## Supplementary information

1.

Descriptive matrix of reviewed and new species

Matrice descriptive des espèces redécrites et nouvelles.

Source of data Examined material			Modified from Audo & Schweigert (2018)  Holotype: UJF-ID 14023. Paratypes:  MSNM.i20703; UJF-ID.11547, 11548-11549  (part and counterpart), 11550, 11552, 14020,	Present study Holotype: FSL 170728, Caillet coll.	Present study One specimen, Hauff coll., on display at Urwelt Museum Hauff	Present study  Casts of holotype (MNHN.F.A02720, NHMUK 42010, SMNS 70478), MNHN.F.A46045,	Present study Holotype: SNSB-BSPG 1942 i 17	Present study  Lectotype (herein designated: Hauff coll.	Reinterpretation of data from Quilty (1988) Quilty (1988), figs 2.1 to 2.5, not 2.6 and 2.7	Present study Illustration of the holotype reproduced in Woods (1925) and GSM 113019	Present study Holotype: CMBK C2625 (Stoddart coll.)	Present study MHNG-GEPI-028368	Present study SMNS 66141	Present study FSL 170531
			14051, 14052; FSL 170603, 170607-170609 (coll. Marin), 710080; MNHN.F.A50714, A50716-A50719, A50726, A50741, B11759; MNHGr.PA.10203, 10276; UPMC-248. Additional specimens: FSL 170521, 170610 (coll. Caillet), 710081 (coll. Charbonnier), MNHN.F.A50713, A50727 (coll. Fischer), R03515 (cast), UJF-ID.14026, 14047-14049 (part and counterpart), 15050.			R03401, MNHB X260-X261, SMNS 8266, 64010, 70106, 2 specimens + one syntype of <i>P. longiceps</i> from Urwelt Museum Hauff without collection number, Schmidt-Kaler <i>et al.</i> (1992: fig. 47), SNSB-BSPG 1942 I 20; one specimen from H. Tischlinger coll., without coll. number; one specimen from D. Weber coll., without coll. number; four syntypes of <i>P. viluensis</i> : CNIGR Musem 2/2931-5/2931, one specimen from the Werkforum (Dotternhausen)		without coll. number, illustrated by Beurlen 1928: fig. 23b) and paralectotype (Hauff coll., without coll. number)		woods (1923) and Osivi 113013				
Number of specimens cephalothoracic shield (Carapace) Outl	utline	Outline in dorsal view	25 Pyriform/circular, wider than long	1 Incomplete, rounded posteriorly	1 Pyriform about as long as wide	21 Pyriform/circular, as long as wide	1 Ovoid in outline in dorsal view, longer than	Ovoid in outline in dorsal view, longer than	2 Subcircular, incompletely preserved	2 Subcircular about as long as wide	1 Pyriform/circular wider than long	Poorly preserved, frontal and lateral margins	1 Not preserved in the unique specimen	1 Subcircular, incompletely preserved
		Proportions height/width Frontal margin		Dorsoventrally flattened  Not preserved in the holotype	Dorsoventrally flattened Wide, slightly concave, with a small	Dorsoventrally flattened Wide, slightly concave, with a small	wide Dorsoventrally flattened Wide, slightly concave, fringed with very smal	wide Dorsoventrally flattened  Il Wide, slightly concave, with a small	Dorsoventrally flattened  Not preserved	Dorsoventrally flattened Slightly concave, possibly with an indentation	Dorsoventrally flattened Slightly concave, with a small indentation in	missing  Dorsoventrally flattened  Not preserved in the unique specimen	Not visible in the unique specimen  Not preserved in the unique specimen	Dorsoventrally flattened Slightly concave, poorly preserved
					indentation in the middle	indentation in the middle	spines	indentation in the middle	·	in the middel, poorly preserved	the middle			
		Anterolateral angle  Lateral margin		Not preserved in the holotype  Rounded posteriorly, not preserved anteriorly	Forming a short spine orientated diagonally  Cut by ocular, cervical and hepatic incisions	Forming a short spine orientated diagonally  Cut by ocular, cervical and hepatic incisions	Forming a short spine orientated anteriorly  Cut by ocular, cervical and hepatic incisions	Forming a spine orientated diagonally anteriorly and slightly outward  Cut by ocular, cervical and hepatic incisions	Not preserved  Poorly preserved	Unclear due to the poor preservation  Cut by ocular, cervical and hepatic incisions	Forming a spine orientated diagonally anteriorly and slightly outward  Cut by ocular, cervical and hepatic incisions	Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Short, poorly preserved  Cut by ocular, cervical and hepatic incisions
		Ocular incision  Anterolateral margin	cephalothoracic shield in an arc of circle		Large, opening laterally, closed ventrally cutting cephalothoracic shield in an arc of circle  Spiny and almost straight, subparallel to	Large, opening laterally, closed ventrally cutting cephalothoracic shield in an arc of circle  Spiny and slightly convex, subparallel to	Large, opening laterally, cutting cephalothoracic shield in an arc of circle  Spiny and straight, subparallel to longitudinal	Large, opening laterally, cutting cephalothoracic shield in an arc of circle  Spiny and straight, subparallel to longitudinal	Not preserved	Large, opening laterally, cutting cephalothoracic shield in an arc of circle  Spiny and straight, subparallel to longitudinal	Large, opening laterally, cutting cephalothoracic shield in an arc of circle	Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Large, opened anterioly and laterally  Slightly convex, almost parallel to longitudina
			longitudinal axis  e As large as other anterolateral spines	Not preserved in the holotype	longitudinal axis  As large as other anterolateral spines	longitudinal axis As large as other anterolateral spines	axis  As large as other anterolateral spines	axis  Unclear due to the poor preservation	Not preserved	axis Unclear due to the poor preservation		Not preserved in the unique specimen	Not preserved in the unique specimen	axis  None visible
		Position of cervical and postcervical incisions	Opening in the anterior half of lateral margin	Not preserved in the holotype	Opening in the anterior half of lateral margin	Opening in the anterior half of lateral margin	Opening in the anterior half of lateral margin	Opening in the anterior half of lateral margin	Not preserved	Opening in the anterior half of lateral margin	Opening in the anterior half of lateral margin	Not preserved in the unique specimen	Not preserved in the unique specimen	Opening in the anterior half of lateral margin
		Cervical incision  Mediolateral margin	margin, fringed by a few small spines	Not preserved in the holotype  Not preserved in the holotype	fringed by a few small spines interspaced with smaller spines		Marked but shallow Straight, slightly shorter than anterolateral margin, fringed by a few small spines	Marked but shallow Straight, slightly shorter than anterolateral margin, fringed by a few small spines	Not preserved  Not preserved	Deep and subtriangular Straight, slightly longer than anterolateral margin, fringed by a few small spines	Deep and subtriangular Straight, slightly longer than anterolateral margin, fringed by a few small spines	Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Deep and subtriangular Straight, slightly shorter than anterolateral margin
		Posterolateral margin	Subtriangular, shallower than cervical incision  Convex, fringed with small spines		Subtriangular, shallower than cervical incision  Slightly convex, fringed with large spines, interspaced with smaller spines near posterolateral angle	Subtriangular, shallower than cervical incision  Convex, fringed with small spines	Shallower than cervical incision, poorly preserved  Almost straight, fringed with small spines	Subtriangular, shallower but wider than cervical incision  Very slightly convex, fringed with small spines	Not preserved  Not preserved	Subtriangular, shallower than cervical incision  Convex, fringed with small spines	Convex, fringed with small spines	Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Subtriangular, deeper than cervical incision  Rounded, no visible spines
