>misshapen</u>) Would you consider there being a small additional ossified centre present? 	<ul style="list-style-type: none"> • can see cartilage • Next to No. 1, maybe
	Would you make any comment on cartilage? <ul style="list-style-type: none"> Misaligned 2nd to 5th costal cartilage (or costal cartilages 3, 4, ?5 asymmetrically aligned) Is the xiphoid cartilage split? Difficult to see if there is a 1st [left] costal cartilage present 	
	What else might be associated with this or similar abnormalities? <ul style="list-style-type: none"> Dorsoventral distortion of sternum Fused costal cartilage's and possibly ribs Any effects on vertebrae, ribs or manubrium 	



THE INTERNATIONAL REGISTER OF FETAL MORPHOLOGISTS

RABBIT ALIZARIN RED S SPECIMEN IMAGES FOR CERTIFICATION

Sara
Flynn

Name of Applicant (Laboratory):	Jenna Smallwood, Charles River Laboratory, Horsham, PA
Examination type assessed (species):	SKELETAL RABBIT
Date of assessment:	22Aug2024

Specimens used for assessment: [insert fetus ID in each box]

3	6	13			
---	---	----	--	--	--

Key for abbreviations:

P - Needed prompting

N - Nervous

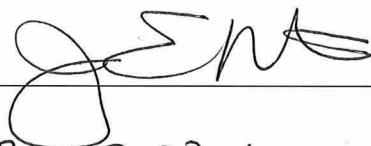
DK - Didn't know the answer

PP - Needed frequent prompting

VIP - Volunteered information previously

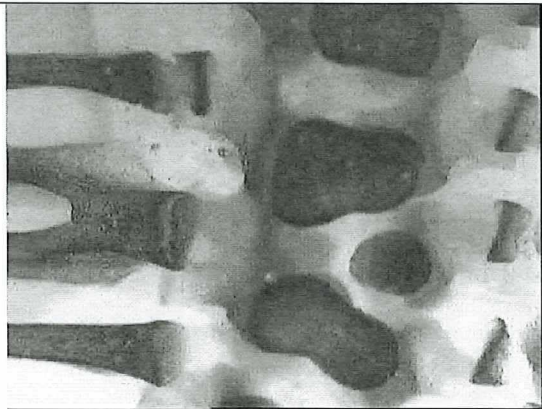
NC - Not consistent in technique

Assessor signature



Date

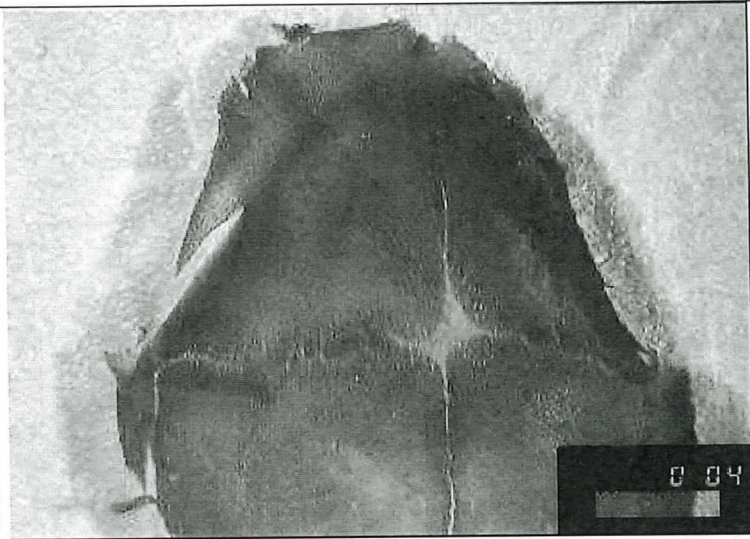
22 Aug 2024

Image 3	Questions (annotate responses)	Comments
	<p>What might you want to say about this? / Describe what you see</p> <ul style="list-style-type: none"> • Right ribs fused, proximal (discuss whether branched or fused right ribs [look at width of rib proximal region] what observations helped you to reach your conclusion?) • Right side vertebral centrum probably absent (i.e. hemicentrum); unlikely to be unossified as there is not space - how would you differentiate between absent/unilaterally ossified right <u>thoracic</u> hemicentrum (look at cartilage and intervertebral discs) • Right vertebral arches fused; probably just 2 fused but could be a third involved. • Left ribs damaged 	<p>might be small arch on other side than not a hemivertebrae</p> <p>From ribs to separate ribs</p> <p>Branch is one rib that branches to #2</p> <p>- look at it is 2 arches, there should be 2 ribs</p>
	<p>What else might you be thinking about</p> <ul style="list-style-type: none"> • <u>Not</u> strictly a hemivertebra (Both arches present albeit reduced in size on right) • What terms might you use to describe the shape/positioning of the upper and lower vertebral centra in the image? Are the centra incompletely ossified or misshapen/asymmetric • Could be left-sided fusion above hemicentrum • Some of the vertebrae could be misaligned 	

