

HYDROPHILIDAE:

The genus *Paracymus* THOMSON

(Coleoptera)

E. GENTILI

Abstract

One species of *Paracymus* THOMSON, 1867 (Coleoptera: Hydrophilidae) is recognized from New Caledonia: *P. metallescens* FAUVEL, 1883. This species is here resurrected from synonymy with *P. pygmaeus* (MACLEAY, 1871).

Key words: Coleoptera, Hydrophilidae, *Paracymus*, taxonomy, New Caledonia.

Introduction

The genus *Paracymus* THOMSON, 1867 was first recorded from New Caledonia by FAUVEL (1883), studying four specimens, which he described as *P. metallescens*. ORCHYMONT (1926) pointed out that “*Paracymus metallescens* Fauvel, 1883, from New Caledonia is perhaps the same as *P. pygmaeus* W.S. MACLEAY, 1871, from Australia”. It must be added that FAUVEL (1883) himself stated, that his beetle “occurred also in the Australian continent”. Eventually, WOOLDRIDGE (1976) treated *P. metallescens* as a synonym of *P. pygmaeus*, noting that it was “placed in synonymy by Orchymont, 1926”. However, ORCHYMONT (1926) had in fact refrained from a formal synonymization, because “no material from the original country could be seen”. Nonetheless, HANSEN (1999) also considered *P. metallescens* as a junior synonym of *P. pygmaeus*, uncritically following WOOLDRIDGE (1976). Finally, GENTILI (2000) formally synonymized *P. metallescens* and *P. pygmaeus*.

Material and methods

More than 130 specimens of *Paracymus* from New Caledonia were examined with a Beck Kassel CBS stereomicroscope. The aedeagi figured were mounted on transparent plastic cards with DMHF (dimethyl hydanthoin formaldehyde resin, soluble in distilled water). They were studied and drawn with a GALILEO LG transmitted light microscope, equipped with a light projection device.

The specimens examined are deposited in the following collections:

IAC	Institut Agronomique Néo-Calédonien, Pocquereux, New Caledonia; S. Cazères, C. Mille
IRSNB	Institut royal des Sciences naturelles de Belgique, Brussels, Belgium; D. Drugmand
MNHW	Museum of Natural History, Wrocław University, Poland; M. Wanat
MSNV	Museo Civico di Storia Naturale, Verona, Italy
NMP	Národní muzeum v Praze, Czech Republic; M. Fikáček
NMW	Naturhistorisches Museum Wien, Vienna, Austria; M.A. Jäch, A. Komarek

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 3:** Dumbéa, 50 m a.s.l., near road to Mt. Koghi, 3.XI.2001. Slowly flowing stream (max. 2 m wide and 40 cm deep), partly shaded, edge with leaf packs and roots, ground sandy and gravelly.
- Loc. 2001/NC 4a** (JÄCH & BALKE 2010: Fig. 8): Dumbéa, 50 m a.s.l., swamp at road to upper course of River Dumbéa, 21.XI.2001. 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 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 22:** Col d'Amoss, 350–120 m a.s.l., 11.XI.2001. Small stream.
- 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 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 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 33:** Aoupinié, 15 km SW Ponérihouen, 500–700 m a.s.l., 14.XI.2001. Stream bed in montane forest, slope very steep and rocky; water almost stagnant but clear, small residual pools with leaves and root mats.
- 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. 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 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; seepages.
- 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 14** (JÄCH & BALKE 2010: Fig. 36): Rivière Bleue Provincial Park, between Pont Germain and Refuge Tristaniopsis, ca. 30 km NE Nouméa, ca. 160–180 m a.s.l., 22°06'03.7"S/166°39'27.8"E, 26.–27.XI.2009. River (Rivière Bleue), ca. 10 m wide, and several left tributaries, ca. 2–5 m wide, all flowing through forest.
- 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 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 18a:** ca. 2 km NNE Farino, Refuge de Farino, ca. 270 m a.s.l., 21°38'55"S/165°46'53"E, 29.–30.XI.2009, 3.XII.2009. At light.
- 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 22** (JÄCH & BALKE 2010: Fig. 41): ca. 2 km NE Sarraméa, near La Cuve, ca. 160 m a.s.l., 21°38'13"S/165°51'53"E, 30.XI.2009. Stream, 5–7 m wide, with large boulders, slowly flowing through forest.
- 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 28** (JÄCH & BALKE 2010: Fig. 44): ca. 1 km S Bourail, ca. 5 m a.s.l., 21°34'56"S/165°29'43"E, 4.XII.2009. Swamp in meadow near River Néra.
- Loc. 2009/NC 30** (JÄCH & BALKE 2010: Fig. 51): ca. 4 km SW Népoui, ca. 140 m a.s.l., 21°12'48"S/165°06'06"E, 4.XII.2009. Small stream (left tributary of River Népoui), ca. 1–2 m wide, pools and waterfalls, flowing 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.
- Loc. 2009/NC 34** (JÄCH & BALKE 2010: Fig. 49): ca. 10 km NNE Nouméa, ca. 45 m a.s.l., 22°08'10"S/166°29'58"E and ca. 65 m a.s.l., 22°08'18"S/166°30'07"E, 5.XII.2009. River Dumbéa (south branch), ca. 30 m wide, flowing through wide unshaded gravel bed.

