Recent non-marine ostracods (Crustacea) from New Caledonia (Melanesia, Pacific Ocean)

Janet Higuti[1] & Koen Martens[2,3,*]

[1] State University of Maringá (UEM), Centre of Biological Sciences (CCB), Centre of Research in Limnology, Ichthyology and Aquaculture (Nupélia), Graduate Program in Ecology of Inland Water Ecosystems (PEA), Av. Colombo, 5790, CEP 87020-900. Maringá, PR, Brazil · janethiguti@gmail.com https://orcid.org/0000-0002-3721-9562

[2] Royal Belgian Institute of Natural Sciences, Natural Environments, Freshwater Biology, Vautierstraat 29, B-1000 Brussels, Belgium · kmartens@naturalsciences.be, darwinula@gmail.com https://orcid.org/0000-0001-8680-973X

[3] Ghent University, Dept. Biology, K.L. Ledeganckstraat 35, B-9000 Ghent, Belgium.

* corresponding author

Higuti, J. & K. Martens, 2024. Recent non-marine ostracods (Crustacea) from New Caledonia (Melanesia, Pacific Ocean). *Bulletin de la Société des naturalistes luxembourgeois* 126: 107–145. https://doi.org/10.59513/snl.2024.126.107

Published online 23 October 2024 (ISSN 2716-750X), printed volume 9 December 2024 (ISSN 0404-9620).

Abstract. The New Caledonian Archipelago is a hot spot for biodiversity and endemism. Here, we report on new records of nine species from localities on the main island, Grande Terre, and illustrate these: *Ilyodromus viridulus* (Brady, 1886), *Stenocypris hislopi* Ferguson, 1969, *S. macedonica* Petkovski & Meisch, 1996¸ *S. malayica* Victor & Fernando, 1981, *Bradleytriebella lineata* (Victor & Fernando, 1981), *Hemicypris pyxidata* (Moniez, 1892), *Heterocypris incongruens* (Ramdohr, 1808), *Cypridopis vidua* (O.F. Müller, 1776) and *Limnocythere stationis* Vávra, 1891. We also provide redescriptions and illustrations of the valves and carapace of *Stenocypris marginata* Daday, 1910 sensu Méhes, 1939, *Cypris granulata* Daday, 1898 and *Kennethia major* (Méhes, 1939); for the latter species also including some soft parts. Therefore, twenty two certain species have thus far been reported from the New Caledonian Archipelago. The status of seven uncertain species is also discussed. Previous records of *Stenocypris major* (Baird, 1859) from Grande Terre, mainly by Méhes, are here considered to belong to *S. hislopi*. We propose to reject the presence of *Cyprinotus cingalensis* Brady, 1886 in New Caledonia and suggest to consider *Cypridopsis sarasini* Méhes, 1939 as an "uncertain species" (sensu Meisch et al. 2019). We also argue that *Eucypris wolffhuegeli* Méhes, 1914 might be a synonym of *H. incongruens* and suggest that *Strandesia rouxi* Méhes, 1939 might be considered a junior synonym of an existing species, pending further research.

Keywords. New Caledonia, Ostracoda, Cyprididae, Limnocytheridae, Notodromadidae.

1. Introduction

The New Caledonian archipelago, situated in the Pacific Ocean, North East of Australia, has high levels of endemic biodiversity (Grandcolas 2017, Pillon et al. 2021). The taxonomy and ecology of larger organisms are relatively well-known, but smaller invertebrate groups, such as ostracods (see Smith A.J. et al. 2015 for an introduction to the group), have been less elaborated.

During three consecutive years (2016–2018), the Muséum national d'histoire naturelle (Paris, France) organised the New Caledonia Hydrobiological expeditions under the "Our Planet Reviewed / La Planète revisitée" programme (see acknowledgements). The present authors participated in these expeditions and collected more than 350 samples from a variety of water bodies (streams, springs, pools, lakes, phytotelmata, etc.).

About half of these samples contained ostracods and close to 50 species of living non-marine Ostracoda were recognized, several of which are new to science.

Only thirteen species (and several uncertain species) were thus far formally reported from the New Caledonian archipelago, mainly by Méhes (1939), Martens et al. (2019, 2023a, b) and Kisseih et al. (2020) (see also checklists in Colin & Hoibian 2003 and Maddocks 2007). Here, we redescribe and illustrate the valves and carapaces of nine species new to the fauna of the archipelago, which were collected during three expeditions to the main island (Grande Terre), and also illustrate the valves and carapaces of a further three species that had already previously been reported. For one species, *Kennethia major* (Méhes, 1939), also some soft parts are illustrated and redescribed. This brings the total number of recent non-marine ostracod species known from the archipelago to twenty two. Seven uncertain species preciously reported from the archipelago are also discussed. At least three endemic radiations of Cytheroidea and several other species of Cyprididae, Candonidae and Ilyocyprididae will be reported on elsewhere.

2. Material and methods

2.1. Study area

New Caledonia is an archipelago in the South West Pacific. It is located 1500 km to the north of New Zealand and 1500 km to the east of Australia. It comprises the main Island "Grande Terre", the Loyalty Islands (Maré, Lifou, Tiga and Ouvéa) and other smaller islands, such as Île des Pins and Île Belep. Grande Terre, from which the samples for the current study were obtained, represents an emergent part of the Norfolk Ridge. New Caledonia lies just north of the Tropic of Capricorn within latitudes 18° and 23° south and longitudes 158° and 172° east (Rawling 2009).

2.2. Sampling and sample treatment

The present material was collected by the authors during three expeditions to New Caledonia (November 2016 and November 2017 during the dry season, and May and June 2018, at the end of the wet season), all on Grande Terre. Ostracods were collected by moving a rectangular hand net (28 cm x 14 cm, mesh size ~160 µm) either over sediment (to whirl up the top layers with living biota) or amidst aquatic vegetation. We measured pH (VWR/pH/1100H) and electrical conductivity (EC) / water temperature (VWR/CO/3100H) *in situ*.

Samples were sorted alive in a field lab with a Leica binocular microscope. Sorted specimens were kept in the fridge in 100% EtOH for subsequent identification and for use in molecular studies. The remainder of the samples was preserved in 70% buffered EtOH.

For the present study, carapaces and valves were illustrated and measured using Scanning Electron Microscopy (SEM, Fei Qanta 200 ESEM at the Royal Belgian Institute of Natural Sciences, Brussels, Belgium) in different views and details. All measurements of illustrated specimens of the different species are given in Table 1. For one species (*Kennethia major* (Méhes, 1939)), limbs were illustrated with a camera lucida attached to a microscope (Leica).

Illustrated material is lodged in the Royal Belgian Institute of Natural Sciences (Brussels, Belgium) under general number IG 34865. Higher taxonomy of Ostracoda follows Horne et al. (2002) and Meisch et al. (2019). In the species descriptions below, lists of synonymies are restricted to those relevant to the present study area and literature reviews are not necessarily exhaustive.

2.3. Abbreviations used in text and figures

Valves and carapaces: Cp = carapace; CpD = carapace in dorsal view; CpLL = carapace in left lateral view; CpRL = carapace in right lateral view; CpV = carapace in ventral view; H = height of valves; il = inner list; L = length of valves, carapace; LV = left valve; LVi = left valve in internal view; sl = selvage; RV = right valve; RVi = right valve in internal view; W = width of valves.

Table 1. Measurements of valves and carapaces of specimens used for illustrations in the present paper.

Species	Station nr	INV nr	Valve/ Cp	L (µm)	H (µm)	W (µm)
Ilyodromus viridulus ♀	HYNC1259	INV.320000	LVi	1079	509	
	HYNC1259	INV.320000	RVi	1041	489	
	HYNC1259	INV.320001	CpRL	1080	513	
	HYNC1259	INV.320002	CpD	1066		383
Stenocypris hislopi ♀	HYNC1107	INV.320003	LV	1579	627	
	HYNC1107	INV.320003	RV	1546		610
	HYNC1107	INV.320004	CpRL	1583	633	
	HYNC1107	INV.320005	CpD	1527		483
	HYNC1107	INV.320006	CpV	1563		504
Stenocypris macedonica ♀	HYNC1268	INV.320007	LVi	1335	628.4	
	HYNC1268	INV.320007	RVi	1328	613.3	
	HYNC1268	INV.320008	CpRL	1408	630.3	
	HYNC1268	INV.320009	CpD	1368		493.3
	HYNC1268	INV.320010	CpV	1438		516.7
Stenocypris malayica ♀	HYNC1107	INV.320011	LV	1460	540	
	HYNC1107	INV.320011	RV	1440	527	
	HYNC1107	INV.320012	CpRL	1428	528	
	HYNC1107	INV.320013	CpD	1437		405
	HYNC1107	INV.320014	CpV	1428		432
Stenocypris marginata ♀	HYNC3065	INV.320015	LV	1988	767	
	HYNC3065	INV.320015	RV	1944	748	
	HYNC3065	INV.320016	CpRL	1958	758	
	HYNC3065	INV.320017	CpD	1944		560
	HYNC3065	INV.320018	CpV	1929		538
Bradleytriebella lineata ♀	HYNC2508	INV.320019	LVi	627	354	
	HYNC2508	INV.320019	RVi	605	346	
	HYNC2508	INV.320020	CpRL	625	359	
	HYNC2508	INV.320021	CpD	617		379
	HYNC2508	INV.320022	CpV	634		381
Cypris granulata ♀	HYNC2505	INV.320023	LVi	1232	738	
	HYNC2505	INV.320023	RVi	1253	707	
	HYNC2505	INV.320024	CpD	1246		868
	HYNC2505	INV.320025	CpV	1260		906
	HYNC2505	INV.320026	CpRL	1244	742.6	
Hemicypris pyxidata ♀	HYNC2589	INV.320027	LVi	1008	707	
	HYNC2589	INV.320027	RVi	976	652	
	HYNC2589	INV.320028	CpLL	1006	716	
	HYNC2589	INV.320029	CpD	1026		553
	HYNC2589	INV.320030	CpV	1015		557

Table 1. (continued)

Species	Station nr	INV nr	Valve/ Cp	L (µm)	H (µm)	W (µm)
Hemicypris cf. *pyxidata* juv (A-1) ♀	HYNC1180	INV.320031	LVi	798	501	
	HYNC1180	INV.320031	RVi	818	526	
	HYNC1180	INV.320032	CpLL	798	500	
	HYNC1180	INV.320033	CpV	801		417
Heterocypris incongruens ♀	HYNC 3066	INV.320034	LVi	1556	908	
	HYNC 3066	INV.320034	RVi	1517	900	
	HYNC 3066	INV.320035	CpRL	1563	862	
	HYNC 3066	INV.320036	CpD	1521		723
	HYNC 3066	INV.320037	CpV	1573		759
Cypridopsis vidua ♀	HYNC1129	INV.320038	LVi	596	386	
	HYNC1129	INV.320038	RVi	592	384	
	HYNC1129	INV.320039	CpRL	608	383	
	HYNC1129	INV.320040	CpD	604		436
	HYNC1129	INV.320041	CpV	591		421
	HYNC2505	INV.320042	CpRL	590	374	
	HYNC2505	INV.320043	CpD	597	418	
	HYNC2505	INV.320044	CpV	581	418	
Kennethia major ♂	HYNC2566	INV.320045	LVi	803	608	
	HYNC2566	INV.320045	RVi	810	587	
	HYNC2566	INV.320046	CpLL	836	636	
	HYNC2566	INV.320047	CpD	867		460
	HYNC2566	INV.320048	CpV	811		458
	HYNC3018	INV.320049	LV	859	630	
	HYNC3018	INV.320049	RV	848	609	
Kennethia major ♀	HYNC2566	INV.320050	LVi	938	717	
	HYNC2566	INV.320050	RVi	936	687	
	HYNC2566	INV.320051	CpLL	916	712	
	HYNC2566	INV.320052	CpD	926		528
	HYNC2566	INV.320053	CpV	894		516
Limnocythere stationis ♀	HYNC1172	INV.320054	LVi	382	222	
	HYNC1172	INV.320054	RVi	379	221	
	HYNC3017	INV.320055	LVi	357	209	
	HYNC3017	INV.320056	RVi	352	203	
	HYNC3017	INV.320057	RVe	344	205	
	HYNC1172	INV.320058	CpRL	383	222	
	HYNC3017	INV.320059	CpV	356		167
	HYNC1172	INV.320060	CpV	381		181
	HYNC1172	INV.320061	CpD	390		215

Limbs: A1 = antennula; A2 = antenna; CR = caudal ramus; d_1, d_2, d_p, e, f, g, h_1, h_2, h_3 = setae on T2 and T3; E_{1-3} = external lobes of Hp, associated with ms; ls = lateral shield of Hp; Hp = Hemipenis; ms_{1-3} = lobes of medial shield of Hp; Mx1 = maxillula; T2 = second thoracopod; T3 = third thoracopod; RO = Rome Organ; WO = Wouters' Organ.

Other: EC = Electrical Conductivity; HYNC = Hydrobiological Expedition New Caledonia; WTemp = Water Temperature.

3. Results

Class Ostracoda Latreille, 1802

Subclass Podocopa G.O. Sars, 1866

Order Podocopida G.O. Sars, 1866

Suborder Cypridocopina Baird, 1845

Superfamily Cypridoidea Baird, 1845

Family Cyprididae Baird, 1845

Subfamily Herpetocypridinae Kaufmann, 1900

Tribe Herpetocypridini Kaufmann, 1900

Genus *Ilyodromus* Sars, 1894

Main characters. Cp elongated, marginal septa absent. LV with up to two inner ventral pegs (remnants of an inner list), of varying size, position and structure. Second segment of A1 with two-segmented sensory Rome organ. CR symmetrical.

Ilyodromus viridulus (Brady, 1886) Sars, 1896 (Fig. 1)

Syn.: *Cypris viridula* Brady, 1886

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province, Moindou, coastal area near Pointe Martin, wetland along road RT1, "Proprieté Santacross". Station number: HYNC1259. Coordinates: 21°41.997'S, 165°34.307'E. Elevation: 4 masl. Lake with *Nymphoides*. Several ♀, collected on 12.11.2017. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca*. 0.5 m. Measurements at time of collecting: WTemp = 28.0°C. EC = 1970 µS/cm. pH = 8.23.

Redescription of the carapace (adapted from Shearn et al. 2014). CpRL with LV overlapping RV on all sides (Figs. 1E, G), external valve surfaces with fine striations and with sparse setae (Fig. 1F). Greatest height at first third of Cp. CpD (Fig. 1G) rather narrow, with both anterior and posterior edges pointed, greatest width in the middle. In both RV and LV, dorsal margins running sub-parallel, with dorsal margin slightly sloping towards the posterior side (Figs 1A, B). LV with prominent posterior selvage (Figs 1A, C) and inner list running slightly beyond halfway the anterior margin (Figs 1A, D). RV without anterior inner list and with posterior selvage slightly inwardly displaced and running parallel to posterior valve margin (Fig. 1B).

Not illustrated: A1 with RO as long as length of second segment of A1. A2 with natatory setae 1.8 x length of second endopodal segment.

Ecology and distribution. This species is a successful alien invader, which has meanwhile been found in many places around the globe. In Europe, the species was firstly reported from Italian rice fields (Moroni 1961; Fox 1965; Ghetti 1973; McKenzie & Moroni 1986; Rossi et al. 2003), and subsequently also from Macedonian rice fields (Petkovski & Meisch 1995). In their global review of ostracods in rice fields, Smith et al. (2018) reported both of these findings of *I. viridulus*, while they also listed the reports of two other species of *Ilyodromus* from rice fields (*Ilyodromus intermedius* Okubo, 2011 (in Smith et al. 2011) and *Ilyodromus smaragdinus* Sars, 1894, both from Japan). Martens et al. (1996) and Martens (2001a) reported *I. viridulus* from South Africa.

Remarks. *Ilyodromus viridulus* was originally described as *Cypris viridula* Brady, 1886, from 'Condong, on the Tweed River, near Sydney, New South Wales, Australia'. No type material of this species, deposited in a museum collection, has thus far been found. Sars (1889) firstly transferred the species to *Herpetocypris* Brady & Norman, 1889, and later to a new genus, *Ilyodromus* Sars, 1894. Shearn et al. (2014) provided redescriptions and illustrations of all appendages and valves for Australian *I. vir-*

idulus from the material presumably used by Sars (1889, 1894). This material is in the Sars collection (Oslo Natural History Museum, Norway).

The species in New Caledonia. *Ilyodromus viridulus* is a new record for New Caledonia. Two species of *Ilyodromus* have presently been recorded from New Caledonia. *Ilyodromus viridulus* has been found in several localities (none of them rice fields) and is here illustrated using material from one locality (see above). A second species of this genus, presumably new to science, will be reported on elsewhere.

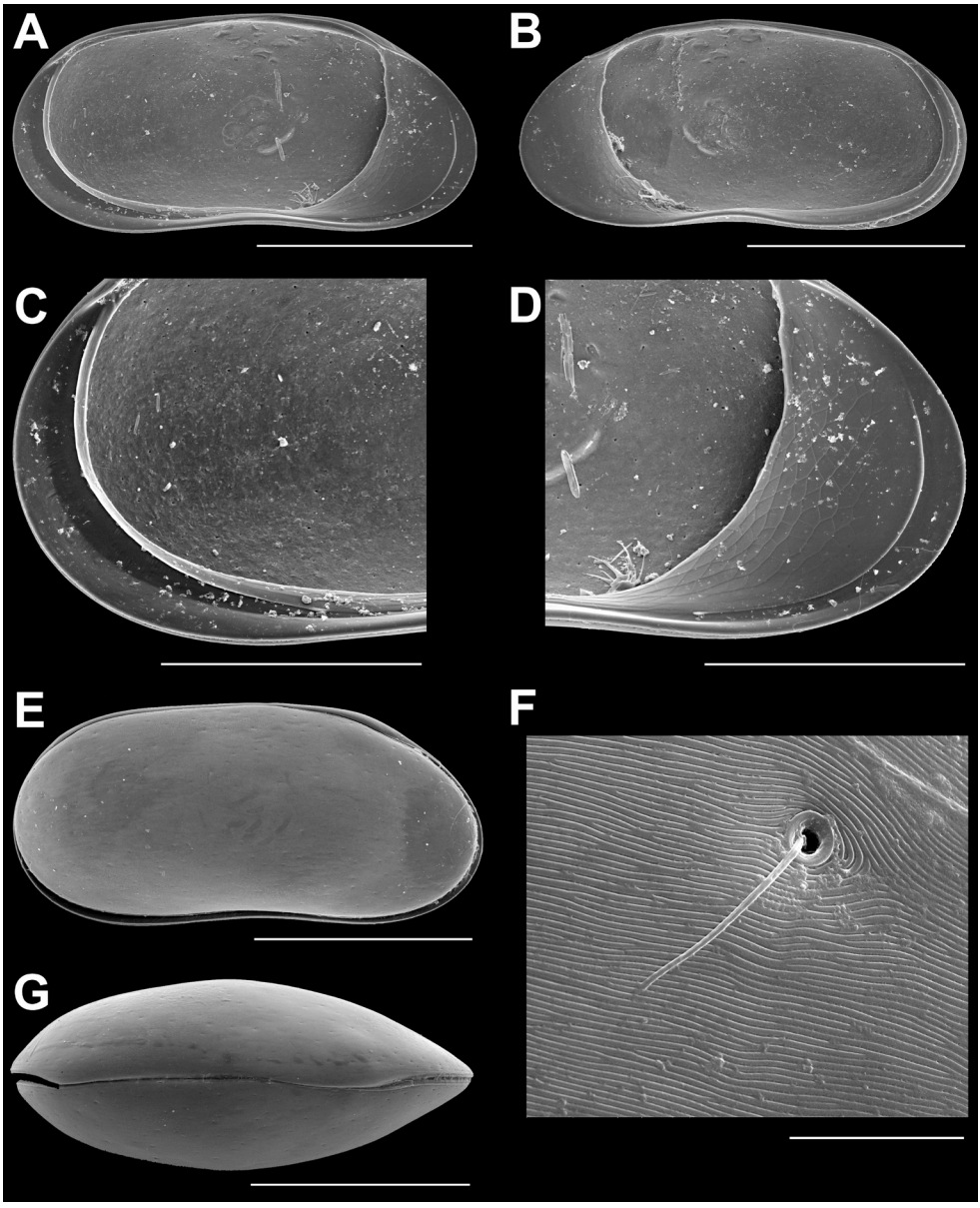


Fig. 1. ***Ilyodromus viridulus*** female. HYNC1259. **A**: LVi (INV.320000). **B**: RVi (INV.320000). **C**: LVi, detail of posterior part (INV.320000). **D**: LVi, detail of anterior part (INV.320000). **E**: CpRL (INV.320001). **F**: CpRL, detail of carapace surface (INV.320001). **G**: CpD (INV.320002). Scale bars: A, B, E, G = 500 µm; C, D = 300 µm; F = 10 µm.

