

SUPPORTING INFORMATION

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Figure overview

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Table overview

Table S1. List of studies on trophodynamics of larvae from small pelagic fish compiled and analyzed in this review. For further details on the methods, please see the main text.

Family	Species	System	Method	Reference	
Alosidae	<i>Alosa sapidissima</i>	NW Atlantic	Lab. experiment	Johnson et al. (1995)	
	<i>Alosa sapidissima</i>	NW Atlantic	Lab. experiment	Riley et al. (2012)	
	<i>Brevoortia patronus</i>	Gulf of Mexico	Stomach content	Chen et al. (1992)	
	<i>Brevoortia patronus</i>	Gulf of Mexico	Stomach content	Hoover et al. (2022)	
	<i>Sardinops melanostictus</i>	NW Pacific	Stomach content	Fukami et al. (1999)	
	<i>Sardinops melanostictus</i>	NW Pacific	Stomach content	Yasue et al. (2011)	
	<i>Sardinops melanostictus</i>	NW Pacific	Stomach content	Okazaki et al. (2019)	
	<i>Sardinops melanostictus</i>	NW Pacific	Stomach content	Matsushita et al. (1988)	
	<i>Sardinops melanostictus</i>	NW Pacific	Biomarkers	Yasue et al. (2014)	
	<i>Sardinops melanostictus</i>	NW Pacific	Molecular methods	Hirai et al. (2017)	
	<i>Sardinops ocellata</i>	Benguela EBUS	Lab. experiment	Brownell (1983)	
	<i>Sardinops sagax</i>	Australia	Biomarkers	Uehara et al. (2005)	
	<i>Sardinops sagax</i>	California EBUS	Stomach content	Arthur (1976)	
	<i>Sardinops sagax</i>	Humboldt EBUS	Stomach content	Muck et al. (1989)	
	<i>Sardinops sagax</i>	Humboldt EBUS	Stomach content	Balbontin et al. (1992)	
	<i>Sardinops sagax</i>	Humboldt EBUS	Stomach content	Llanos-Rivera et al. (1996)	
	<i>Sardinops sagax</i>	Humboldt EBUS	Stomach content	Balbontin et al. (1997)	
	<i>Sardinops sagax</i>	Humboldt EBUS	Stomach content	Llanos-Rivera et al. (2004)	
	Clupeidae	<i>Clupea harengus</i>	Baltic Sea	Stomach content	Schnak (1972)
		<i>Clupea harengus</i>	Baltic Sea	Stomach content	Arula et al. (2012)
<i>Clupea harengus</i>		Baltic Sea	Lab. experiment	Rosenthal (1969)	
<i>Clupea harengus</i>		Baltic Sea	Lab. experiment	Busch (1996)	
<i>Clupea harengus</i>		Baltic Sea	Lab. experiment	Illing et al. (2015)	
<i>Clupea harengus</i>		Baltic Sea	Lab. experiment	Illing et al. (2018)	
<i>Clupea harengus</i>		Baltic Sea	Biomarkers	Paulsen et al. (2014)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Lebour (1920)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Lebour (1921)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Marshall et al. (1937)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Blaxter (1965)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Schnak (1972)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Munk (1992)	
<i>Clupea harengus</i>		NE Atlantic	Stomach content	Thiel et al. (1996)	
Clupeidae		<i>Clupea harengus</i>	NE Atlantic	Stomach content	Fox et al. (1999)
	<i>Clupea harengus</i>	NE Atlantic	Stomach content	Figuereido et al. (2005)	
	<i>Clupea harengus</i>	NE Atlantic	Stomach content	Lusseau et al. (2014)	