Gro	rooves	Posterolateral angle  Posterior margin a Branchiocardiac	Slightly concave, wider than frontal margin Very shallow, originating near the hepatic groove and the branchial carina junction, extending longitudinally along the branchial carina, curving in the posterior part of the cephalothoracic shield to join the median line without cutting it	Rounded, contiguous with pleon, extending slightly along pleonite 1  Concave  Unclear or not preserved in the holotype	Rounded, contiguous with pleon, extending slightly along pleonite 1  Slightly concave, wider than frontal margin  Not visible on the single specimen available (holotype)	without cutting it	longitudinally along the branchial carina, curving in the posterior part of the cephalothoracic shield to join the median line without cutting it	slightly along pleonite 1  Slightly concave, wider than frontal margin  Unclear or not preserved in available specimens	Slightly concave  Not visible / preserved	Rounded, contiguous with pleon  Slightly concave, wider than frontal margin  Shallow, originating near the hepatic groove and the branchial carina junction, extending longitudinally along the branchial carina, curving in the posterior part of the cephalothoracic shield to join the median line without cutting it	slightly along pleonite 1  Slightly concave, wider than frontal margin  Possibly present (faint traces)	Slightly concave  Not preserved in the unique specimen		Rounded, contiguous with pleon, extending slightly along pleonite 1  Slightly concave, wider than frontal margin  Shallow, originating near the hepatic groove and the branchial carina junction, extending longitudinally along the branchial carina, curving in the posterior part of the cephalothoracic shield to join the median line without cutting it
		b Antennal b <sub>1</sub> Hepatic	Not visible in the available specimens  Deep, extending transversally from the hepatic incision to the postcervical groove	Not preserved in the holotype  Not preserved in the holotype		Possibly present (faint traces)  Rather deep, curving posteriorly near the branchial carina without joining with	Not visible on the holotype  Deep, extending transversally from the hepatic incision to the postcervical groove	Not visible in available specimens  Rather deep between hepatic incision to branchial carina	Not preserved  Not visible / preserved	Not visible in available specimens  Deep, extending transversally from the hepatic incision to the postcervical groove	Not visible on the holotype  Rather deep, curving posteriorly near the branchial carina without joining with	Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Not visible on the holotype  Deep, extending transversally from the hepatic incision to the postcervical groove
		c postcervical		Not preserved in the holotype	Not visible on the holotype	postcervical groove Very shallow, extending from the hepatic groove to the median line, cutting the	Very shallow, extending from the hepatic groove to the median line, cutting the branchial carina, straight near median line	indistinct near branchial carina, poorly preserved near median line: curving slightly backward then forward (cardiac groove?) near its junction with the median line (not cutting median line)		Extending from the hepatic groove to the median line, cutting the branchial carina, curving slightly backward then forward (cardiac groove?) near its junction with the median line (not cutting the median line)	postcervical groove Poorly preserved	Extending from the brancial carina to the median line, curving slightly backward then forward (cardiac groove?) near its junction with the median line		Extending from the brancial carina to the median line, curving slightly backward then forward (cardiac groove?) near its junction with the median line
		d Gastro-orbital	Shallow and short, extending anteriorly from the cervical groove between the branchial and		Not visible on the holotype	Very shallow and short, extending anteriorly from the cervical groove between the	None visible	Unclear or not preserved in available specimens	Not visible / preserved	Visible at the inflexion of cervical groove, indistinct more anteriorly	Unclear or not preserved in available specimens	Not preserved in the unique specimen	Not preserved in the unique specimen	Shallow and short, extending anteriorly and diagonally from the cervical groove
		e <sub>1</sub> e Cervical	postrostral carinae  Deep and oblique, extending from cervical incision to median line, cutting branchial carina, curving slightly backward and cutting deeply the median line	Not preserved in the holotype	Not visible on the holotype	and branchial carina, deep medially, extending from cervical incision to median line, cutting	Oblique, shallower between lateral margin and branchial carina, deep medially, extending from cervical incision to median line, cutting branchial carina, curving slightly backward and cutting deeply the median line	carina, curving slightly backward and cutting	Curving backward before cutting deeply the median line, not visible or preserved laterally	Deep and oblique, extending from cervical incision to median line, cutting branchial carina, curving slightly backward and cutting deeply the median line	Deep and oblique, extending from cervical incision to median line, poorly preserved near branchial carina, curving slightly backward and cutting deeply the median line	" / " / "		Deep and oblique, extending from cervical incision to median line, cutting branchial carina, straight near median line, interrupted by axial carina
Car	nrinae	i inferior ic intercervical Postrostral	Not visible in the available specimens  None visible  Marked, ornamented by a single row of large tubercles, extending only on the posterior half of the cephalic region		Not visible on the holotype  Not visible on the holotype  Not visible on the holotype	Not visible in available specimens  None visible  Faint anteriorly, extending only on the posterior half of the cephalic region	Not visible on the holotype  None visible  Faint anteriorly, extending only on the posterior half of the cephalic region	Not visible in available specimens  Not visible in available specimens  Marked, at least posteriorly	Not visible / preserved  Not visible / preserved  Faint anteriorly, extending only on the posterior half of the cephalic region	Not visible on the available specimens  Not visible on the available specimens  Faint anteriorly, extending only on the posterior half of the cephalic region	Not visible on the holotype  Not visible on the holotype  Faint anteriorly, extending only on the posterior half of the cephalic region	Not preserved in the unique specimen  None visible  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen  Not preserved in the unique specimen	Not visible on the holotype  Not visible on the holotype  Raised, extending on the posterior half of the cephalic region, marged posteriorly with the postcervical carina, ornamented with a double
		Postcervical	Marked, ornamented by a single row of large tubercles	slightly larger than on surrounding areas		tubercles	tubercles	Marked, extending from the cervical groove to the posterior margin	the median line, ornamented by a single row of large tubercles	tubercles	the posterior margin	the posterior margin	Not preserved in the unique specimen	row of tubercles  Raised, extending from the postrostral carina (merged), not preserved posteriorly, ornamented by a double row of tubercles.