Tribe Stenocypridini Ferguson, 1964

Genus *Stenocypris* Sars, 1889

Main characters. Cp elongated and laterally flattened, anterior and posterior margins of both valves set with marginal septa. CR asymmetrical: ramus of left CR set with long spines and setae, ramus of right CR only set with setae and small spines.

Remarks. Meisch et al. (2019) listed 37 Recent species (and several subspecies) in this genus. The taxonomy of the genus is confused, as several species in this genus do not belong there, while others are synonyms. This will be discussed elsewhere.

Stenocypris hislopi Ferguson, 1969 (Figs 2, 6E, F)

Syn.: *Stenocypris major* (Baird, 1859) sensu Mehés (1939) nec Baird (1859)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, North Province. Koumac River downstream of Grottes de Koumac. Station: **HYNC 1107**. Coordinates: 20°32.042'S, 164°19.668'E. Elevation: 32 masl. Dozens of adult ♀, collected on 06.11.2016. Leg.: J. Higuti & K. Martens. Depth of collecting: 0.5 m. Measurements at time of collecting: WTemp: 30°C. EC: 344 µS/cm. pH: 7.39. Amongst macrophytes beds of *Salvinia auriculata* Aubl. (together with *S. malayica* – see below).

Redescription of the carapace. CpLL elongated, with middle third of dorsal margin straight (Fig. 2E), LV overlapping RV along anterior and ventral margins (Figs. 2E–G); CpD and CpV narrow and with both extremities pointed (Figs 2F, G). Both valves with anterior margins rounded, posterior margins unevenly rounded, produced towards the ventral side (Figs 2A–D). LV (Figs 2A, C, D) with inner list running fully along ventral and halfway along anterior and posterior margins. Marginal septa elongated in antero-dorsal (ocular) region in both valves (Figs 6E, F).

Ecology and distribution. The species has thus far been reported from southern USA (Ferguson 1969), Southeast Asia (Victor & Fernando 1979) and on several occasions from Japan (see overview in Smith et al. 2011, 2024). With the present discovery from New Caledonia, the species could be considered circum-tropical, as is the case for several other species in this genus.

The species in New Caledonia. *Stenocypris hislopi* is a new record for New Caledonia. In our samples, the species is quite common in abundant vegetation of the streams and associated ponds of New Caledonia, especially in the North Province of Grande Terre. It is often found together with *S. malayica* Victor & Fernando, 1981. Only females have thus far been found.

Méhes (1939) reported the species *S. major* from the main island. However, we here consider these records as belonging to *S. hislopi* because (1) during the three expeditions, the present authors had not encountered *S. major*, but found the morphologically very similar *S. hislopi* in abundance. (2) As the present redescription of *S. major* s.s. by Moonchaisook & Savatenalinton (2020) has shown, *S. major* has some peculiar morphologies which are missing in the specimens from New Caledonia (see discussion).

Stenocypris macedonica Petkovski & Meisch, 1996 (Fig. 3)

(re-instated from the synonymy in Martens 2001b)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province. Bourail, Boghen drainage, Etang le long de la Baghen. Station: **HYNC 1268**. Coordinates: 21°35.718'S, 165°33.172'E. Elevation: 8 masl. Dozens of adult ♀, collected on 13.11.2017. Leg.: J. Higuti & K. Martens. Depth of collecting: 20 – 50 cm. Measurements at time of collecting: WTemp: 30.2°C. EC: 104.6 µS/cm. pH: 7.35. Lake. Amongst macrophytes beds of *Eichhornia crassipes*.

Redescription of the carapace. CpRL and LVi and RVi relatively short and high (Figs 3A–E); with marginal septa along anterior, ventral and posterior valves margins in both valves; these septa distinctly longer in ocular and the oral regions, especially in RV (see illustrations in Petkovski & Meisch 1996). LV (Figs 3A, C, D) with

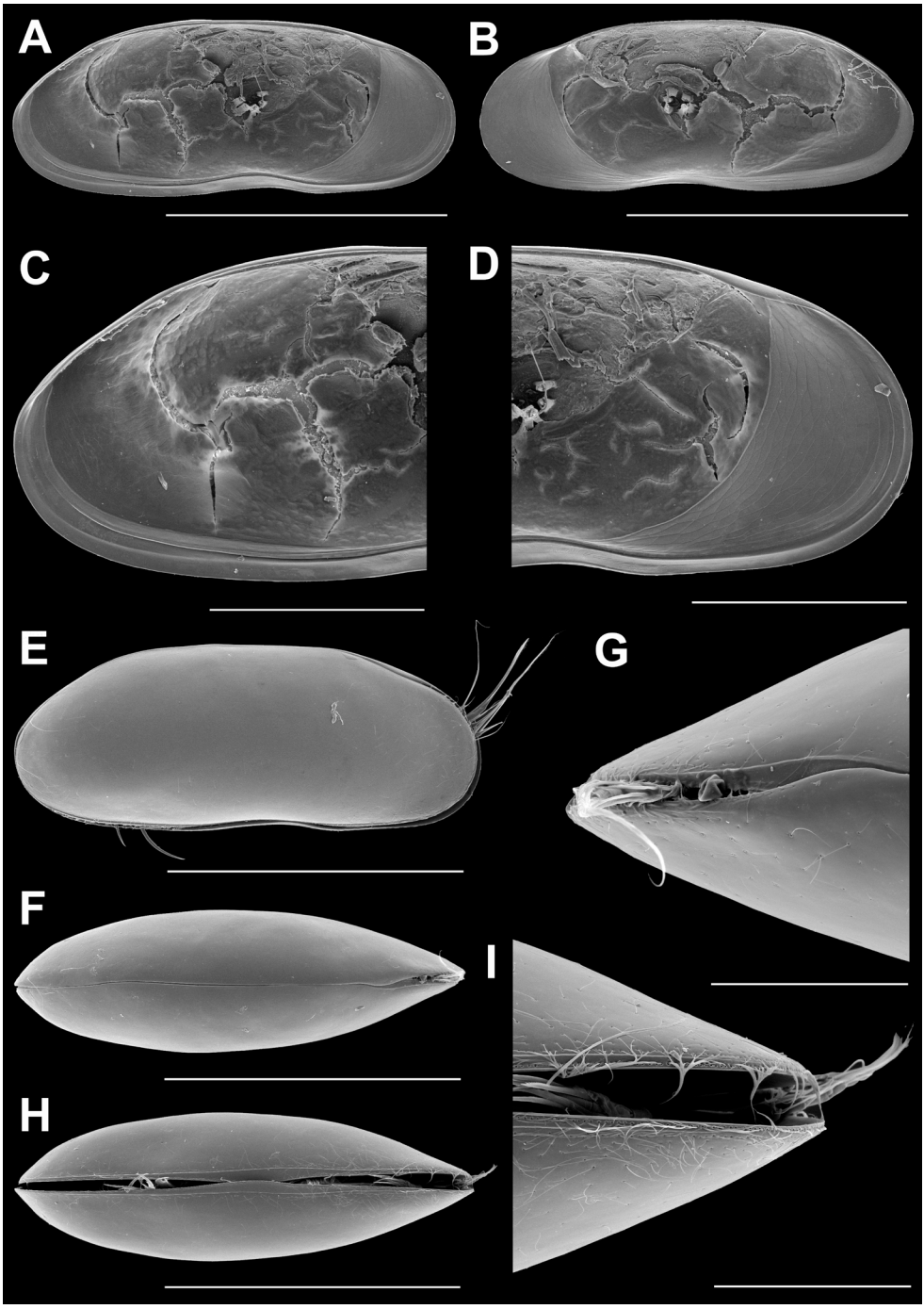


Fig. 2. ***Stenocypris hislopi*** female. HYNC1107. **A**: LVi (INV.320003). **B**: RVi (INV.320003). **C**: LVi, detail of posterior part (INV.320003). **D**: LVi, detail of anterior part (INV.320003). **E**: CpRL (INV.320004). **F**: CpD (INV.320005). **G**: CpD, detail of anterior part (INV.320005). **H**: CpV (INV.320006). **I**: CpV, detail of anterior part (INV.320006). Scale bars: A, B, E, F, H = 1000 µm; C, D = 400 µm; G, I = 200 µm.

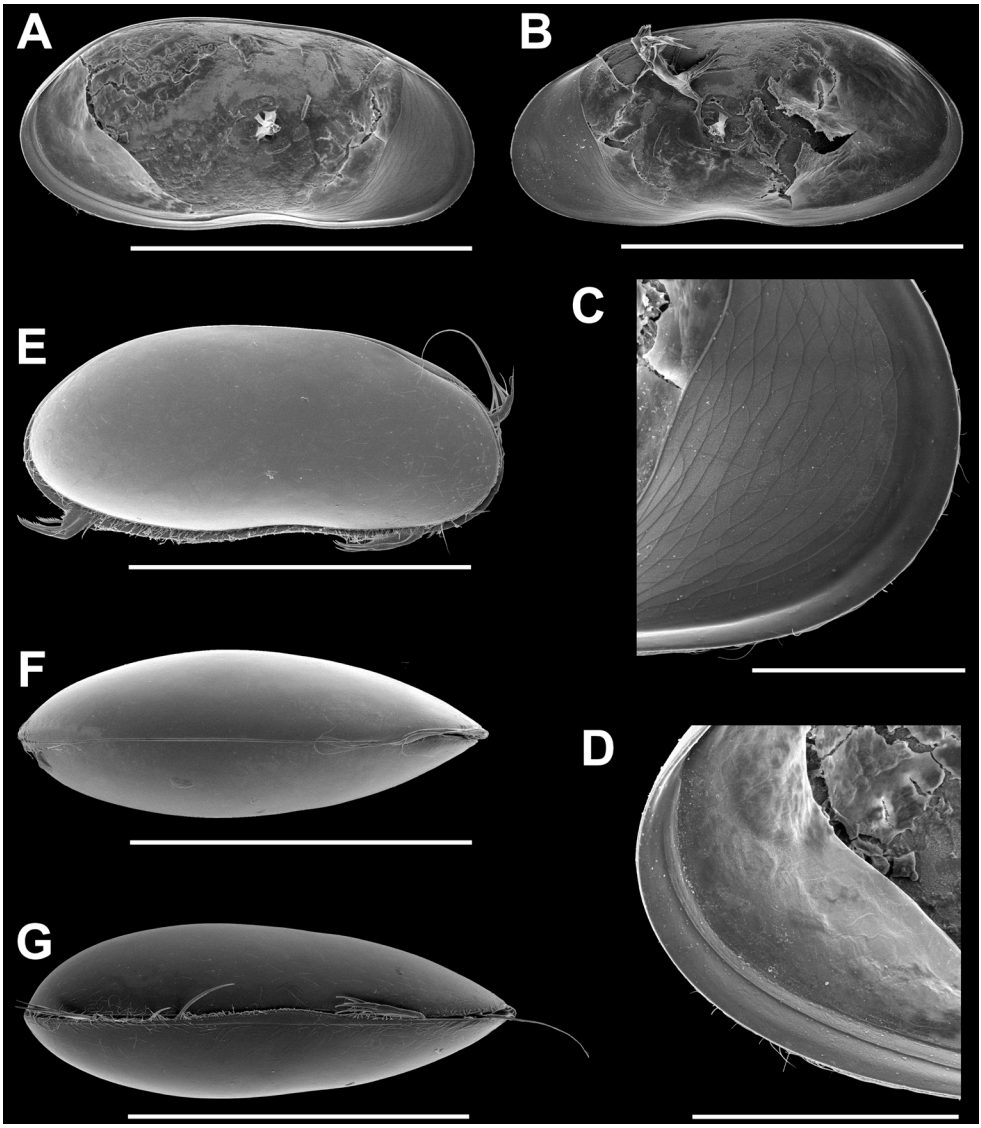


Fig. 3. ***Stenocypris macedonica*** female. HYNC1268. **A**: LVi (INV.320007). **B**: RVi (INV.320007). **C**: LVi, detail of posterior part (INV.320007). **D**: LVi, detail of anterior part (INV.320007). **E**: CpRL (INV.320008). **F**: CpD (INV.320009). **G**: CpV (INV.320010). Scale bars: A, B, E, F, G = 1000 µm; C = 300 µm; D = 200 µm.

ventral inner list, running halfway up to posterior margin, and in antero-ventral part of anterior margin. CpRL (Fig. 3E) showing LV overlapping RV, especially along ventral margin. CpD and CpV (Figs 3F, G) narrow and pointed on both sides.

Remarks. Both the shape of the valves and the structure of the appendages of *S. intermedia* Klie, 1932 are almost identical with those of *S. macedonica*. However, the A2 natatory setae of the latter species are well-developed, extending to the tips of the terminal A2 claws, whereas in *S. intermedia* the longest of the five setae extends to the distal end of the penultimate segment; the four remaining natatory setae are distinctly shorter; the sixth seta scarcely reaches to the middle of the penultimate segment (Petkovski & Meisch 1996).

Ecology and distribution. Petkovski & Meisch (1996) reported this species (based on a large number of specimens) from rice-fields of the Rivers Bregalnica, Anska, Topolka, Babuna and Luda Mara in Macedonia (Leg. T. Petkovski, June l 991). They also mentioned that specimens from Sri Lanka could be a local form of *S. macedonica*. Other than that, this constitutes the first locality of this species outside of (southern) Europe.

The species in New Caledonia. *Stenocypris macedonica* is a new record for New Caledonia. The species was found in few specimens from two localities only.

Stenocypris malayica Victor & Fernando, 1981 (Figs 4, 6C, D)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, North Province. Koumac River downstream of Grottes de Koumac. Station: **HYNC 1107**. Coordinates: 20°32.042'S, 164°19.668'E. Elevation: 32masl. Dozens of adult ♀, collected on 06.11.2016. Leg.: J. Higuti & K. Martens. Depth of collecting: 0.5 m. Measurements at time of collecting: WTemp: 30°C. EC: 344 µS/cm. pH: 7.39. Amongst macrophytes *Salvinia auriculata* Aubl. (together with *S. hislopi* – see above).

Redescription of the carapace. Cp elongated, in lateral view with dorsal margin sloping towards the posterior side (Fig. 4E), LV slightly overlapping RV along the posterior and mid-ventral margins (Fig. 4E). CpD and CpV narrow, with both extremities pointed (Figs 4F, G). Both valves with anterior margin rounded, posterior margin bluntly pointed (Figs 4A, B). LVi (Figs 4A, C, D) without inner list along anterior and posterior margins; ventral inner list with weak anteriorly (Fig. 4C) and stronger posteriorly (Fig. 4D) tooth. Marginal septa elongated in antero-dorsal pouch in both valves (Figs 6C, D).

Ecology and distribution. The species is presumed to be circumtropical, and has thus far been recorded from four zoogeographical regions (Meisch et al. 2019). In (sub-) tropical regions, it is common in vegetated parts of stagnant water bodies and along the margins of slowly flowing lowland rivers. Both larger and smaller individuals (all exclusively female) have been observed, but were considered to be conspecific. For the same reason, *Herpetocypris caledonica* var. *minor* Méhes, 1939 was synonymised with *Herpetocypris caledonica* Méhes, 1939, now itself a synonym of *Candonocypris novaezelandiae* (Kisseih et al. 2020; Table 2). Such morphological forms could be different clones occurring together in a fully asexual population.

The species in New Caledonia. *Stenocypris malayica* is a new record for New Caledonia. The species is very common in abundant vegetation of the streams and associated ponds of New Caledonia, especially in the North Province of Grande Terre. It was found together with *S. hislopi*. Only females have thus far been found.

Stenocypris marginata Daday, 1910 sensu Méhes, 1939 (Figs 5, 6A, B)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province. Near Paita, swamp north of Tontouta airport. Station: **HYNC3065.** Coordinates: 21°59.308'S, 166°12.423'E. Elevation: 9 masl. Collected on 07.06.2018. Leg. J. Higuti & K. Martens. Depth of collecting: 10–15 cm. Measurements at time of collecting: WTemp: 22.3°C. EC: 831 µS/cm. pH: 7.56. Amongst grasses and *Juncus*. (Accompanying ostracod species: *Cyprinotus drubea* Martens et al., 2019 – see Martens et al. 2019).

Redescription of the carapace. CpRL elongated, with dorsal margin straight over c ¼ of its length, sloping towards the anterior margin, highest point at c 1/3 from the posterior (Fig. 5E), LV overlapping RV along the anterior, ventral and postero-ventral margins (Fig. 5E); CpV and CpD narrow and with both extremities pointed (Figs 5G, H). Both valves with anterior margin rounded, but more narrowly than in the two preceding species, posterior margin bluntly pointed (Figs 5A, B). LVi (Figs 5A, C, D) with strong inner list along anterior, ventral and posterior margins; running along the

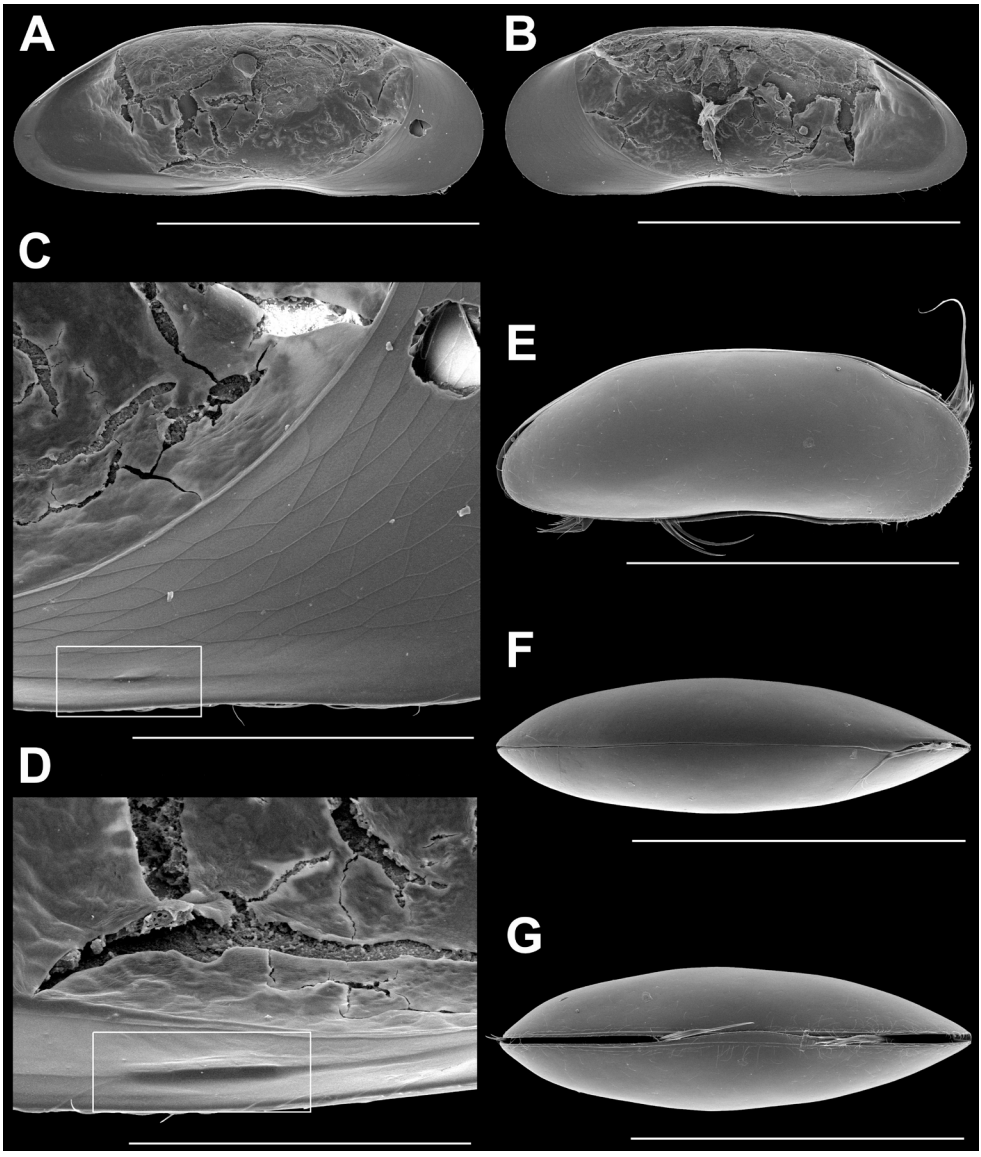


Fig. 4. ***Stenocypris malayica*** female. HYNC1107. **A**: LVi (INV.320011). **B**: RVi (INV.320011). **C**: LVi, detail of anteroventral part, white box showing small tooth on il (INV.320011). **D**: LVi, detail of ventral margin, white box showing large tooth on il (INV.320011). **E**: CpRL (INV.320012). **F**: CpD (INV.320013). **G**: CpV (INV.320014). Scale bars: A, B, E, F, G = 1000 µm; C, D = 200 µm.

entire anterior and posterior margins, but without teeth. RV (Fig. 5B) without inner list. Marginal septa subequal in length along anterior margin (Figs 6A, B).