Family	Species	System	Method	Reference
	<i>Clupea harengus</i>	NE Atlantic	Stomach content	Denis et al. (2017)
	<i>Clupea harengus</i>	NE Atlantic	Stomach content	Denis et al. (2018)
	<i>Clupea harengus</i>	NE Atlantic	Biomarkers	Denis et al. (2016)
	<i>Clupea harengus</i>	NE Atlantic	Biomarkers	Bils et al. (2022)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Blaxter (1968)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Rosenthal & Hempel (1970)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Geffen (1982)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Checkley (1982)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Checkley (1984)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Kiorboe et al. (1985)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Munk & Kiorboe (1985)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Batty (1987)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Kiorboe et al. (1987)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Pedersen et al. (1990)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	McKenzie & Kiorboe (1995)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Morley & Batty (1996)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Geffen (1996)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Fox et al. (2003)
	<i>Clupea harengus</i>	NE Atlantic	Lab. experiment	Catalan et al. (2011)
	<i>Clupea harengus</i>	NW Atlantic	Stomach content	Cohen & Lough (1983)
	<i>Clupea harengus</i>	NW Atlantic	Stomach content	Courtois & Dodson (1986)
	<i>Clupea harengus</i>	NW Atlantic	Stomach content	Pepin & Penney (1997)
	<i>Clupea harengus</i>	NW Atlantic	Stomach content	Wilson et al. (2018)
	<i>Clupea harengus</i>	NW Atlantic	Stomach content	Pepin (2023)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Stomach content	Pedersen & Fossheim (2008)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Lab. experiment	Folkvord et al. (1997)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Lab. experiment	Folkvord et al. (2000)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Lab. experiment	Utne-Palm & Stiansen (2002)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Lab. experiment	Utne-Palm (2004)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Lab. experiment	Folkvord et al. (2009)
	<i>Clupea harengus</i>	Norwegian/Barents Sea	Lab. experiment	Allan et al. (2021)
	<i>Clupea pallasii</i>	NE Pacific	Stomach content	Hay (1981)
	<i>Clupea pallasii</i>	NE Pacific	Stomach content	Purcell & Grover (1990)
	<i>Clupea pallasii</i>	NE Pacific	Lab. experiment	Boehlert & Yoklavich (1984)
	<i>Clupea pallasii</i>	NE Pacific	Lab. experiment	McGurk (1984)
	<i>Clupea pallasii</i>	NE Pacific	Lab. experiment	Friedenberg et al. (2012)
	<i>Clupea pallasii</i>	California EBUS	Molecular methods	Jungbluth et al. (2021)
	<i>Sardina pilchardus</i>	Canary EBUS	Stomach content & biomarkers	Chicharo et al. (2012)
	<i>Sardina pilchardus</i>	Canary EBUS	Biomarkers	Riveiro et al. (2003)
	<i>Sardina pilchardus</i>	Canary EBUS	Lab. experiment	Caldeira et al. (2014)
Clupeidae	<i>Sardina pilchardus</i>	Canary EBUS	Lab. experiment	Garrido et al. (2016)

