

DYTISCIDAE:

Annotated checklist of Bidessini, Hydrovatini, Hyphydrini, Laccophilinae and Dytiscinae

(Coleoptera)

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Abstract

Six species of Bidessini, three Hydrovatini, one Hyphydrini, two Laccophilinae, and six Dytiscinae (Coleoptera: Dytiscidae) are here recorded from New Caledonia. Most of these species are widespread in Australia (and Asia), none is endemic to New Caledonia. Five species are here recorded for the first time from New Caledonia: *Hydroglyphus daemeli* (SHARP, 1882), *H. godeffroyi* (SHARP, 1882), *H. trifasciatus* (WATTS, 1978), *Hydrovatus opacus* SHARP, 1882, and *Limbodessus cheesmanae* (BALFOUR-BROWNE, 1939). For each species all available New Caledonian data are summarized, and the habitus of each species is depicted.

Key words: Coleoptera, Dytiscidae, Bidessini, Hydrovatini, Hyphydrini, Laccophilinae and Dytiscinae, faunistics, new records, ecology, New Caledonia.

Introduction

This annotated checklist provides a faunistic overview of the 18 species of Bidessini, Hydrovatini, Hyphydrini, Laccophilinae and Dytiscinae recorded from New Caledonia to date. For each species the available distributional and ecological data from New Caledonia are presented. Habitus images of all species are included to ease identification.

The specimens examined are deposited in the following collections:

CGW	Collection Günther Wewalka, Vienna, Austria
CLH	Collection Lars Hendrich, München, Germany (property of NMW)
CYA	Collection Yves Alarie, Laurentian University, Sudbury, Ontario, Canada
IAC	Institut Agronomique Néo-Calédonien, Pocquereux, New Caledonia; S. Cazères, C. Mille
IRSNB	Institut royal des Sciences naturelles de Belgique, Brussels, Belgium; P. Limbourg
MNHN	Muséum national d'Histoire naturelle, Paris, France; H. Perrin
MNHW	Museum of Natural History, Wrocław University, Poland; M. Wanat
NHML	The Natural History Museum, London, U.K. (formerly British Museum of Natural History); C. Taylor
NMP	Národní muzeum v Praze, Czech Republic; J. Hájek
NMW	Naturhistorisches Museum Wien, Vienna, Austria; M.A. Jäch
QMB	Queensland Museum, Brisbane, Australia; G. Monteith
SAMA	South Australian Museum, Adelaide, Australia; C.H.S. Watts
ZSM	Zoologische Staatssammlung, München, Germany; M. Balke

List of Localities

(Locs. 2001/NC: leg. Balke & Wewalka, Locs. 2009/NC: leg. Jäch)

- Loc. 2001/NC 1:** Dumbéa, 50 m a.s.l., near road to Mt. Koghi, 3.XI.2001. Slowly flowing stream (max. 2 m wide), shaded, forming larger pools (max. 70 cm deep), edge with leaf packs and roots, ground sandy and gravelly with few larger stones.
- Loc. 2001/NC 4, 4a** (JÄCH & BALKE 2010: Fig. 8): Dumbéa, 50 m a.s.l., swamp at road to upper course of River Dumbéa, 4.XI.2001 (NC 4) and 21.XI.2001 (NC 4a). Swampy area and inundated forest, larger shaded pools on red clay, with thick leaf layers, some reeds.
- Loc. 2001/NC 5** (JÄCH & BALKE 2010: Fig. 9): Dumbéa, 150 m a.s.l., upper course of River Dumbéa, 4.XI.2001. Large river, 10–20 m wide and max. 3–4 m deep, slowly flowing, sun exposed, beetles taken from water holes on gravel banks and a ditch on dirt road close to the river.
- Loc. 2001/NC 6:** 5 km east of Pouembout, 20 m a.s.l., 6.XI.2001. Lowlands, dirt road inland to Forêt Plate, partly shaded pool (2 m², max. 50 cm deep) in otherwise dry stream bed on red clay, edges of pool with some leaves, grass and roots; water eutrophicated by cattle; surrounding area dry shrubland.
- Loc. 2001/NC 7** (JÄCH & BALKE 2010: Fig. 11): 10 km east of Pouembout, 50 m a.s.l., 6.XI.2001. Lowlands, dirt road 10 km inland to Forêt Plate, small stream, slowly flowing, more or less shaded, collected from small backflows and bays at the edge, with leaves and pine needles; and larger, slowly flowing shallow stream nearby.
- Loc. 2001/NC 9** (JÄCH & BALKE 2010: Fig. 10): 15 km NE Voh, 50 m a.s.l., 6.XI.2001. Almost stagnant river, 10–15 m wide and max. 1 m deep, gravelly, partly shaded, edge with dense mats of submerged vegetation; backflows with leaf packs.
- Loc. 2001/NC 10:** 1 km SW Camp Minier, 20 m a.s.l., 7.XI.2001. Coastal lowland, with low shrubs and eucalypts, small stream (in ca. 50 cm deep gully), rocky/gravelly, fully sun exposed, slowly flowing and partly interrupted, max. 2 m wide.
- Loc. 2001/NC 11:** 5 km east of Koumac, 50 m a.s.l., 7.XI.2001. River Koumac, between Koumac and the Grottes Koumac, ca. 20 m wide but almost completely dry when visited, river bed with gravel, mostly sun exposed; some residual pools with thick green algal mats, water temperature > 35° C, slightly shaded residual pool at river edge, under some larger trees, in leaf packs.
- Loc. 2001/NC 12** (JÄCH & BALKE 2010: Fig. 12): 13 km north of Koumac, 50 m a.s.l., 7.XI.2001. Between Koumac and Ouégoa, ca. 13 km from Koumac, stream on coral gravel besides road, partly shaded, slowly flowing, richly vegetated, on one side of bridge forming larger pool max. 1 m deep.
- Loc. 2001/NC 20** (JÄCH & BALKE 2010: Fig. 18): 3 km north Pouébo, 10 m a.s.l., 10.XI.2001. Swampy meadow at roadside, large ditch with fouling water, grassy edges, bottom muddy, sun exposed.
- Loc. 2001/NC 21** (JÄCH & BALKE 2010: Fig. 15): 10 km north Pouébo, 10 m a.s.l., 10.XI.2001. Small stream, water stagnant, sun exposed, max. 1 m deep.
- Loc. 2001/NC 23:** 9 km SSW Ouégoa, near road to Bondé, 50 m a.s.l., 11.XI.2001. Stream, partly shaded.
- Loc. 2001/NC 24:** west of Cols de Crève-Coeur, 100 m a.s.l., 11.XI.2001. Stream, water almost stagnant, max. 3 m wide, shaded, edge with leaf packs, in front of Cols de Crève-Coeur.
- Loc. 2001/NC 25** (JÄCH & BALKE 2010: Fig. 19): 8 km south of Ouégoa, road to Mandjélia, 50 m a.s.l., 11.XI.2001. Water hole, sun exposed, open area, but two sides of hole partly shaded, water turbid, ground clay, max. 1 m deep, water at bottom cool.
- Loc. 2001/NC 25a:** 8 km south of Ouégoa, 2 km on the road to Mandjélia, 50 m a.s.l., 11.XI.2001. Stream pool in cultivated land.
- Loc. 2001/NC 26:** 10 km SE Ouégoa, road to Mandjélia, 560 m a.s.l., 11.XI.2001. Small stream in gully, water nearly stagnant, montane forest, shaded.
- Loc. 2001/NC 27:** 9 km SSE Ouégoa, road to Mandjélia, 100 m a.s.l., 12.XI.2001. Small stream in cultivated area.
- Loc. 2001/NC 29:** 20–30 km west of Poindimié, ca. 350 m a.s.l., 13.XI.2001. Small stream, water almost stagnant, turbid, max. 1 m deep, ground slightly muddy, edges sandy, with clay and with thick mats of vegetation.
- Loc. 2001/NC 31:** ca. 25 km west of Pombeï, near Bobeïto, 350 m a.s.l., 13.XI.2001. Sun exposed quarry, large pool, 5 × 15 m, about 1 m deep, ground very soft (sand/mud/clay).
- Loc. 2001/NC 40:** 16 km west of Thio, 350 m a.s.l., 16–17.XI.2001. Pool (2 × 1 m wide and more than 50 cm deep) in stream bed formed by concrete ford; unshaded, bottom sandy, with clay, grassy edge, water slightly turbid.
- Loc. 2001/NC 42** (JÄCH & BALKE 2010: Fig. 20): 6 km south of Thio, 50 m a.s.l., 17.XI.2001. Swampy area around a fishpond, close to agricultural school, edge with grass and emergent plants.
- Loc. 2001/NC 43:** 18 km north of Bouloupari, 100 m a.s.l., 17.XI.2001. Stream in open land.
- Loc. 2001/NC 47** (JÄCH & BALKE 2010: Fig. 21): 2 km west of Prony, Goro Nickel Plant, 180 m a.s.l., 19.XI.2001. Water filled doline (towards the middle > 5 m deep), water crystal clear, edge with red soil, reeds and macrophytes.

- Loc. 2001/NC 52:** Mt. Mou, near Sanatorium, 400 m a.s.l., 23.XI.2001. Small stream, shaded, backflows with leaf packs and ditch at road, created by backflow, ground sandy/gravelly, shaded.
- Loc. 2001/NC 54:** Île des Pins, Kwanyi, 50 m a.s.l., 24.XI.2001. Secondary forest, dry stream bed, 1 m wide, cut into ground (ca. 50 cm), rest water puddle, 1.5 m long and max. 15 cm deep, ground with leaves; partly shaded.
- Loc. 2001/NC 57:** 8 km N Ouégoa, camping ground, 1 m a.s.l., 10.XI.2001. At beach, at light. Sampled by G. Wewalka only.
- Loc. 2009/NC 4** (JÄCH & BALKE 2010: Fig. 27): ca. 11 km NE Tontouta, ca. 40 m a.s.l., 21°56'14"S/166°17'21"E, 23.XI.2009. River Tontouta, restwater pools, hardly flowing shallow branch at margin of wide gravel bank, partly shaded by trees and bushes.
- Loc. 2009/NC 5** (JÄCH & BALKE 2010: Fig. 28): Mt. Mou, ca. 13 km SE Tontouta, ca. 380 m a.s.l., 22°04'23.2"S/166°19'47.6"E, 23.XI.2009. Small stream, ca. 1–2 m wide, flowing through dense rainforest.
- Loc. 2009/NC 6** (JÄCH & BALKE 2010: Fig. 31): ca. 10 km NNE Nouméa, ca. 70 m a.s.l., 22°08'02"S/166°30'47"E, 23.XI.2009. River Dumbéa (south branch), ca. 30 m wide, flowing through wide unshaded gravel bed; restwater pools; sandy margins.
- Loc. 2009/NC 7:** ca. 10 km NNE Nouméa, ca. 80 m a.s.l., 22°07'55.5"S/166°30'43.5"E, 23.XI.2009. Small stream (right tributary of River Dumbéa), ca. 1 m wide, flowing between bushes in gully (ca. 2 m deep).
- Loc. 2009/NC 10** (JÄCH & BALKE 2010: Fig. 30): St. Louis, NE Nouméa, ca. 3 m a.s.l., 22°13'45.5"S/166°32'07.7"E, 24.XI.2009. Canal, ca. 1–5 m wide, flowing through open land.
- Loc. 2009/NC 12:** ca. 10 km NW Nouméa, ca. 2 m a.s.l., 22°09'50.4"S/166°25'33.8"E, 25.XI.2009. Swamp in River Dumbéa flood plain.
- Loc. 2009/NC 15** (JÄCH & BALKE 2010: Fig. 39): ca. 8 km NNW Nouméa, ca. 10 m a.s.l., 22°09'20.7"S/166°27'23.7"E, 28.XI.2009. Pools and backwaters of River Dumbéa flood plain.
- Loc. 2009/NC 16** (JÄCH & BALKE 2010: Fig. 35): Col d'Amieu, ca. 10 km NNW La Foa, ca. 490 m a.s.l., 21°36'39"S/165°48'38"E and ca. 430 m a.s.l., 21°36'52"S/165°48'49.6"E, 28.XI.2009. Small streams (1–3 m wide), flowing through forest.
- Loc. 2009/NC 17:** ca. 1 km W Sarraméa, ca. 45 m a.s.l., 21°39'06.2"S/165°49'42.2"E, 28.XI.2009. River, ca. 10 m wide, slowly flowing, with gravel banks, partly shaded by trees.
- Loc. 2009/NC 18** (JÄCH & BALKE 2010: Fig. 37): ca. 2 km NNE Farino, Refuge de Farino – Petite Cascade, ca. 270–340 m a.s.l., 21°38'55"S/165°46'53"E (coordinates taken at Refuge de Farino), 29.XI.2009. Rock pools and residual pools of two very small, almost dry streams (right tributaries of River Farino), flowing through degraded forest.
- Loc. 2009/NC 21** (JÄCH & BALKE 2010: Fig. 38): ca. 7 km SE La Foa, ca. 20 m a.s.l., 21°44'04"S/165°53'23"E, 30.XI.2009. River Pocquereux, epipotamal, ca. 5–10 m wide, flowing through forest.
- Loc. 2009/NC 24** (JÄCH & BALKE 2010: Figs. 42, 45): ca. 2 km NW Prony, ca. 140 m a.s.l., 22°18'36"S/166°48'33"E and ca. 125 m a.s.l., 22°18'24"S/166°48'21"E, 2.XII.2009. Two large pools, unshaded, > 100 m², 1.5 m deep.
- Loc. 2009/NC 27** (JÄCH & BALKE 2010: Fig. 46): ca. 8 km NNE Bouloupari, ca. 120 m a.s.l., 21°48'08"S/166°04'12"E, 3.XII.2009. Stream (La Wamuttu), hardly flowing, mostly over bare rock and between big boulders, with numerous rock pools, through degraded forest.
- Loc. 2009/NC 31** (JÄCH & BALKE 2010: Fig. 48): ca. 17 km NE Népoui, ca. 110 m a.s.l., 21°13'30"S/165°05'30"E (and about 2 km upstream), 4.XII.2009. River Népoui, ca. 10–20 m wide, flowing through degraded forest and cultivated land.