Ecology and distribution. *Stenocypris marginata* was originally (and for that time, rather extensively) described by Daday (1910) from East Africa, more specifically from pools and streams near the shores of Lake Malawi (Koto-Kota, Langenburg, presently Tukuyu). It was also reported by Klie (1932) from Java, but without additional illustrations. Méhes (1939) reported it from several localities on Grande Terre (see Table 2) and provided a redescription

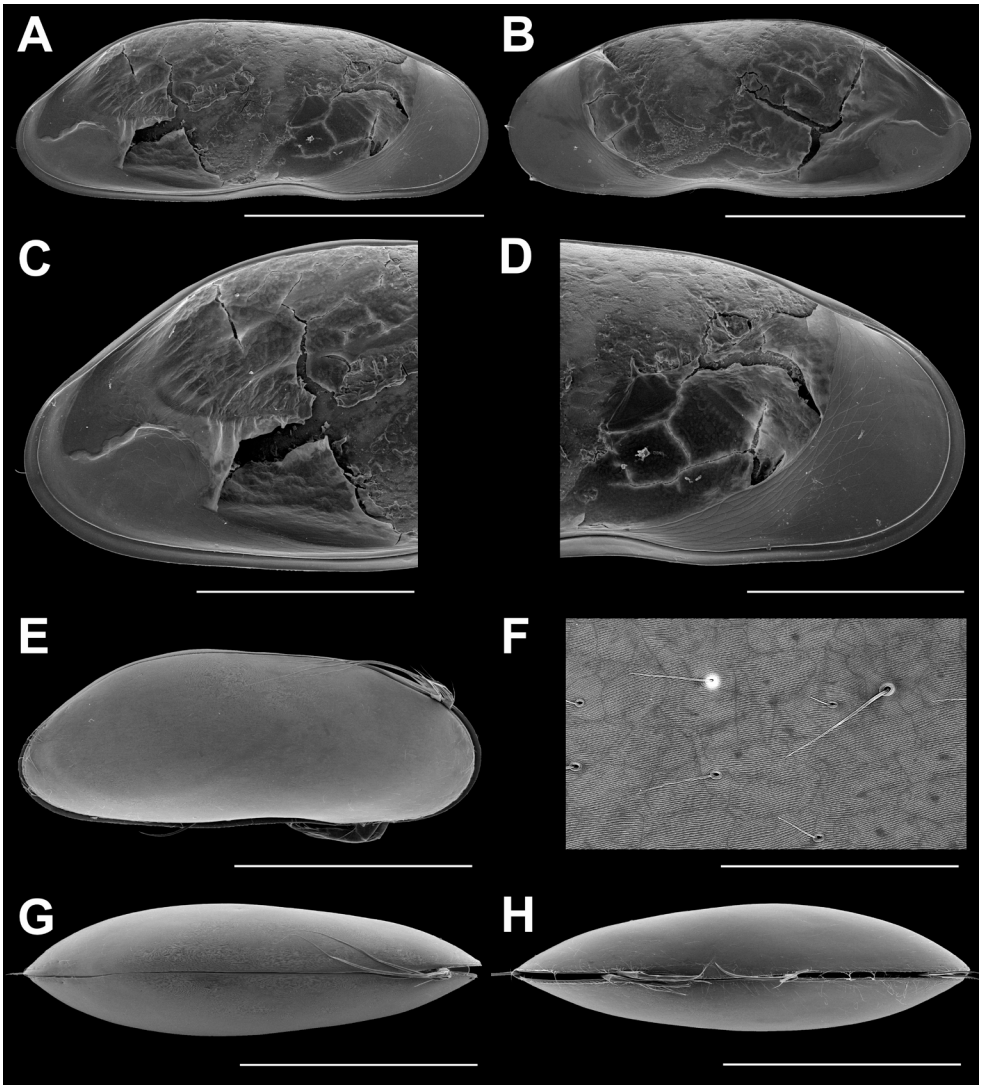


Fig. 5. ***Stenocypris marginata*** female. HYNC3065. **A**: LVi (INV.320015). **B**: RVi (INV.320015). **C**: LVi, detail of posterior part (INV.320015). **D**: LVi, detail of anterior part (INV.320015). **E**: CpRL (INV.320016). **F**: CpRL, detail of carapace surface (INV.320016). **G**: CpD (INV.320017). **H**: CpV (INV.320018). Scale bars: A, B, E, G, H = 1000 µm; C, D = 500 µm; F = 100 µm.

with illustrations. Based on these illustrations, especially the one of the Cp in left lateral view, we here provisionally confirm the identity of the New Caledonian populations with Daday's species. However, the type material from East Africa (in the Natural History Museum of Budapest, Hungary) should be redescribed to confirm this identification.

The species in New Caledonia. Whereas Méhes (1939) reported the species from several localities on Grande Terre, we have thus far found the species in one locality only (see above).

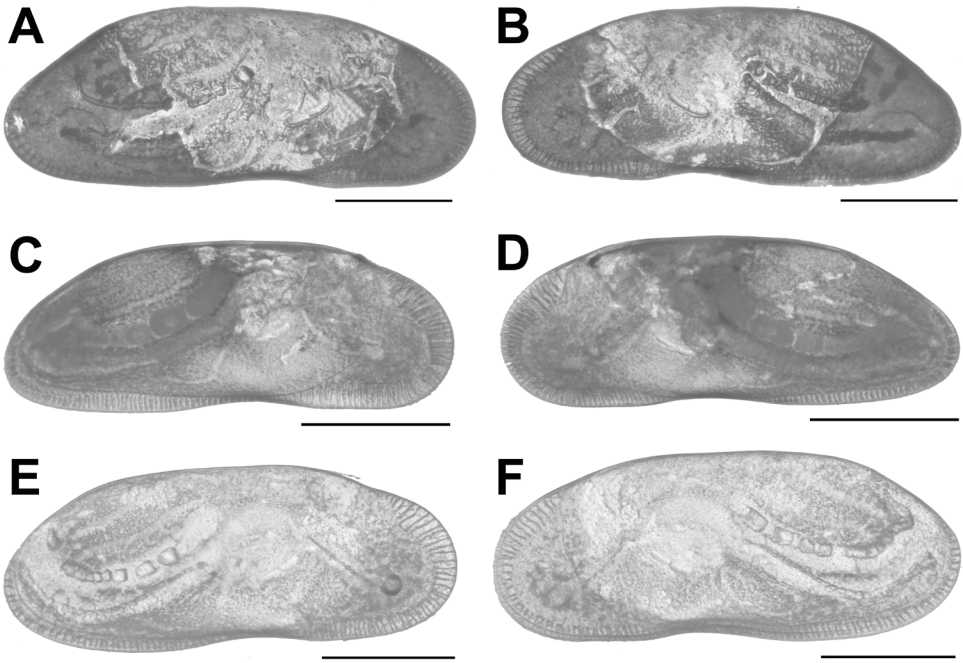


Fig. 6. ***Stenocypris marginata*** female, HYNC3065. **A**: RVe. **B**: LVe. ***Stenocypris malayica*** female, HYNC1107. **C**: RVe. **D**: LVe. ***Stenocypris hislopi*** female. HYNC1107. **E**: RVe. **F**: LVe. Scale bars: 500 µm.

Subfamily Cypricercinae McKenzie, 1971

Tribe Bradleystrandesiini Savatenalinton & Martens, 2009

Remark*:* see discussion in Martens et al. (2023b) on the phylogenetic validity of the tribe Bradleystrandesiini.

Genus *Bradleytriebella* Savatenalinton & Martens, 2009

Main characters. Cp in lateral view subtriangular, CpD subovate; LV overlapping RV on all sides except dorsal side. LVi with groove, inner lamella with one short inner list; WO present; d-seta on T1 absent; CR slender, claws weakly serrated; CR attachment slim, with Triebel's loop in dorsal branch, ventral branch well-developed.

Bradleytriebella lineata (Victor & Fernando, 1981) Savatenalinton & Martens, 2010 (Fig. 7)

Strandesia lineata Victor & Fernando, 1981
Bradleystrandesia lineata (Victor & Fernando, 1981) Savatenalinton & Martens 2010
Syn.: *Paracypretta amati* Martens, 1984 (fide Savatenalinton & Martens 2009)
Syn.: *Strandesia biwaensis* Okubo, 2004 (nom. nud., fide Smith et al. 2011)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province, lake near city of Boulouparis. Station number: **HYNC2508.** Coordinates: 21°50.877'S, 165°55.695'E. Elevation: 62 masl. Reservoir; vegetation four-leaved clover. Several adult ♀, collected on 18.11.2017. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca*. 0.5 m. Measurements at time of collecting: WTemp = 29.4°C. EC = 366 µS/cm. pH= 9.55.

Redescription of the carapace. Valves in lateral view (Figs 7A, B, E) subtriangular, with greatest width situated well in front of the middle; anterior margin broadly rounded, posterior margin narrower. LVi (Fig. 7A) with deep groove along anterior, ventral and posterior margins, anteriorly with a short inner list. RVi (Fig. 7B) with posterior submarginal selvage. External valve ornamen-

tation consisting of parallel and concentric ridges and rimmed pores with short setae (Figs 7E–I). CpRL (Figs 7E, F) with LV overlapping RV widely along anteroventral and posteroventral margins. CpD and CpV (Figs 7H, I) with greatest width slightly behind the middle and with anterior overlap very visible. Colour: yellowish or light brown with green patches.

Remarks: Colouration and swimming behaviour strongly reminiscent of that in *C. vidua* (O.F. Müller, 1776), with which it can be confused.

Ecology and distribution. Martens (1984) described *Strandesia amati* (Martens, 1984) from the Red Sea Hills (Sudan, Africa) and distinguished this species from *Strandesia lineata* Victor & Fernando, 1981 (described from the Philippines) by a number of different morphological features, e.g. the relative length of A2-claws, the length of the A2-aesthetasc, the shape of the Triebel's loop and the number of rays on T1-respiratory plate. Savatenalinton & Martens (2009) determined that *S. lineata* was described (and especially illustrated) on last juvenile stage specimens in which limbs and setae are not yet completely developed. They therefore sank *S. amati* in to the synonymy of *S. lineata* and transferred the latter species to *Bradleystrandesia* Broodbakker, 1983. Later on, Savatenalinton & Martens (2010) transferred this species to their new genus, *Bradleytriebella* Savatenalinton & Martens, 2010 and reported it from various localities in Thailand. Smith et al. (2011) synonymised *Strandesia biwaensis* Okubo, 2004 (as a *nomen nudum*, because of lack of type material) with *B. lineata*, while Ferreira et al. (2019) reported the species from several localities in Brazil. *Bradleytriebella lineata* is now known from the Oriental, Afrotropical, Palaearctic and the Neotropical regions, which forms an almost complete circumtropical distribution. Outside of New Caledonia, the species has been reported from a wide variety of temporary and permanent freshwater habitats, mostly associated with dense macrophyte stands.

Mischke et al. (2014) and Mische (2015) reported *B. lineata* as (sub-) fossils from Israel in waters with slightly elevated salinities, albeit with slightly different (narrower) carapace morphology, while Parth et al. (2023) reported it as fossil from Yemen.

The species in New Caledonia. *Bradleytriebella lineata* is a new record for New Caledonia. The species has thus far been found in only two localities on Grande Terre, and that in very few specimens.

Subfamily Cypridinae Baird, 1845

Tribe Cypridini Baird, 1845

Genus *Cypris* O.F. Müller, 1776

Main characters. CpD globular, with RV overlapping LV on both anterior and posterior sides. Both valves with anterior sl largely inwardly displaced; in RV antero-ventral valve margin in this valve lip-like produced; LV with an additional anterior il. T2 with penultimate segment undivided.

Cypris granulata Daday, 1898 (Fig. 8)

Syn.: *Cypris subglobosa* non Sowerby, 1840 (see below for discussion)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province, La Foa/ Boulouparis Region. Station number: **HYNC2505**. Coordinates: 21°50.9'S, 165°55.592'E. Elevation: 58 masl. Lake with macro-algae (*Chara*). Large ♀ population, collected on 18.11.2017. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca* 0.5 m. Measurements at time of collecting: WTemp = 34.5°C. EC = 294 µS/cm. pH = 9.79.

Redescription of the carapace. CpRL high, with greatest height at c 1/3 of the front, with rounded anterior and pointed posterior margin, LV overlapping RV along the antero-dorsal side (Fig. 8E); CpD and CpV swollen, with greatest width in middle and with both anterior and posterior parts pointed, anteriorly rostrum-shaped (Figs 8C, D, F, H); valves set with deep pits and ridges. LVi (Fig. 8A) with strong inner list along anterior, ventral and posterior margins and with submarginal selvage along anterior and posterior margins. RV (Fig. 8B) with strongly inwardly displace (double)

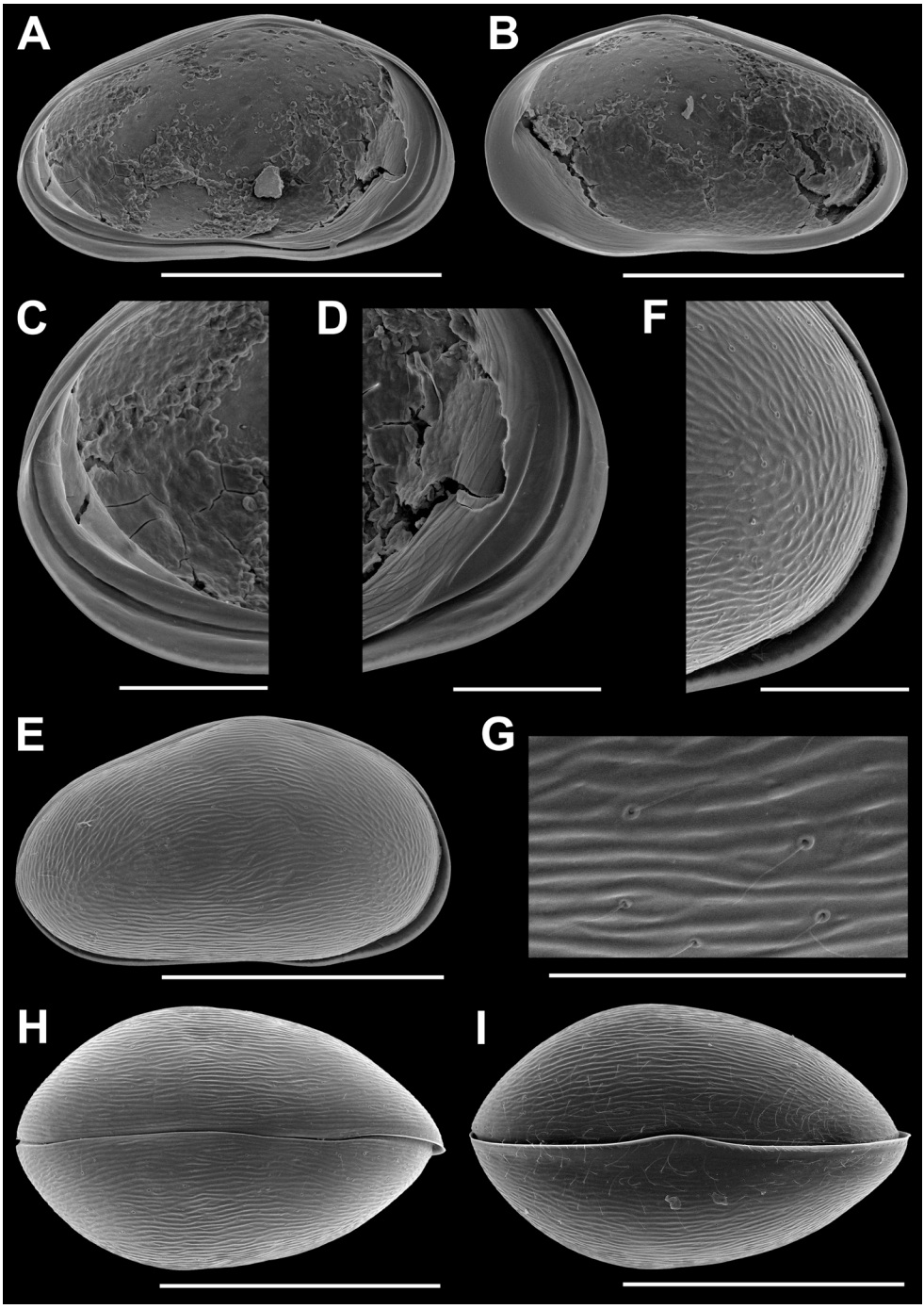


Fig. 7. ***Bradleytriebella lineata*** female. HYNC2508. **A**: LVi (INV.320019). **B**: RVi (INV.320019). **C**: LVi, detail of posterior part (INV.320019). **D**: LVi, detail of anterior part (INV.320019). **E**: CpRL (INV.320020). **F**: CpRL, detail of anterior part (INV.320020). **G**: CpRL, detail of carapace surface (INV.320020). **H**: CpD (INV.320021). **I**: CpV (INV.320022). Scale bars: A, B, E, H, I = 400 µm; C, D, F, G = 100 µm.