Family	Species	System	Method	Reference
	<i>Sardina pilchardus</i>	Canary EBUS	Lab. experiment	Garrido et al. (2021)
	<i>Sardina pilchardus</i>	Canary EBUS	Biomarkers	Becognee et al. (2009)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Stomach content	Rasoanarivo et al. (1991)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Stomach content	Morote et al. (2010)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Stomach content	Costalago et al. (2014)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Biomarkers	Laiz-Carrion et al. (2011)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Biomarkers	Costalago et al. (2012)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Biomarkers	Quintanilla et al. (2015)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Biomarkers	Quintanilla et al. (2020)
	<i>Sardina pilchardus</i>	Mediterranean Sea	Molecular methods	Yebra et al. (2019)
	<i>Sardina pilchardus</i>	NE Atlantic	Stomach content	Lebour (1920)
	<i>Sardina pilchardus</i>	NE Atlantic	Stomach content	Lebour (1921)
	<i>Sardina pilchardus</i>	NE Atlantic	Stomach content	Munuera-Fernandez et al. (2006)
	<i>Sardina pilchardus</i>	NE Atlantic	Stomach content	Voss et al. (2009)
	<i>Sardina pilchardus</i>	NE Atlantic	Lab. experiment	Blaxter (1969)
	<i>Sprattus fuegensis</i>	Patagonia	Stomach content	Contreras et al. (2014)
	<i>Sprattus fuegensis</i>	Patagonia	Stomach content	Bernal et al. (2020)
	<i>Sprattus sprattus</i>	Baltic Sea	Stomach content	Voss et al. (2003)
	<i>Sprattus sprattus</i>	Baltic Sea	Stomach content	Dickmann et al. (2007)
	<i>Sprattus sprattus</i>	NE Atlantic	Stomach content	Lebour (1920)
	<i>Sprattus sprattus</i>	NE Atlantic	Stomach content	Lebour (1921)
	<i>Sprattus sprattus</i>	NE Atlantic	Stomach content	Fortier & Harris (1989)
	<i>Sprattus sprattus</i>	NE Atlantic	Stomach content	Figuereido et al. (2005)
	<i>Sprattus sprattus</i>	NE Atlantic	Stomach content	Figuereido et al. (2007)
	<i>Sprattus sprattus</i>	North Sea	Stomach content	Voss et al. (2009)
	<i>Sprattus sprattus</i>	Baltic Sea	Biomarkers	Peters et al. (2015)
	<i>Sprattus sprattus</i>	Baltic Sea	Lab. experiment	Baumann et al. (2005)
	<i>Sprattus sprattus</i>	Baltic Sea	Lab. experiment	Peck et al. (2015)
	<i>Strangomera bentincki</i>	Patagonia	Stomach content	Contreras et al. (2014)
	<i>Strangomera bentincki</i>	Patagonia	Stomach content	Bernal et al. (2020)
	Unidentified clupeidae	SW Pacific	Stomach content	Quah et al. (2022)
Dorosomatidae	<i>Sardinella aurita</i>	Mediterranean Sea	Stomach content	Morote et al. (2008)
	<i>Sardinella brasiliensis</i>	SW Atlantic	Lab. experiment	Del Bianco Rossi-Wongtschow et al. (2003)
	<i>Sardinella zunasi</i>	NW Pacific	Stomach content	Fukami et al. (1999)
Dorosomatidae	<i>Etrumeus teres</i>	Gulf of Mexico	Stomach content	Chen et al. (1992)
	<i>Etrumeus teres</i>	NW Pacific	Stomach content	Yasue et al. (2011)
	<i>Etrumeus teres</i>	NW Pacific	Biomarkers	Yasue et al. (2014)
	<i>Etrumeus teres</i>	NW Pacific	Molecular methods	Hirai et al. (2017)

Family	Species	System	Method	Reference
Ehiravidae	<i>Gilchristella aestuaria</i>	South Africa	Stomach content	Strydom et al. (2014)
	<i>Gilchristella aestuaria</i>	South Africa	Biomarkers	Costalago et al. (2016)
Engraulidae	<i>Anchoa mitchilli</i>	NW Atlantic	Lab. experiment	Houde & Schekter (1980)
	<i>Anchoa mitchilli</i>	NW Atlantic	Lab. experiment	Tucker (1989)
	<i>Anchoa mitchilli</i>	NW Atlantic	Lab. experiment	Cowan & Houde (1990)
	<i>Anchoa mitchilli</i>	NW Atlantic	Lab. experiment	Chesney (2008)
	<i>Anchoa mitchilli</i>	NW Atlantic	Lab. experiment	Munelly et al. (2021)
	<i>Anchovia clupeioides</i>	SW Atlantic	Stomach content	Lima & Barletta (2016)
	<i>Engraulis anchoita</i>	SW Atlantic	Stomach content	Ciechomski (1963)
	<i>Engraulis anchoita</i>	SW Atlantic	Stomach content	Vasconcellos et al. (1998)
	<i>Engraulis anchoita</i>	SW Atlantic	Stomach content	Sato et al. (2011)
	<i>Engraulis encrasicolus</i>	Benguela EBUS	Lab. experiment	Brownell (1983)
	<i>Engraulis encrasicolus</i>	Canary EBUS	Stomach content	Ferreira & Ré (1993)
	<i>Engraulis encrasicolus</i>	Canary EBUS	Stomach content & biomarkers	Chicharo et al. (2012)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Stomach content	Conway (1998)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Stomach content	Tudela (2002)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Stomach content	Borme et al. (2009)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Stomach content	Catalan et al. (2010)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Stomach content	Morote et al. (2010)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Stomach content	Borme et al. (2013)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Biomarkers	Rossi et al. (2006)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Biomarkers	Costalago et al. (2011)
	<i>Engraulis encrasicolus</i>	Mediterranean Sea	Biomarkers	Costalago et al. (2012)
	<i>Engraulis encrasicolus</i>	NE Atlantic	Stomach content	Intxausti et al. (2017)
	<i>Engraulis encrasicolus</i>	NE Atlantic	Lab. experiment	Garrido et al. (2012)
	<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Uotani (1985)
	<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Matsushita et al. (1988)
	<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Fukami et al. (1999)
	<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Islam et al. (2006)
<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Islam & Tanaka (2009)	
<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Yasue et al. (2010)	
<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Yasue et al. (2011)	
<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Choi et al. (2018)	
<i>Engraulis japonicus</i>	NW Pacific	Stomach content	Okazaki et al. (2019)	
<i>Engraulis japonicus</i>	NW Pacific	Biomarkers	Lindsay et al. (1998)	
Engraulidae	<i>Engraulis japonicus</i>	NW Pacific	Biomarkers	Yasue et al. (2014)
	<i>Engraulis mordax</i>	California EBUS	Stomach content	Arthur (1976)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Lasker et al. (1970)