Laccophilinae

Laccophilus clarki SHARP, 1882

(Figs. 1, 19)

Laccophilus clarki SHARP 1882: 313; FAUVEL 1883: 337; SATÔ 1966: 1; BRANCUCCI 1983: 364; NILSSON 2001: 242.

Laccophilus sharpi var. *clarki* FAUVEL 1903: 245; HELLER 1916: 239.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 5 exs. (QMB): "New Caledonia locality 12291, 20°07'S 164°02'E, Tiabet turnoff, 10 m, 29.IV.2004, G. Monteith leg."; 2 exs. (MNHV): "NEW CALEDONIA (N), 20°25.2'S 164°13.3'E, Nehoue river, 15 m, 8.I.2007, public camp site, night coll. (lamp & beating), leg. M. Wanat & R. Dobosz"; 1 ex. (MNHV): "NEW CALEDONIA (N), 21°07'S/164°57'E, 30 m, Tiéa Forest (GIE Fab Nicoli) [private sclerophyll forest

reserve owned by Fab Nicoli] sclerophyllous forest, 30.I.2004, ad lucem, leg. M. Wanat"; 1 ex. (IRSNB): "Kanala [= Canala], rec. Coste, ex. coll. Fauvel".

1 ♂ (CGW): Loc. 2001/NC 6; 1 ex. (NMW): Loc. 2001/NC 7; 1 ♂ (CGW): Loc. 2001/NC 11; 1 ♂, 3 ♀♀ (CGW, NMW): Loc. 2001/NC 12; 1 ♀ (NMW): Loc. 2001/NC 23; 12 exs. (CGW, NMW): Loc. 2001/NC 25; 3 ♂♂, 4 ♀♀ (CGW): Loc. 2001/NC 25a; 3 ♂♂, 1 ♀ (CGW): Loc. 2001/NC 27.

1 ex. (NMW): Loc. 2009/NC 31.

SOUTH PROVINCE: 1 ex. (ZSM): "New Caledonia, Prov. Sud., Dumbéa, Puddle, shore of Dumbéa River, 22°08'S 166°30'E, 6.ix.2008, A. Gervais coll. #T3-1": 2 exs. (IRSNB): "Marais Anse Vata, octobre, rec. Saves, ex. coll. Fauvel"; 1 ex. (IRSNB): "Marais Anse Vata, rec. Saves, ex. coll. Fauvel"; 1 ♂ (CGW): "New Caledonia, Mt. Pouéhi, south of Lac de Yaté, 153 m, 5.IX.1972, leg. Peters".

1 ♀ (CGW): Loc. 2001/NC 4; 1 ♂ (CGW): Loc. 2001/NC 5; 1 ♀ (CGW): Loc. 2001/NC 42.

7 exs. (NMW): Loc. 2009/NC 12; 2 exs. (NMW): Loc. 2009/NC 15; 2 exs. (NMW): Loc. 2009/NC 21.

DISTRIBUTION (Fig. 19): Southeast Asia, Australia, New Caledonia (BRANCUCCI 1983, LAWRENCE et al. 1987, BALKE et al. 1997).

HABITAT: A common species which was found in both lotic and lentic sites. Most of the specimens were collected in permanent pools, reservoirs and ditches. See JÄCH & BALKE (2010: Figs. 8, 9, 11, 12, 19, 20, 38, 39).

***Laccophilus seminiger* FAUVEL, 1883**
(Figs. 2, 19)

Laccophilus seminiger FAUVEL 1883: 337, 1903: 245; HELLER 1916: 239; BALFOUR-BROWNE 1945: 112; BRANCUCCI 1983: 371; NILSSON 2001: 250.

This species was described after a single male from Canala (New Caledonia) around the middle of the 19th century (ex. coll. A. Gambey). It was rediscovered in New Caledonia in 1958 (Ouro, Île des Pins, leg. B. Malkin, see BRANCUCCI 1983) and not recorded again since then.

DISTRIBUTION (Fig. 19): Tropical Australia, New Guinea and New Caledonia (Grande Terre, Île des Pins) (BRANCUCCI 1983, WATTS 1978, 1985, LAWRENCE et al. 1987, BALKE et al. 1997).

HABITAT: In northern Australia found in deep, cold and often shaded water at the edge of residual pools (billabongs) of larger rivers. Furthermore, in Kakadu National Park few specimens were taken in protected embayments of a slowly flowing monsoonal rainforest stream.

Hydroporinae (Bidessini)

***Hydroglyphus daemeli* (SHARP, 1882)**
(Figs. 3, 20)

Bidessus daemeli SHARP 1882: 357.

Guignotus daemeli (SHARP): WATTS 1978: 40.

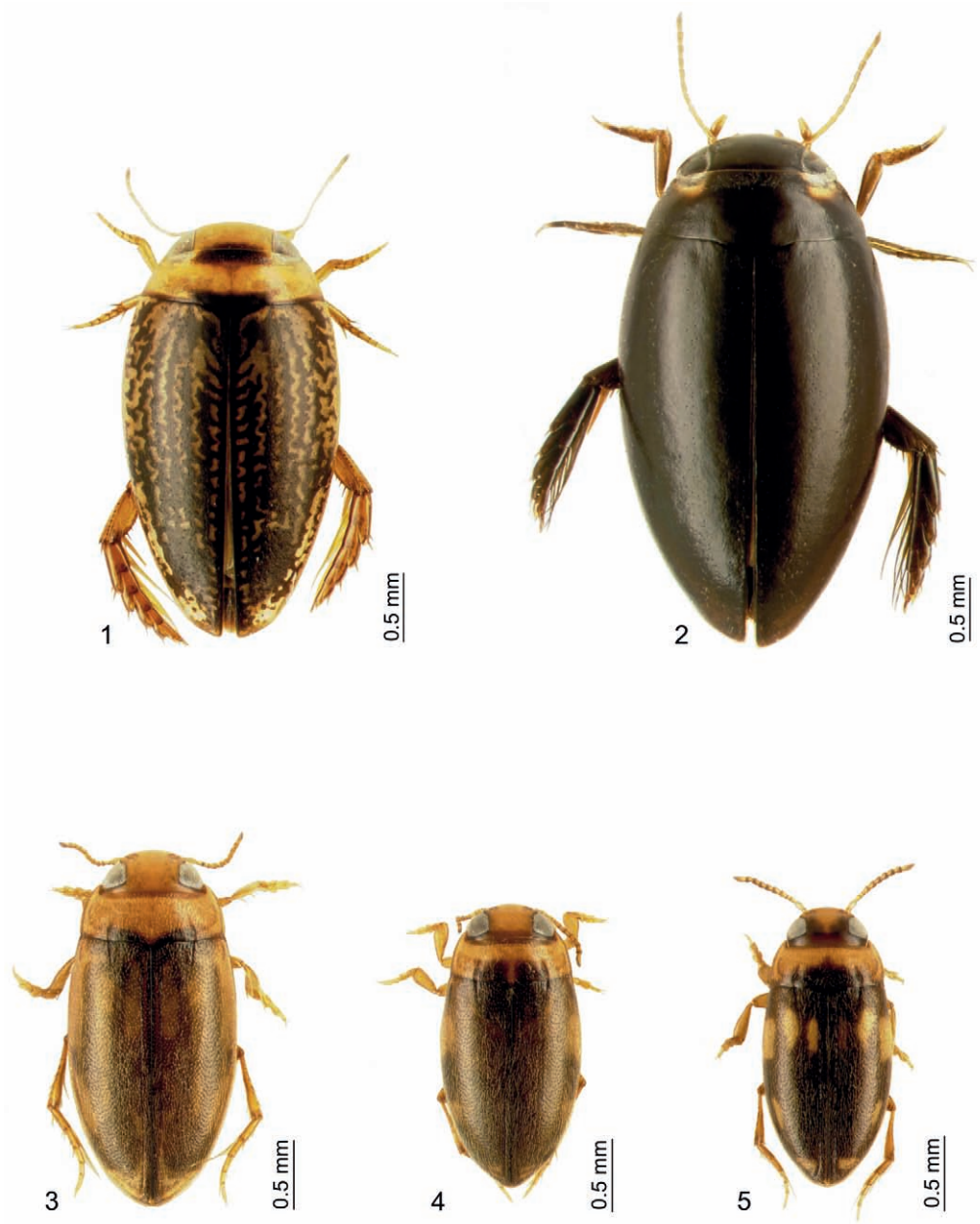
Hydroglyphus daemeli (SHARP): BISTRÖM 1988: 12; NILSSON 2001: 122.

