

Table S1. Biochemical characterization by Vitek 2 GP (Biomérieux) for Gram positive *Erysipelothrix rhusiopathiae* isolate N-385/22. (+) positive reaction; (–) negative reaction.

System identification		<i>Erysipelothrix rhusiopathiae</i> (94%)
Test		Result
AMY	D-amygdalin	–
PIPLC	Phosphatidylinositol phospholipase C	–
dXYL	D-xylose	–
ADH1	Arginine dihydrolase 1	+
BGAL	Beta-galactosidase	+
AGLU	Alpha-glucosidase	–
APPA	Ala-Phe-Pro-arylamidase	+
CDEX	Cyclodextrin	–
AspA	L-aspartate arylamidase	+
BGAR	Beta galactopyranosidase	+
AMAN	Alpha-mannosidase	–
PHOS	Phosphatase	–
LeuA	Leucine arylamidase	+
ProA	L-proline arylamidase	+
BGURr	Beta glucuronidase	–
AGAL	Alpha-galactosidase	–
PyrA	L-pyrrolydonyl-arylamidase	+
BGUR	Beta-glucuronidase	–
AlaA	Alanine arylamidase	+
TyrA	Tyrosine arylamidase	+
dSOR	D-sorbitol	–
URE	Urease	–
POLYB	Polymixin B resistance	–
dGAL	D-galactose	+
dRIB	D-ribose	–
ILATk	L-lactate alkalization	–
LAC	Lactose	–
NAG	N-acetyl-D-glucosamine	+
dMAL	D-maltose	–
BACI	Bacitracin resistance	+
NOVO	Novobiocin resistance	+
NC6.5	Growth in 6.5% NaCl	–
dMAN	D-mannitol	–
dMNE	D-mannose	–
MBdG	Methyl-B-D-glucopyranoside	–
PUL	Pullulan	–
dRAF	D-raffinose	–
O129R	O/129 resistance (comp.vibrio.)	–
SAL	Salicin	–
SAC	Saccharose/sucrose	–
dTRE	D-trehalose	–
ADH2s	Arginine dihydrolase 2	–
OPTO	Optochin resistance	+



Figure S1. Common bottlenose dolphin *Tursiops truncatus* found in the Balearic Islands with rhomboidal-shaped skin lesions (2013). This dolphin had characteristic skin lesions suggesting erysipelas, but the dolphin could not be necropsied and thus the infection was not confirmed.

Table S2. *Erysipelothrix* spp. infection reports in 74 free-ranging cetaceans. Lesions considered independent from septicemia have not been included. NS: non-specified. N: number of animals.

Year of isolation	Species	N	Location	Pathologic findings	<i>E. rhusiopathiae</i> isolated from	Reference
1975	<i>Globicephala melas</i>	1	Finistère (France)	<u>Gross:</u> Not performed. <u>Histology:</u> Multifocal hepatic necrosis with abundant clusters of intra and extracellular gram-positive bacilli without an intense inflammatory reaction.	Liver, stomach	Chastel et al. (1975)
1991–1996	<i>Phocoena phocoena</i>	6	North and Baltic Seas (Germany)	Muscular abscesses (n = 6) Suppurative pneumonia (n = NS)	Lungs, muscular abscesses, internal organs	Siebert et al. (2001)
1991–2005	<i>Phocoena phocoena</i>	30	North and Baltic Seas (Germany)	<u>Gross:</u> Bronchopneumonia (n = 6). NS n = 24	NS	Siebert et al. (2009)
2010	<i>Tursiops truncatus</i>	1	Mediterranean Sea (Spain)	<u>Gross:</u> Diamond-shaped skin lesions. White froth in trachea, pulmonary congestion and fibrous pleuritis with adhesions. Edema and congestion of superficial cervical and tracheobronchial lymph nodes. Reddish urine. Severe brain congestion. <u>Histology:</u> Suppurative dermatitis with intralesional bacteria. Intravascular bacterial emboli in many organs, including embolic glomerulonephritis.	Skin, brain	Melero et al. (2011)
2010	<i>Tursiops truncatus</i>	1	Las Galletas, Tenerife (Spain)	<u>Gross:</u> Icterus. Dorsocervical subcutaneous edema with multifocal congestion and hemorrhages. Epiaxial musculature congestion. Tricavitary effusion (ascites, hydrothorax, hydropericardium). Pulmonary congestion and atelectasis. Generalized lymphadenomegaly. Hepatic lipidosis. Adrenal hemorrhages. Meningeal congestion and hemorrhage. <u>Histology:</u> Intravascular and interstitial intra/extracellular gram-positive bacterial emboli in all examined tissues, with congestion, edema, microhemorrhages and fibrin thrombi. Acute suppurative myocarditis. Multicentric reactive lymphoid hyperplasia. Interstitial nephritis, acute embolic glomerulonephritis and adrenalitis. Perivascular cerebral, cerebellar and spinal cord meningeal hemorrhages and edema.	Liver, lung, mesenteric lymph node	Díaz-Delgado et al. (2015)