***Paracymus metallescens* FAUVEL, 1883**

Paracymus metallescens FAUVEL 1883: 352; KNISCH 1924: 166; ORCHYMONT 1926: 376; WOOLDRIDGE 1976: 459; HANSEN 1999: 113; GENTILI 2000: 102.

TYPE LOCALITY: New Caledonia: South Province, Tonghoué (NNE of Nouméa).

TYPE MATERIAL: **Lectotype** ♂ (IRSNB): “Coll. R.I.Sc.N.B., Nouvelle Calédonie, Tonghoué 9me, rec. Savés, ex Coll. Fauvel [pink label] \ Coll. et det. A. Fauvel, *Paracymus metallescens* Fvl., R.I.Sc.N.B. 17.479 \ Syntype \ Lectotypus male, *Paracymus metallescens* Fauv., E. Gentili 1991”. The aedeagus is mounted on a transparent card with the aedeagus embedded in DMHF. **Paralectotypes**: 1 ex. (IRSNB): Koné, leg. Atkinson; 1 ex. (IRSNB): Canala, leg. Coste; 1 ex. (IRSNB): Nouméa, Marais de l’Anse Vata, leg. T. Savés.

ADDITIONAL MATERIAL EXAMINED:

NORTH PROVINCE: 7 exs. (MNHW): Tiendanite, 20°44.8'S/164°52.8'E, 50 m a.s.l., at light, 12.I.2007, leg. M. Wanat & R. Dobosz; 3 exs. (MNHW): “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 ♂♂, 2 ♀♀ (NMW): Loc. 2001/NC 6; 1 ♀ (NMW): Loc. 2001/NC 10; 4 ♂♂, 3 ♀♀ (NMW): Loc. 2001/NC 11; 1 ♀ (NMW): Loc. 2001/NC 22; 1 ♀ (NMW): Loc. 2001/NC 23; 2 ♂♂ (NMW): Loc. 2001/NC 25a; 6 ♂♂, 6 ♀♀ (MSNV, NMW): Loc. 2001/NC 29; 1 ♀ (NMW): Loc. 2001/NC 33.

2 exs. (NMW): Loc. 2009/NC 30; 20 exs. (MSNV, NMW): Loc. 2009/NC 31.