		Postorbital	ocular incision on half the lenght of the cephalic region, distinct from branchial carina			Marked, ornamented by a single row of tubercles, extending longitudinally from the ocular incision on half the lenght of the cephalic region, distinct from branchial carina		ocular incision and further posteriorly on at least half the length of the cephalic region, poorly preserved posteriorly	Not preserved	Present, but indistinct on the available specimens, distinct from branchial carina	None visible	None visible		Not visible / preserved
		Branchial		Marked, at least posteriorly, covered with tubercles appearing slightly larger than in the surrounding areas			Long and straight, slightly oblique compared to median line, ornamented with tubercles, interrupted by cervical and hepatic grooves, curving slightly inward at the junction with these grooves, extending to the posterolatera angle		to the posterolateral angle, poorly preserved	Long and straight, oblique compared to median line, ornamented with tubercles, interrupted by cervical and hepatic grooves, curving slightly inward at the junction with these grooves, extending to the posterolatera angle	to median line, poorly preserved near its intersection with cervical and hepatic grooves	Marked at least between cervical groove and posterolateral angle (not preserved anteriorly		Extending from the posterolateral angle anteriorly, indistinct anteriorly to the cervical groove
		Hepatic Posterior Lateral	margin and branchial carina on the branchial region	None visible  None visible	Not visible on the holotype  Not visible on the holotype	None visible  None visible  None visible	None visible  None visible  None visible	None visible  None visible  None visible	Not visible / preserved  None visible  Not visible / preserved	None visible  None visible  None visible	None visible  None visible  None visible	None visible  None visible  Not visible/preserved in the specimen	Not preserved in the unique specimen  Not preserved in the unique specimen  Not preserved in the unique specimen	None visible  Not visible / preserved  None visible
Orn	rnamentation	Submarginal  Cephalic area	Long, extending from the ventral margin near Mxp3 ischium, marked anteriorly, less visible posteriorly  Densely tuberculate		Long, extending from the ventral margin near Mxp3 ischium, marked anteriorly, less visible posteriorly  Not visible on the holotype	1	Not preserved  Densely tuberbulated	Not preserved  Densely tuberbulated	Not preserved  Not preserved	Long, extending in the posterior part of the cephalothoracic shield, not preserved in the anterior part of the cephalothoracic shield  With numerous small tubercles, denser in the		Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Not visible on the holotype  Indistinct due to the granularity of the matrix
						,	, and the second		·	anterior part of cephalic area and around median line	visible elsewhere			
		Branchial area  Between branchial	Smaller than in the axial area  Densely tuberculate  Densely tuberculate	spines)	Not visible on the holotype  Not visible on the holotype	Covered with small tubercles  Covered with small tubercles	Poorly preserved  Less densely covered than cephalic area	Less densely covered than cephalic area	Not preserved  Not preserved	With numerous small tubercles, not as concentrated as in cephalic area With numerous small tubercles, not as		Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen  Not preserved in the unique specimen	Indistinct due to the granularity of the matrix  Indistinct due to the granularity of the matrix
Diagram	oportions	Ventral side of cephalothoracic shield	Not visible in the available specimens	spines)  Not visible on the holotype	Abundant tubercles, thiner posteriorly	Covered with small tubercles, more abundant and slightly bigger near the submarginal caring	a	Not visible in available specimens	Not preserved	Not visible in available specimens		Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype  Slightly wider than half of the cephalothoracion
Pro	_ p = 1 ti O   13	Width Length	Half as wide as cephalothoracic shield  Slightly longer than cephalothoracic shield	Half as wide as cephalothoracic shield  Comparison with cephalothoracic shield	Slightly narrower than cephalothoracic shield Slightly shorter than cephalothoracic shield	Slightly shorter than cephalothoracic shield	Slightly narrower than cephalothoracic shield Unassessable (s6 folding ventrally)	Slightly shorter than cephalothoracic shield	Unassessable: no specimen with a complete	Narrower than cephalothoracic shield Unassessable (s5-s6 not preserved)	Half as wide as cephalothoracic shield  Slightly shorter than cephalothoracic shield	Narrower than cephalothoracic shield  Slightly shorter than cephalothoracic shield	Comparison with cephalothoracic shield impossible Unassessable (s1-s2 not preserved)	shield width  Slightly shorter than cephalothoracic shield
nle	eonite 1	Dorsal part	Subrectangular, slightly shorter than others	length impossible  Subrectangular, slightly shorter than others	Subrectangular, outlines indistinct	Subrectangular, slightly shorter than others	Outlines indistinct, partially hidden by	Outlines slightly indistinct, slightly shorter	pleon and carapace associated available  Outlines indistinct, partially covered by	Outlines indistinct, partially covered by	Subrectangular, slightly shorter than others	Outlines indistinct, partially covered by	Not preserved in the unique specimen	Subrectangular, slightly shorter than other
pies	- <del>-</del>	•	and narrower than pleonite 2, with two transverse grooves converging medially	and narrower than pleonite 2, with two transverse grooves converging medially	J ,	and narrower than pleonite 2, with two transverse grooves converging medially	cephalothoracic shield, shorter than others and narrower than pleonite 2, with at least	than others and narrower than pleonite 2, with two transverse grooves converging	cephalothoracic shield, shorted than pleonite 2, with a posterior transverse groove	cephalothoracic shield, shorted than pleonite 2, with a posterior transverse groove	and narrower than pleonite 2, with two transverse grooves converging medially	cephalothoracic shield, shorted than pleonite		pleonites
		Axial carina	None visible	Limited anteriorly and posterioly by the two transverse grooves, forming a large antrorse		Limited anteriorly and posterioly by the two transverse grooves	one transverse groove  None visible	Mone visible	Probably present, but damaged in the available material	Probably present, but damaged in the available material	Limited anteriorly and posterioly by the two transverse grooves	Not visible/preserved in the specimen	Not preserved in the unique specimen	Not visible, although a vaulted area is visible anteriorly