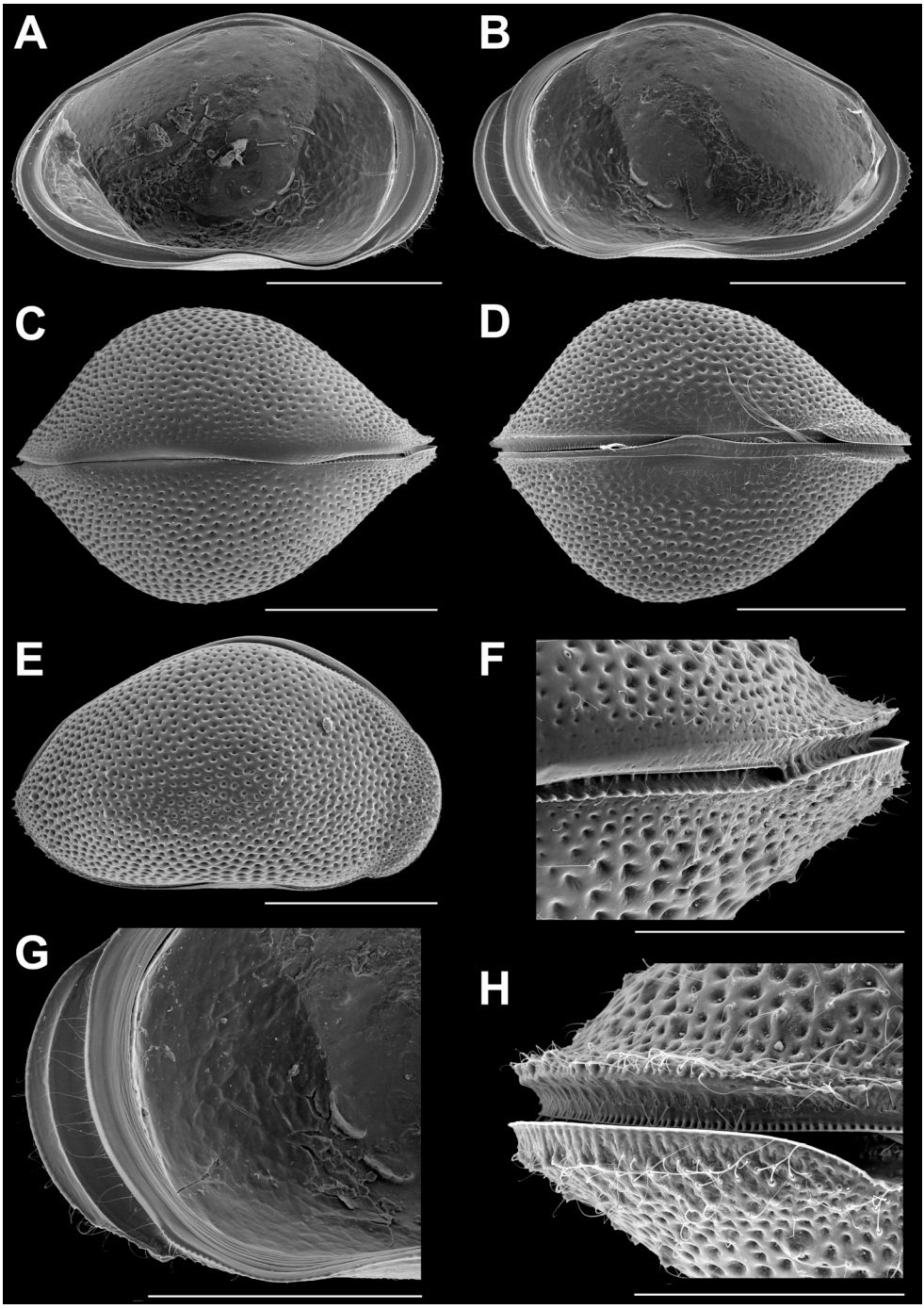


Fig. 8. ***Cypris granulata*** female. **A**: HYNC2505. LVi (INV.320023). **B**: RVi (INV.320023). **C**: CpD (INV.320024). **D**: CpV (INV.320025). **E**: CpRL (INV.320026). **F**: CpD, detail of anterior part (INV.320024). **G**: RVi, detail of anterior part (INV.320023). **H**: CpV, detail of anterior part (INV.320025). Scale bars: A–E = 500 µm; F, H = 200 µm; G = 400 µm.

selvage along anterior margin (Fig. 8G), and single selvage along posterior margin; posterior valve margin of RV set with teeth in a saw-like manner (Fig. 8B). Posterior part of LV set with few small teeth only.

Ecology and distribution. *Cypris granulata* is a circumtropical species. Martens & Toguebaye (1985) provided a list of localities at that stage, including Southeast Asia, China, Japan, the former Yugoslavia, several southern states in the USA, Afghanistan, USSR and Senegal in North Africa. Meanwhile, the species has also been reported from five zoogeographical regions around the globe, but not yet from the Neotropical region (Meisch et al. 2019). The species is mostly (exclusively?) found in temporary habitats. Thus far, only females have been found.

Remarks. *Cypris granulata* was, until 20 years ago, consistently identified as *Cypris subglobosa* Sowerby, 1840 (see extensive list in Martens & Toguebaye 1985), which was originally described from fossils recovered from Upper Cretaceous sediments. However, Whatley et al. (2003) and Smith et al. (2011) correctly pointed out that the Recent species commonly recorded as *C. subglobosa* is not at all identical with the fossil taxon. Meanwhile, the specimens of the exclusively fossil species *C. subglobosa* have been assigned to the genus *Paracypretta* Sars, 1924 by Whatley et al. (2003). Klie (1932) had already shown that the extant species is identical with *C. granulata,* which has become the valid name for this circumtropical species (see also Meisch et al. 2019).

The species in New Caledonia. *Cypris granulata* has been found in five localities on Grande Terre, in one case as empty valves and Cps only, and always in temporary pools.

Subfamily Cyprinotinae Bronstein, 1947

Genus *Hemicypris* Sars, 1903

Main characters. Cp mostly with rounded dorsal margin in lateral view, RV strongly overlapping LV, mainly along the anterior margin. LV with (mostly strong) marginal tubercles.

Hemicypris pyxidata (Moniez, 1892) Sars, 1903 (Figs 9, 10)

Syn.: *Cyprinotus pyxidatus* Moniez, 1892

Localities of illustrated specimens

Adult population
NEW CALEDONIA • Grande Terre, North Province, pool near city of Wagap, Goyeta, at Nimbaye River. Station number: **HYNC2589.** Coordinates: 21°5.738'S, 165°19.933'E. Elevation: 9 masl. Pool on the road, with leaves and algae, no macrophytes. Several adult ♀, collected on 29.05.2018. Leg.: J. Higuti & K. Martens. Depth of pool: only few mm of water left. Measurements at time of collecting: WTemp = 26.2°C. EC = 183 µS/cm. pH = 6.89.

Juvenile population (*H.* cf. *pyxidata*)
NEW CALEDONIA • Grande Terre, North Province, Kaala Gomen Region. Station number: **HYNC1180**. Coordinates: 20°37.685'S, 164°39.55'E. Elevation: 353 m. Temporary pool. Several juvenile ♀, collected on 17.11.2016. Leg.: J. Higuti & K. Martens. Depth of pool: 0.2 m. Measurements at time of collecting: WTemp = 35.2°C. EC = 69.5 µS/cm. pH = 8.98.

Redescription of the carapace. *Adults*: CpLL (Fig. 9C) with RV overlapping LV on all sides, extending well beyond the LV in the antero-ventral margin (Fig. 9D); posteriorly RV only narrowly overlapping LV. CpD and CpV (Figs 9E, F) with greatest width situated behind the middle, anterior extremity bluntly pointed, posterior part narrowly rounded. Both valves externally weakly pitted and set with sparce and short setae, both highly arched (species in the genus with the greatest height), with rounded dorsal margin. LV (Fig. 9A) set with large marginal tubercles, with weak antero-ventral inner list. RV (Fig. 9B) without marginal tubercles and without inner list.

(A-1) juveniles: Cp and valves less highly arched (Figs 10A–C); CpLL: RV overlapping LV only along antero-dorsal and postero-dorsal margins (Fig. 10C). CpV (Fig. 10D) more narrow than in the adults. LVi (Fig. 10A) as typical for late stage juveniles, with narrow calcified zones and slightly elevated margins of calcified zones. RVi (Fig. 10B)

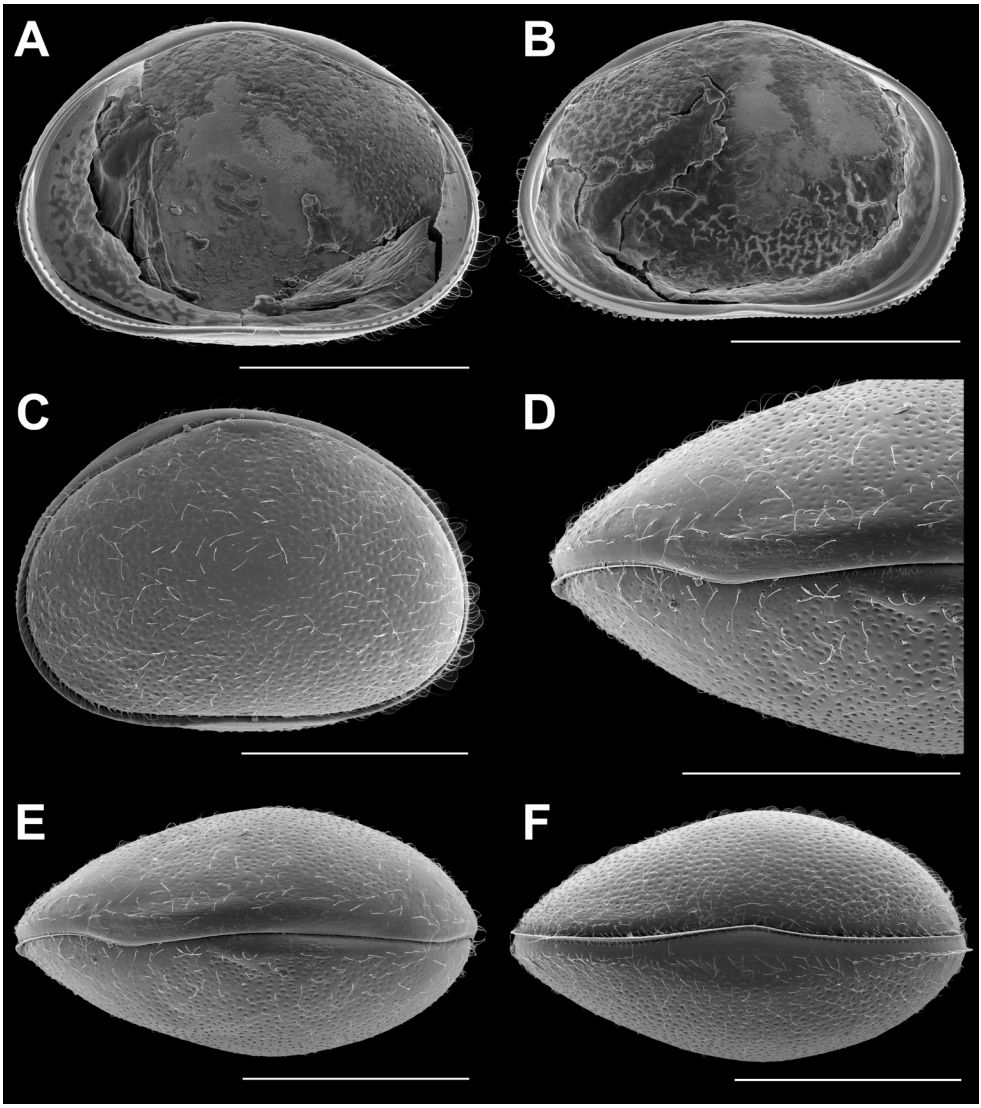


Fig. 9. ***Hemicypris pyxidata*** female. HYNC2589. **A**: LVi (INV.320027). **B**: RVi (INV.320027). **C**: CpLL (INV.320028). **D**: CpD, detail of anterior part (INV.320029). **E**: CpD (INV.320029). **F**: CpV (INV.320030). Scale bars: A, B, C, E, F = 500 µm; D = 400 µm.

with more adult-like marginal structures, including submarginal anterior selvage.

Ecology and distribution. *Hemicypris pyxidata*, originally described from Celebes (now Sulawesi, Indonesia) by Moniez (1892) as *Cyprinotus pyxidatus*, is the type species of the genus *Hemicypris*. The species is typical of temporary pools, wetlands and rice fields. It is considered to be quite common in South East Asia (e.g. reported from Sumatra by both Sars (1903) and Klie (1932)) and has meanwhile been reported from a wider range of Asian localities, such as the former Island of Formosa, now Taiwan (Klie 1938a) and Indonesia, Malaysia, Philippines and Sri Lanka (see review in Smith et al. 2018) as well as India (Victor & Fernando 1979). In addition, Holmes (1997) reported it from the West Indies (Jamaica). The type locality is in Sulawesi, which according to the map

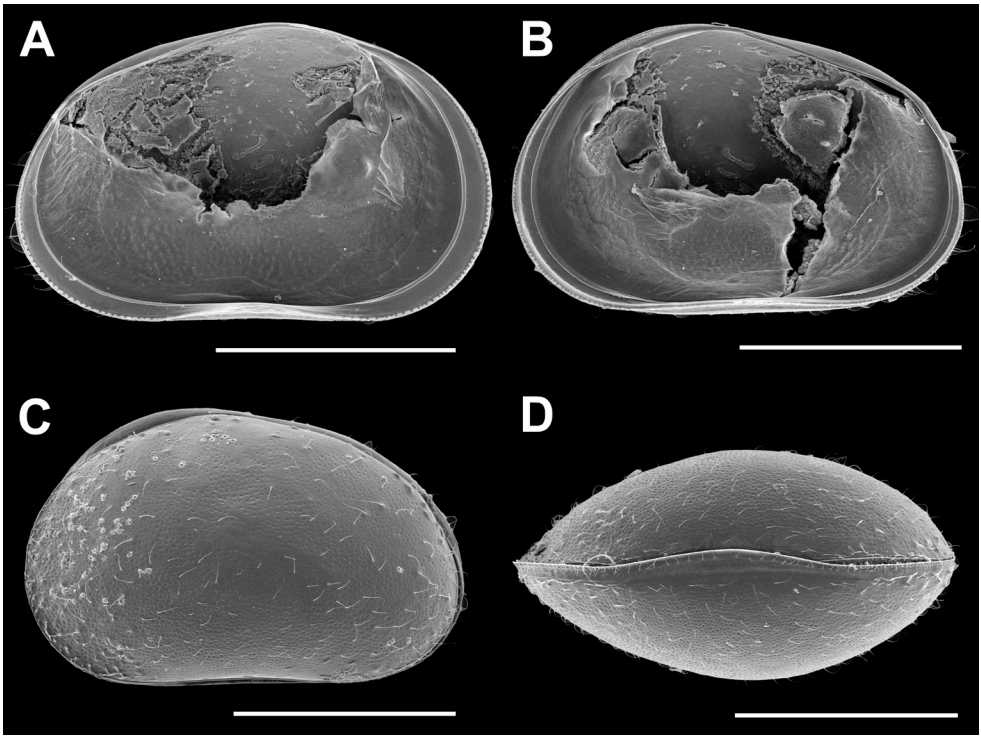


Fig. 10. ***Hemicypris*** cf. ***pyxidata*** female, (A-1) juvenile. HYNC1180. **A**: LVi (INV.320031). **B**: RVi (INV.320031). **C**: CpLL (INV.320032). **D**: CpV (INV.320033). Scale bars: A–D = 400 µm.

used by the FADA consortium (Martens et al. 2008) and subsequently also for the global checklist of non-marine Ostracoda (Meisch et al. 2019) is situated in the Australasian Region (i.e. east of the Wallace line). Other localities in Southeast Asia (see above and Klie 1932) situated west of the Wallace line are in the Oriental Region, while Jamaica is in the Neotropical. The species has therefore thus far been reported from three zoogeographical regions. The present localities in New Caledonia are in a fourth zoogeographical region, namely in the Pacific.

Remarks. For the correction of some earlier erroneous identifications of related *Hemicypris* species, see Martens & Wouters (1985a, b).

The species in New Caledonia. *Hemicypris pyxidata* is a new record for New Caledonia. This species is presently found as an all-female population from one locality (a temporary pool) on Grande Terre in New Caledonia only. From another temporary pool, only last stage juveniles were found and these are also illustrated and described here (Fig. 10). It is not completely certain that these specimens also belong to the same species of *Hemicypris*. As was shown by Martens et al. (2019) for *C. drubea*, a species in a related genus, described from New Caledonia and also belonging in the Cyprinotinae (see Table 2), the morphology of the adults and of the last stage juveniles can differ considerably in this subfamily.

Genus *Heterocypris* Claus, 1892

Main characters. Cp mostly with dorsal margin in lateral view rounded or straight, LV strongly overlapping RV, mainly along the anterior margin. RV with strong marginal tubercles.

Heterocypris incongruens (Ramdohr, 1808) Claus, 1892 (Fig. 11)

(For extensive list of synonymies, see Meisch et al. 2019)

Locality of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province, near Nouméa. Station number: **HYNC3066** (= HYNC4006). Approx**.** Coordinates: 22°15.935'S, 166°23.878'E. Elevation: 0 masl. Large parthenogenetic population, collected on 07.06.2018, in a large temporary rainwater pool on sand, without vegetation. Also dried mud collected. Leg.: J. Higuti, K. Martens and N. Rabets. Depth of collecting: *ca* 10 cm. No measurement was taken at the time of collecting.

Redescription of the carapace. CpLL (Fig. 11C) with LV overlapping RV on all sides, especially along anterior (Figs 11F, G) and ventral margins; anterior and posterior margins rounded, greatest height slightly behind the middle. CpD and CpV (Figs 11D, E) with greatest width situated behind the middle, anterior extremity pointed, posterior part narrowly rounded. Both valves externally weakly pitted and set with setae, some stout. LVi (Fig. 11A) with smooth margins and without inner list. RV (Fig. 11B) with inner list along anterior, ventral and posterior margins, anterior and posterior margins set with rows of tubercles, the latter variable in number and shape, either pointed or rounded, sometimes weakly expressed or even seemingly missing. Colour brown.

Ecology and distribution. *Heterocypris incongruens* is a truly cosmopolitan species, occurring on all continents (except Antarctica – Meisch et al. 2019). In the northern hemisphere it is a summer species, occurring in temporary pools, mostly (but not exclusively) in pools with bare clay or sandy bottom, with little or no vegetation and often in very large numbers. In the (sub) tropics) it occurs during the wet season. The species has been globally distributed by human activities. *Heterocypris incongruens* mostly occurs in asexual populations, in Europe there are populations with males around the Mediterranean area (geographical parthenogenesis – Horne & Martens 1997).

The species in New Caledonia. *Heterocypris incongruens* is a new record for New Caledonia. Thus far, *H. incongruens* has been found in one locality only (but in vast numbers of females in shallow rainwater pools), but when the right habitats are explored at the right times (wet seasons), more localities will almost certainly be found. See Discussion on a possible synonymy of *Heterocypris wolffhuegeli* (Méhes, 1914).

Subfamily Cypridopsinae Kaufmann, 1900

Tribe Cypridopsini Kaufmann, 1900

Genus *Cypridopsis* Brady, 1867

Main characters. Cp small (L=c 0.7 mm), mostly broad in dorsal view, with LV overlapping RV on all sides. CR reduced to a flagellum. Mx1 distal palp-segment rectangular.

Cypridopsis vidua (O.F. Müller, 1776) Brady, 1867 (Fig. 12)

(For extensive list of synonymies, see Meisch et al. 2019)

Localities of illustrated specimens

NEW CALEDONIA • Grande Terre, South Province, La Foa/ Boulouparis Region. Station number: **HYNC2505**. Coordinates: 21°50.9'S, 165°55.592'E. Elevation: 58 masl. Lake with macro-algae (*Chara*). Large ♀ population, collected on 18.11.2017. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca* 0.5 m (same locality as for *I. viridulus* and *C. granulata*). Measurements at time of collecting: WTemp = 34.5 °C. EC = 294 µS/cm. pH = 9.79.

NEW CALEDONIA • Grande Terre, North Province, Kaala Gomen, Gamai Region. Station number: **HYNC1129**. Coordinates: 20°41.232'S, 164°29.162'E. Elevation: 16 masl. Pool in River Louanga, *Elodea* macrophytes. Large ♀ population, collected on 09.11.2016. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca* 0.5 m amongst plants. Measurements at time of collecting: WTemp = 27.1 °C. EC = 317 µS/cm. pH = 7.66.