MATERIAL EXAMINED (New Caledonia):

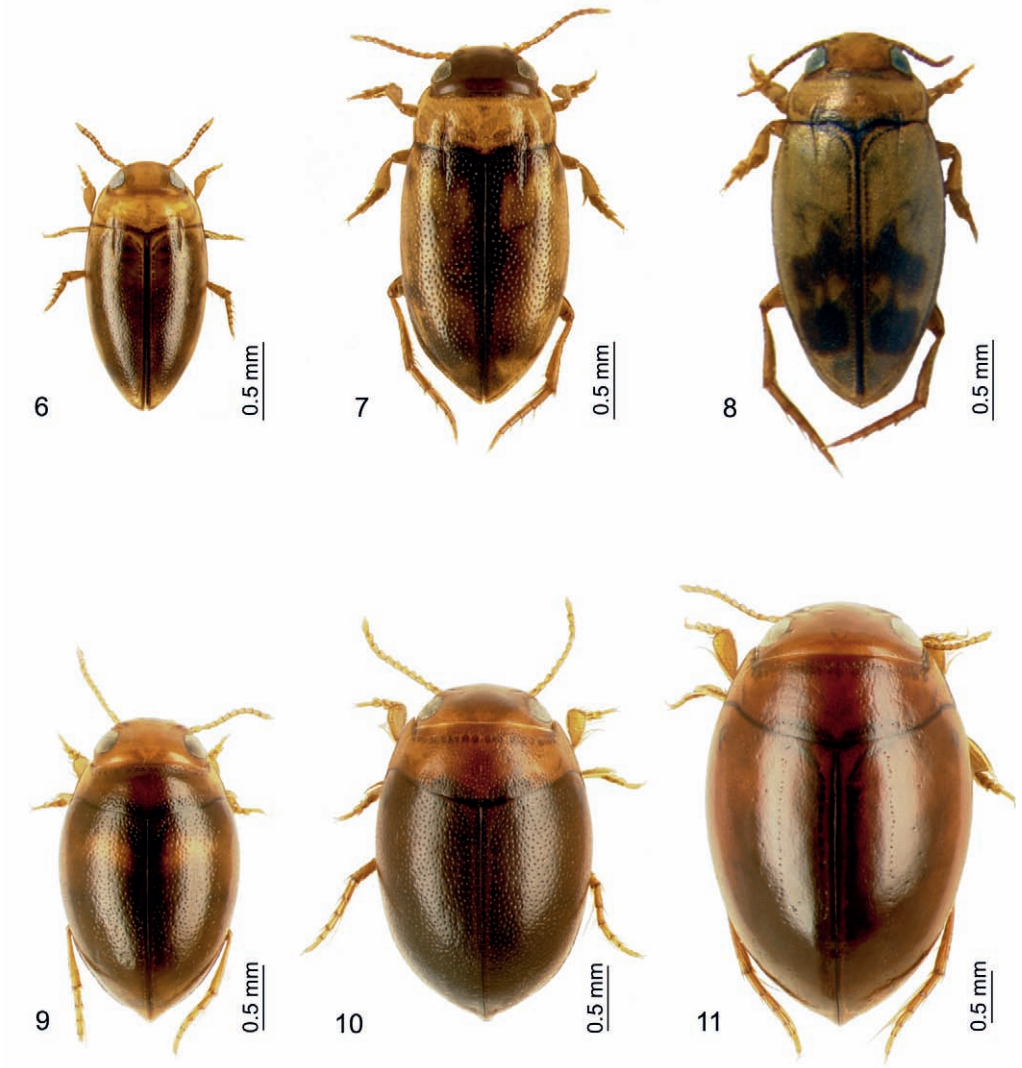
NORTH PROVINCE: 1 ex. (SAMA): "New Caledonia Grotte de Ninrin-Reu [also known as d'Adio cave, 200 m] Rev. Poya, 26.XII.1965 E. Hamilton-Smith leg."

DISTRIBUTION (Fig. 20): Australia (WATTS 1978, 1985, LAWRENCE et al. 1987). First record for New Caledonia.

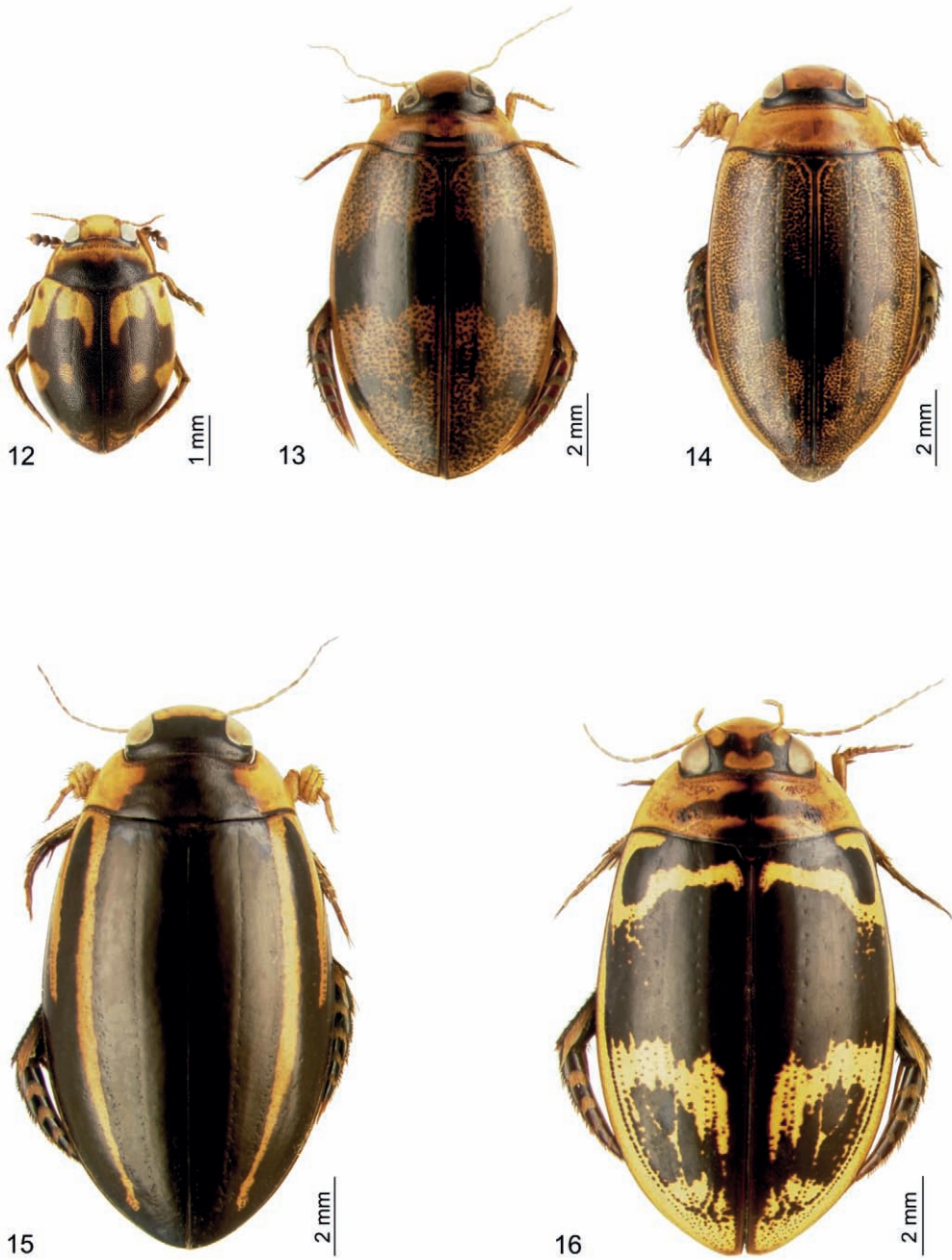
HABITAT: In Australia, *Hydroglyphus daemeli* occurs among emergent vegetation and plant debris at the margin of more permanent lentic habitats such as exposed swamps, residual pools of intermittent rivers or pond-like sections of small, low gradient streams (LARSON 1993). Frequently attracted to light.



Figs. 1–5: Habitus photographs of 1) *Laccophilus clarki*; 2) *L. seminiger*; 3) *Hydroglyphus daemeli*; 4) *H. godeffroyi*; 5) *H. trifasciatus*.



Figs. 6–11: Habitus photographs of 6) *Limbodessus compactus*; 7) *L. cheesmanae*; 8) *Allodessus bistrigatus*; 9) *Hydrovatus fasciatus*; 10) *H. opacus*; 11) *H. rufoniger politus*.



Figs. 12–16: Habitus photographs of 12) *Hyphydrus elegans*; 13) *Rhantaticus congestus*; 14) *Hydaticus consanguineus*; 15) *H. quadrivittatus*; 16) *H. bihamatus goryi*.



Figs. 17–18: Habitus photographs of 17) *Cybister tripunctatus temnenkii*, female; 18) *Sternhydrus atratus*, male.

***Hydroglyphus godeffroyi* (SHARP, 1882)**
(Figs. 4, 20)

Bidessus godeffroyi SHARP 1882: 356.

Guignotus godeffroyi (SHARP): WATTS 1978: 40.

Hydroglyphus godeffroyi (SHARP): BISTRÖM 1988: 13; NILSSON 2001: 123.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 32 exs. (CGW, NMW): Loc. 2001/NC 7; 57 exs. (CGW, NMW): Loc. 2001/NC 12; 1 ♀ (CGW): Loc. 2001/NC 20; 27 exs. (CGW, NMW): Loc. 2001/NC 23; 5 exs. (NMW): Loc. 2001/NC 25; 1 ♂ (CGW): Loc. 2001/NC 27.

2 exs. (NMW): Loc. 2009/NC 31.

SOUTH PROVINCE: 1 ex. (ZSM): “New Caledonia (S), -21.62803/165.76202, Farino, Parc des Grandes Fougères, gate, 450 m, at light, 30. 11.2008, leg. M. Wanat”; 2 exs. (MNHV): “NEW CALEDONIA (S), 21°44.2'S 165°53.8'E, Pocquereux (IAC station), 4.I.2007, 30 m, at light, leg. M. Wanat & R. Dobosz”; 3 exs. (ZSM): “New Caledonia, Prov. Sud, Mont Doré [sic!], Stream, Rd. CR7 2.7km E of rd. CR9, lat. -22°18' long. 166°48'; 27.viii.2008 A. Gervais coll. #H3”.

8 exs. (CGW, NMW): Loc. 2001/NC 4; 1 ex. (NMW): Loc. 2001/NC 4a; 1 ex. (NMW): Loc. 2001/NC 5; 2 ♀♀ (CGW, NMW): Loc. 2001/NC 42; 1 ex. (NMW): Loc. 2001/NC 52.

3 exs. (NMW): Loc. 2009/NC 7; 3 exs. (NMW): Loc. 2009/NC 17; 16 exs. (NMW): Loc. 2009/NC 21.

DISTRIBUTION (Fig. 20): Australia (WATTS 1978, 1985, LAWRENCE et al. 1987). First record for New Caledonia.

HABITAT: In swamps, residual pools, and at the edge of slow flowing streams and rivers. In northern Australia, during the dry season, this is the most common species of Bidessini. Aggregations of several thousand specimens can be found in small isolated pools in the beds of seasonal streams and rivers. The beetles are usually hiding in very shallow water among rotten leaves, twigs and roots of riverine vegetation. See JÄCH & BALKE (2010: Figs. 8, 9, 11, 12, 18, 19, 20, 38, 48).

***Hydroglyphus trifasciatus* (WATTS, 1978)**
(Figs. 5, 20)

Guignotus trifasciatus WATTS 1978: 41.

Hydroglyphus trifasciatus (WATTS): BISTRÖM 1988: 14; NILSSON 2001: 126.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 1 ex. (MNH): "NEW CALEDONIA (N), 20°25.2'S 164°13.3'E, Nehoue river, 15 m, 8.I.2007 public camp site, night coll. (lamp & beating), leg. M. Wanat & R. Dobosz".

1 ex. (NMW): Loc. 2001/NC 12.

SOUTH PROVINCE: 1 ex. (MNH): "NEW CALEDONIA (S), 21°44.2'S 165°53.8'E, Pocquereux (IAC station), 4.I.2007, 30 m, at light, leg. M. Wanat & R. Dobosz".

3 ♂♂, 1 ♀ (CGW, NMW): Loc. 2001/NC 4; 1 ex. (NMW): Loc. 2001/NC 4a.

15 exs. (NMW): Loc. 2009/NC 12; 1 ex. (NMW): Loc. 2009/NC 15.

DISTRIBUTION (Fig. 20): Australia (WATTS 1978, 1985, LAWRENCE et al. 1987). First record for New Caledonia.

HABITAT: Shaded or partly shaded lowland swamps or larger residual pools of intermittent streams and rivers. See JÄCH & BALKE (2010: Figs. 8, 12, 39).