Family	Species	System	Method	Reference
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Theilacker & McMaster (1971)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Hunter (1972)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Hunter & Thomas (1974)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Lasker (1975)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Hunter (1976a)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Hunter (1976b)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Scura and Jerde (1977)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Moffat (1991)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Schmitt (1986)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Theilacker (1987)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Huntley (1989)
	<i>Engraulis mordax</i>	California EBUS	Lab. experiment	Rodriguez-Murillo et al. (1989)
	<i>Engraulis mordax</i>	California EBUS	Biomarkers	Hakanson (1993)
	<i>Engraulis mordax</i>	California EBUS	Molecular methods	Ohman et al. (1991)
	<i>Engraulis ringens</i>	Humboldt EBUS	Biomarkers	Castro et al. (2020)
	<i>Engraulis ringens</i>	Humboldt EBUS	Stomach content	Muck et al. (1989)
	<i>Engraulis ringens</i>	Humboldt EBUS	Stomach content	Balbontin et al. (1992)
	<i>Engraulis ringens</i>	Humboldt EBUS	Stomach content	Llanos-Rivera et al. (1996)
	<i>Engraulis ringens</i>	Humboldt EBUS	Stomach content	Balbontin et al. (1997)
	<i>Engraulis ringens</i>	Humboldt EBUS	Stomach content	Llanos-Rivera et al. (2004)
	<i>Engraulis ringens</i>	Humboldt EBUS	Stomach content	Yanez-Rubio et al. (2011)
	<i>Engraulis ringens</i>	Patagonia	Stomach content	Landaeta et al. (2014)
	<i>Engraulis ringens</i>	Patagonia	Stomach content	Bernal et al. (2020)
	<i>Unidentified Engraulidae</i>	SW Pacific	Stomach content	Quah et al. (2022)

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Table S2. Mean proportion (%) of each prey group for 20 different small pelagic fish larval species obtained from 48 studies reporting 60 diets. For each species the number (n) of studies reporting diet are indicated.