SOUTH PROVINCE: 8 exs. (MNHW): Col d’Amieu, 6.5–7.0 km from gate, 450–470 m a.s.l., 21°35.2'S/165°46.4'E, night collecting, 5.I.2007, leg. M. Wanat & R. Dobosz; 7 exs. (MNHW): Pocquereux, IAC station, 21°44.2'S/165°53.8'E, 30 m a.s.l., at light, 3.I.2007, leg. M. Wanat & R. Dobosz; 2 exs. (IAC): La Foa, 32 m, mercury vapour lamp, III. 2007, leg. N. Degallier; 2 exs. (MNHW): Nyamié (creek) at River Comboui, 30–50 m, 21°45.9'S/166°25.5'E, night collecting, 31.XII.2007, leg. M. Wanat & R. Dobosz; 1 ex. (NMP): Mt. Koghi, 22.–25.III.1999, leg. S. Bilý; 4 exs. (NMP): Paita, 20.III.1999, leg. S. Bilý.

1 ♀ (NMW): Loc. 2001/NC 1; 1 ex. (NMW): Loc. 2001/NC 3; 1 ♀ (NMW): Loc. 2001/NC 4a; 3 ♂♂ (NMW): Loc. 2001/NC 5; 2 ♂♂, 3 ♀♀ (NMW): Loc. 2001/NC 42.

9 exs. (MSNV, NMW): Loc. 2009/NC 4; 6 exs. (NMW): Loc. 2009/NC 6; 3 exs. (NMW): Loc. 2009/NC 12; 1 ex. (NMW): Loc. 2009/NC 14; 5 exs. (NMW): Loc. 2009/NC 15; 1 ex. (NMW): Loc. 2009/NC 17; 1 ex. (NMW): Loc. 2009/NC 18a; 31 exs. (MSNV, NMW): Loc. 2009/NC 21; 4 exs. (MSNV, NMW): Loc. 2009/NC 22; 4 exs. (NMW): Loc. 2009/NC 27; 1 ex. (NMW): Loc. 2009/NC 28; 1 ex. (NMW): Loc. 2009/NC 34.

WOOLDRIDGE (1976) quotes the following localities:

NORTH PROVINCE: Aoupinié, stream, 458 m; Ponérihouen River, Goa, 31 m; La Crouen, near Canala.

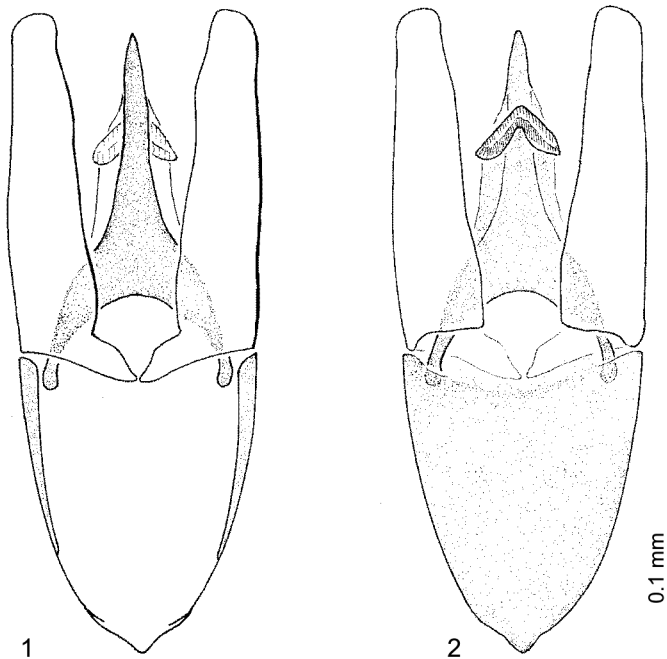
SOUTH PROVINCE: River Ouenkoh, Col d’Amieu Forest, 366 m; River Ba Ouinore, near Sarramea, 259 m; Oua Tom; River Tontouta; River Nondoui, 12 km NW Dumbéa, 31 m; 5 km NNW Paita, tributary of River Karionan, 122 m; St. Louis Mission, nr. Nouméa; Thy Valley nr. St. Louis Village; Pic Mouirange, stream, 153 m.