***Allodessus bistrigatus* (CLARK, 1862)**
(Figs. 8, 20)

Hydroporus bistrigatus CLARK 1862: 419.

Bidessus bistrigatus (CLARK): FAUVEL 1883: 338, 339, 1903: 246; HELLER 1916: 239.

Allodessus bistrigatus (CLARK): WATTS 1978: 44; BISTRÖM 1988: 19; NILSSON 2001: 109; BALKE & RIBERA 2004: 119.

MATERIAL EXAMINED (New Caledonia):

SOUTH PROVINCE: 1 ♂ (MNH): "NEW CALEDONIA (S), 21°44.2'S 165°53.8'E, Pocquereux (IAC station), 4.I.2007, 30 m, at light, leg. M. Wanat & R. Dobosz".

DISTRIBUTION (Fig. 20): Australia and New Caledonia (Grande Terre). FAUVEL (1883) reported this species from Canala (North Province).

HABITAT: The single specimen recently collected from New Caledonia was found in a cultivated area at light. In Australia, this species is wide-spread and eurytopic occurring in all kinds of standing water. Aggregations of several hundred specimens can be found in small exposed isolated pools in the beds of seasonal streams, rivers and swamps. This species tolerates slightly saline water. It is a very good flyer and is frequently attracted to light.

***Limbodessus cheesmanae* (BALFOUR-BROWNE, 1939b)**
(Figs. 7, 21)

Bidessus cheesmanae BALFOUR-BROWNE 1939b: 464; NILSSON 2001: 143.

Limbodessus cheesmanae (BALFOUR-BROWNE): BALKE & RIBERA 2004: 125.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 1 ex. (NMW): Loc. 2001/NC 7.

1 ex. (NMW): Loc. 2009/NC 31.

SOUTH PROVINCE (Grande Terre): 1 ex. (ZSM): “New Caledonia, Prov. Sud., Mont Doré [sic!], pond near Ti River, road CR4 3.5 km N road RP1, -22°12'S 166°32'E, 17.vii.2008, A. Gervais coll. #C2”.

6 exs. (CGW, NMW): Loc. 2001/NC 4; 20 exs. (CGW, NMW): Loc. 2001/NC 5.

4 exs. (NMW): Loc. 2009/NC 4.

SOUTH PROVINCE (Île des Pins): 13 exs. (CGW, NMW): Loc. 2001/NC 54.

DISTRIBUTION (Fig. 21): Vanuatu (BALFOUR-BROWNE 1939b), New Caledonia (Grande Terre and Île des Pins). First record for New Caledonia.

HABITAT: In lowland swamps, puddles and residual pools of smaller streams, and vegetation at the edge of larger rivers. See JÄCH & BALKE (2010: Figs. 8, 9, 11, 27, 48).

***Limbodessus compactus* (CLARK, 1862)**
(Figs. 6, 21)

Hydroporus compactus CLARK 1862: 421.

Bidessus compactus (CLARK): FAUVEL 1883: 339; FAUVEL 1903: 247; HELLER 1916: 239.

Limbodessus compactus (CLARK): BALKE & SATÔ 1995: 188; NILSSON 2001: 128.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 8 ♂♂ (CGW, NMW): Loc. 2001/NC 12; 3 ♂♂, 2 ♀♀ (CGW, NMW): Loc. 2001/NC 23; 1 ex. (NMW): Loc. 2001/NC 24; 1 ♂ (CGW): Loc. 2001/NC 27.

SOUTH PROVINCE: 1 ex. (ZSM): “New Caledonia, Prov. Sud, Dumbéa, Pond, Rd. RM4 1km E of Rd. RT1, lat. -22°9' long. 166°27' 06.ix.2008 A. Gervais coll. #T1”.

2 ♀♀ (CGW): Loc. 2001/NC 4; 2 ♀♀ (CGW, NMW): Loc. 2001/NC 42.

3 exs. (NMW): Loc. 2009/NC 12; 2 exs. (NMW): Loc. 2009/NC 15; 1 ex. (NMW): Loc. 2009/NC 21.

DISTRIBUTION (Fig. 21): Southeast Asia, Australia, New Guinea (WATTS 1978, 1985, LAWRENCE et al. 1987, BALKE & SATÔ 1995) and New Caledonia.

HABITAT: See under *Hydroglyphus godeffroyi*. For habitat photographs see JÄCH & BALKE (2010: Figs. 8, 12, 20, 38, 39).

Hydroporinae (Hydrovatini)

***Hydrovatus fasciatus* SHARP, 1882**
(Figs. 9, 22)

Hydrovatus fasciatus SHARP 1882: 326; FAUVEL 1883: 338, 1903: 246; HELLER 1916: 239; BISTRÖM 1997: 342; NILSSON 2001: 191.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 1 ex. (IRSNB): “Koné, rec. Atkinson, ex. coll. Fauvel”; 1 ex. (IRSNB): “Kanala [= Canala], rec. Coste, ex. coll. Fauvel, *Hydrovatus fasciatus* SHARP, 1882, Biström det. 1989”.

7 exs. (CGW, NMW): Loc. 2001/NC 12; 2 exs. (CGW): Loc. 2001/NC 20.

SOUTH PROVINCE (Île des Pins): 1 ex. (IRSNB): “Île des Pins, Faustien, ex. coll. Fauvel, *Hydrovatus fasciatus* SHARP, 1882, Biström det. 1989”.

DISTRIBUTION (Fig. 22): Philippines, Indonesia (Bali, Ambon, Ceram, West Papua), Australia, and New Caledonia (FAUVEL 1883, BISTRÖM 1997).

HABITAT: See under *Hydroglyphus godeffroyi*. For habitat photographs see JÄCH & BALKE (2010: Figs. 12, 18).

***Hydrovatus opacus* SHARP, 1882**
(Figs. 10, 22)

Hydrovatus opacus SHARP 1882: 331; BISTRÖM 1997: 538; NILSSON 2001: 192.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 11 exs. (MNHV, ZSM): “NEW CALEDONIA (N), 20°28.6'S 164°15.6'E, road Bonde-Mandjéla Mt 250 m, Niaouli forest, 9.I.2007, at light, leg. M. Wanat & R. Dobosz”; 4 exs. (MNHV): “NEW CALEDONIA (N), 20°44.8'S 164°52.8'E, Tiendanite, 50 m, 12.I.2007, at light, leg. M. Wanat & R. Dobosz”.

21 exs. (CGW, NMW): Loc. 2001/NC 12; 13 exs. (CGW): Loc. 2001/NC 20; 3 exs. (CGW): Loc. 2001/NC 21; 74 exs. (CGW, NMW): Loc. 2001/NC 29.

SOUTH PROVINCE: 2 exs. (MNHV): “NEW CALEDONIA (S), 21°35.2'S 165°46.4'E, Col d'Amieu, 450-470 m (6.5-7.0 km from gate), 6.I.2007 (loc. 6), night coll., leg. M. Wanat & R. Dobosz”; 6 exs. (ZSM): “New Caledonia (S), -21.62803/165.76202, Farino, Parc des Grandes Fougères, gate, 450 m, at light, 30. 11.2008, leg. M. Wanat”; 1 ex. (ZSM): “New Caledonia, Prov. Sud, Dumbéa, Pond, Rd. RM4 1km E of Rd. RT1, lat. -22°9' long. 166°27'; 06.ix.2008 A. Gervais coll. #T1”.

18 exs. (CGW): Loc. 2001/NC 4; 12 exs. (CGW): Loc. 2001/NC 42; 2 exs. (NMW): Loc. 2001/NC 57.

1 ex. (NMW): Loc. 2009/NC 15.

DISTRIBUTION (Fig. 22): Philippines, New Guinea, Australia (BISTRÖM 1997). First record for New Caledonia.

HABITAT: See under *Hydroglyphus godeffroyi*. For habitat photographs see JÄCH & BALKE (2010: Figs. 8, 12, 15, 18, 20, 39).

***Hydrovatus rufoniger politus* SHARP, 1882**
(Figs. 11, 22)

? *Hyphidrus* [sic!] *austrorcaledonicus* PERROUD & MONTRUISIER 1864: 74.

Hyphidrus austrorcaledonicus PERROUD: FAUVEL 1868: 176.

Hyphidrus austrorcaledonicus PERROUD: SHARP 1882: 816.

? *Hydrovatus austrorcaledonicus* PERROUD & MONTRUIZIER: FAUVEL 1883: 338, 1903: 246; BISTRÖM 1997: 92; NILSSON 2001: 202.

Hydrovatus rufoniger politus SHARP 1882: 332; BISTRÖM 1997: 391; NILSSON 2001: 198.

Hydrovatus politus (SHARP): HELLER 1916: 239.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 2 exs. (MNHV, ZSM): “NEW CALEDONIA (N), 20°25.2'S 164°13.3'E, Nehoue river, 15 m, 8.I.2007, public camp site, night coll. (lamp & beating), leg. M. Wanat & R. Dobosz”; 16 exs. (MNHV, ZSM): “NEW CALEDONIA (N), 20°28.6'S 164°15.6'E, road Bonde-Mandjéla Mt 250 m, Niaouli forest, 9.I.2007, at light, leg. M. Wanat & R. Dobosz”; 1 ex. (IRSNB): “Koné, rec. Atkinson, ex. coll. Fauvel”, “*Hydrovatus rufoniger politus* Biström 1989”.

14 exs. (CGW, NMW): Loc. 2001/NC 12; 14 exs. (CGW, NMW): Loc. 2001/NC 25.

SOUTH PROVINCE: 3 exs. (ZSM): “New Caledonia (S), -21.62803/165.76202, Farino, Parc des Grandes Fougères, gate, 450 m, at light, 30. 11.2008, leg. M. Wanat”; 1 ex. (IAC): “Nouvelle Calédonie, La Foa/SRFP, Lat. S. 21.73205 Long. E 165.89936, Alt. 32 m”, “Collecté sur: Ampoule vapeur mercure [mercury vapour lamp], Le 09/03 & 11/03/07, Par N. Degallier”; 2 exs. (CLH, NMP): “New Caledonia, S.P. Paita, 20.III.1999, S. Bílý leg.”; 2 exs. (IRSNB): “Marais Anse Vata, octobre - rec. Savés, ex. coll. Fauvel”, “*Hydrovatus rufoniger politus* Biström 1989”.

1 ex. (NMW): Loc. 2001/NC 4; 10 exs. (CGW, NMW): Loc. 2001/NC 42.

1 ex. (NMW): Loc. 2009/NC 10.

REMARKS: FAUVEL (1883) transferred *Hyphydrus austrocaledonicus* to the genus *Hydrovatus* MOTSCHULSKY, 1853 and provided a key for the two species then known to occur in New Caledonia (*Hydrovatus rufoniger politus* and *H. fasciatus*). An examination of the type material would be necessary to assure the identity of *Hyphydrus austrocaledonicus* (BISTRÖM 1997: 92). BISTRÖM (1997) failed to locate the type material. We inquired at the IRSNB which e.g. has types of *Rhantus marmoratus* PERROUD & MONTRONISIER, 1864 (BALKE 1993), but there are no types of *Hyphydrus austrocaledonicus* in that collection (Pol Limbourg, e-mail of 30.III.2010). We have however seen the specimens which FAUVEL (1883) had before him and which he listed as *Hyphydrus austrocaledonicus*, and these are *Hydrovatus rufoniger politus*.

DISTRIBUTION (Fig. 22): Australia, New Caledonia.

HABITAT: See under *Hydroglyphus godeffroyi*. This species is a good flyer and frequently attracted to light (BISTRÖM 1997). For habitat photographs see JÄCH & BALKE (2010: Figs. 8, 12, 19, 20, 30).

Hydroporinae (Hyphydrini)

Hyphydrus elegans (MONTRONISIER, 1860)

(Figs. 12, 23)

Pachytes elegans MONTRONISIER 1860: 345; FAUVEL 1868: 176.