Redescription of the carapace. CpRL (Figs 12C, D) ovate, with greatest height situated in the middle, LV overlapping RV along the anterior and mid-ventral margins, anterior margin more broadly rounded than posterior one, valve surface pitted and densely

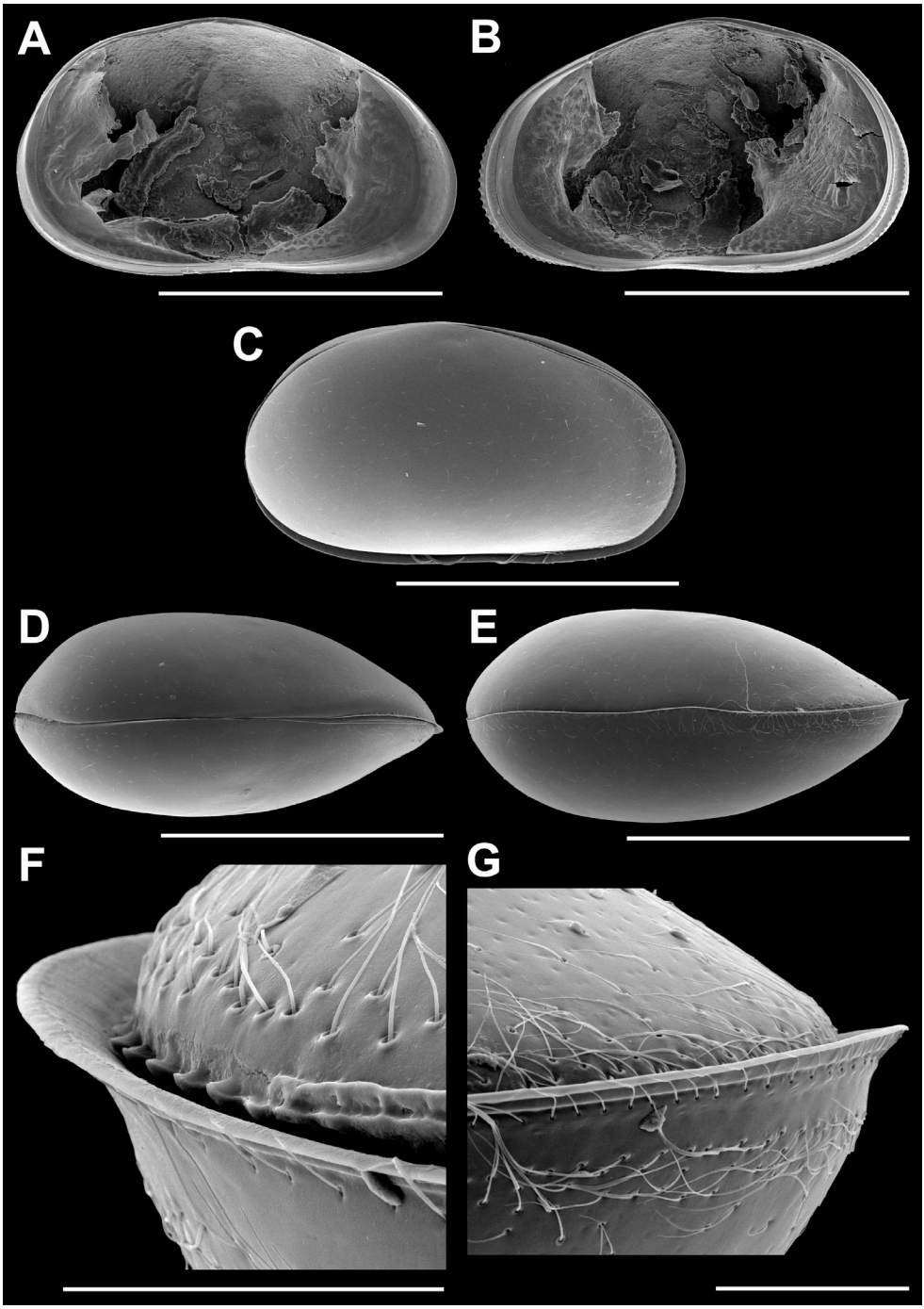


Fig. 11. ***Heterocypris incongruens*** female. HYNC 3066. **A**: LVi (INV.320034). **B**: RVi (INV.320034). **C**: CpRL (INV.320035). **D**: CpD (INV.320036). **E**: CpV (INV.320037). **F**: CpD, detail of anterior part, slightly tilted (INV.320036). **G**: CpV, detail of anterior part (INV.320037). Scale bars: A–E = 1000 µm; F, G = 100 µm.

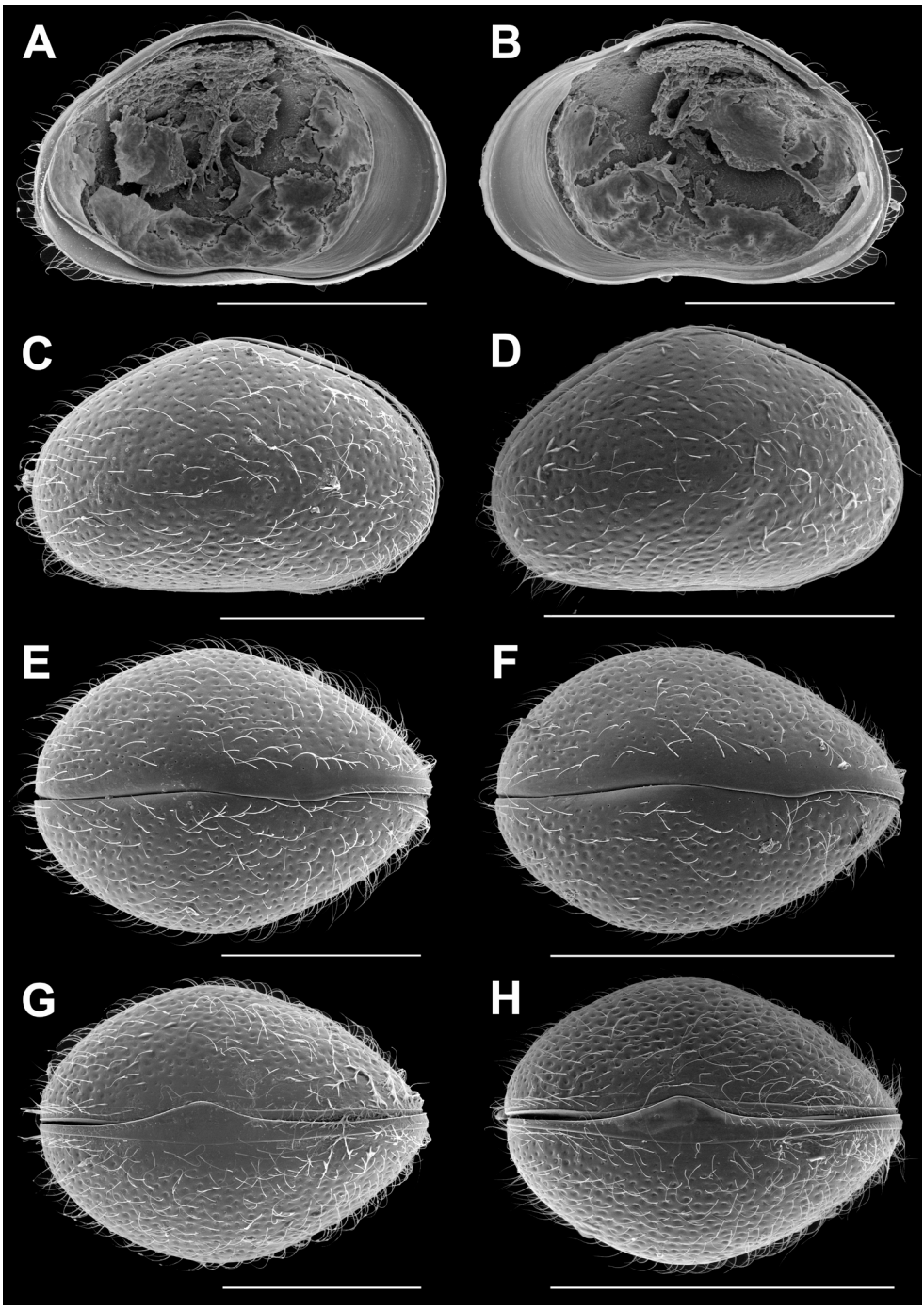


Fig. 12. ***Cypridopsis vidua*** female. HYNC1129 = A–C, E, G. HYNC2505 = D, F, H. **A**: LVi (INV.320038). **B**: RVi (INV.320038). **C**: CpRL (INV.320039). **D**: CpRL (INV.320042). **E**: CpD (INV.320040). **F**: CpD (INV.320043). **G**: CpV (INV.320041). **H**: CpV (INV.320044). Scale bars: A, B, C, E, G = 300 µm; D, F, H = 500 µm.

set with setae, some of these quite stout and with the appearance of spines (Figs 12C, E, G). CpD and CpV (Figs12C–H) swollen, anterior R/L overlap clearly visible. LVi (Fig. 12A) with anterior submarginal selvage, posteroventral marginal zone with the double folded inner list; not running parallel to the valve margin. RVi (Fig. 12B) with short anterior inner list and submarginal posterior selvage. Colour: yellowish or light brown with green patches.

Ecology and distribution (adapted from Meisch 2000). This species can be found in a wide range of freshwater habitats. *Cypridopsis vidua* is a very active swimmer, which prefers both large and small permanent water bodies with rich vegetation, such as (fish) ponds, and the littoral zone of lakes and slow rivers. The animals prefer shady areas with rich vegetation. But the species can also be found in temporary ponds, springs, wells, and even in some interstitial habitats. A constant factor to these habitats appears to be high densities of algae, as *C. vidua* has been shown to be mostly an algal grazer (Roca et al. 1993*)*.

The species is cosmopolitan, occurring on all continents, except Antarctica (Meisch et al. 2019). In Europe, it is one of two most common species in surface waters (the other one being *Cypria ophthalmica* (Jurine, 1820)).

Remarks. *Cypridopsis vidua* was generally considered to be a fully asexual species. However, recently males in populations have first been reported and illustrated from Massachusetts, USA (Martens et al. 2023c) and later also from China (Zhai et al. 2023) and Italy (Rossetti et al. 2024).

The species in New Caledonia. *Cypridopsis vidua* is a new record for New Caledonia. During the three expeditions to New Caledonia in which the present authors participated, c 350 samples from Grande Terre were collected, of which about half contained ostracods. In 70 of these samples, *C. vidua* occurred (40%), which makes it about the most common ostracod on the main island of the archipelago. As usual, the morphological variability of the specimens in the different populations is substantial, and some extreme examples of female specimens are illustrated here (Figs 12C, E, G versus 12D, F, H). Differences are in the shape and size but also in coloration patterns. Especially noteworthy are the differences in the size and robustness of external setae on the valves.

Family Notodromadidae Kaufmann, 1900

Subfamily Notodromadinae Kaufmann, 1900

Genus *Kennethia* De Deckker, 1979

Main characters. CpLL rounded, with two separate external eye tubercles, with large and well-developed flanges, running along the anterior, posterior and dorsal sides of both valves; external ornamentation on valves consisting of short, but many, rounded tubercles, rimmed pores and long setae. CpV centrally with elaborate ridges for hyponeustic life.

Kennethia major (Méhes, 1939) De Deckker, 1979 (Figs 13, 14, 15)

Syn.: *Notodromas major* Méhes, 1939

Localities of illustrated specimens

NEW CALEDONIA • Grande Terre, North Province, near Thio, Ferme de Thio, Plaine de Balanca, Do Cô River. Station number: **HYNC2566.** Coordinates: 21°35.157'S, 166°10.21'E. Elevation: 8 masl. Sexual population, collected on 26.05.2018, between tree roots in water, on the left margin of the river. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca* 0.5 m. Measurements at time of collecting: WTemp = 21.1 °C. EC = 395 µS/cm. pH = 7.42.

NEW CALEDONIA • Grande Terre, North Province, near Voh, River drainage near Tiéta. Station number: **HYNC3018.** Coordinates: 20°55.262'S, 164°44.933'E. Elevation: c 20 m. Sexual population, collected on 02.06.2018, in a muddy and grassy temporary pool. Leg.: J. Higuti & K. Martens. Depth of collecting: 5−10 cm. Measurements at time of collecting: WTemp = 24.0 °C. EC = 741 µS/cm. pH = 7.70.

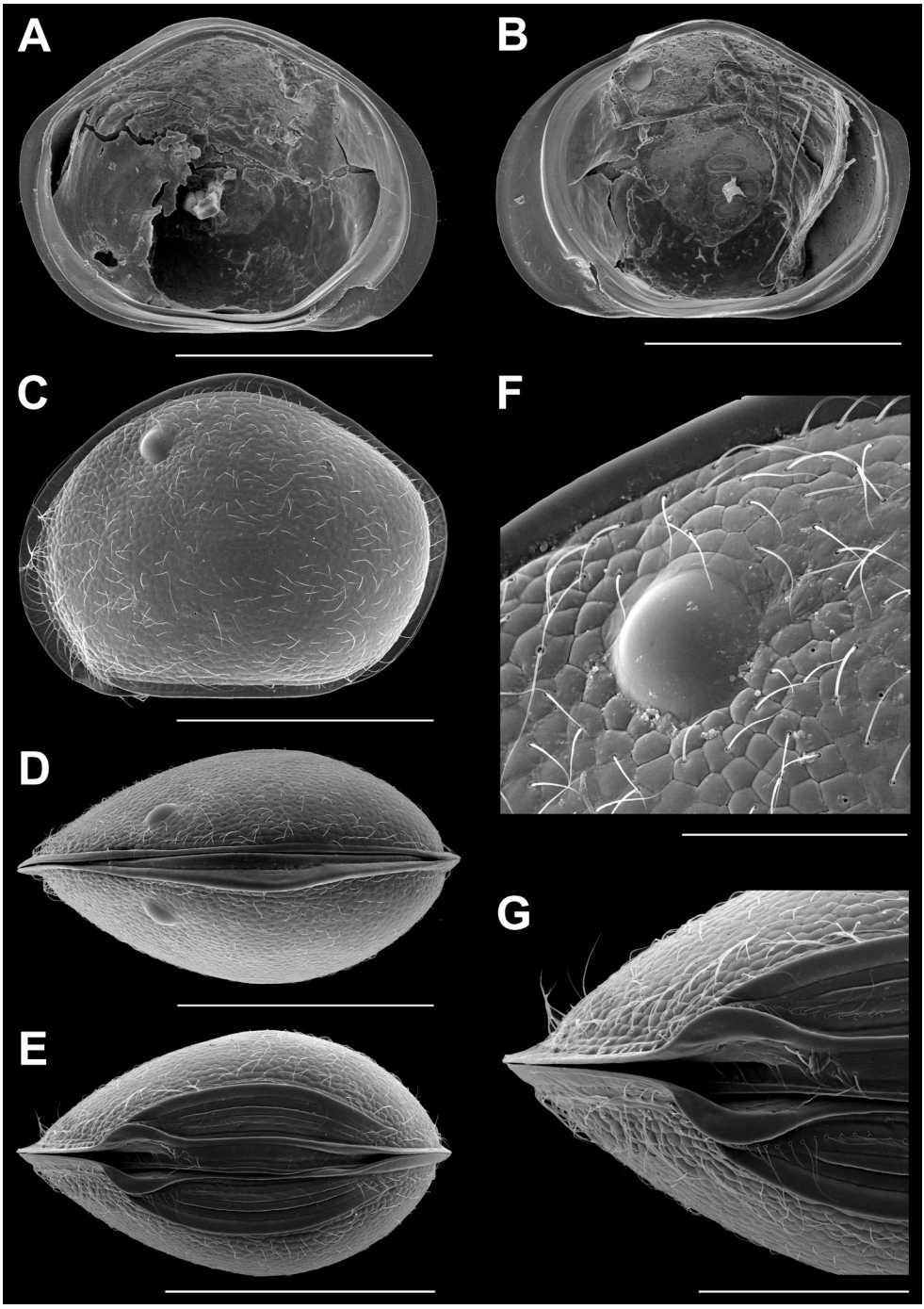


Fig. 13. ***Kennethia major*** male. HYNC2566. **A**: LVi (INV.320045). **B**: RVi (INV.320045). **C**: CpLL (INV.320046). **D**: CpD (INV.320047). **E**: CpV (INV.320048). **F**: CpLL, showing external eye tubercle (INV.320046). **G**: CpV, detail of anterior part (INV.320048). Scale bars: A–E = 500 µm; F = 100 µm; G = 200 µm.

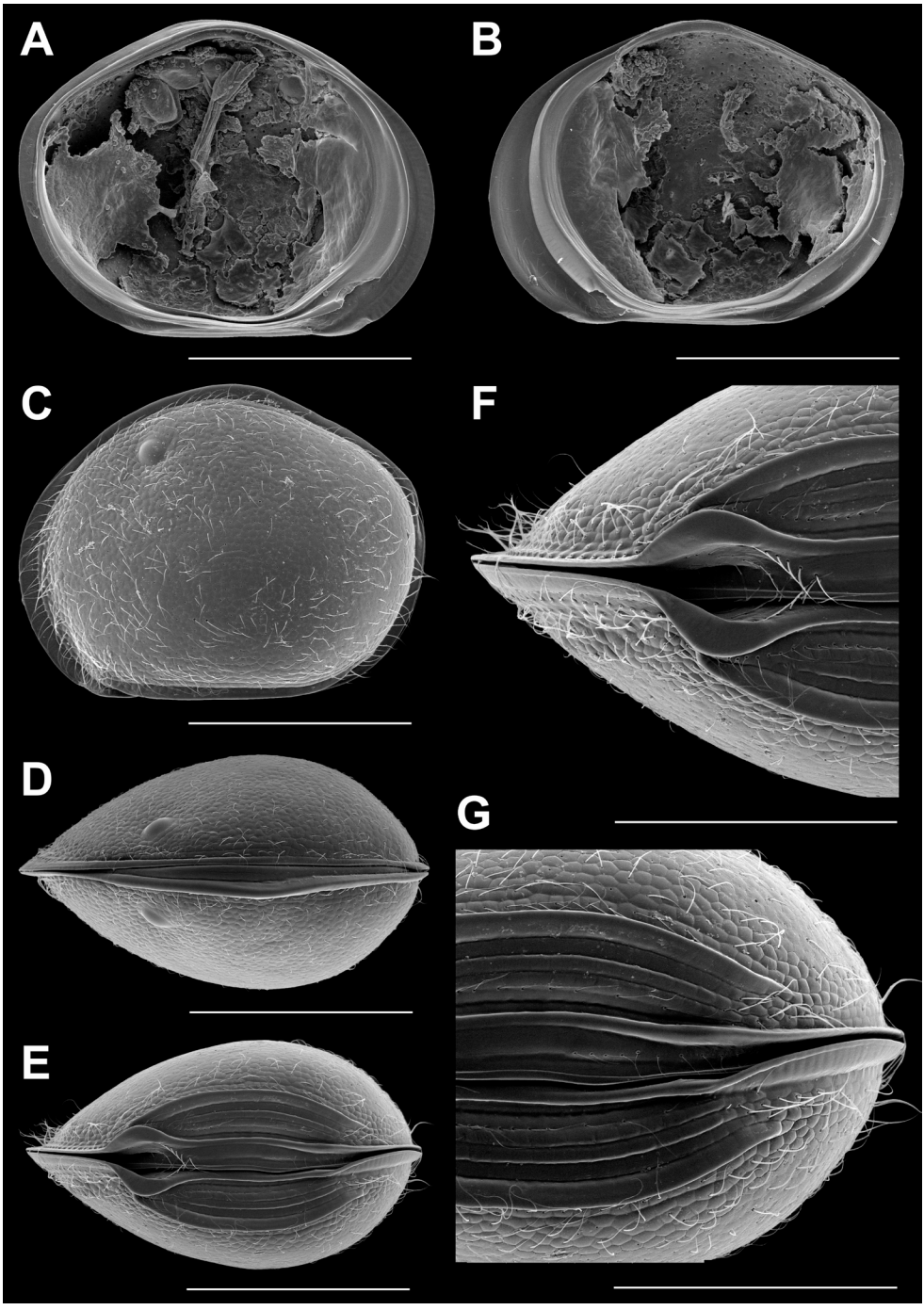


Fig. 14. ***Kennethia major*** female. HYNC2566. **A**: LVi (INV.320050). **B**: RVi (INV.320050). **C**: CpLL (INV.320051). **D**: CpD (INV.320052). **E**: CpV (INV.320053). **F**: CpV, detail of anterior part (INV.320053). **G**: CpV, detail of posterior part (INV.320053). Scale bars: A–E = 500 µm; F, G = 300 µm.