Year of isolation	Species	N	Location	Pathologic findings	<i>E. rhusiopathiae</i> isolated from	Reference
2012	<i>Stenella frontalis</i>	1	Las Galletas, Tenerife (Spain)	<p>Gross: Tattoo-like skin lesions (presumably dolphin poxvirus), cutaneous hemorrhages. Pale myocardial areas and multifocal hemorrhages. Bilateral pulmonary emphysema. Generalized lymphadenomegaly. Pancreatic hemorrhages.</p> <p>Histology: Intravascular and interstitial, intra/extracellular gram-positive bacterial emboli in all examined tissues, with generalized congestion, edema, microhemorrhages and fibrin thrombi. Acute cardiomyocyte degeneration and necrosis with hemorrhages. Lymphohistiocytic bronchointerstitial pneumonia with pulmonary edema. Multicentric reactive lymphoid hyperplasia with marked sinus histiocytosis. Suppurative cortical adrenalitis with vascular fibrinoid necrosis.</p>	Liver, lung, mesenteric lymph node, brain, kidney	Díaz-Delgado et al. (2015)
2013	<i>Eubalaena australis</i>	2	Península Valdés (Argentina)	<p>Internal organs were not studied.</p> <p>Gross: Diamond-shaped skin lesions (n = 2).</p> <p>Histology: Dermal congestion, suppurative dermatitis and panniculitis, necrotizing vasculitis and thrombosis, with intravascular and perivascular bacteria (n = 2).</p>	Skin	Fiorito et al. (2016)
1999, 2006, 2007	<i>Tursiops truncatus</i>	3	East and West coast (UK)	<p>Gross: Blubber and acoustic fat hemorrhage (n = 1). Tooth abscess (n = 1). Tricavitary effusion (n = 2), pericardial effusion (n = 1). Pulmonary edema (n = 1). Hepatic congestion (n = 1). Renal congestion (n = 2). Gastric petechiae and ecchymoses (n = 1).</p> <p>Histology: samples only available in 1 animal. Bacterial emboli in adrenal gland with embolic adrenalitis (n = 1). Pulmonary edema, congestion and hemorrhages (n = 1). Hepatic congestion (n = 1). Splenic congestion (n = 1). Lymph node congestion (n = 1). Necrotizing lymphadenitis (n = 1). Renal congestion (n = 1) and hemorrhages (n = 1). Acute renal tubular injury (n = 1). Gastric congestion and hemorrhages (n = 1).</p>	Tooth abscess, Spleen, liver, kidney, adrenal gland, blubber, brain, heart blood	Ceccolini et al. (2021)