Hyphidrus [sic!] *Illigeri* PERROUD & MONTRONISIER 1864: 75.

Hyphydrus caledoniae CLARK 1862: 406.

Hyphydrus Illigeri PERROUD: FAUVEL 1868: 176.

Hyphydrus (Pachytes) elegans (MONTRONISIER): FAUVEL 1883: 339, 1903: 247; HELLER 1916: 239.

Hyphydrus elegans (MONTRONISIER): BISTRÖM 1982: 19; NILSSON 2001: 223.

TYPE MATERIAL: *Pachytes elegans* was described from Île Art, types could not be located (BISTRÖM 1982: 20). *Hyphydrus illigeri* was described from Canala, types could not be located (BISTRÖM 1982: 20). *Hyphydrus caledoniae* was described from "New Caledonia", the **Lectotype** ♂ (NHML) was designated by BISTRÖM (1982: 20).

MATERIAL EXAMINED (New Caledonia):

7 exs. (IRSNB): "N. Caledonie, coll. Deyrolle, Coll. Severin det. Régimbart 1891", "Régimbart det. 1891 *Hyphydrus elegans* Mont".

NORTH PROVINCE: 1 ex. (NMW): Koniambo, 174 m, 9.I.2005, leg. C. Pöllabauer; 1 ex. (IRSNB): "Kanala [= Canala], rec. Coste", "ex. coll. Fauvel", "coll. et det. A. Fauvel *Hyphydrus elegans* Mont."; 2 exs. (QMB): "New Caledonia locality 11932, 20°20'S 164°18'E Forêt d'Ougne, 5m, 11.XII.2004, rainforest stream, G. Monteith leg.".

1 ♂, 2 ♀♀ (CGW): Loc. 2001/NC 6; 4 exs. (CGW, NMW): Loc. 2001/NC 25.

SOUTH PROVINCE (Grande Terre): 1 ex. (IRSNB): "Bourail, rec. Lécard"; "ex. coll. Fauvel", "coll. et det. A. Fauvel *Hyphydrus elegans* Mont."; 1 ex. (IRSNB): "Anse Vata, rec. Savés", "ex. coll. Fauvel", "coll. et det. A. Fauvel *Hyphydrus elegans* Mont."; 1 ♂, 1 ♀ (NMP): "New Caledonia, South Prov. Paita, 20.III.1999, S. Bílý leg."; 1 ex. (CLH): "New Caledonia, Prov. Sud., Mont Doré [sic!], pond near Ti River, road CR4 3.5 km N road RP1, -22°12'S 166°32'E, 17.vii.2008, A. Gervais coll. #C2"; 1 ex. (ZSM): "New Caledonia (S), -21.62803/165.76202, Farino, Parc des Grandes Fougères, gate, 450 m, at light, 30. 11.2008, leg. M. Wanat".

1 ♂, 2 ♀♀ (CGW): Loc. 2001/NC 1; 11 ♂♂, 20 ♀♀ (CGW, NMW): Loc. 2001/NC 42.

7 exs. (NMW): Loc. 2009/NC 15.

SOUTH PROVINCE (Île des Pins): 1 ex. (IRSNB): "Île des Pins, rec. Deplanche", "ex. coll. Fauvel", "coll. et det. A. Fauvel *Hyphydrus elegans* Mont.".

DISTRIBUTION (Fig. 23): Indonesia (Timor), New Guinea, Australia, Vanuatu, New Caledonia (Grande Terre, Belep Islands (Île Art), Île des Pins), and New Zealand (FAUVEL 1883, BISTRÖM 1982, LAWRENCE et al. 1987).

HABITAT: This species occurs in all types of lentic habitats and is most abundant in areas with emergent vegetation at the margin of permanent ponds and reservoirs. Also, larger series were collected from isolated pools in the beds of seasonal streams. For habitat photographs see JÄCH & BALKE (2010: Figs. 19, 20, 39).

Dytiscinae

Rhantaticus congestus (KLUG, 1833)

(Figs. 13, 24)

Hydaticus rochasi PERROUD & MONTROUSIER 1864: 81; FAUVEL 1868: 176, 1883: 344; RÉGIMBART 1895: 208 (synonymy).

Rhantaticus signatipennis LAPORTE 1835: 95; FAUVEL 1883: 344, 345; FAUVEL 1903: 251; HELLER 1916: 240.

Rhantaticus congestus (KLUG 1833: 48); FAUVEL 1883: 344; SATÔ 1966: 3; NILSSON 2001: 83.

TYPE MATERIAL: *Hydaticus rochasi*: **Syntypes:** 1 ♀: “Syntype”, “Nouvelle-Calédonie Kanala [= Canala] 1853–1857 R.P. Montrouzier” [printed label], “Hydaticus rochasi Kanala [= Canala]” [handwritten label], “Hydaticus rochasi Montr.”, “R. Mus. Hist. Nat. Belg. I. G. 12.595” [printed label], “TYPE” [red printed label] (IRSNB); 1 ♂: “Syntype”, “Nouvelle-Calédonie Kanala [= Canala] 1853-1857 R.P. Montrouzier” [printed label], “Hydaticus rochasi Montr.”, “R. Mus. Hist. Nat. Belg. I. G. 12.595” [printed label], “Paratype” [orange printed label] (IRSNB); 1 ♀: “Hydaticus rochasi Montr N. Caledon” [handwritten label], “Coll. R. I. Sc. N. B. Nouvelle Calédonie” [pink printed label] (IRSNB).

ADDITIONAL MATERIAL EXAMINED (New Caledonia):

1 ♀ (IRSNB): “Nouvelle Calédonie”, “17479 Coll. et det. A. Fauvel”.

NORTH PROVINCE: 1 ex. (QMB): “New Caledonia locality 12291, 20°07'S 164°02'E, Tiabet turnoff, 10 m, 29.IV.2004, G. Monteith leg.”; 2 exs. (ZSM): “New Caledonia: Mandjéla, 567m, 8.xii.2008, 20°24.363'S 164°31.163'E, J. Damgaard leg.”; 1 ex. (MNH): “NEW CALEDONIA (N), 20°25.2'S 164°13.3'E, Nehoue river, 15 m, 8.I.2007, public camp site, night coll. (lamp & beating), leg. M. Wanat & R. Dobosz”; 9 exs. (MNH, ZSM): “NEW CALEDONIA (N), 21°07'S/164°57'E, 30 m, Tiéa Forest (GIE Fab Nicoli) [private sclerophyll forest reserve owned by Fab Nicoli] sclerophyllous forest, 30.I.2004, ad lucem, leg. M. Wanat”.

4 ♂♂, 5 ♀♀ (CGW, NMW): Loc. 2001/NC 25; 1 ♂ (NMW): Loc. 2001/NC 31.

SOUTH PROVINCE: 1 ♀ (IAC): “Nouvelle Calédonie, Sarraméa, 21°44'S, 23.03.04, JPK [J.-P. Kataoui] Réc.”; 1 ♂ (IRSNB): “Anse Vata marais”, “Rhantaticus signatipennis Cast, 17479 Coll. et det. A. Fauvel”; 2 exs. (ZSM): “New Caledonia, Prov. Sud, Mont Doré [sic!], Pond, Road CR7 1.8 km E of road CR9, lat. -22°18' long. 166°48', 19.viii.2008 A. Gervais coll. #D2”; 2 exs. (MNH): “NEW CALEDONIA (S), 22°20'S/166°58'E, 80 m, Port Boise (ca. 5 km N of), maquis, ad lucem, 14.II.2004, leg. M. Wanat”.

1 ♂ (NMW): Loc. 2001/NC 47.

1 ex. (NMW): Loc. 2009/NC 12; 1 ex. (NMW): Loc. 2009/NC 15.

DISTRIBUTION (Fig. 24): Afrotropical, Oriental and Australian Realms (LAWRENCE et al. 1987, NILSSON 2001). New Caledonia (Grande Terre). FAUVEL (1883: 344) reported this species also from Île des Pins.

HABITAT: Eurytopic species, mainly found in exposed swamps, paddy fields, ditches and residual pools of intermittent streams and rivers. The habitats are often structurally enriched with leaves and submerged vegetation. This species is a good flyer and often attracted to light. For habitat photographs see JÄCH & BALKE (2010: Figs. 19, 21, 39).

Cybister tripunctatus temnenkii AUBÉ, 1838

(Figs. 17, 25)

Cybister Novae-Caledoniae MONTROUSIER 1860: 241; FAUVEL 1868: 176.

Cybister novaecaledoniae MONTROUSIER: NILSSON 2001: 90 (synonymy).

Cybister artensis MONTROUSIER 1860: 241; FAUVEL 1868: 176; NILSSON 2001: 90 (synonymy).

Cybister tripunctatus OLIVIER 1795: 14; FAUVEL 1883: 345, 346, 1903: 252; HELLER 1916: 240.

Cybister tripunctatus hamatus (MONTROUSIER 1855: 9); BALFOUR-BROWNE 1945: 114.

Cybister tripunctatus ssp. *temnenkii* AUBÉ 1838: 74; NILSSON 2001: 90.

TYPE MATERIAL (not examined): *Cybister novaecaledoniae* was described from New Caledonia (locality not specified). *Cybister artensis* was described from Île Art. BALKE (1993) vainly searched for Montrouzier's collection in the MNHN.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 1 ex. (MNHV): "NEW CALEDONIA (N), 20°34'S/164°17'E, Koumac, 1.2004, ad lucem, leg. A. Renevier".

3 ♂♂, 1 ♀♀ (CGW): Loc. 2001/NC 12; 3 ♂♂, 3 ♀♀ (CGW, NMW): Loc. 2001/NC 25.

SOUTH PROVINCE: 1 ex. (MNHV): "NEW CALEDONIA (S), 21°44.2'S 165°53.8'E, Pocquereux (IAC station), 4.I.2007, 30 m, at light, leg. M. Wanat & R. Dobosz"; 1 ♂ (ZSM): "New Caledonia, Prov. Sud, Mont Doré [sic!], Pond, Road CR7 1.8 km E of road CR9, lat. -22°18' long. 166°48'; 19.viii.2008 A. Gervais coll. #D2"; 1 ♂ (IAC): "Mont Dore, VIII.2000, at light, leg. C. Mille"; 1 ♂, 1 ♀ (NMW): Mont Dore District, 1 km north of nickel mine "usine pilote Goro-Nickel", 22°20'S/165°54'E, 130 m, 1999, leg. C. Pöllbauer; 1 ex. (ZSM): "New Caledonia: pond 10km W Yaté, 11.xii.2008, J. Damgaard leg.".

DISTRIBUTION (Fig. 25): This species inhabits the warmer parts of the Old World. *Cybister tripunctatus temnenkii* is distributed from Australia over New Guinea to New Caledonia (NILSSON 2001). In New Caledonia it is found on Grande Terre, Île des Pins and the Belep Islands (see also FAUVEL 1883).

HABITAT: A lentic species inhabiting open, permanent ponds, ditches, swamps, paddy fields and Taro plantations (MONTROUZIER 1860, FAUVEL 1883). The most common and dominant larger dytiscid in South-East Asia and Australia. This species is a good flyer and frequently attracted to light. For habitat photographs see JÄCH & BALKE (2010: Figs. 12, 19).

***Sternhydrus atratus* (FABRICIUS, 1801)**
(Figs. 18, 25)

Onychohydrus atratus (FABRICIUS 1801: 259); NILSSON 2001: 96.

Homoeodytes atratus: FAUVEL 1883: 345, 1903: 251; HELLER 1916: 240.

Sternhydrus atratus: MILLER et al. 2007: 44.

MATERIAL EXAMINED (New Caledonia):

SOUTH PROVINCE: 36 exs. (CYA, ZSM): "New Caledonia, Prov. Sud, Mont Doré [sic!], Pond, Road CR7 1.8 km E of road CR9, lat. -22°18' long. 166°48'; 19.viii.2008 A. Gervais coll. #D2".