REDESCRIPTION: Total length 1.9–2.7 mm (holotype 2.2 mm), total width 1.1–1.3 mm (holotype 1.2 mm). Body form oblong oval, slightly convex.

Head. Coloration of dorsal surface black. Base of frons impunctate; remaining parts of frons, clypeus and labrum covered with unordered fine punctures, densely and irregularly distributed; diameters of punctures distinctly smaller than intervals; some densely arranged punctures

sometimes present at inner margin of eyes. Interstices shiny, without microsculpture, except on occipital region, slightly alutaceous. Frontoclypeal suture more or less indistinct. Antennae eight-segmented, yellow with darker club; segments 1–2 nearly equal in length, 3–4 very small, 5 forming a regular cup, 6–8 setose, forming a loose club with segment 8 longer than 6–7 together. Maxillary palpomeres yellow; palpomere 4 asymmetrical, with apical infuscation. Coloration of ventral side black. Mentum trapezoidal, nearly twice as wide as long, flat, shiny, normally impunctate.

Thorax. Pronotum black. Unordered punctures fine, densely and irregularly distributed, as on head; diameters of punctures distinctly smaller than intervals; interstices smooth, shiny, without microsculpture. Lateral margins with a very fine relief. Prosternum black, only few specimens brown on lateral portion of hypomeron; a sharp median carina over entire length. Scutellar shield black, bearing few punctures slightly finer than on pronotum and elytra. Elytra black. Unordered punctures of elytra coarse, slightly denser than on pronotum. Interstices without microsculpture. Sharply impressed sutural stria present on posterior three fourths of elytra. Mesoventrite bearing anteriorly to mesocoxae a transverse crescent-shaped ridge, abruptly rising caudad, softly decliving anteriorly to form a very short longitudinal median carina.



Figs. 1–2: *Paracymus metallescens*, aedeagus in dorsal (1) and ventral (2) view.

Legs. Procoxae, trochanters, and basal half of profemora blackish, granulate and pubescent; rest of anterior legs smooth and yellowish; protarsomere 5 of male distinctly enlarged, apically wider with a tooth-like ventral expansion subapically; claws of protarsus more angulate in male than in female. Mesofemur blackish, granulate and pubescent on proximal third; rest of median legs yellowish; mesotibia covered with longitudinal rows of spines and apical spurs. Meso- and

metatarsi with fine natatory setae. Metafemur blackish, smooth with few sparse setiferous punctures; metatibia covered with spines and spurs like mesotibia.

Abdominal ventrites black, entirely covered with dense hydrofuge pubescence; ventrite 1 with feeble longitudinal carina covering basal third.

Aedeagus (Figs. 1–2). Phallobase as long as parameres, not demarcated from manubrium. Parameres parallel-sided, apically rounded. Median lobe slightly longer than exposed part of parameres; free portion of median lobe cylindroid, apex abruptly constricted; corona in subapical position; basal apophyses short and wide, with short extension into phallobase.



Fig. 3: Geographical distribution of *Paracymus metallescens* in New Caledonia.

DISTRIBUTION (Fig. 3): *Paracymus metallescens* is widely distributed on Grande Terre.

Discussion

GENTILI (2000) synonymized *P. metallescens* with *P. pygmaeus*. An accurate re-examination of New Caledonian specimens revealed the following differences: 1) Punctuation of pronotal disc similar to lateral punctuation of pronotum (more faint than lateral punctuation in *P. pygmaeus*). 2) Transverse ridge of mesoventrite anteriorly furnished of a short longitudinal carina (in *P. pygmaeus* longitudinal carina developed also posteriorly). 3) First abdominal ventrite with longitudinal carina developed only on anterior part (longitudinal carina in *P. pygmaeus* complete). 4) Free portion of aedeagal median lobe cylindroid, apex abruptly constricted (free portion of median lobe conical, and apex gradually constricted in *P. pygmaeus*). In fact, *P. metallescens* has to be considered a distinct species.

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