Small pelagic fish larval species	<i>C. harengus</i>	<i>Ei. mordax</i>	<i>S. pilchardus</i>	<i>Ei. encrasicolus</i>	<i>S. sprattus</i>	<i>Ei. japonicus</i>	<i>S. sagax</i>	<i>Ei. ringens</i>	<i>C. pallasii</i>	<i>S. melanostictus</i>	<i>Ei. anchoita</i>	<i>Ei. teres</i>	<i>S. aurita</i>	<i>B. patronus</i>	<i>S. benthincki</i>	<i>S. fuegensis</i>	<i>G. aestuaria</i>	<i>A. clupeioides</i>	<i>C. edentulus</i>
Prey group / n	13	1	5	8	3	6	4	5	1	2	2	2	1	2	1	1	1	1	1
Copepod	17.3	62.0	35.3	34.5	53.8	11.0	65.3	37.9	76.5	4.4	28.1	30.7	48.2	21.3	92.3	72.0	-	25.4	15.8
Calanoid	41.9	7.4	34.1	7.9	34.4	49.6	-	-	-	41.0	37.7	35.7	-	55.7	-	-	25.8	45.9	40.0
Cyclopoid	7.7	-	2.9	10.8	-	11.9	-	-	-	40.1	5.9	14.0	-	6.9	-	-	17.2	-	-
Harpacticoid	-	-	2.1	9.8	-	-	-	-	-	-	4.1	-	-	2.6	-	-	-	-	-
Cladocera	-	-	3.1	8.1	2.9	13.3	-	-	-	-	4.6	-	23.3	3.8	-	-	-	-	22.5
Euphausiids	-	-	-	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-	-	-
Cirripedia	-	-	-	-	-	-	-	12.0	-	-	-	-	-	-	-	-	-	-	-
Ostracoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	-	-
Crustacea	6.1	-	-	-	-	-	-	3.1	-	6.3	-	3.5	2.4	-	7.6	15.1	-	24.7	12.1
Bivalvia	2.4	-	2.1	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	-	3.8
Gastropod	6.5	-	-	-	-	-	-	-	-	-	-	3.2	2.6	-	-	-	-	-	-
Polychaeta	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	-	-	-	-
Appendicularia	-	-	-	-	-	-	-	-	-	-	-	-	3.6	-	-	-	-	-	-
Tintinnid	-	2.5	9.3	9.8	-	3.8	-	-	-	-	2.0	2.6	-	2.1	-	-	-	-	-
Amphioxus	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.8	-	-
Invertebrate	-	-	-	-	-	-	23.6	13.7	-	-	-	5.8	-	5.7	-	-	-	-	-
Protozoa	-	-	-	-	-	-	-	-	6.4	-	-	-	-	-	-	-	-	-	-
Rotifer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ciliophora	-	3.0	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	-	-
Algae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9
Diatom	-	-	-	-	-	-	-	-	14.4	-	-	-	-	-	-	-	-	-	-
Dinoflagellates	-	4.8	3.1	3.6	-	-	3.0	11.6	-	-	-	-	-	-	-	-	-	-	-
Phytoplankton	2.24	3.3	-	-	-	-	-	3.2	-	-	-	-	3.2	-	-	12.8	-	-	-
Other	15.8	16.8	7.9	15.3	8.9	10.3	8.2	16.2	0.2	8.2	14.2	4.3	9.5	2.0	0.1	-	0.6	4.0	0.9

Table S3. Mean proportion (%) of each prey group for 10 different small pelagic fish larval species and three size classes (mm) obtained from 23 studies. If available, the numerical percentage (%N) was used. For each species the number (n) of studies reporting ontogenetic diet are indicated.