DISTRIBUTION (Fig. 25): Australia (WATTS 1978, 1985, LAWRENCE et al. 1987, NILSSON 2001), New Guinea, and New Caledonia (Grande Terre and Île des Pins) (see also FAUVEL 1883).

HABITAT: In Australia a lentic species inhabiting open, permanent ponds, swamps and ditches. Mainly found in shallow water, where the vegetation is densest. Aaron Gervais (personal communication) collected the specimens from a large and deep, sun exposed eutrophicated pond with red algae and macrophytes. They were caught in plastic bottle traps baited with meat and fish.

***Hydaticus bihamatus goryi* AUBÉ, 1838**
(Figs. 16, 26)

Colymbetes clairvillei MONTROUZIER 1860: 242; FAUVEL 1868: 176, 1883: 344; BALFOUR-BROWNE 1939a: 112 (synonymy).

Hydaticus bihamatus ssp. *goryi* AUBÉ 1838: 175; BALFOUR-BROWNE 1945: 114; SATÔ 1966: 2; NILSSON 2001: 100.

Hydaticus goryi (AUBÉ): FAUVEL 1883: 344, 1903: 250; FLEUTIAUX 1911: 162; HELLER 1916: 239; STARMÜHLNER 1986: 477.

TYPE MATERIAL (not examined): *Colymbetes clairvillei* was described from New Caledonia. BALKE (1993) vainly searched for Montrouzier's collection in the MNHN.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 2 exs. (QMB): "New Caledonia locality 11932, 20°20'S 164°18'E, Forêt d'Ougne, 5 m, 11.XII.2004, rainforest stream, G. Monteith leg."; 1 ex. (QMB): "New Caledonia locality 11930, 20°25'S 164°13'E, Nehoue Campground, 10 m, 6.I.2005, rainforest stream, G. Monteith leg."; 2 exs. (NMW): Koniambo, 110 m, 29.XII.2004, leg. C. Pöllabauer; 1 ex. (CLH): "New Caledonia, Koumac, 20 m, 6.XII.–5.I.1991, J. Wiesner & Worm leg."; 1 ex. (MNHV): "NEW CALEDONIA (N), 21°07'S/164°57'E, 30 m, Tiéa Forest (GIE Fab Nicoli) [private sclerophyll forest reserve owned by Fab Nicoli] sclerophyllous forest, 30.I.2004, ad lucem, leg. M. Wanat".

1 ♂, 4 ♀♀ (CGW): Loc. 2001/NC 6; 1 ♀ (CGW): Loc. 2001/NC 23; 1 ♀ (NMW): Loc. 2001/NC 26; 2 ♂♂, 2 ♀♀ (CGW): Loc. 2001/NC 27.

SOUTH PROVINCE (Grande Terre): 1 ♀ (IAC): "N-Calédonie, SRAP [Station de Recherche Agronomique de Pocquereux], Piège Lum., 20.III.2004, T. Salesne Réc."; 3 exs. (ZSM): "New Caledonia, Prov. Sud., Mont Doré [sic!], stream, road CR5 6 km N road RP1, 22°11'S 166°32'E, 31.vii.2008, A. Gervais coll. #M2"; 1 ex. (ZSM): "New Caledonia (S), -21.94861/166.28834, Tontouta River, at light, 30 m, 1. 11.2008, leg. M. Wanat"; 1 ♂ (CGW): "New Caledonia, Pic Mourange, 150 m, 24.IX.1972, Beck leg".

1 ♂ (NMW): Loc. 2001/NC 1; 6 ♂♂, 4 ♀♀ (CGW): Loc. 2001/NC 4; 6 ♂♂, 4 ♀♀ (NMW): Loc. 2001/NC 4a; 1 ♀ (CGW): Loc. 2001/NC 40; 1 ♂ (CGW): Loc. 2001/NC 43; 1 ♂ (NMW): Loc. 2001/NC 52.

3 exs. (NMW): Loc. 2009/NC 5; 1 ex. (NMW): Loc. 2009/NC 16; 1 ex. (NMW): Loc. 2009/NC 18; 1 ex. (NMW): Loc. 2009/NC 27.

SOUTH PROVINCE (Île des Pins): 3 exs. (CLH): "Île des Pins, 28.III.1994, M. Schöller leg.".

3 ♂♂, 3 ♀♀ (CGW): Loc. 2001/NC 54.

DISTRIBUTION (Fig. 26): Australia (WATTS 1978, 1985, LAWRENCE et al. 1987), New Guinea, New Caledonia (Grande Terre, Île des Pins), Fiji (BALFOUR-BROWNE 1945, NILSSON 2001). BALFOUR-BROWNE 1945 reported this species from the Loyalty Islands (Lifou), referring to Fauvel, but we were unable to find such a report in Fauvel's publications.

NOTES: This species belongs to the *Hydaticus pacificus* group, which is wide-spread in Southeast Asia and the Australian Region. It is in need of a comprehensive taxonomic revision (Wewalka in prep.).

HABITAT: A lentic species which inhabits shaded, isolated pools of intermittent streams and smaller rivers, mainly in forested areas. Specimens are generally found in pools with clay silt and organic debris. For habitat photographs see JÄCH & BALKE (2010: Figs. 8, 28, 35, 37, 46).

Hydaticus consanguineus AUBÉ, 1838 (Figs. 14, 27)

Colymbetes dorsalis LUCAS in MONTROUZIER 1860: 243; FAUVEL 1883: 344; BRANDEN 1885: 100 (synonymy).

Hydaticus consanguineus AUBÉ 1838: 160; FAUVEL 1883: 344, 1903: 251; HELLER 1916: 240; BALFOUR-BROWNE 1945: 114; SATÔ 1966: 2; WEWALKA 1979: 133; NILSSON 2001: 101.

TYPE MATERIAL (not examined): *Colymbetes dorsalis* was described from New Caledonia. BALKE (1993) vainly searched for Montrouzier's collection in the MNHN.

MATERIAL EXAMINED (New Caledonia):

4 exs. (IRSNB): "Nouvelle Calédonie, *Hydaticus consanguineus* R. Mouchamps det.".

NORTH PROVINCE: 2 exs. (QMB): "New Caledonia locality 12291, 20°07'S 164°02'E, Tiahet turnoff, 10 m, 29.IV.2004, G. Monteith leg."; 1 ex. (MNHV): "NEW CALEDONIA (N), 20°25.2'S 164°13.3'E, Nehoue river, 15 m, 8.I.2007, public camp site, night coll. (lamp & beating), leg. M. Wanat & R. Dobosz"; 3 exs. (IRSNB): "Pouébo", "Coll. et det. A. Fauvel"; 3 exs. (CLH): "New Caledonia, Koumac, 20 m, 6.XII.1990–5.I.1991, Wiesner & Worm leg."; 4 exs. (QMB): "New Caledonia locality 12268, 21°02'S 165°24'E, Tiakan Beach MV light, 5 m, 30.IV.2004, G. Monteith leg."; 1 ex. (MNHV): "NEW CALEDONIA (N), 21°07'S/164°57'E, 30 m, Tiéa Forest (GIE Fab Nicoli) [private sclerophyll forest reserve owned by Fab Nicoli] sclerophyllous forest,

30.I.2004, ad lucem leg. M. Wanat"; 1 ex. (ZSM): "New Caledonia: Aoupinié, 474m, 6.xii.2008, 21°09.159'S 165°19.193'E, J. Damgaard leg."

2 ♀♀ (CGW): Loc. 2001/NC 6; 1 ♀ (NMW): Loc. 2001/NC 9; 1 ♀ (CGW): Loc. 2001/NC 10; 1 ♂ (CGW): Loc. 2001/NC 25; 4 ♂♂ (CGW): Loc. 2001/NC 25a; 1 ♂, 2 ♀♀ (CGW): Loc. 2001/NC 27.

1 ex. (NMW): Loc. 2009/NC 31.

SOUTH PROVINCE: 1 ♂, 1 ♀ (IAC): "Nouvelle Calédonie, La Foa, Nily, 21°42'13.79"S 165°49'05.66"E, 29/01/[20]08 & 27/03/[20]06, 14 m, Attiré par la lumière, C. Mille coll."; 1 ♂ (IAC): "New Caledonia, Pocquereux, 18.III.2004, JPK [J.-P. Kataoui] Réc."; 3 exs. (MNHWS, ZSM): "NEW CALEDONIA (S), 21°44.2'S 165°53.8'E, Pocquereux (IAC station), 4.I.2007, 30 m, at light, leg. M. Wanat & R. Dobosz"; 1 ♀ (IAC): "N-Calédonie [Station de Recherche Agronomique de Pocquereux], light trap, 20.III.2004, T. Salesne Réc."; 1 ex. (ZSM): "New Caledonia, Prov. Sud, Mont Doré [sic!], Pond, Road CR7 1.8 km E of road CR9, lat. -22°18' long. 166°48'; 19.viii.2008 A. Gervais coll. #D2"; 3 exs. (NMP): "New Caledonia, South Prov., Plaine des lacs, Chutes de la Madeleine, 27.-30.III.1999, S. Bílý leg."

1 ♂ (NMW): Loc. 2001/NC 1; 2 ♀♀ (CGW): Loc. 2001/NC 4; 2 ♀♀ (NMW): Loc. 2001/NC 4a; 3 ♂♂, 2 ♀♀ (NMW): Loc. 2001/NC 42.

1 ex. (NMW): Loc. 2009/NC 6; 4 exs. (NMW): Loc. 2009/NC 12; 3 exs. (NMW): Loc. 2009/NC 21; 1 ex. (NMW): Loc. 2009/NC 24.

DISTRIBUTION (Fig. 27): Australia, Solomon Islands, Vanuatu, Fiji, Tonga, Samoa (BALFOUR-BROWNE 1945, WEWALKA 1979, LAWRENCE et al. 1987). New Caledonia (Grande Terre and Île des Pins) (see also FAUVEL 1883).

HABITAT: Mainly found outside forests in exposed swamps, paddy fields, ditches and residual pools of intermittent streams and rivers. The habitats are often structurally enriched with leaves and submerged vegetation. All species of the *Hydaticus fabricii* species group (WEWALKA 1979) are good flyers and are frequently attracted to light. For habitat photographs see JÄCH & BALKE (2010: Figs. 8, 10, 19, 20, 31, 38, 45, 48).

Hydaticus quadrivittatus BLANCHARD, 1843

(Figs. 15, 26)

Hydaticus quadrivittatus BLANCHARD 1843: pl. 4; WEWALKA 1975: 96; NILSSON 2001: 105.

Hydaticus quadrivittatus australianus SATÔ 1961: 58, 1966: 2.

MATERIAL EXAMINED (New Caledonia):

NORTH PROVINCE: 1 ex. (NMW): Koniambo, 81 m, 26.XI.2004, leg. C. Pöllabauer; 1 ex. (ZSM): "New Caledonia: Aoupinié, 474m, 6.xii.2008, 21°09.159'S 165°19.193'E, J. Damgaard leg."

1 ♀ (CGW): Loc. 2001/NC 12.

SOUTH PROVINCE: 1 ex. (CYA): "New Caledonia, Prov. Sud, Mont Doré [sic!], Pond, Road CR7 1.8 km E of road CR9, lat. -22°18' long. 166°48'; 19.viii.2008 A. Gervais coll. #D2".

1 ♂ (CGW): Loc. 2001/NC 47.