(Re-) description of carapace and some soft parts

Male. CpLL (Fig. 13C) externally set with dense polygonal reticulation and with many short setae; in lateral view not fully rounded, with highest point in the middle, anterior part of the dorsal margin sloping in a straight line towards the broadly rounded anterior margin, posterior part of the dorsal margin sloping in a straight line towards the posterior margin, passing into it with a blunt angle, external flanges on RV and on LV extending on all sides. CpD and CpV (Figs 13D, E) both with anterior and posterior sides strongly pointed, anteriorly slightly asymmetrically, posteriorly forming a short rostrum. CpD (Fig. 13D) showing separate eye tubercles. CpV (Figs 13D, G) with elaborate ornamentation of concentric circles (related to hyponeustic life), including ridged oral opening (Fig. 10G). LVi (Fig. 14A) and RVi (Fig. 14B) with subtriangular shape and greatest height in the middle, anterior selvage widely inwardly displaced in both valves, but especially so in the RV, posterior selvage also inwardly displace in both valves but less so than the anterior selvages; posterior margin in both valves with a characteristic angle, mostly so in the RV. Colour blackish.

Hemipenis (Fig. 15C) with large and protruding rectangular ls with skewed distal margin, and ms consisting of three sub-lobes (ms1-3), surrounded by three elongated external lobes (E1-3). Internal anatomy consisting of stout labyrinth with one straight post-labyrinthal spermiduct, without additional coils. Lpp (Figs 15F, G) with long and stout first segment, with rounded lateral sides and three short apical setae; distal segment long and narrow, with three-dimensional structure, distally asymmetrically bifurcated. Rpp (Figs 15D, E) with first segment with irregular shape, with narrow neck, ventro-apically with stout and long seta (but see remarks below); second segment sickle shaped, with pointed apex. T2 (Fig. 15A) with penultimate segment divided, setae d_1 and d_2 absent, seta e large, seta f and seta g small, claw h_2 slender but set with spines, setae h_1 and h_3 less than half the length of claw h_2. T3 (Fig. 15B) with setae d_1, d_2 and d_p present, seta e twice as long as seta f. Terminal segment not fused with penultimate seta, of irregular shape, seta h_2 claw-like, longer than setae h_1 and h_2.

Female (Figs 14A–G): Cp and valves almost identical to those of the male, sexual dimorphism minimal.

Remarks. (1) As *Kennethia* De Deckker, 1979 is thus far a poorly known genus, we here also provide illustrations on the male soft part morphology of *K. major* (Figs 15A–G). However, as the original illustrations of *K. cristata* soft parts (De Deckker 1979) are rather sketchy, direct comparisons are difficult. In spite of this, it is clear that the ls of the Hp appears to be very different between both species.

(2) The long seta on the Rpp of the male can easily break off (see Fig. 15E).

Ecology and distribution. Most (all?) species of Notodromadinae are hyponeustic, i.e. they are hanging and skating upside down below on the water surface film, feeding on small particles floating on the water, such as pollen (De Deckker 1979, Smith et al. 2022, George & Martens 2003, Smith & Kamyia 2014, Diaz & Martens 2018). In the present species; where observations of living specimens are lacking, the complex morphology of the ventral side of the Cps with elaborate ridges (see Figs 13E, G, 14E−G) indicates that this species also uses the physical tension of the water surface for its hyponeustic way of life. The species has thus far only been recorded from New Caledonia, Grande Terre.

The species in New Caledonia. De Deckker (1979) described the new genus *Kennethia* for the species *K. cristata* De Deckker, 1979 from Victoria (Australia). In a remark in that paper, he indicated that he had investigated material of *Notodromas major* from New Caledonia in the collections of the British Museum. Méhes (1939) had described his species (as *Notodromas major*) on specimens from the environments of Canala on Grande Terre, while the museum material investigated by De Deckker (1979) originated from a natural swamp, near Lekin, on Uvea (= Ouvéa), one of the Loyalty Islands (leg. and date of collection unknown). Mar-

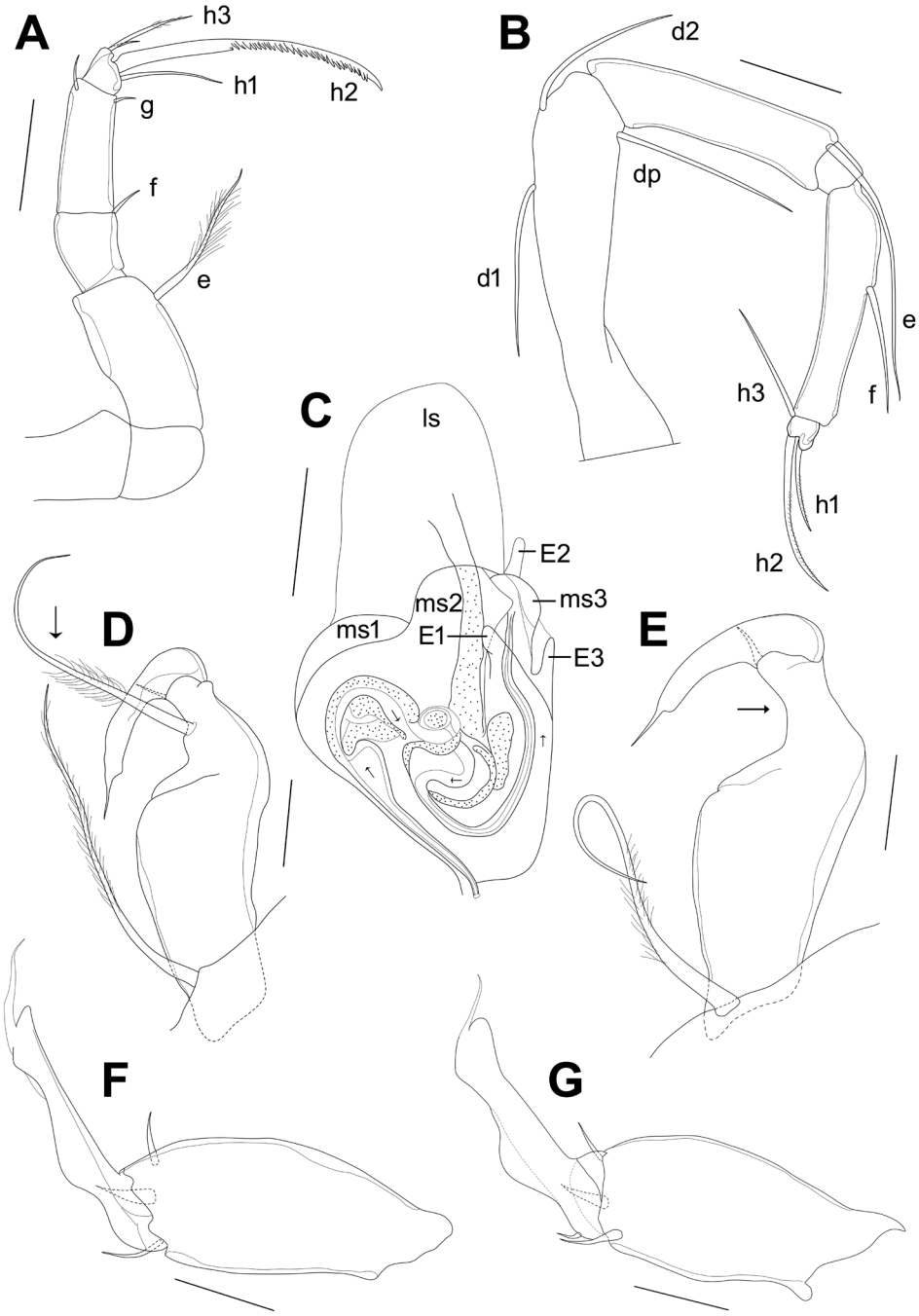


Fig. 15. ***Kennethia major*** male. HYNC 2566 = INV.320045. HYNC 3018 = INV.320049. **A**: T2 (INV.320045). **B**: T3 (INV.320049). **C**: Hemipenis (INV.320045). **D**: Rpp (INV.320045). **E**: Rpp (INV.320049). **F**: Lpp (INV.320045). **G**: Lpp (INV.320049). Scale bars: A–C = 49 µm; D–G = 31 µm.

tens et al. (2019) documented that all type material of the species described by Méhes (1939) must be presumed lost, and the exact identity of these species can therefore no

longer be determined. However, De Deckker (1979) wrote that he was convinced that the material he investigated indeed belonged to Méhes' species and that *N. major* in his opinion belongs in his genus *Kennethia*. *Kennethia major* has a dorsal flange which is indeed larger than in the species of *Newnhamia* King, 1855 and which approaches in size that of *K. cristata*. Therefore, we here maintain De Deckker's transfer of this species to *Kennethia*.

We have found the species in a limited number of habitats on Grande Terre, but which were ecologically very different, ranging from the riparian vegetation of a small river to a temporary grassy pond. Populations were always sexual.

Superfamily Cytheroidea Baird, 1850

Family Limnocytheridae Sars, 1925

Subfamily Limnocytherinae Sars, 1925

Tribe Limnocytherini Sars, 1925

Genus *Limnocythere* Brady, 1868

Main characters. Heavily ornamented valves, with muscle scars (four scars in a vertical row) and soft parts (reduced chaetotaxy, three pairs of walking legs, flagellum-like CR) as typical of the superfamily.

Remark: Several limnocytherid genera are also defined by the anatomy of the Hp. This is not possible here, as *L. stationis* Vávra, 1891 is know from all-female populations only.

***Limnocythere stationis* Vávra, 1891** (Fig. 16)

Localities of illustrated specimens

NEW CALEDONIA • Grande Terre, North Province, near Touhou. Station number: **HYNC1172.** Coordinates: 20°46.985'S, 165°5.828'E. Elevation: 30 masl. Large parthenogenetic population, collected on 16.11.2016, in a temporary pool along the road. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca* 0.5 m. Measurements at time of collecting: WTemp = 25.8 °C. EC = 259 µS/cm. pH = 7.58.

NEW CALEDONIA • Grande Terre, North Province, near village of Voh, at the confluence between Temala and Fatenaoue Rivers. Station number: **HYNC3017.** Coordinates: 20°53.072'S, 164°40.72'E. Elevation: 7 masl. Large subfossil assemblage of a parthenogenetic population, collected on 02.06.2018, in a concrete cattle drinking basin with algal bloom. Leg.: J. Higuti & K. Martens. Depth of collecting: *ca* 0.2 m. Measurements at time of collecting: WTemp = 24.5 °C. EC = 160 µS/cm. pH = 9.73.

Redescription of the carapace. CpRL (Figs 16E, F) short and high, anterior margin more broadly rounded than posterior one, dorsal margin mostly straight, sloping towards the posterior side, valves externally always ornamented with deep pits and strong ridges and a clear mid-dorsal sulcus. CpD (Fig. 16I) and CpV (Figs 16G, H) with RV overlapping LV posteriorly, with mid-dorsal sulcus in the middle on both sides and with a beak-like anterior part, three lateral nodes and two lateral spines present (Fig. 16I) or absent (Figs 16G, H). LVi and RVi without marginal structures. RVi (Figs 16B, D) posterodorsally with a set of up the three spines of variable appearance. LVi (Figs 16A, C) without special features.

Ecology and distribution. Vávra (1891) described *L. stationis* from Bohemia (presently in the Czech Republic). Klie (1938b) mentioned that it was also known from Germany, France and Finland. Petkovski (1964) reported the species from the former Yugoslavia, while Diebel (1962) found the species as a fossil in the Eemian-glacial from Berlin. It is one of the smallest species in the genus *Limnocythere* (L= *ca.* 0.4 mm) and closely related to the species *L. notodonta* Vávra, 1906, described from Western Java; both species belong to the same lineage with the genus. However, *L. stationis* can easily be distinguished by the presence of a beak-shaped anterior part of the carapace, which is convex in *L. notodonta*. *Limnocythere stationis* has meanwhile been reported from various countries in Europe, from North (Martens 1984) and southern Africa (Martens 2001a, Szwarc et al. 2021) and from the oriental region, including Japan (Okubo 2004). This is the first record from the Pacific

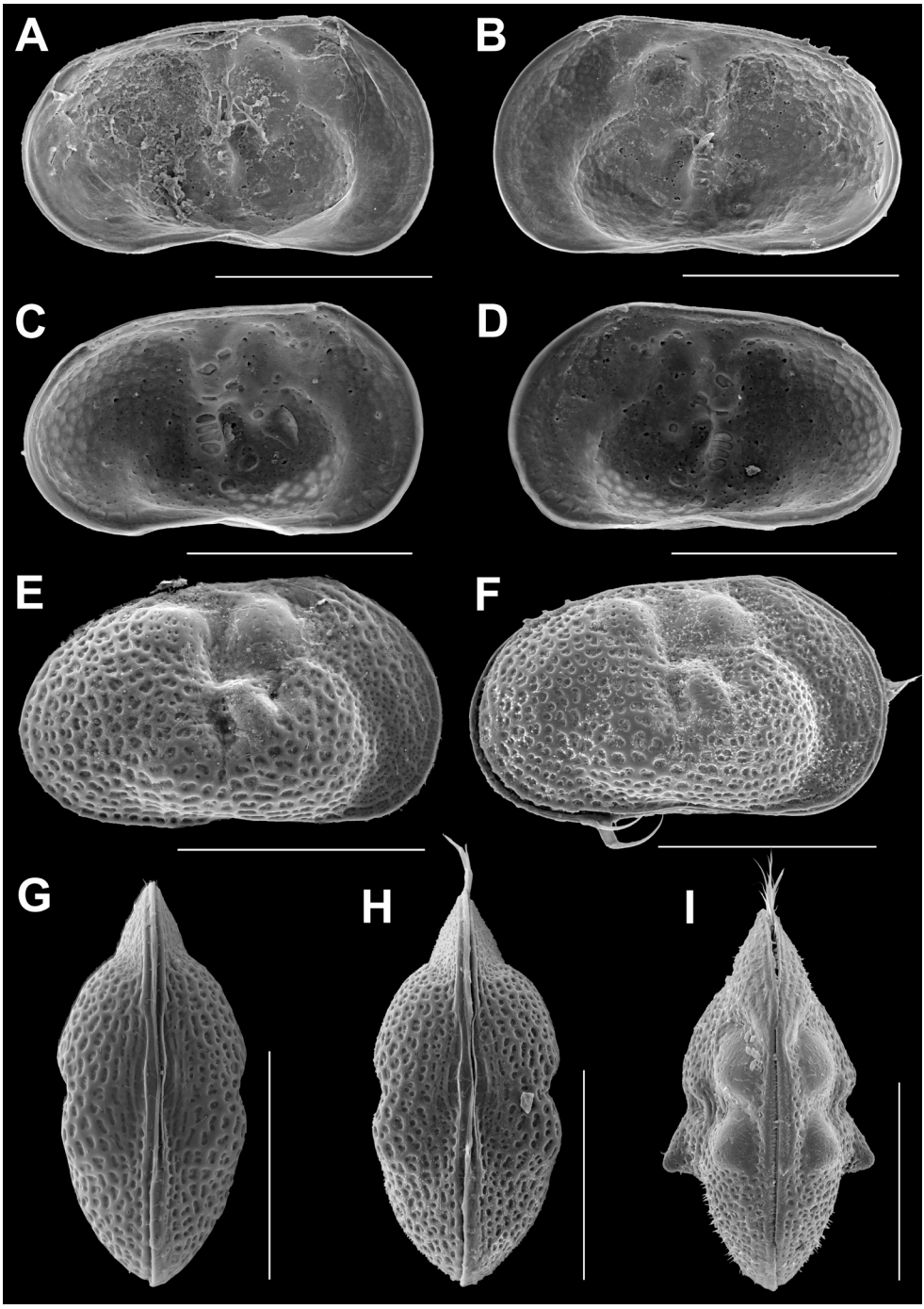


Fig. 16. ***Limnocythere stationis*** female. HYNC1172 = A, B, F, H, I. HYNC3017 = C–E, G. **A**: LVi (INV.320054). **B**: RVi (INV.320054). **C**: LVi (INV.320055). **D**: RVi (INV.320056). **E**: RVe (INV.320057). **F**: CpRL (INV.320058). **G**: CpV (INV.320059). **H**: CpV (INV.320060). **I**: CpD (INV.320061). Scale bars: A–I = 200 µm.

zoogeographical region. *Limnocythere stationis* is thus a widespread species, albeit not cosmopolitan.

Remarks. *Limnocythere stationis* and *L. notodonta* form a separate phylogenetic lineage within the genus *Limnocythere*, and Martens (1984, 1990) foreshadowed that this lineage might in time be translated into a separate genus, together with several other species such as *Limnocythere dorsoscicula* De Deckker, 1981. Smith R.J. et al. (2015) have expanded on this view by including several other species to this lineage, yet also still without formalising it as separate genus.

The species in New Caledonia. *Limnocythere stationis* is a new record for New Caledonia. In New Caledonia, the species has thus far only been found as subfossils in two localities, albeit in great numbers of empty valves and Cps. In one locality, an artificial concrete drinking through, the number of empty valves and carapaces was uncountable.

4. Discussion

4.1. Taxonomy: uncertain species reported from New Caledonia

4.1.1. *Stenocypris major* (Baird, 1859) Daday, 1898

For many decades, there has been confusion as to the identity of *S. major*, starting with the presumed synonymy of *Stenocypris malcolmsoni* (Brady, 1886), the fossil *S. cylindrica* (Sowerby, 1840) and *S. cylindrica major* (Baird, 1859), and which all converged to the question: which of these species did Sars (1889) find in his material from Queensland (Australia) and used as type species of his new genus *Stenocypris*? According to several authors (e.g. Howe, 1942), this discussion is irrelevant as *S. malcolmsoni* and *S. cylindrica major* are synonyms, with the latter name having priority. Ferguson (1969) illustrated valves of museum (but not of type) specimens which had been labelled as *S. malcolmsoni* (Ferguson 1969, fig. 1(1)) and as *S. cylindrica major* (ibid., fig. 3(1)). In both cases, the marginal septa in the anterodorsal (ocular) region of these specimens were not elongated (as in, for example, *S. malayica* – Figs. 6C, D*)* and, more importantly, their posterior inner margin shows an anterior expansion, which might be unique in the species of this genus. Moonchaisook & Savatenalinton (2020) redescribed *S. major major* on specimens from Thailand which conformed to the illustrations provided by Ferguson (1969). They also correctly raised *S. major sketi* Petkovski & Meisch, 1996 to specific status, as was already foreshadowed by Martens (2001b). Both the length of the antero-dorsal (ocular) marginal septa (more or less equal in length along the entire anterior margin) and the irregular shape of the posterior inner margin of the valves are characters which have often been neglected when identifying specimens of *S. major*, so that most likely, several previous records of this species (according to Meisch et al. 2019 situated on all continents except Antarctica) might have to be reconsidered. Méhes (1939) reported *S. major* from two localities on Grande Terre as *S. malcolmsoni*. We here consider that these specimens belong to *S. hislopi*, for reasons outlined above.