		Tergopleuron		spine  Lateral margin not preserved, separated from the rest of pleuron by a short anterior carina located above the usual location of the (not visible) process articulating with the		subtriangular, curved posteriorly, almost falciform	With a small process articulating the pleonite to the cephalothoracic shield, poorly preserved	Subtriangular, with a small lateral process articulating with the cephalothoracic shield posterior margin	Poorly preserved	Poorly preserved	Poorly preserved	Poorly preserved	Not preserved in the unique specimen	Poorly preserved
pleonite	eonite 2	Dorsal part	deeper and separated from the anterior margin by a slightly vaulted area, posterior	cephalothoracic shield posterior margin Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a depressed area, posterior one being close to the posterior margin	Subrectangular, outlines indistinct	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with two transverse grooves converging medially, the anterior one being much deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Not preserved in the unique specimen	Subrectangular, smooth
		Axial carina	Cut by transverse grooves, forming two short carinae	cutting posterior transverse groove, forming a		carinae	carinae	Cut by transverse grooves, forming two short carinae	carinae	one short carinae (poorly preserved)	carinae	carinae or tubercle (poorly preserved)		Not visible, although a vaulted area is visible anteriorly
		Tergopleuron	With lateral spine in the middle of lateral margin and small lateral process articulating with s1 near the base of tergopleuron	Mucronate and elongated, separated from the rest of pleuron by a short anterior carina located above the usual location of the (not	articulating with s1 near the base of	Lateral margin poorly preserved in all specimens, with a small lateral process articulating with s1 and a large anterior	Lateral margin poorly preserved in the holotype, with a small lateral process articulating with s1 and a short anterior carina	Lateral margin poorly preserved in all specimens, with a small lateral process a articulating with s1 near the base of	Not preserved	Not preserved	Mucronate, with a small lateral process articulating with s1 near the base of tergopleuron	Poorly preserved	Not preserved in the unique specimen	Poorly preserved
_		Domit		visible) process articulating with s1 posterior margin		tubercle near the base of tergopleuron	near the base of tergopleuron	tergopleuron	Culproster	Cubarata		Cultura state of the state of th	Culprate	Desilve
pled	eonite 3	Dorsal part	converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a depressed area, posterior one being close to the posterior margin	Subrectangular, outlines indistinct	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with two transverse grooves converging medially, the anterior one being much deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior	Subrectangular with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subrectangular with at least one transverse groove close to the posterior margin	Poorly preserved
		Axial carina	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming a short antrorse spine and a short retrorse spine	Cut by transverse grooves	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming two short carinae		Apparently cut by transverse grooves, forming one short carinae (poorly preserved)	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming one short carinae or tubercle (poorly preserved)	Cut by transverse grooves, forming a tubercle	Not preserved
		Tergopleuron	With lateral spine in the middle of lateral margin and small lateral process articulating with s2 near the base of tergopleuron	Lateral margin poorly preserved, separated from the rest of pleuron by a short anterior carina located above the usual location of the (not visible) process articulating with s2	_	Lateral margin poorly preserved in all specimens, with a small lateral process articulating with s2 and a large anterior tubercle near the base of tergopleuron	Lateral margin poorly preserved in the holotype, with a small lateral process articulating with s2 and a short anterior carina near the base of tergopleuron	Lateral margin poorly preserved in all specimens, with a small lateral process articulating with s2 near the base of tergopleuron	Not preserved	Not preserved	Lateral margin poorly preserved, separated from the rest of pleuron by a large anterior tubercle located above the usual location of the (not visible) process articulating with s2	Poorly preserved	Mucronate, incompletely preserved	Not preserved

	pleonite 4	Dorsal part	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular, outlines indistinct		Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Subrectangular with two transverse grooves converging medially, the anterior one being	Poorly preserved
			deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a depressed area, posterior one		deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	much deeper and separated from the anterio margin by a slightly vaulted area, posterior		deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	
			one being close to the posterior margin	being close to the posterior margin		one being close to the posterior margin	one being close to the posterior margin	one being close to the posterior margin	one being close to the posterior margin	one being close to the posterior margin	one being close to the posterior margin	one being close to the posterior margin	one being close to the posterior margin	
		Axial carina	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming a short straight spine and a longer retrorse spine	Cut by transverse grooves	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming two short carinae	Apparently cut by transverse grooves, formin one short carinae (poorly preserved)	Cut by transverse grooves, forming two short carinae	Cut by transverse grooves, forming one short carinae or tubercle (poorly preserved)	Cut by transverse grooves into two tubercles	Not preserved
		Tergopleuron	With a small process articulating with s3	Lateral margin poorly preserved, separated from the rest of pleuron by a short anterior	Hooked (= concave lateral margin) with a smallateral process articulating with s3 near the	1	Lateral margin poorly preserved in the	With a small process articulating with s3	Not preserved	Not preserved	Lateral margin poorly preserved, separated	Poorly preserved	Mucronate, with a small process articulating with the posterior margin of s3 near the base	Not preserved