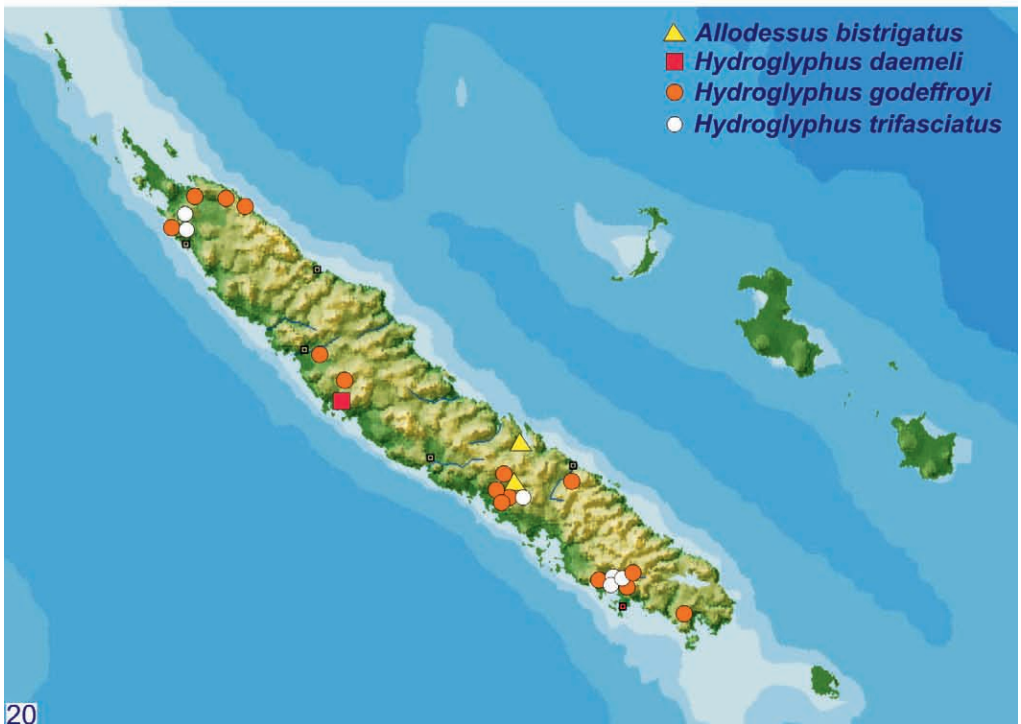
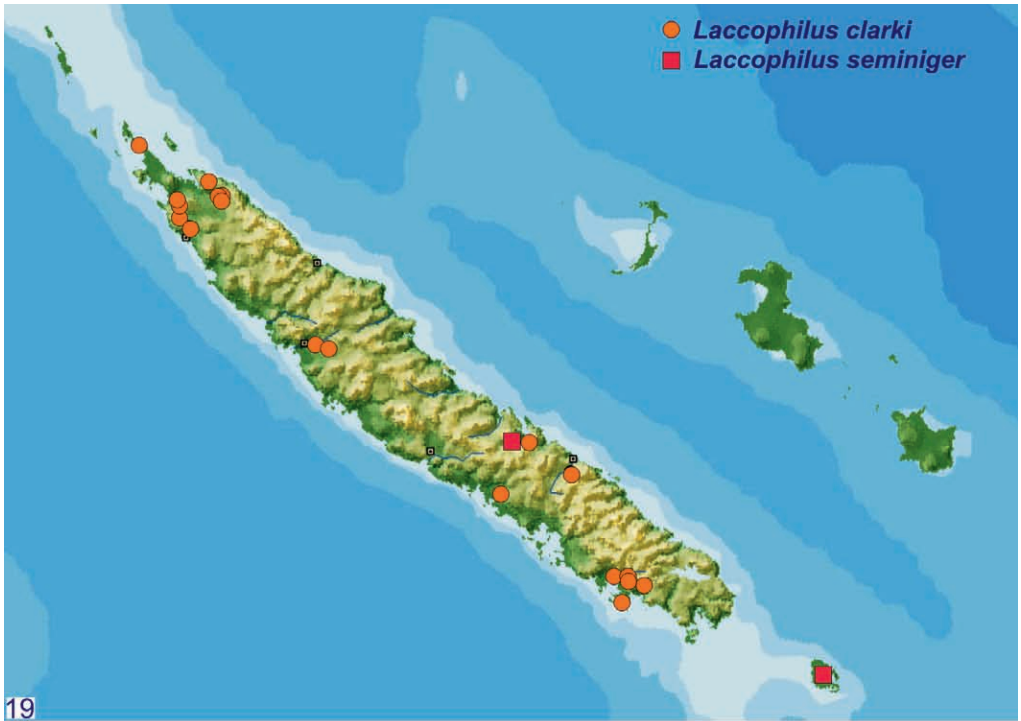
DISTRIBUTION (Fig. 26): Australia, New Guinea, New Caledonia (WEWALKA 1975, WATTS 1985, 2002).

HABITAT: See under *Hydaticus consanguineus*. For habitat photographs see JÄCH & BALKE (2010: Figs. 12, 21).

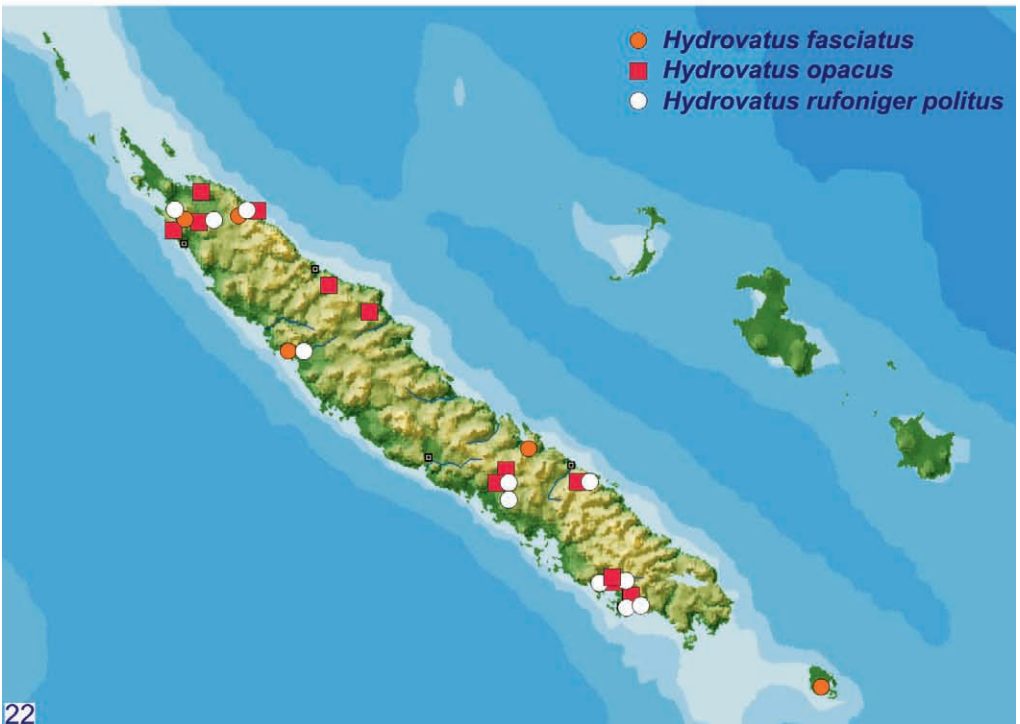
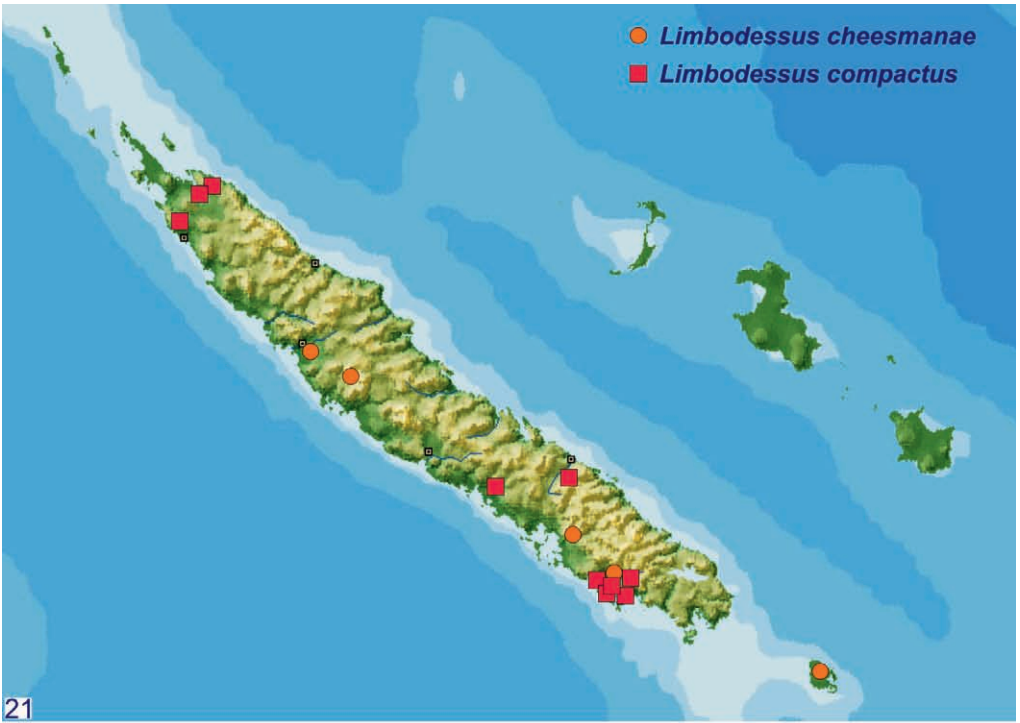
[*Dytiscus marginalis* LINNAEUS, 1758]

Dytiscus marginalis LINNAEUS: FAUVEL 1862: 132, plate IX, 1868: 176.