Year of isolation	Species	N	Location	Pathologic findings	<i>E. rhusiopathiae</i> isolated from	Reference
2001, 2012 (n = 2)	<i>Phocoena phocoena</i>	3	East coast (UK)	<p><u>Gross:</u> Pulmonary edema (n = 3). Cardiac hemorrhages (n = 1) Adrenal and thyroid congestion (n = 1) Cloudy cerebrospinal fluid (n = 1) Gastric hemorrhages (n = 1). Intestinal serosa fibrinous tags (n = 1).</p> <p><u>Histology:</u> Bacterial emboli in dermis (n = 1), lymph nodes (n = 1), and kidney (n = 2), adrenal glands (n = 1), and brain (n = 1). Cardiac hemorrhages (n = 1) Pulmonary edema, congestion and hemorrhage (n = 1). Splenic congestion (n = 3). Lymphocytolysis (n = 1). Hepatic congestion (n = 1). Urinary bladder hemorrhages (n = 1). Renal congestion, hemorrhages and acute tubular injury (n = 1). Adrenal congestion and hemorrhages (n = 1). Brain hemorrhage (n = 1).</p>	Lung, liver, kidney, brain, peritoneal fluid	Ceccolini et al. (2021)
2017	<i>Delphinus delphis</i>	1	Thames river (UK)	<p><u>Gross:</u> Pulmonary edema and congestion. Pancreatic hemorrhages. Bony callus along rib shaft.</p> <p><u>Histology:</u> Bacterial emboli in lung, lymph node, spleen, liver, pancreas, kidney, urinary bladder, and intestine. Pulmonary congestion. Splenic congestion. Acute hepatic necrosis with intralesional bacteria and sinusoidal congestion and leukocytosis. Pancreatic congestion and hemorrhages.</p>	Lung, kidney, liver, spleen, brain, rib callus	Ceccolini et al. (2021)
2019, 2020	<i>Phocoena phocoena</i>	2	Swedish Southwest coast (Sweden)	Severe pneumonia	Lung	Neimanis et al. (2022)

Year of isolation	Species	N	Location	Pathologic findings	<i>E. rhusiopathiae</i> isolated from	Reference
2018	<i>Steno bredanensis</i>	1	Yeosu (South Korea)	<u>Gross:</u> Skin cuts and scratches. White froth in trachea, pulmonary congestion. Generalized lymphadenomegaly. Splenic petechiae. Gastric ulcer with abundant <i>Anisakis</i> spp. Intestinal edema and congestion, bloody feces in rectum. Unilateral caseous orchitis. <u>Histology:</u> Dermal pustules in stratum spinosum; severe chronic focal ulcerative dermatitis with hemorrhages. Testicular abscess with tubular degeneration and interstitial fibrosis.	Urogenital slit, anus, blood, kidney, pleural effusion Pcr+: testicle, kidney, rectum	Lee et al. (2022)
2020	<i>Tursiops truncatus</i>	2	Orange Beach, Alabama (USA)	Septicemia. Intracellular gram-positive rods in cerebrum and spleen.	Cerebrum, spleen	Nesbitt et al. (2022)
2020	<i>Tursiops truncatus</i>	1	Praia da Guarita (Brazil)	Internal organs not evaluable. <u>Gross:</u> Diamond-shaped skin lesions. <u>Histology:</u> Multifocal acute dermatitis with vasculitis.	Not performed PCR+ skin	Sacristán et al. (2022)
2021	<i>Phocoena phocoena</i>	16	Wadden Islands (the Netherlands)	Internal organs not evaluable histologically. <u>Gross:</u> Non-specified lesions in mammary gland, spinal cord, lung.	Mammary gland, spinal cord, lung, liver	IJsseldijk et al. (2023)
2021	<i>Tursiops truncatus</i>	1	Andora (Italy)	<u>Gross:</u> Fishing line agglomerate in the esophagus. Ventral blubber edema. <u>Histology:</u> Moderate autolysis.	Lymph node, skin, kidney	Grattarola et al. (2023)
2020	<i>Delphinapterus leucas</i>	1	Beluga Point, Alaska (USA)	<u>Gross:</u> Mycotic dermatitis. Ventral cervical hemorrhages. Generalized lymphadenomegaly. Pulmonary edema. Aortic valve endocarditis. <u>Histology:</u> Suppurative and lymphocytic optic neuritis and choroiditis with intralesional Gram-positive rods.	Blowhole swab, endocardial lesion (with <i>Streptococcus viridans</i>), genital swab, rectal swab. IHC: eye.	Rouse & Burek-Huntington (2023)