				carina located above the usual location of the (not visible) process articulating with s3	,		articulating with s3 and a short anterior carina near the base of tergopleuron				from the rest of pleuron by a large anterior tubercle located above the usual location of the (not visible) process articulating with s3		of tergopleuron	
	pleonite 5	Dorsal part	Subrectangular with two transverse grooves	posterior margin Subrectangular with two transverse grooves	Subrectangular outlines indistinct	tergopleuron	Subrectangular with two transverse grooves	Subrectangular with two transverse grooves	Subrectangular with two transverse grooves	Not preserved	posterior margin	Subrectangular with two transverse grooves	Subrectangular with two transverse grooves	Subrectangular smooth
	pieoliite 3	Dorsal part	converging medially, the anterior one being	converging medially, the anterior one being	Subjectingular, outlines muistinet	converging medially, the anterior one being	converging medially, the anterior one being	converging medially, the anterior one being	converging medially, the anterior one being	Not preserved	converging medially, the anterior one being	converging medially, the anterior one being	converging medially, the anterior one being	Subrectangular, smooth
			deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a depressed area, posterior one		deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior		deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	deeper and separated from the anterior margin by a slightly vaulted area, posterior	
		Axial carina	one being close to the posterior margin  Cut by transverse grooves, forming two short	being close to the posterior margin Cut by transverse grooves, forming a short	Visible, indistinct in ventral view	one being close to the posterior margin  Cut by transverse grooves, forming two short	one being close to the posterior margin  Cut by transverse grooves, forming two short	one being close to the posterior margin  Cut by transverse grooves, forming two short	one being close to the posterior margin  Cut by transverse grooves, forming two short	Not preserved	one being close to the posterior margin  Cut by transverse grooves, forming two short	one being close to the posterior margin  Cut by transverse grooves, forming one short	one being close to the posterior margin  Cut by transverse grooves into two tubercles	Not visible (smooth area)
		Tergopleuron	carinae With a small process articulating with s4	antrorse spine and a longer retrorse spine Lateral margin mucronate, poorly preserved,	Hooked (= concave lateral margin) with a sma	carinae all Hooked (= concave lateral margin) with a sma	carinae  Il Lateral margin poorly preserved in the	carinae With a small process articulating with s4	carinae Not preserved	Not preserved	carinae  Lateral margin poorly preserved in the	carinae or tubercle (poorly preserved)  Subtriangular, with a small lateral process	Mucronate, with a small process articulating	Mucronate, with a small process articulating
				separated from the rest of pleuron by a short anterior carina located above the usual location of the (not visible) process articulating with s4 posterior margin	lateral process articulating with s4 near the base of tergopleuron	lateral process articulating with s4 and a large anterior tubercle near the base of tergopleuron	holotype, with a small lateral process articulating with s4 and a small carina near the base of tergopleuron	е			holotype, with a small lateral process articulating with s4 near the base of tergopleuron	articulating with s4 near the base of tergpleuron, poorly preserved	with the posterior margin of s4 near the base of tergopleuron	with the posterior margin of s4 near the base of tergopleuron
	pleonite 6	Dorsal part	Subtrapezoidal with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subtrapezoidal with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a depressed area, posterior one being close to the posterior margin	Subtrapezoidal, outlines indistinct	converging medially, the anterior one being	Outlines indistinct (folding ventrally on the holotype) with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior	Subtrapezoidal with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Poorly preserved	Not preserved	Subtrapezoidal with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Poorly preserved	Subtrapezoidal with two transverse grooves converging medially, the anterior one being deeper and separated from the anterior margin by a slightly vaulted area, posterior one being close to the posterior margin	Subtrapezoidal, smooth
		Axial carina	Cut by transverse grooves	Cut by transverse grooves, forming one short	Indistinct	Cut by transverse grooves, forming one short	one being close to the posterior margin  Cut by transverse grooves, forming one short	Cut by transverse grooves, forming one short	Poorly preserved	Not preserved	Cut by transverse grooves, forming one short	Poorly preserved	Cut by transverse grooves into two tubercles	Not visible (smooth area)
		Tergopleuron	With a small process articulating with s5	carinae or spine (broken)  Lateral margin mucronate, separated from th		carinae Subtriangular and elongate, with a small	carinae  Not visible on the holotype	carinae Subtriangular and elongate, with a small	Not preserved	Not preserved	carinae Falciform, with a small lateral process	Poorly preserved	Subtriangular, with a small process articulating	
		10.00 p. c		rest of pleuron by a short anterior carina located above the usual location of the (not visible) process articulating with s5 posterior	process articulating with s5	process articulating with s5		process articulating with s5			articulating with s5 near the base of tergopleuron	, con, process	with the posterior margin of s4 near the base	
	Ornamentatio	n	Densely tuberculated	Densely covered by acute tubercle (= short	not clearly visible in ventral view	Densely tuberculate	Densely tuberculate	Tuberculate	Not preserved	Densely tuberculate	Densely tuberculate	Densely tuberculate	Densely tuberculate	Finely tuberculated
Telson	Outline		Subtriangular	Subtriangular, lateral margins poorly preserved	subtriangular	Subtriangular, with a thin row of spines on lateral margins	Not visible on the holotype	Subtriangular, with a thin row of spines on lateral margins	Poorly preserved, subtriangular and short or more quadrate, with lateral margins forming a		Subtriangular, poorly preserved on the holotype	Subtriangular, rather long	Subtriangular, lateral margins fringed by small spines	Subtriangular
	surface		Strengthened by two longitudinal carinae,	Strengthened by two longitudinal carinae,	Strengthened by two longitudinal carinae,	Strengthened by two longitudinal carinae,	Not visible on the holotype	Strengthened by two longitudinal carinae,	large spine near the base on each side  Strengthened by one long longitudinal carinae	e Not preserved	Strengthened by two longitudinal carinae,	Poorly preserved		With a slightly vaulted anterior region, poorly