4.1.2. *Cyprinotus cingalensis* Brady, 1886

In his assessment of the identity of the genus *Cyprinotus*, Neale (1979) mentioned that he investigated one female of a species reported under that name from St. Joseph on Ouvéa (as Ovéa), one of the Loyalty Islands of the New Caledonian archipelago, and deposited in the British Museum of Natural History (no registration number given). Neale (1979: 82) argued that he doubted the identification because it "… differs notably in that the sixth limb podomeres are much stumpier (*sic*) and less elongate than the type and the proximal podomere has a small spine; in addition the posterior seta of the furca is very near the sub-terminal claw compared with the type and the rake organ has 8 and 10 teeth compared with 12 and 14 in the Sri Lanka specimen." In spite of these apparent doubts on the identification of this species by Neale (1979), Maddocks (2007) listed the species as belonging to the freshwater ostracod fauna of New Caledonia. Based on the

arguments provided by Neale (*loc.cit.*), we disregard the record of *C. cingalensis* for the New Caledonian fauna, unless new material will be found. It is also possible that the female specimen discussed by Neale (1979) was actually a juvenile of *H. pyxidata* (see Figs. 9 and 10 and discussion above), but this remains to be confirmed.

4.1.3. *Eucypris wolffhuegeli* Méhes, 1914

Méhes (1939) reported the presence of the species *E. wolffhuegeli*, previously described by him from pools near Mendoza (Argentina - Méhes 1914), without further illustrations, from Ouvéa (as Uvéa), one of the Loyalty Islands of the archipelago. The illustrations provided by Méhes (1914) clearly show marginal tubercles on the RV. Therefore, Klie (1930) transferred this species to the genus *Heterocypris*, a decision accepted by Martens & Behen (1994) and recently also by Sabater et al. (2023). It is quite likely that the Argentinian *H. wolffhuegeli* is actually a synonym of *H. incongruens*. But as no further illustrations are offered for the species identified as *H. wolffhuegeli* from New Caledonia, the exact identity of this record in Méhes (1939) remains uncertain. It will therefore be excluded from future inventories of the ostracod fauna of this archipelago.

4.1.4. *Strandesia rouxi* Méhes, 1939

Méhes (1939) reported this species from localities near Koné, Canala and La Foa (all on Grande Terre). His illustrations show that this species might be synonymous to a known and described species in the *Strandesia vinciguerrae* (Masi, 1905) species group. We have found populations of this species in our collections and will deal with these elsewhere. *Strandesia rouxi* is closely related to *Strandesia mehesi* Kisseih et al., 2020, but differs in important aspects, for example as it lacks the large anterior valve overlap.

4.1.5. *Cypridopsis sarasini* Méhes, 1939

This species was described from Ovéa (= Ouvéa), one of the Loyalty Islands of the New Caledonian archipelago. In dorsal view, this species strongly resembles *C. vidua*, including the darker stripes on the lighter coloured background of the Cp. However, in lateral view, the shape of the illustrated Cp is irregular, and unlike that of *C. vidua*: "Tandis que les valves, dans la plupart des cas, présentent la forme d'un rein régulier ou d'un rein élevé, chez cette espèce, la valve a la forme d'un rein allongé et irrégulier. (1939: 563) (own translation: "While the valves, in most cases, are shaped like a regular kidney or an elevated kidney, in this species the valve is shaped like an elongated, irregular kidney".) Also, according to Méhes (1939), the valves are much smaller than what can be expected from *C. vidua*: L: 0.48 mm., H: 0.27 mm., W: 0.35 mm. It is possible that the specimens used by Méhes (loc.cit.) were decalcified, which would account for the irregular shape of the Cp in lateral view, but this does not explain the well-calcified specimen used for the illustration of the CpD and the generally smaller size of this species. Therefore, in view of the absence of type material of *C. sarasini*, and unless fresh material can be found of this species, we here consider it as an "uncertain species" (*sensu* Meisch et al. 2019).

4.1.6. *Cyprideis australiensis* Hartmann, 1978 and *C. consobrina* Brady, 1890

Brady (1890) was the first to report on, mostly marine, ostracods from New Caledonia and described *Cyprideis consobrina* from saline waters near Nouméa. Hartmann-Schröder & Hartmann (1978) (see also Hoibian et al. 2000, 2002; Maddocks 2007) reported *Cyprideis australiensis* from Roche Percee Bay, also on Grande Terre. It is possible that both of these species are actually marine, but as Kempf (1980, 1997) has included most species of *Cyprideis* in his checklist of non-marine ostracods, they are here included in this overview (Table 2). In addition, the identity of these species would need to be reconfirmed in light of recent molecular analyses of Australasian *Cyprideis* (Schön et al. 2017) and the suggestion by Wouters (2016) that *C. australiensis* might be a junior synonym of *C. consobrina*.

4.2. Non-marine ostracod fauna of New Caledonia (Table 2)

Méhes (1939) reported on eight non-marine ostracod species from New Caledonian fresh waters. Five of these were described as new species, three of which are here considered as uncertain species. Neale (1979) reported on the potential presence of *C. cingalensis*,

Table 2. Checklist of recent non-marine ostracod species reported in the present paper and in the literature from the New Caledonian archipelago. Adapted and enlarged from older checklists, such as Colin & Hoibian (2003), Maddocks (2007) and Martens et al. (2019).

Species	New Caledonian records
Family Cyprididae Baird, 1845 **Subfamily Herpetocypridinae Kaufmann, 1900**	
1. *Caledromus robinsmithi* Martens et al., 2023	Martens et al. (2023a): Village of Poindimié in the area of the valley of the Necaapwé (Grande Terre).
2. *Candonocypris novaezelandiae* (Baird, 1843) Eagar, 1971 Syn. *Herpetocypris caledonica* Méhes, 1939 following Martens et al. (2019) Syn.: *Candonocypris caledonica* (Méhes, 1939) De Deckker, 1981 Syn.: *Herpetocypris caledonica* var. *minor* Méhes, 1939 following Martens et al. (2019)	Méhes (1939): La Foa (Grande Terre). As: *Herpetocypris caledonica* Méhes, 1939 and *Herpetocypris caledonica* var. *minor* Méhes, 1939
3. *Ilyodromus viridulus* (Brady, 1886) Sars, 1896	Present paper: La Foa/ Boulouparis Region. Moindue (Grande Terre). **New record.**
4. *Stenocypris hislopi* Ferguson, 1969	Méhes (1939): Canala, Koné (Grande Terre). As: *Stenocypris major* (Baird, 1859) sensu Mehés (1939) non Baird (1859). Present paper: Koumac River and several other localities on Grande Terre. **New record**.
5. *Stenocypris macedonica* Petkovski & Meisch, 1996 (re-instated from Martens 2001b)	Present paper: Bourail (Grande Terre). **New record.**
6. *Stenocypris marginata* Daday, 1910 sensu Méhes, 1939	Méhes (1939): Koné, Canala, La Foa (Grande Terre). Present paper: North of Tontoua airport, Near Paita (Grande Terre).
7. *Stenocypris malayica* Victor & Fernando, 1981	Present paper: Koumac River and several other localities on Grande Terre. **New record**.
Subfamily Cypricercinae McKenzie, 1971	
8. *Bradleytriebella lineata* (Victor & Fernando, 1981) Savatenalinton & Martens, 2009	Present paper: Boulouparis (Grande Terre). **New record**.
9. *Lithocypris peyia* Martens et al., 2023	Martens et al. (2023b): area of Tribu du Peyia (Grande Terre).
10. *Strandesia sanoamuangae* Savatenalinton & Martens, 2010	Kisseih et al. (2020): various localities near Koumac, Hienghiene and others (Grande Terre).

Species	New Caledonian records
11. *Strandesia méhesi* Kisseih et al., 2020	Kisseih et al. (2020): Houailou, Rivière La Túú - Tuu River (Grande Terre).
Subfamily Cypridinae Baird, 1845	
12. *Cypris granulata* Daday, 1898	Martens et al. (2019): Paita (Grande Terre). Present paper: Moindue (Grande Terre).
Subfamily Cyprinotinae Bronstein, 1947	
14. *Hemicypris pyxidata* (Moniez, 1892) Sars, 1903	Present paper: near Wagap (Grande Terre). **New record**.
15. *Heterocypris incongruens* (Rahmdohr, 1808) Claus, 1892 ? Syn.: *Eucypris wolffhuegeli* Méhes, 1914: Méhes (1939): Loyalty Islands, Ouvéa	Méhes (1939): Loyalty Islands, Ouvéa. Present paper: Kuendu beach, near Nouméa (Grande Terre). **New record**.
Subfamily Cypridopsinae Kaufmann, 1900	
16. *Cypridopsis vidua* (O.F. Müller, 1776) Brady, 1867	Present paper: La Foa, Kaala Gomen and other localities on Grande Terre. **New record**.
Family Darwinulidae Brady & Roberston, 1885	
17. *Penthesilenula brasiliensis* (Pinto & Kotzian, 1961) Rossetti & Martens, 1998	Martens & Rossetti (2002): Hienghène, Mt. Panié (Grande Terre).
18. *Vestalenula marmonieri* Rossetti & Martens, 1999	Rossetti & Martens (1999): River Diahot, Ouegoa (Grande Terre).
Family Notodromadidae Kaufmann, 1900	
19. *Kennethia major* (Méhes, 1939) De Deckker, 1979 Syn.: *Notodromas major* Méhes, 1939	Méhes (1939): Canala (Grande Terre) as: *Notodromas major* Méhes, 1939. Present paper: Thio, Do Cô River (Grande Terre).
Family Limnocytheridae Sars, 1925	
20. *Limnocythere stationis* Vávra, 1891	Present paper: Touho, Voh (Grande Terre). **New record**.
Family Cytherideidae Sars, 1925	
21. *Cyprideis australiensis* Hartmann, 1978 (in Hartmann-Schröder & Hartmann, 1978)	Hoibian et al. (2000, 2002), Maddocks (2007: Roche Percee Bay (Grande Terre)).
22. *Cyprideis consobrina* (Brady, 1890) McKenzie, 1986	Brady (1890), Maddocks (2007): Nouméa (Grande Terre).
Uncertain species	
Strandesia rouxi Méhes, 1939	Méhes (1939): Koné, Canala, La Foa (Grande Terre).
Cypridopsis sarasini Méhes, 1939	Méhes (1939): Loyalty Islands, Ouvéa.

based on a single female specimen he found in the collections of the Natural History Museum (London, UK), but he himself doubted this identification (see above). Mary & Marmonier (2000) reported on five putative species of non-marine ostracods from interstitial habitats from New Caledonian rivers, but left them all in open nomenclature. Their *Vestalenula* sp. was described by Rossetti & Martens (1999) as *Vestalenula marmonieri*, while Martens & Rossetti (2002) reported *Penthesilenula brasiliensis* (Pinto & Kotzian, 1961) from the archipelago. These have thus far been the only Darwinulidae reported from New Caledonia, but other taxa are presently being prepared for description.

Since the launch of the New Caledonia Hydrobiological expeditions by the Muséum national d'histoire naturelle (Paris, France), several species have been added to the fauna of New Caledonia, of which four species have been described as new to science (Martens et al. 2019, 2023a,b; Kisseih et al. (2020)), including two new genera (*Caledromus* Martens et al. 2023a, *Lithocypris* Martens et al. 2023b).

At least three endemic radiations of Cytheroidea and several other species of Cyprididae, Candonidae, Darwinulidae and Ilyocyprididae will be reported on elsewhere.

Acknowledgments

The New Caledonia Hydrobiological expeditions 2016–2018 (PI: Philippe Bouchet, who is here thanked profusely) are part of a cluster of expeditions under the 'Our Planet Reviewed / La Planète revisitée' programme, implemented by the Muséum national d'histoire naturelle (MNHN; Pascale Joannot, head of expeditions programme) in partnership with the Conservatoire d'Espaces naturels (CEN), with funding from the Gouvernement de la Nouvelle-Calédonie, Province Sud, Province Nord, Office des Postes et Télécommunications (OPT), Maison de la Nouvelle-Calédonie and the French Ministry for the Overseas. The expeditions operated under the permit issued by the Province Sud under number APA_NCPS_2017_028. The 2018 hydrobiological expedition operated in Province Nord under permit no. 609011- 47/2018/DEPART/JJC, issued by Direction du Développement Economique et de l'Environnement (DDEE). The organizers thank Emmanuel Coutures and Isabelle Jurquet (Province Sud) for their help in the issuance of these permits. The authors acknowledge the help of the local guides during the expeditions: Alice and Christophe in Koumac and generally Sébastien Faninoz and Alice Leblond in 2016, Nicolas Charpin in 2017 and the late Loyola 'Fanfan' Até in 2018.

We thank Robin Smith (Lake Biwa Museum, Shiga, Japan) and Sourou Joseph Hotekpo (RBINS, Brussels, Belgium) for their help in establishing the identity of the species of *Stenocypris* and Claude Meisch (National Natural History Museum of Luxembourg) for his help with older literature. Nadiny Martins de Almeida (UEM/PEA, Maringá, Brazil) is thanked for technical help with the final version of the drawings of *Kennethia major*. Julien Cillis and Laetitia Despontin (RBINS, Brussels, Belgium) are acknowledged for technical assistance with the SEM illustrations. One anonymous reviewer and Claude Meisch (Luxembourg), suggested important improvements.

JH acknowledges the National Council for Scientific and Technological development (CNPq) for the research productivity grant. The State University of Maringá (UEM, Maringá) and the Royal Belgian Institute of Natural Sciences (RBINS, Brussels) have a bilateral Memorandum of Understanding regarding collaborative scientific research. We thank Claude Meisch for the editorial work and Thierry Helminger for the page layout.

References

Baird, W., 1859. Description of some new recent Entomostraca from Nagpur, collected by the Rev. S. Hislop. *Proceedings of the Royal Society of London* 27: 231–234.

Brady, G. S., 1867. A synopsis of the recent British Ostracoda. *The intellectual Observer* 12 (2): 110–130.

Brady, G. S., 1868. A monograph of the Recent British Ostracoda. *Transaction of the Linnean Society of London* 26 (29: 353–495.

Brady, G. S., 1886. Notes on the Entomostraca collected by Mr A. Haly in Ceylon. *Journal of the Linnean Society of London, Zoology* 19: 293–317.

Brady G. S., 1890. On Ostracoda collected by H.B: Brady, Esq., LL.D., F.R.S., in the South Sea Islands. *Transactions of the Royal Society of Edinburgh* 35: 489–525. https://doi.org/10.1017/S0080456800017749

Brady G.S. & A.M. Norman, 1889. A Monograph of the Marine and Freshwater Ostracoda of the North Atlantic and of North-Western Europe. Section I: Podocopa. *Scientific Transactions of the Royal Dublin Society*, Series 2 (4): 63–270.

Broodbakker, N.W., 1983. Amsterdam Expeditions to the West Indian Islands, Report 35. The genus *Strandesia* and other Cypricercini (Crustacea, Ostracoda) in the West Indies. Part I. Taxonomy. *Bijdragen tot de Dierkunde*: 53 (2): 327-368.

Claus, C., 1892. Beitrage zur Kenntnis der Süsswasser-Ostracoden: 1. Über den Körper und Gliesmassenbau der Cypriden Nebst Bemerkungen Über einzele innere Organe derselben. *Arbeiten aus dem zoologischen Institute der Universität Wien un der zoologischen Station in Triest* 10 (2): 147–216.

Colin, J. P. & T. Hoibian, 2003. Inventaire annote des ostracodes actuels des Departements et Territoires d'Outre-Mer, DOM-TOM. 3: Les ostracodes non-marins de Nouvelle-Caledonie. *Bulletin de la Société linnéenne de Bordeaux* 31 (2): 95–102.

Daday, E., 1898. Mikroskopische Süsswassertiere aus Ceylon. *Természetrajzi Füzetek, supplement* 21: 1–123.

Daday, E. von, 1910. Untersuchungen über die Süsswasser-Mikrofauna Deutsch-Ostafrikas. *Zoologica* 23 (59): 1–314. https://doi.org/10.5962/bhl.title.11655

De Deckker, P., 1979. Comparative morphology and review of Australian Notodromatinae Kaufmann, 1900 (Crustacea, Ostracoda). *Senckenbergiana biologica* 59 (1978): 417–463.

De Deckker, P., 1981. Ostracoda from Australian inland waters – notes on taxonomy and ecology. *Proceedings of the Royal Society of Victoria* 93: 43–85.

Diaz, A. & K. Martens, 2018. On *Argentodromas bellanella* gen. nov., sp. nov. (Crustacea, Ostracoda) from a stream in northern Argentina (South America). *Zoological Studies* 57: 10. https://doi.org/10.6620/ZS.2018.57-10

Diebel, K. 1962. Fossiles Vorkommen von *Limnocythere stationis* Vávra (Ostracoda). *Geologie* 11 (6): 732–734.

Eagar, S.H. 1971. A Check List of the Ostracoda of New Zealand. *Journal of the Royal Society of New Zealand* 1 (1): 53–64.

Ferguson, E. Jr., 1969. The type species of the genus *Stenocypris* Sars, 1889 with the description of two new species. In: Neale, J., Ed., *The taxonomy, morphology and ecology of recent Ostracoda*, 65–75, Edinburg.

Ferreira, V. G., J. Higuti & K. Martens, 2019. A striking case of convergent evolution in two species of Cypricercinae (Crustacea, Ostracoda), with the description of a new genus and species from Brazil. *Zoologischer Anzeiger* 283: 1–11. https://doi.org/10.1016/j.jcz.2019.06.007

Fox, H. M., 1965. Ostracod Crustacea from rice-fields in Italy. *Memorie dell'Istituto ltaliano di Idrobiologia «Dott. Marco De Marchi»* 18: 205–214.

George, S. & K. Martens, 2003. On a new species of the genus *Newnhamia* King, 1855, (Crustacea, Ostracoda) raised from Chalakkudy River sand, (Kerala, India), with notes on the taxonomy and distribution of the Notodromadidae. *Hydrobiologia* 497: 25–37.

Ghetti, P. F., 1973. Dynamique des populations de douze rizieres italiennes. Notes d'écologie. *Annales de la Station biologique de Besse-en-Chandesse* 7: 273–294.

Grandcolas, P., 2017. Ten false ideas about New Caledonia biogeography. *Cladistics* 33: 481–487. https://doi.org/10.1111/cla.12176

Hartmann-Schröder, G. & G. Hartmann, 1978. Zur Kenntnis des Eulitorals der australischen Küsten unter besonderer Berücksichtigung der Polychaeta und Ostracoden. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 75: 63–219.

Hoibian, T., M. Ayress & M. Allenbach, 2000. Ostracod (Crustacea) populations as environmental indicators of inter-tropical transitional deltaic environments. An example from the Néra Delta, New-Caledonia, South-West Pacific. *Revue de Paléobiologie* 19: 207–225.

Hoibian, T., M. Ayress & M. Allenbach, 2002. Ostracod assemblages of Roche Percée bay and adjacent fringing reef-flats – New Caledonia – South-west Pacific. *Revue de Paléobiologie* 21: 177–191.

Holmes, J. A., 1997. Recent non-marine Ostracoda from Jamaica, West Indies. *Journal of Micropalaeontology* 1 (6): 137–143.

Horne, D. J. & K. Martens, 1999. Geographical parthenogenesis in European non-marine ostracods: post-glacial invasion or Holocene stability? *Hydrobiologia* 391: 1–7.

Horne, D. J., A. Cohen & K. Martens, 2002. Taxonomy, morphology and biology of Quaternary and living Ostracoda. *In*: Holmes, A.J. & Chivas, A.R., Eds., *The Ostracoda:*

Applications in Quaternary Research, AGU Geophysical Monograph Series 131: 5–36. https://doi.org/10.1029/131GM02

Howe, H. V., 1962. Ostracod Taxonomy. Louisiana State University Press, Baton Rouge, La., 366 pp.

Jurine, L., 1820. *Histoire des Monocles, qui se trouvent aux environs de Genève*. J.J. Paschoud, Genève, XVI + 274 pp. https://doi.org/10.5962/bhl.title.10137

Kempf, E., 1980. Index and bibliography of nonmarine Ostracoda. Part 1, Index A. *Geologisches Institut der Universität zu Köln, Sonderveröffentlichungen* 35: 1–188.