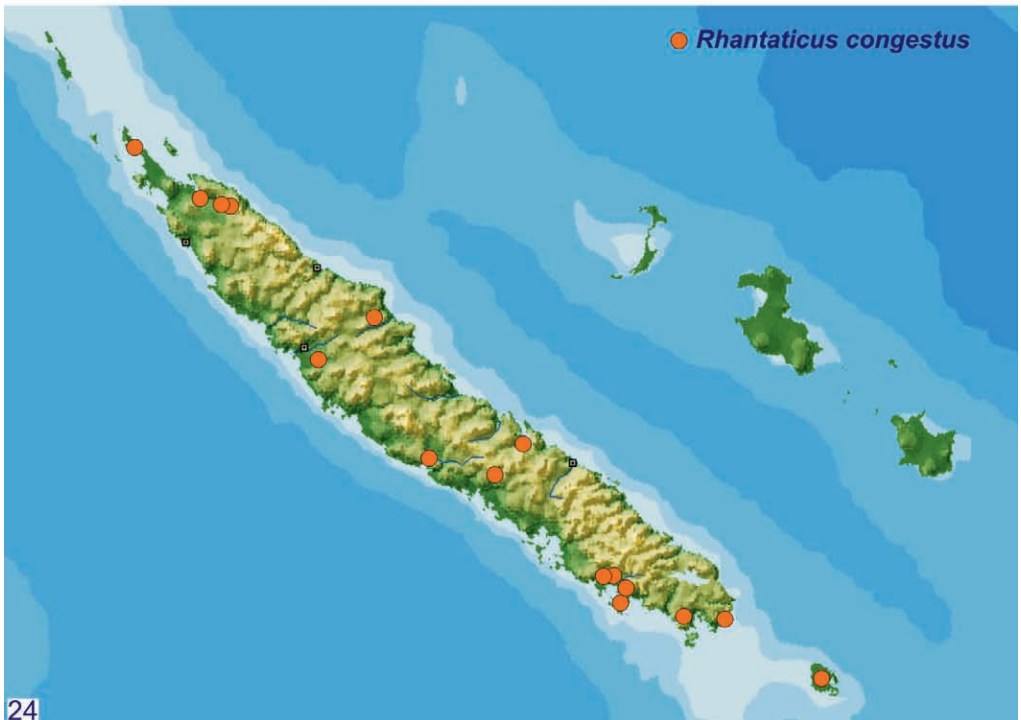
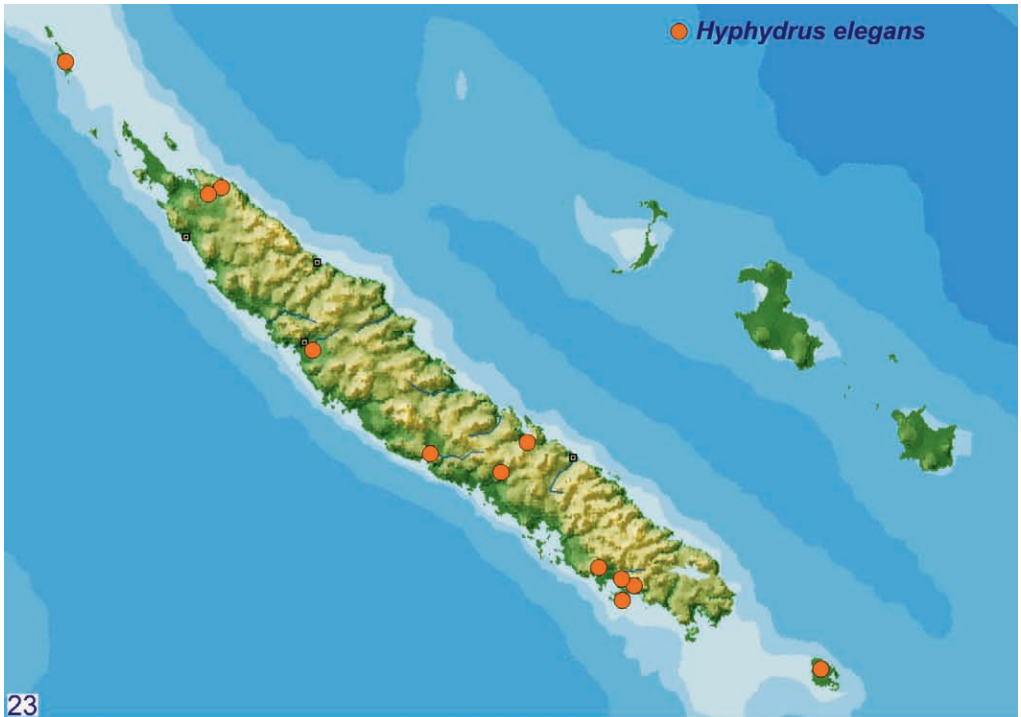
This Palearctic species was reported from New Caledonia based on "un seul exemplaire ♂, arrivé en débris" by FAUVEL (1862). This highly doubtful record has never been confirmed, it is very probably based on misidentification.



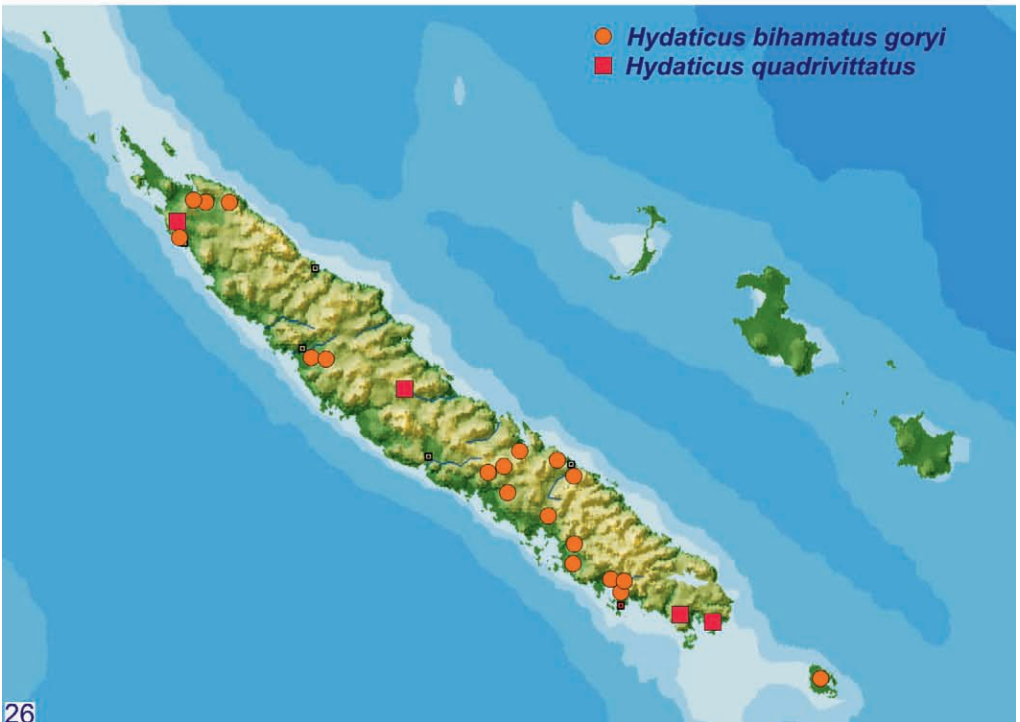
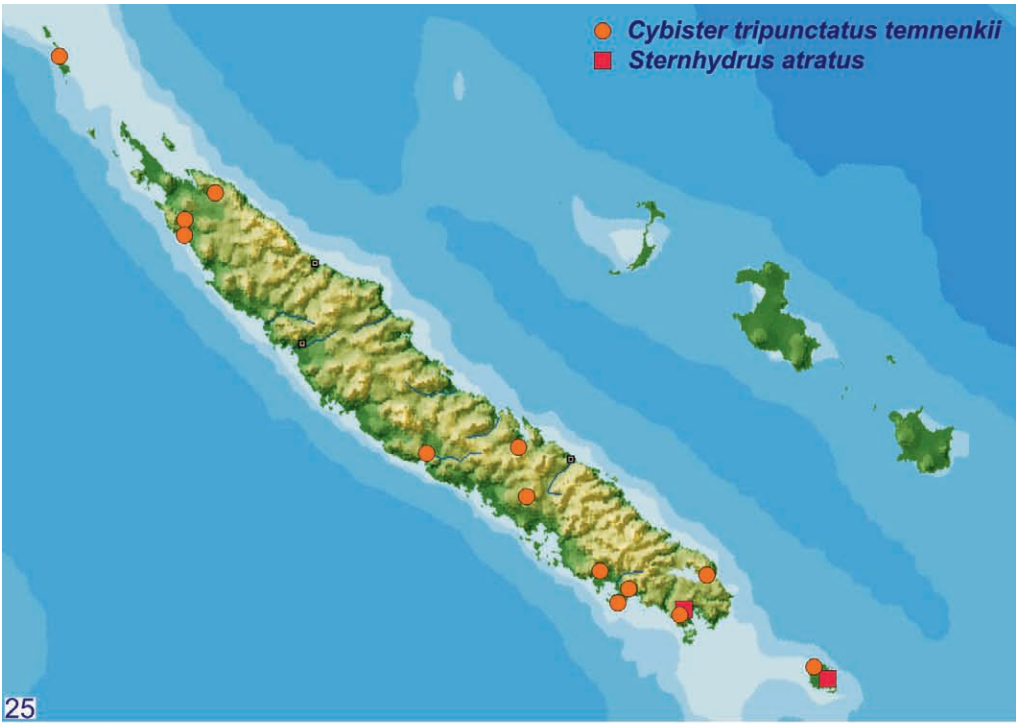
Figs. 19–20: Distribution of 19) *Laccophilus clarki* and *L. seminiger*; 20) *Allodessus bistrigatus*, *Hydroglyphus daemeli*, *H. godeffroyi* and *H. trifasciatus* in New Caledonia.



Figs. 21–22: Distribution of 21) *Limbodessus cheesmanae* and *L. compactus*; 22) *Hydrovatus fasciatus*, *H. opacus* and *H. rufoniger politus* in New Caledonia.



Figs. 23–24: Distribution of 23) *Hyphydrus elegans*; 24) *Rhantaticus congestus* in New Caledonia.



Figs. 25–26: Distribution of 25) *Cybister tripunctatus temnenkii* and *Sternhydrus atratus*; 26) *Hydaticus bihamatus goryi* and *H. quadrivittatus* in New Caledonia.

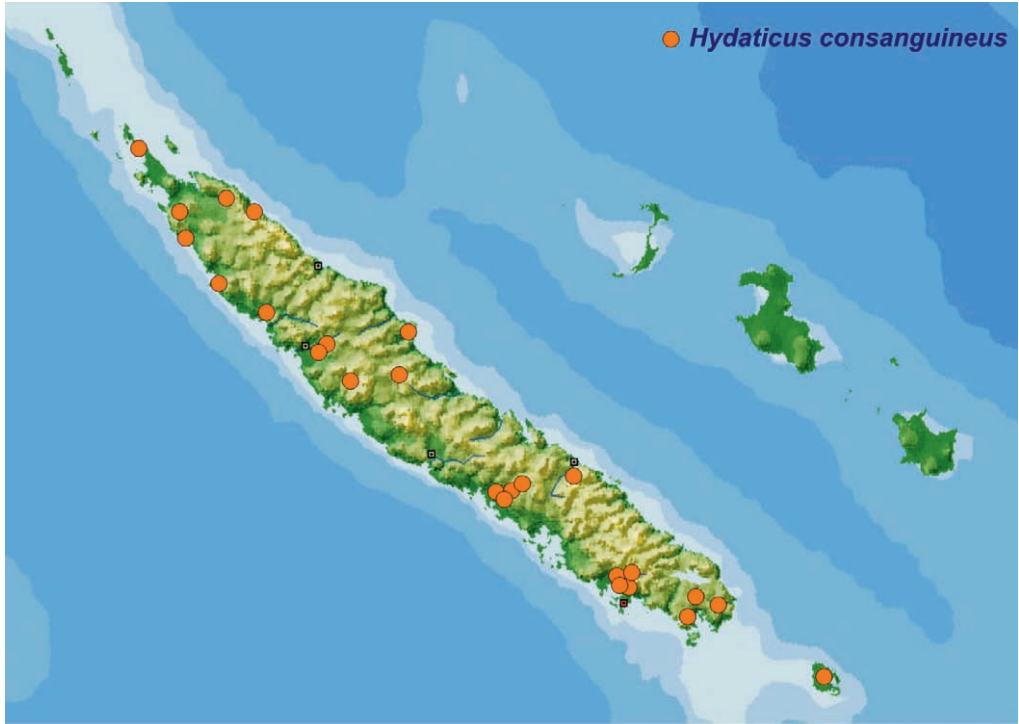


Fig. 27: Distribution of *Hydaticus consanguineus* in New Caledonia.

Discussion

Above we list those 18 species of diving beetles from New Caledonia, which were not treated in other chapters of this volume. They belong to the following tribes and subfamilies (in parentheses: numbers of New Caledonian species): Laccophilinae (2) Bidessini (6), Hydrovatini (3), Hyphydrini (1), Dytiscinae (6).

In contrast to the usually endemic New Caledonian Hydroporini (HENDRICH et al. 2010), Copelatinae (WEWALKA et al. 2010) and Colymbetinae (BALKE et al. 2010) most species treated here are common and wide-spread in the Australian Region or even further. The only exception is *Limbodessus cheesmanae* which is known only from New Caledonia and Vanuatu.

Hydroglyphus daemeli, *H. godeffroyi*, *H. trifasciatus*, *Hydrovatus opacus* and *Limbodessus cheesmanae* are here recorded for the first time from New Caledonia. *Sternhydrus atratus* and *Allodessus bistrigatus* are recorded from New Caledonia after at least 125 years.

Species treated in this chapter usually inhabit more or less permanent, mainly lentic habitats like pools, ponds, reservoirs, ditches and swamps in lower altitudes, often outside forests or in cultivated land. Most of the species mentioned in this paper are capable of flight. In Australia they are often collected at light.

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