<b></b>			with slightly vaulted anterior region and a small distal groove	with slightly vaulted anterior region, with many small retrorse spines	with slightly vaulted anterior region and a small distal groove	with slightly vaulted anterior region and a small distal groove	Laura 21 1 1 C	with slightly vaulted anterior region	N-4	Large W. C. C.	with slightly vaulted anterior region	No.	with slightly vaulted anterior region	preserved
Lyes	Shape		Large, with visual surface not entirely contained within ocular incision	Not preserved in the holotype	Not visible on the holotype (in ventral view)	Large, with visual surface not entirely contained within ocular incision	Large, with visual surface not entirely contained within ocular incision	Large, with visual surface not entirely contained within ocular incision	Not preserved	Large, with visual surface not entirely contained within ocular incision	Not preserved	Not preserved in the unique specimen		Not preserved in the holotype
	Ommatidia		Quadrate ommatidia with a side measuring from 77 to 90 μm	Not preserved in the holotype	Not visible	Not visible / not observed	Not visible / not observed	Not visible / not observed	Not preserved	Not visible / not observed	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
Cephalic appendages	a1 antennula	Basis Endopod	Poorly preserved  Thin flagellum, exopod or endopod at least as long as 1/3 of cephalothoracic shield length	Not preserved in the holotype  Not preserved in the holotype	Wide, rounded mesially  Tapering very rapidly, possibly short, length unassessable with certainty on the holotype	outline in ventral view carrying a short thin flagellum (length about 1/6 of cephalothoracid	Poorly preserved  About 1/5 of cephalothoracic shield lenght, with a flagellum thicker than antennular exopodite flagellum and antenna flagellum,	Bearing a flagellum of unassessable length, poorly preserved	Not preserved  Not preserved	Not preserved  Not preserved	Not preserved  Not preserved	Not preserved in the unique specimen  Not preserved in the unique specimen		Not preserved in the holotype  Not preserved in the holotype
		Exopod	Thin flagellum, exopod or endopod at least as long as 1/3 of cephalothoracic shield length	Not preserved in the holotype	Thinner than endopod, unassessable length	shield length)  Thinner than endopod, as long as endopod flagellum	Thinner and 1/2 shorter than endopod	Bearing a flagellum of unassessable length, poorly preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
	a2 antenna	Basipod	Wide, forming a small triangular expansion	Not preserved in the holotype	Wide (poorly preserved)	Poorly preserved on available specimens	Poorly preserved	Poorly preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
		Endopod		Not preserved in the holotype		, Formed of a flagellum of unassessable length		Bearing a flagellum of unassessable length,	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
			cephalothoracic shield length) carried by two large podomeres, each with a short leaf-like expansion of their inner margin			(longer than antennula endopod flagellum) carried by two large podomeres, each with a short leaf-like expansion of their inner margin		poorly preserved						
		Exopod (scaphocerite)	Subcircular, with a finely spinose distal margin a thick median carina, and surface	, Not preserved in the holotype	Poorly preserved, with outer margin finely	1	, Subcircular, with a finely spinose distal margir		Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
	Mandible	incisor/molar processes	ornamented by a few tubercles  Hemicircular incisor process forming uneven triangular teeth, no molar process visible	Not preserved in the holotype	Hemicircula incisor process forming uneven teeth, larger one in the middle	tubercles  Hemicircular incisor process forming uneven teeth, larger one in the middle	tubercles	Poorly preserved	Not preserved	Poorly preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
		coxal body	Large and triangular, slightly shorter than 1/2 cephalothoracic shield length	Not preserved in the holotype	Large and triangular, about as long as 1/3 of the cephalothoracic shield length	Large and triangular, about as long as 1/5 the cephalothoracic shield length	Not visible on the holotype	Large and triangular, length between 1/4 and 1/3 of the cephalothoracic shield length	Not preserved	Large and triangular, length between 1/4 and 1/3 of the cephalothoracic shield length	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not preserved in the holotype
	Maxilla 1 Maxilla 2		Not preserved Not preserved	Not preserved in the holotype  Not preserved in the holotype	Not preserved Not preserved	Not preserved Not preserved	Not visible on the holotype  Not visible on the holotype	Not preserved Not preserved	Not preserved Not preserved	Not preserved Not preserved	Not preserved Not preserved	Not preserved in the unique specimen  Not preserved in the unique specimen		Not preserved in the holotype  Not preserved in the holotype
Thoracic appendages	Th1= mx1 Th2= mx2	maxilliped 1 maxilliped 2	Not preserved  Not preserved	Not preserved in the holotype  Not preserved in the holotype  Not preserved in the holotype	Not preserved	Not preserved  Not preserved	Not visible on the holotype	Not preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype  Not visible on the holotype
	Th3= mx3	maxilliped 3	·	Not preserved in the holotype	Not preserved  Comprising a subrectangular-almost kidney-shaped ischium with a finely serrated inner margin ( <i>crista dentata</i> ) and four stocky podomeres		Not visible on the holotype  Not visible on the holotype	Not preserved  Not visible in available specimens	Not preserved  Not preserved	Not preserved  Not preserved	Not preserved  Not preserved	Not preserved in the unique specimen  Not preserved in the unique specimen		Not visible on the holotype
	Th4= P1	Coxa Basis	Short, subtrapezoidal Probably fused, forming a structure very	Not preserved in the holotype  Not preserved in the holotype	Short, subtrapezoidal Probably fused, forming a structure very	Short, subtrapezoidal Probably fused, forming a structure very	Not visible on the holotype  Not visible on the holotype	Not visible in available specimens  Not visible in available specimens	Not preserved Not preserved	Not preserved Not preserved	Not preserved Not preserved	Not preserved in the unique specimen  Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype  Not visible on the holotype