Kempf, E., 1997. Index and bibliography of nonmarine Ostracoda. Part 6, Index A, Supplement 1. *Geologisches Institut der Universität zu Köln, Sonderveröffentlichungen* 109: 1–142.

King, R. L., 1855. On Australian Entomostracans. Papers and Proceedings of the Royal Society of Van Diemen's Land 3 (1): 56–75.

Kisseih, A., J. Higuti & K. Martens, 2020. Redescription of *Strandesia sanoamuangae* Savatenalinton & Martens, 2010 and description of a new species of *Strandesia* (Crustacea, Ostracoda) from Grande Terre, New Caledonia. *European Journal of Taxonomy* 627: 1–28. https://doi.org/10.5852/ejt.2020.627

Klie, W., 1930. Ostracoden aus dem Paraguayischen Teile des Gran-Chaco. *Archiv fiir Hydrobiologie* 22: 221–258.

Klie, W., 1932. Die Ostracoden der deutschen limnologischen Sunda-Expedition. *Archiv für Hydrobiologie*, *Supplementband* 11: 447–502.

Klie, W., 1938a. Ostracoden aus Formosa. *Bulletin of the biogeographical society of Japan* 8 (2): 21–33.

Klie, W., 1938b. *Ostracoda, Muschelkrebse*. *In*: Dahl, F., Ed., Die Tierwelt Deutschlands und der angrenzenden Meeresteile 34 (3): 230 pp.

Maddocks, R., 2007. Podocopid and Platycopid Ostracoda of New Caledonia. *In*: Payri, C.E. & Richter de Forges, B., eds. *Compendium of Marine Species of New Caledonia,* 2nd edition. *Documents scientifiques et techniques* II7, IRD, Nouméa, pp. 269–273.

Martens, K., 1984. On the freshwater ostracods (Crustacea, Ostracoda) of the Sudan, with special reference to the Red Sea Hills, including a description of a new species. *Hydrobiologia* 110: 137–161.

Martens, K. 1990. Revision of African *Limnocythere* s.s. Brady, 1867 (Crustacea, Ostracoda) with special reference to the Eastern Rift Valley Lakes: morphology, taxonomy, evolution and, palaeoecology. *Archiv für Hydrobiologie, Supplements* 83 (4): 453–524.

Martens, K., 2001a. Ostracoda. Guides to the freshwater invertebrates of Southern Africa. *In*: Day, J.A., Moor, I.J., Stewart, B.A. & Louw, A.E., Eds., *Water Research Commission Report TT* 148/01, 3: 9–77.

Martens, K., 2001b. Taxonomy of the Herpetocypridinae (Crustacea, Ostracoda). *Crustaceana* 74 (3): 295–308.

Martens, K. & B. Toguebaye, 1985. On the presence of *Cypris subglobosa* Sowerby, 1840 (Crustacea, Ostracoda) in Africa, with notes on the distribution of this species. *Annales de la Société royale Zoologique de Belgique* 115 (2): 147–153.

Martens, K. & K. Wouters, 1985a. On *Hemicypris dentatomarginata*, Baird, 1859. *A Stereo-Atlas of Ostracod Shells* 12 (23): 127–134.

Martens, K. & K. Wouters, 1985b. On *Hemicypris bairdi* Martens & Wouters n. sp. *A Stereo-Atlas of Ostracod Shells* 12 (24): 135–140.

Martens, K. & F. Behen, 1994. A checklist of the recent non-marine ostracods (Crustacea, Ostracoda) from the inland waters of South America and adjacent islands. *Travaux scientifiques du Musée d'histoire naturelle de Luxembourg* 22, 81 pp.

Martens, K., B. R. Davies, A. J. Baxter & M. E. Meadows, 1996. A contribution to the taxonomy and ecology of the Ostracoda (Crustacea) from the Verlorenvlei (Western Cape, South Africa). *South African Journal of Zoology* 31 (1): 23–36.

Martens, K. & G. Rossetti, 2002. On the Darwinulidae (Crustacea, Ostracoda) from Oceania, with the description of *Vestalenula matildae* n.sp. *Invertebrate Systematics* 16: 195–208.

Martens, K., I. Schön, C. Meisch & D. J. Horne, 2008. Global biodiversity of non-marine Ostracoda, Crustacea. *In*: Balian, E., Lévêque, C., Segers, H. & Martens, K., eds., Freshwater animal diversity assessment. *Hydrobiologia* 595: 185–193. https://doi.org/10.1007/s10750-007-9245-4

Martens, K., M. Yavuzatmaca & J. Higuti, 2019. On a new species of the genus *Cyprinotus* (Crustacea, Ostracoda) from a temporary wetland in New Caledonia (Pacific Ocean), with a reappraisal of the genus. *European Journal of Taxonomy* 566: 1–22. https://doi.org/10.5852/ejt.2019.566

Martens, K., V. G. Ferreira, N. M. Almeida & J. Higuti, 2023a. On *Caledromus robinsmithi,* a new genus and species of Psychrodromini Martens, 2001 (Crustacea, Ostracoda, Herpetocypridinae) from New Caledonia (Pacific Ocean). *ZooKeys* 1165: 155–182. https://doi.org/10.3897/zookeys.1165.104045

Martens, K., N. M. Almeida, B. Páll-Gergely & J. Higuti, 2023b. On a new tribe, genus and species of Cypricercinae McKenzie, 1971 (Crustacea, Ostracoda, Cyprididae) from New Caledonia (Pacific Ocean). *Zootaxa* 5375 (4): 451–477. https://doi.org/10.11646/zootaxa.5375.4.1

Martens, K., M. Shribak, I. Arkhipova & I. Schön, 2023c. The common morphospecies *Cypridopsis vidua* (O.F. Müller, 1776) (Crustacea, Ostracoda) is not a obligate parthenogen. *Belgian Journal of Zoology* 153: 15–34. https://doi.org/10.26496/bjz.2023.107.

Mary, N. & P. Marmonier, 2000. First survey of interstitial fauna in New Caledonian rivers: influence of geological and geomorphological characteristics. *Hydrobiologia* 418: 199–208.

McKenzie, K.G., 1986. A comparative study of collections from the S. W. Pacific (Saipan to Tonga), with the descriptions of *Gambiella caudata* (Brady, 1890) and a new species of *Pterobairdia* (Ostracoda). *Journal of Micropalaeontology*: 5 (1): 91–108.

McKenzie, K.G. & A. Moroni, 1986. Man as an agent of crustacean passive dispersal via useful plants - exemplified by Ostracoda *ospiti esteri* of the Italian ricefields ecosystem – and implications arising therefrom. *Journal of Crustacean Biology* 6: 181–198.

Masi, L., 1905. Nota sopra una nuova specie di *Cypris senssuata* e sulla *Cypris bispinosa*. *Monitore zoologico Italiana* 16 (7/8): 240–244.

Méhes, G., 1914. Süsswasser-Ostracoden aus Colombien und Argentinien. *Mémoires de la Soctété neuchäteloise des Sciences naturelles* 5: 639–663.

Méhes, G., 1939. Ostracodes de la Nouvelle Calédonie. *Revue Suisse de Zoologie* 46: 549–566.

Meisch, C., 2000. Freshwater Ostracoda of Western and Central Europe. *In*: Schwoerbel, J. & Zwick, P., Eds., *Süßwasserfauna von Mitteleuropa* 8, 3.. Spektrum Akademischer Verlag, Heidelberg, Berlin, pp. 522.

Meisch, C., Smith, R. J. & Martens, K., 2019. A subjective global checklist of the extant non-marine Ostracoda (Crustacea). *European Journal of Taxonomy* 492: 1–135. https://doi.org/10.5852/ejt.2019/492

Mischke, S. 2015. The sub-Recent *Bradleytriebella lineata* (Ostracoda, Crustacea) in Israel. *Journal of Micropalaeontology* 34: 65–70. https://doi.org/10.1144/jmpaleo2014-001

Mischke, S., A. Almogi-Labin, B. Al-Saqarat, A. Rosenfeld, H. Elyashiv, I. Boomer, M. Stein, L. Lev & E. Ito. 2014. An expanded ostracod-based conductivity transfer function for climate reconstruction in the Levant. *Quaternary Science Reviews* 93: 91–105. http://dx.doi.org/10.1016/j.quascirev.2014.04.004

Moniez, R., 1892. Entomostracés d'eau douce de Sumatra et Celebes. 2. Ostracodes. In: Zoologische Ergebnisse einer Reise in Niederlandisch Ostindien (M. Weber, ed.) 2 (1): 129–135.

Moonchaisook, K. & S. Savatenalinton, 2020. Redescriptions of *Stenocypris major major* (Baird, 1859) and *Stenocypris major sketi* Petkovski & Meisch, 1996 (Ostracoda: Crustacea), with discussion on their taxonomic position. *Zootaxa* 4786 (4): 497–515. https://doi.org/10.11646/zootaxa.4786.4.3

Moroni, A., 1961. L'ecosistema di risaia. *Annali della Facolta di Agraria dell'Universita cattolica del Sacrio Cuore*, *nuova serie* 1 (3): 490–624. A cura dell'Ente Nazionale Risi: 1-53.

Müller, O. F., 1776. Zoologiae Danicae Prodromus, seu animalium Daniae et Norvegiae indigenarium Characteres, Nomina et Synyma impromis popularium. Havniae, I-XXXII, 1–282.

Neale, J., 1979. On the genus *Cyprinotus* and its interpretation. In: Proceedings of the VII International Symposium on Ostracodes. Taxonomy, Biostratigraphy and Distribution of Ostracodes (Krstić, N., ed.): Taxonomy, Biostratigraphy and Distribution of Ostracodes. Serbian Geological Society, Belgrade, pp. 77–85.

Okubo, I., 2004. *Nihon tansui san kaimijinko rui ni tsuite*. [Book in Japanese]. Kabushikigaisha Sanmon Insatsusho, Okayama, 72 pp.

Parth, S., Y. Ankit, S. Rigterink, I. Mazzini, J. Russell, A. Anoop & N. Waldmann, 2023. Investigating the impact of climate change on the lake ecosystem during the late Holocene using a sedimentary record from the southern Arabian Desert, Yemen. *Science of the Total Environment* 901: 165835. https://doi.org/10.1016/j.scitotenv.2023.165835

Petkovski, T., 1964. Bemerkenswerte Entomostraken aus Jugoslavien. *Acta Musei Macedonici Scientiarum Naturalium* 9: 147–182.

Petkovski, T. & C. Meisch, 1995. Interesting freshwater Ostracoda, Crustacea. from Macedonia. *Bulletin de la Societé des naturalistes luxembourgeois* 96: 67–183.

Petkovski, T. & C. Meisch, 1996. Species of the genus *Stenocypris* Sars, 1889 from the rice-fields of Macedonia, Crustacea, Ostracoda. *Travaux scientifiques du Musée d'histoire naturelle de Luxembourg* 23: 57–85.

Pillon, Y., T. Jaffré, P. Birnbaum, D. Bruy, D. Cluzel, M. Ducousso, B. Fogliani, T. Ibanez, H. Jourdan, L. Lagarde, A. Léopold, J. Munzinger, R. Pouteau, J. Read & S. Isnard, 2021. Infertile landscapes on an old oceanic island: the biodiversity hotspot of New Caledonia. *Biological Journal of the Linnean Society* 133: 317–341.

Pinto, I. D. & S. C. B. Kotzian, 1961. New ostracodes of the family Darwinulidae and the variation in their muscle scars. *Universidade do Rio Grande do Sul, Instituto de Ciências Naturais, Boletim* 11: 5–64.

Ramdohr, A. F., 1808. Über die Gattung Cypris Müller und drei zu derselben gehörige neue Arten. Magazin der Geselschaft Naturforschender Freunde zu Berlin für die Neuesten Entdeckungen in der Gesammten Naturkunde 2: 85–93.

Rawling, T. J., 2009. New Caledonia Geology. In: Encyclopedia of Islands (Gillespie, R G. & D.A. Clague, eds). University of California Press, Berkeley, pp. 645–648. https://doi.org/10.1525/9780520943728-155

Roca, J. R., A. Baltanás & F. Uiblein, 1993. Adaptive responses in *Cypridopsis vidua* (Crustacea: Ostracoda) to food and shelter offered by a macrophyte, *Chara fragilis*. *Hydrobiologia* 262: 127–131.

Rossetti, G. & K. Martens 1998. Taxonomic Revision of the Recent and Holocene representatives of the Family Darwinulidae (Crustacea, Ostracoda), with a description of three new genera. *Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Biologie* 68: 55–110.

Rossetti, G. & K. Martens, 1999. Contribution to taxonomy and distribution of the genus *Vestalenula* Rossetti & Martens, 1998 (Crustacea, Ostracoda, Darwinulidae), with the description of two new species. *Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Biologie* 69: 57–66.

Rossetti, G., E. Bellavere & I. Mazzini, 2024. First record of males of *Cypridopsis vidua* (Crustacea, Ostracoda) species complex for Europe. *Journal of Limnology* 83: 2184. https://doi.org/10.4081/jlimnol.2024.2184

Rossi, V., G. Benassi, M. Veneri, C. Bellavere, P. Menozzi, A. Moroni & K. G. McKenzie, 2003. Ostracoda of the Italian rice fields thirty years on: new synthesis and hypothesis. *Journal of Limnology* 62 (1): 1–8.

Sabater, L. M., M. D. Monferran, J. Higuti & A. P. Pérez, 2023. An annotated checklist of recent non-marine (Ostracoda, Crustacea) from Argentina, South America. *Zootaxa* 5336 (2): 151–178. https://doi.org/10.11646/zootaxa.5336.2.1

Sars, G. O., 1889. On some Freshwater Ostracoda and Copepoda raised from Dried Australian mud. *Christiania Videnskabs- Selskabs Forhandlinger* 8: 3–79.

Sars, G.O., 1894. Contributions to the knowledge of the Fresh-water Entomostraca of New Zealand as shown by artificial hatching from dried mud. *Videnskabs-Selskabets Skrifter. I Mathem. Naturwv. Klasse* 5: 1–62.

Sars, G.O., 1896. On fresh-water Entomostraca from the neighbourhood of Sydney, partly raised from dried mud. *Archiv for Mathematik og Naturvidenskab* 18: 1–81.

Sars G.O., 1903. Fresh-water Entomostraca from China and Sumatra. *Archiv for Mathematik og Naturvidenskab* 25: 3–44.

Sars G.O., 1924. The freshwater Entomostraca of the Cape Province (Union of South Africa). Ostracoda. *Annals of the South African Museum* 20**:** 105–193.

Savatenalinton S. & K. Martens 2009 Generic revision of Cypricercinae McKenzie, 1971 (Crustacea, Ostracoda), with the description of three new genera and one new species and a phylogenetic analysis of the subfamily. *Hydrobiologia* 632: 1–48. https://doi.org/10.1007/s10750-009-9826-5

Savatenalinton, S. & K. Martens, 2010. On the subfamily Cypricercinae McKenzie, 1971 (Crustacea, Ostracoda) from Thailand, with the description of six new species. *Zootaxa* 2379: 1–77. https://doi.org/10.11646/zootaxa.2379.1.1

Schön, I., S. Halse & K. Martens, 2017. Short Note: *Cyprideis* (Crustacea, Ostracoda) in Australia. *Journal of Micropalaeontology* 36: 31–37. https://doi.org/10.1144/jmpaleo2016-032

Shearn, R., S. Halse, A. Koenders, I. Schön & K. Martens, 2014. Redescriptions of six species of *Ilyodromus* Sars, 1894 (Crustacea, Ostracoda, Cyprididae). *Zootaxa* 3878 (2): 101–145. http://dx.doi.org/10.11646/zootaxa.3878.2.1

Smith, A. J., D. J. Horne, K. Martens & I. Schön, 2015. Class Ostracoda. In: Ecology

and General Biology: Thorp and Covich's Freshwater Invertebrates (J. Thorp, J. & D.C. Rogers, eds, Fourt Edition). Academic Press, London, UK, pp. 757–780.

Smith, R. J., H. Janz & I. Okubo, 2011. Recent Cyprididae and Ilyocyprididae (Crustacea: Ostracoda) from Lake Biwa, Japan, including a summary of the lake's ostracod fauna. *Zootaxa* 2874: 1–37.

Smith, R. J. & T. Kamyia, 2014. The freshwater ostracod (Crustacea) genus *Notodromas* Lilljeborg, 1853 (Notodromadidae) from Japan; taxonomy, ecology and lifestyle. *Zootaxa* 3841 (2): 239–256. http://dx.doi.org/10.11646/zootaxa.3841.2.4

Smith, R. J., J. Lee & C. Young Chang, 2015. Nonmarine Ostracoda (Crustacea) from Jeju Island, South Korea, including descriptions of two new species. *Journal of Natural History* 49: 37–76. http://dx.doi.org/10.1080/00222933.2014.946110

Smith, R. J., D. Zhai, S. Savatenalinton, T. Kamiya & N. Yu, 2018. A review of rice field ostracods (Crustacea) with a checklist of species. *Journal of Limnology* 7: 1–16. http://dx.doi.org/10.4081/jlimnol.2017.1648

Smith, R. J., P. De Deckker & T. Kamyia, 2022. The ontogeny of two species of the family Notodromadidae (Cypridoidea, Ostracoda, Crustacea); taxonomic and palaeogeographic significance. *Zootaxa* 5094 (3): 351–395. https://doi.org/10.11646/zootaxa.5094.3.1

Smith, R. J., H. Ozawa, S. Nishida & S. Nakai 2024. Non-marine Ostracoda (Crustacea) collected from pet shops and a hobbyist's aquaria in Japan, including two new species. *Zootaxa* 5410 (4): 451–494. https://doi.org/10.11646/zootaxa.5410.4.1

Sowerby, J. de C., 1840. Organic remains collected by Mr. Malcolmson and described by Mr. James de Carle Sowerby. In: Malcolmson, J.G., Ed.. On the Fossils of the Eastern Portion of the Great Basaltic District of India. *Transactions of the Geological Society of London, Series 2,* 5 (3): 550–551, pl. 47.

Szwarc, A., K. Martens & T. Namiotko, 2021. On two new Cypridopsinae Kaufmann, 1900 (Crustacea, Ostracoda) from southern Africa. *Zookeys* 1076: 83–107. https://doi.org/10.3897/zookeys.1076.76123

Vávra, W., 1891. Monographie der Ostracoden Böhmens. Archiv der Naturwissenschaftlichen Landesdurchforschung von Böhmen 3: 1–116.

Vávra, W., 1906. Ostracoden von Sumatra, Java, Siam, den Sandwich-Inseln und Japan. *Zoologische Jahrbücher, Abteilung für Systematik, Geographie und Biologie der Tiere* 23: 413–438.

Victor, R. & C. H. Fernando, 1979. The freshwater ostracods (Crustacea: Ostracoda) of India. *Records of the zoological Survey of India* 74 (2): 147–242

Victor, R., C. H. Fernando, 1981. Freshwater Ostracoda of the genera *Chrissia* Hartmann, 1957 and *Stenocypris* Sars, 1889 from Malaysia, Indonesia and the Philippines. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 78: 151–168.

Whatley, R. C., S. Bajpai & J. E. Whittaker, 2003. The identity of the non-marine ostracod *Cypris subglobosa* Sowerby from the intertrappean deposits of peninsular India. *Palaeontology* 46: 1281–1296. https://doi.org/10.1046/j.0031-0239.2003.00341.x

Wouters, K., 2016. On the modern distribution of the euryhaline species *Cyprideis torosa* Jones, 1850 (Crustacea, Ostracoda). *Journal of Micropalaeontology* 36 (2017): 21–30. https://doi.org/10.1144/jmpaleo2015-021

Zhai, D., J. Fan & M. Wang, 2023. Ostracods from the Kunming area of SW China, with description of two new species and male records of *Cypridopsis vidua* (O.F. Müller, 1776). *Zootaxa* 5323 (2): 183–215. https://doi.org/10.11646/zootaxa.5323.2.2