	Cladocera	Copepodite	Copepoda	Copepoda egg	Crustacea	Invertebrate egg	Copepoda Nauplii	Other	Microplankton	Copepoda Postnauplii	Polychaeta	Tunicata
<i>C. harengus</i> (n=3)												
<10 mm	-	8.8	0.0	-	0.0	-	87.3	-	-	-	-	-
7-20 mm	-	21.0	13.5	-	5.9	-	50.5	-	-	-	-	-
20-53 mm	-	54.41	19.8	-	13.1	-	5.2	-	-	-	-	-
<i>E. mordax</i> (n=1)												
<4.5 mm	-	-	-	15.3	-	-	42.9	28.5	13.2	-	-	-
5-6.5 mm	-	-	-	15.3	-	-	42.9	28.5	13.2	-	-	-
7-9 mm	-	-	-	7.2	-	-	79.4	8.1	5.4	-	-	-
<i>S. pilchardus</i> (n=1)												
4.5-7.6 mm	0.0	-	6.6	-	-	74.0	19.5	-	-	-	-	-
7.7-13 mm	7.5	-	5.0	-	-	82.0	5.5	-	-	-	-	-
13.1-22.1 mm	100.0	-	0.0	-	-	0.0	0.0	-	-	-	-	-
<i>E. encrasicolus</i> (n=3)												
2-4 mm	-	0.0	-	14.2	-	-	45.3	34.8	5.8	0.0	-	0.0
3-9.5 mm	-	26.0	-	8.4	-	-	31.3	19.3	0.0	15.1	-	0.0
8-16 mm	-	32.3	-	11.1	-	-	11.3	20.9	0.0	18.5	-	5.8
<i>S. sprattus</i> (n=2)												
4-10 mm	0.0	8.6	-	0.0	-	-	70.5	20.9	-	-	-	-
9-18 mm	0.0	70.9	-	5.7	-	-	18.5	4.9	-	-	-	-
>18 mm	24.3	70.9	-	0.0	-	-	0.0	4.9	-	-	-	-
<i>E. japonicas</i> (n=2)												
2.5-7.5 mm	14.0	-	43.8	-	-	-	0.0	11.4	30.9	-	-	0.0
8-25 mm	0.0	-	76.9	-	-	-	0.0	11.6	0.0	-	-	11.6
25-40 mm	5.0	-	75.3	-	-	-	5.3	6.0	0.0	-	-	8.3
<i>S. sagax</i> (n=3)												
3-9.5 mm	-	0.0	0.0	44.5	0.0	-	40.5	15.0	-	-	-	-
8-14 mm	-	14.3	22.5	10.8	12.5	-	32.4	7.5	-	-	-	-
10-25 mm	-	36.0	0.0	19.0	0.0	-	38.7	6.3	-	-	-	-
<i>E. ringens</i> (n=3)												
3-8 mm	-	0.0	0.0	31.4	0.0	-	28.1	12.2	28.3	-	-	-
6-14 mm	-	8.3	6.3	15.8	5.4	-	33.6	13.8	11.4	-	-	-
9-20 mm	-	34.5	0.0	7.8	0.0	-	34.7	8.8	5.3	-	-	-
<i>E. anchoita</i> (n=1)												
3-5 mm	0.0	0.0	0.0	0.0	0.0	7.2	47.8	0.0	-	-	-	-
12-22 mm	17.6	10.4	60.8	5.6	0.0	5.6	0.0	0.0	-	-	-	-
22-42 mm	27.8	0.0	45.6	45.1	12.7	6.0	0.0	7.9	-	-	-	-
<i>S. aurita</i> (n=2)												
4.5-7.6 mm	0.0	-	-	-	-	-	0.0	0.0	-	0.0	0.0	-
3.9-8 mm	18.7	-	-	-	-	-	33.3	39.8	-	8.1	0.0	-
8-14.7 mm	27.9	-	-	-	-	-	25.6	16.3	-	23.3	7.0	-

Table S4. Summary of the number of studies* that use each technique to get specific

Information obtained	Techniques			
	Biomarkers	Experiments	Gut analysis	SIA
Diet composition_ type of prey	11		91	
Diet composition_ size of prey			37	
Diel feeding intensity			27	
Selectivity	5	13	25	7
Foraging behaviour		18		
Ingestion rates		17		
Digestion		4		
Growth and/or survival - Food level		40		
Growth and/or survival - temperature		4		
$\delta^{15}\text{N}$ - Trophic level				12
Trophic position				2
Food source				13
Resource partitioning	4			5

* Numbers reflect the combination of studies and species, therefore if one study reports two species, it counts as two studies.
information on trophodynamics.

Table S5. Summary of trophic studies on small pelagic fish larvae before and after 2013 in 16 different biogeographic regions worldwide.

Region	1920-2012 (# studies)	2013-2022 (# studies)
NE Atlantic	29	7
California EBUS	16	1
Mediterranean Sea	11	5
NW Atlantic	9	2
NW Pacific	8	3
Baltic Sea	7	5
Norwegian/Barents Sea	6	1
Humboldt EBUS	6	1
Alaska/Bering Sea	5	0
Canary EBUS	4	2
SW Atlantic	4	1
Australia	1	2
Gulf of Mexico	1	1
Benguela EBUS	1	0
Patagonia	0	3
South Africa	0	2

Figure overview

Figure S1 - Temporal changes in prey taxonomic resolution reporting level of larval diet studies published. Each circle corresponds to a publishing period (1920-1990; 1991-2012; 2013-2022), and each colour shows the proportion (%) of papers reporting the diet at; species (dark blue), genus (light blue), order (grey), qualitative (yellow) or kingdom (orange) level.