		ischium	slightly curved, slightly wider distally, long: length less than 1/2 of cephalothoracic shield	Not preserved in the holotype	slightly curved, long: length about 1/3 of cephalothoracic shield length	slightly curved, long: length about 1/3 of cephalothoracic shield length	Not visible on the holotype	Not visible in available specimens	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen		Not visible on the holotype
		Merus	Very thin, almost as long as cephalothoracic shield		Half as long as cephalothoracic shield	With short spines on the margin facing forward; slightly shorter than half the cephalothoracic shield length	Not visible on the holotype	About half as long as cephalothoracic shield, distal part subrectangular		Not preserved	Not preserved	Not preserved in the unique specimen		Not visible on the holotype
		Carpus	Very thin, length less than 1/2 of cephalothoracic shield length	Not preserved in the holotype	subtriangular, half as long as ischium	Subtriangular with small spines on the lateral margin, about half as long as ischium	Not visible oil the holotype	Subtrialigular, about 1/5 of propodus length	Subtriangular and elongated, poorly preserved	u Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
		Propodus	As long as cephalothoracic shield (including pollex)	Not preserved in the holotype	Length (including pollex) about 2/3 of cephalothoracic shield length, outer margin slightly concave with serrted margins	Length (including pollex) about 2/3 of cephalothoracic shield length, outer margin slightly concave	Not visible on the holotype	Length (including pollex) about 3/4 of cephalothoracic shield length, palm (part excluding pollex) subrectangular in outline	Subrectangular (not taking into account the pollex, not preserved)	Pollex thin, rest of propodus not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
		Pollex (part of propodus	Very thin, about 1/3 as long as	Not preserved in the holotype	Thin, less than 1/2 the total length of	Thin, less than 1/2 the total length of	Not visible on the holotype	Thin, less than 1/2 the total length of	Not preserved	Thin, incompletely preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
		facing dactylus) Dactylus	cephalothoracic shield  Very thin, about 1/3 as long as	Not preserved in the holotype	As long as pollex, distally curved	propodus, distally very slightly curved As long as pollex, distally curved	Not visible on the holotype	As long as pollex, distally curved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Th5= P2	Pereiopod 2		Not preserved in the holotype	Much smaller than P1, incompletely preserve	d Much shorter than P1, with propodus 1/3 as	Not visible on the holotype	Much shorter than P1, poorly preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Slender, fragmentary	Not visible on the holotype
	Th6= P3	Pereiopod 3	and propodus two times longer than dactylus  Smaller than P2, with curved dactylus and	Not preserved in the holotype	Smaller than P2, incompletely preserved	long as P1 propodus.  Smaller than P2, incompletely preserved	Not visible on the holotype	Smaller than P2, incompletely preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Th7= P4	Pereiopod 4	propodus two times longer than dactylus Smaller than P3, with curved dactylus and	Not preserved in the holotype	Smaller than P3, incompletely preserved	Smaller than P3, incompletely preserved	Not visible on the holotype	Smaller than P3, incompletely preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Th8= P5	Pereiopod 5	propodus two times longer than dactylus Smaller than P4, with curved dactylus and	Fragmentary in the holotype	Smaller than P4, incompletely preserved	Chelate at least in some specimens: smaller		Elongate, poorly preserved	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen		Not visible on the holotype
			propodus two times longer than dactylus			than P4, with an elongated merus, subtriangular carpus, elongated propodus forming a short pollex (ca 1/5 of propodus length), and with a short curved dactylus								
Pleonal appendages	Pleopod 1	Female	Not preserved	Not visible on the holotype	Not preserved, sex of the holotype unknown		Not visible on the holotype	Not preserved or visible	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
		Male (Petasma)	Elongated and slightly falciform	Not visible on the holotype	Not preserved, sex of the holotype unknown		Not visible on the holotype	Not preserved or visible	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Pleopod 2		Not preserved	Not visible on the holotype	Not preserved	cephalothoracic shield length) basipod indistinct, with multiarticulated	Not visible on the holotype	Not preserved or visible	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Pleopod 3		Not preserved	Not visible on the holotype	Not preserved	endopod and exopod basipod indistinct, with multiarticulated	Not visible on the holotype	Not preserved or visible	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Pleopod 4		Not preserved	Not visible on the holotype	Not preserved	endopod and exopod basipod indistinct, with multiarticulated	Not visible on the holotype	Not preserved or visible	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen	Not preserved in the unique specimen	Not visible on the holotype
	Pleopod 5		Not preserved	Not visible on the holotype	Not preserved	endopod and exopod basipod indistinct, with multiarticulated	Not visible on the holotype	Not preserved or visible	Not preserved	Not preserved	Not preserved	Not preserved in the unique specimen		Not visible on the holotype
	Pleopod 6	Basipod	Short subrectangular	Not visible on the holotype	Short, poorly preserved	endopod and exopod  Short, subtriangular, with a lateral spine near	,,	Short, poorly preserved	Not preserved	Not preserved	Poorly preserved	Not preserved in the unique specimen		Not visible on the holotype
	(uropod)	Endopod	Wide, with a rounded distal margin,	Not visible on the holotype	Wide, strengthened by a strong median	the articulation with the exopod  Wide, strengthened by a strong median carina		With at least a lateral carina, incompletely	Not preserved	Not preserved	Not preserved	Poorly preserved	·	Not visible on the holotype
			strengthened by a strong median carina which is distally indistinct		carina, incompletely preserved	Med- w	Make 2011	preserved		No.		No.	Dead	Material III
		Exopod	Wide, with a rounded distal margin, a lateral and a median longitudinal carinae and an	rragmentary in the holotype	Wide, with a median and lateral carinae, incompletely preserved	Wide, with a rounded distal margin, a lateral and a median longitudinal carinae and an	inot visible on the holotype	With a median carina and an acutely curved diaeresis poorly preserved	Fragmentary in the holotype	Not preserved	Fragmentary in the holotype	Not preserved in the unique specimen	Poorly preserved	Not visible on the holotype