Year of isolation	Species	N	Location	Pathologic findings	<i>E. rhusiopathiae</i> isolated from	Reference
2022	<i>Tursiops truncatus</i>	1	Vilassar de Mar (Catalonia)	<p><u>Gross exam:</u> Diamond-shaped skin lesions. Cavitory effusion (hydrothorax and ascites). Lung congestion and clear froth in trachea. Intense meningeal congestion and hemorrhage. Turbid cerebrospinal fluid.</p> <p><u>Histology:</u> Bacterial emboli in cerebrum, cerebellum and choroid plexus, in great quantities, and in small quantities in myocardium, lung and liver. Moderate suppurative and vesicular dermatitis. Generalized leukocytosis. Brain congestion, meningeal and subpial hemorrhages, suppurative meningitis. Fibrinoid degeneration of meningeal vessels with abundant bacteria in median tunic of vessel walls.</p>	Superficial dermis, blowhole swab, blood, abdominal and thoracic transudates, lung, mesenteric and diaphragmatic lymph nodes, spleen, liver, kidney, urine, atlanto-occipital joint, brain, leptomeninges	Present study

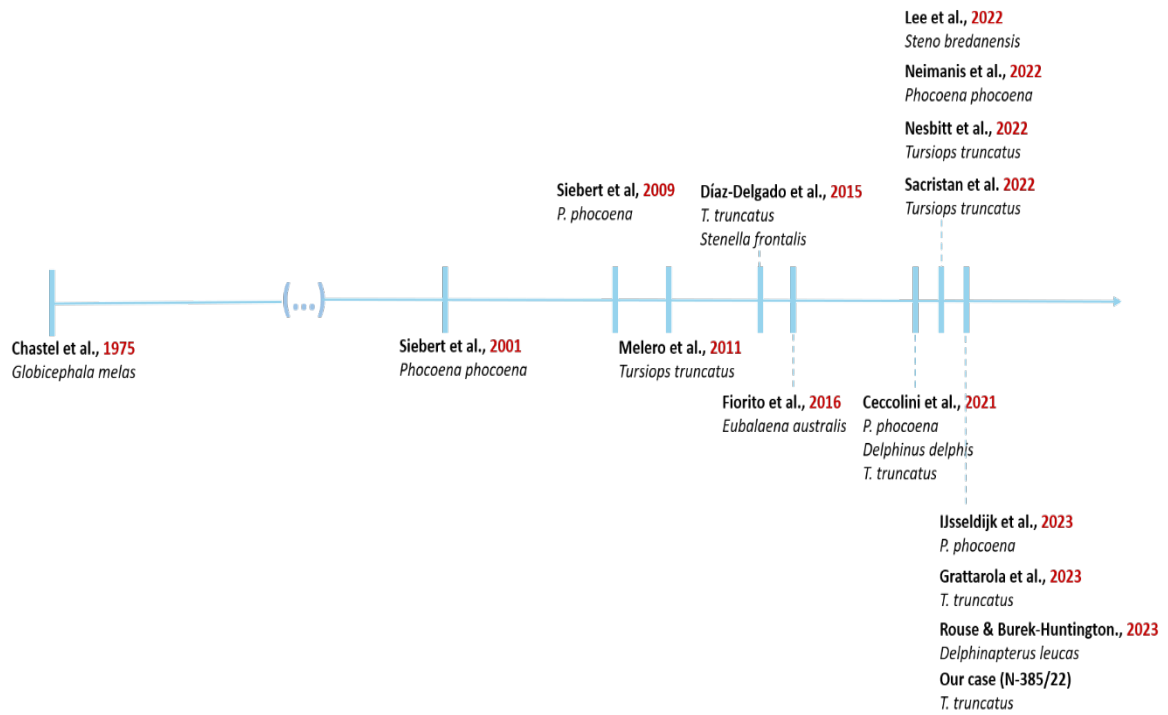


Figure S2. *Erysipelothrix rhusiopathiae* isolations documented in free-ranging cetaceans since 1975.

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