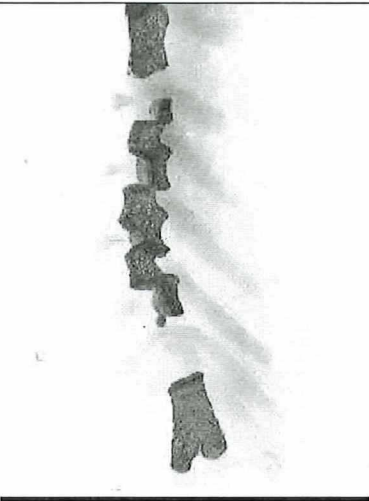
	<p>How would you make sure you were recording the correct finding/position?</p> <ul style="list-style-type: none"> Count ribs and associated vertebral arches/costal cartilage Would looking at dorsal and ventral views aid interpretation? 	
	<p>What else might be associated with this?</p> <ul style="list-style-type: none"> Scoliosis? What are the consequences for the vertebrae, ribs and costal cartilage/sternebrae? How could you clarify the vertebral centra observations (intervertebral discs; vertebral arches) - mention double staining? <p>Would you expect this observation to be visible externally?</p>	

RABBIT ALIZARIN RED S SPECIMEN IMAGES FOR CERTIFICATION

Sara
Flynn

Image 6	Questions (annotate responses)	Comments
	What might you want to say about this? <ul style="list-style-type: none"> Name bones affected (partially fused/fused frontals) 	<p>Na ></p>
	What else might you expect to see with this? <ul style="list-style-type: none"> Are there other fusion's i.e. nasals/premaxillae? Are the orbital sockets displaced? Is the anterior fontanelle affected? (Is the anterior fontanelle likely to be that shape in reality?) 	<p>misshapen maybe small premaxilla maybe affected would like to see it from the side.</p>
	What might you expect to see at external examination? <ul style="list-style-type: none"> Domed cranium? Frontal ridge/bump seen in profile view? Any change in distance between orbital sockets? <p>Need rest of skull to do proper assessment</p> <p>[What consequences might there</p>	

	be to brain formation]	
--	------------------------	--

Image 13	Questions (annotate responses)	Comments
	What might you want to say about this? <ul style="list-style-type: none"> Misaligned and fused 2nd to 5th sternobral hemicentres (or sternebrae 2-5 offset/offset ossification and fused)? How would you describe the observations for each sternebrae (asymmetric ossification; bridge of ossification/fusion; offset ossification centres; bifurcated sternebra) Why have you chosen those terms Are all the sternebrae present, how can you tell? Bifurcated 6th sternebra - <i>misshapen</i> Would you consider there being a small additional ossified centre present? 	<p><i>2-5th</i></p> <p><i>borderline for 4th maybe next to 1st.</i></p>
	Would you make any comment on cartilage? <ul style="list-style-type: none"> Misaligned 2nd to 5th costal cartilage (or costal cartilages 3, 4, ?5 asymmetrically aligned) Is the xiphoid cartilage split? Difficult to see if there is a 1st [left] costal cartilage present 	
	What else might be associated with this or similar abnormalities? <ul style="list-style-type: none"> Dorsoventral distortion of sternum Fused costal cartilage's and possibly ribs Any effects on vertebrae, ribs or manubrium 	