			acutely curved diaeresis between these carinae			acutely curved diaeresis between these carinae								

List of all known species of polychelidan lobsters, including those in open nomenclature, *nomina dubia* and *nomina nuda*.

Liste de l'ensemble des espèces de polychelida, incluant celles en nomenclature ouverte, les *nomina dubia* et *nomina nuda*.

Family / Subfamily	Genus	Species	Authorship	Age	Country	References
Eryonidae	Eryon	cuvieri	Desmarest, 1817	Tithonian	Germany	Charbonnier et al. (2012)
Eryonidae	Eryon	ellipticus	Van Straelen, 1923	Callovian	France	Audo et al. (2014c)
Eryonidae	Eryon	sublevis	Carter, 1886	Oxfordian	England	Woods (1925)
Eryonidae	Eryon	sibiricus	(Chernyshev, 1930)	Toarcian?	Russia (Siberia)	Audo (2014)
Eryonidae	Voulteryon	parvulus	Audo et al. 2014c	Callovian	France	Audo et al. (2014c)
Eryonidae	Cycleryon	bourseaui	Audo et al. 2014a	Kimmeridgian-Tithonian	France	Audo et al. (2014a)
Eryonidae	Cycleryon	elongatus	(Münster, 1839)	Tithonian	Germany	Garassino & Schweigert (2006)
Eryonidae	Cycleryon	orbiculatus	(Münster, 1839)	Kimmeridgian-Tithonian	Germany	Garassino & Schweigert (2006)
Eryonidae	Cycleryon	propinquus	(Schlotheim, 1822)	Kimmeridgian-Tithonian	Germany	Garassino & Schweigert (2006)
Eryonidae	Cycleryon	wulfi	Garassino & Schweiger, 2004	Kimmeridgian-Tithonian	Germany	Garassino & Schweigert (2006)
Eryonidae	Soleryon	amicalis	Audo et al. 2014a	Kimmeridgian-Tithonian	France	Audo et al. (2014a)
Eryonidae	?Soleryon	giganteus	(Van Straelen, 1923)	Callovian	France	Audo et al. (2014c)
Eryonidae	Soleryon	perroni	(Étallon, 1859)	Oxfordian	France	Audo et al. (2014a)
Eryonidae	Soleryon	schorri	Audo et al. 2014a	Kimmeridgian	Germany	Audo et al. (2014a)
Eryonidae	knebelia	bilobata	(Münster, 1839)	Tithonian	Germany	Audo <i>et al.</i> (2014b)
Eryonidae	knebelia	schuberti	(Meyer, 1836)	Tithonian	Germany	Audo <i>et al.</i> (2014b)
Eryonidae	Knebelia	totoroi	Audo et al. 2014b	Kimmeridgian-Tithonian	Germany	Audo <i>et al.</i> (2014b)
Eryonidae	Stonesfielderyon	imitator	nov. sp	Bathonian	United Kingdom	Present work
Palaeopentachelidae	Palaeopentacheles	roettenbacheri	(Münster, 1839)	Kimmeridgian-Tithonian	Germany	Garassino & Schweigert (2006)
Coleiidae, Tetrachelinae	Tetrachela	raiblana	(Bronn, 1858)	Carnian	Italy, Austria	Audo <i>et al.</i> (2018)
Coleiidae	Coleia	antiqua	Broderip, 1835	Sinemurian	United Kingdom	Woods (1925)
Coleiidae	Coleia	appenninica	(Garassino et al. 2012)	Lower Cretaceous	Italy	Garassino et al. (2012)
Coleiidae	Coleia	barrovensis	(M'Coy, 1849)	Rhaetian-Hettangian	United Kingdom	Woods (1925)
Coleiidae	Coleia	boboi	Garassino & Gironi, 2006	Rhaetian	Italy	Garassino & Gironi, 2006
Coleiidae	Coleia	bredonensis	Woods, 1925	Sinemurian	United Kingdom	Woods (1925)
Coleiidae	Coleia	brodiei	(Woodward, 1866)	Sinemurian-Pliensbachian	United Kingdom-Germany	Woods (1925)
Coleiidae	Coleia	crassichelis	(Woodward, 1866)	Sinemurian	United Kingdom	Woods (1925)
Coleiidae	Coleia	escheri	(Oppel, 1862)	Sinemurian	Switzerland	Audo (2014)
Coleiidae	Coleia	martinlutheri	Schweigert & Ernst, 2012	Sinemurian	Germany	Schweigert & Ernst (2012)
Coleiidae	Coleia	mediterranea	Pinna, 1968	Sinemurian	Italy	Garassino & Teruzzi 2015
Coleiidae	Coleia	pinnai	Teruzzi, 1990	Sinemurian	Italy	Garassino & Teruzzi 2015
Coleiidae	Coleia	popeyei	Teruzzi, 1990	Sinemurian	Italy	Garassino & Teruzzi 2015

Coleiidae	Coleia	viallii	Pinna, 1968	Sinemurian	Italy	Garassino & Teruzzi 2015
Coleiidae	Coleia	tenuichelis	Woods, 1925	Sinemurian	United Kingdom	Woods (1925)
Coleiidae	Coleia	uzume	Karasawa et al. 2003	Carnian	Japan	Karasawa et al. (2003)
Coleiidae	Pseudocoleia	mazzolenii	Garassino & Teruzzi, 1993	Norian-Rhaetian	Italy	Garassino & Teruzzi (1993)
Coleiidae, Proeryoninae	Proeryon	charbonnieri	Audo & Schweigert, 2018	Callovian	France	Audo & Schweigert (2018)
Coleiidae, Proeryoninae	?Proeryon	erinaceus	nov. sp	Oxfordian	France	Present work
Coleiidae, Proeryoninae	Proeryon	giganteus	Beurlen, 1930	Toarcian	Germany	Present work
Coleiidae, Proeryoninae	Proeryon	hartmanni	(Meyer, 1836)	Toarcian	Germany, France, Russia	Present work
Coleiidae, Proeryoninae	Proeryon	hauffi	Beurlen, 1944	Toarcian	Germany	Present work
Coleiidae, Proeryoninae	Proeryon	laticaudatus	Beurlen, 1928	Toarcian	Germany	Present work
Coleiidae, Proeryoninae	?Proeryon	quiltyi	nov. sp	Callovian?	Antarctica	Quilty (1988), Present work
Coleiidae, Proeryoninae	Proeryon	richardsoni	(Woodward, 1911)	Pliensbachian	United Kingdom	Present work
Coleiidae, Proeryoninae	Proeryon	stoddarti	(Woodward, 1881)	Bathonian	United Kingdom	Present work
Coleiidae, Proeryoninae	Proeryon	sp.1		Neocomian	Switzerland	Present work
Coleiidae, Proeryoninae	Proeryon	sp.2		Hauterivian	Germany	Present work
Coleiidae, Proeryoninae	Tethyseryon	campanicus	Bravi et al. 2014	Bajocian-Bathonian	Italy	Bravi et al. (2014)
Coleiidae, Proeryoninae	Gabaleryon	coquelae	Audo et al. 2017	Toarcian	France	Audo et al. (2017b)
Coleiidae, Proeryoninae	Gabaleryon	garassinoi	Audo et al. 2017	Toarcian	Italy	Audo et al. (2017b)
Coleiidae, Proeryoninae	Gabaleryon	moorei	(Woodward, 1866)	Toarcian	United Kingdom	Audo et al. (2017b)
Coleiidae, Proeryoninae	Gabaleryon	sp.1		Toarcian	Germany	Audo et al. (2017b)
Coleiidae, Proeryoninae	?Gabaleryon	sp.2		Bajocian-Bathonian	France	Audo et al. (2017b)
Coleiidae	Willemoesiocaris	ovalis	(Van Straelen, 1923)	Callovian	France	Audo et al. (2014c)
Coleiidae	Palaeopolycheles	longipes	(Fraas, 1855)	Kimmeridgian	Germany	Audo et al. (2014c)
Polychelidae	Antarcticheles	antarcticus	Aguirre-Urreta et al. 1990	Late Jurassic	Antarctica	Aguirre-Urreta et al. (1990)
Polychelidae	Tauricheles	crymensis	(Levitski, 1974)	Toarcian-Aalenian	Ukraine	Audo et al. (in press)
Polychelidae	Woodwardicheles	neocomiensis	(Woodward, 1881)	Early Cretaceous	Czech Republic	Audo et al. (in press)
Uncertain	Adamanteryon	fourneti	Audo et al. 2014c	Callovian	France	Audo et al. (2014c)
Uncertain	Rogeryon	oppeli	(Woodward, 1866)	Tithonian	Germany	Audo et al. (2017a)
Uncertain	Rosenfeldia	triasica	Garassino et al. 1996	Norian	Italy	Audo et al. (2017a)
Uncertain	Tonneleryon	schweigerti	Audo, 2016	Toarcian	Germany	Audo (2016)
Uncertain	Tropifer	laevis	Gould, 1857	Rhaetian	United Kingdom	Woods (1925)
Uncertain	Wrangelleryon	perrates	Feldmann et al. 2013	Hettangian	Canada	Feldmann et al. (2013)
Uncertain	Unknown	undescribed		Toarcian	Canada	Martindale et al. (2017)

Nomen dubium	Coleia	sinuata	Beurlen, 1928	Toarcian	Germany	Audo (2016)
Nomen dubium	Coleia	theodori	Kuhn, 1952	Toarcian?	Germany	Audo (2014)
Nomen nudum	Eryon	acutus	Germar, 1827	Kimmeridgian-Tithonian	Germany	Audo (2014)
Nomen nudum	Eryon	muticus	Germar, 1827	Kimmeridgian-Tithonian	Germany	Audo (2014)