

Koleopterologische Rundschau	85	113–119	Wien, September 2015
------------------------------	----	---------	----------------------

New species and new records of the Neotropical genera *Gnathymenus* SOLIER, 1849 and *Oedichirus* ERICHSON, 1839 (Coleoptera: Staphylinidae: Paederinae)

U. IRMLER

Abstract

Two new species of Paederinae (Coleoptera: Staphylinidae), *Gnathymenus bellavistae* sp.n. from western Ecuador and *Oedichirus schubarti* sp.n. from southeastern Brazil are described. New records of *G. klimai* (BERNHAUER, 1927) and *G. fiscus* HERMAN, 1981 are given.

Key words: Coleoptera, Staphylinidae, Paederinae, Dolicaonina, Procirrina, new species, new records, Neotropics.

Introduction

HERMAN (1981) revised the Neotropical genus *Gnathymenus* SOLIER, 1849 and listed 67 species distributed from southern Chile to Mexico. ASSING (2013) added a further species from Ecuador. According to HERMAN (1981) the species are distributed in South America along the Andean range and in the montane region of the Atlantic rainforest in southern Brazil. In the Amazonian lowland rainforest including the Guyana shield no species were recorded. Within Central America, the species concentrate to the countries of Panama and Costa Rica, whereas a distributional gap is found from Nicaragua to Guatemala. Overall, Chile, Panama and Costa Rica are the most species rich countries with 13, 11 and 11 species, respectively. From Colombia and Brazil only 10 and 9 species are recorded, respectively. Regarding the information given by HERMAN (1981) most species of the genus seem to prefer cloud forest zones in the Neotropics.

The genus *Oedichirus* ERICHSON, 1839 shows a similar distribution in the Neotropics as *Gnathymenus*. Overall, 27 species are described from the Neotropical Region according to HERMAN (2013). Brazil is by far the most species rich country with a total of 19 species. Only one to two species are found in the other countries from Argentina via Bolivia and Peru up to Mexico.

A travel to Ecuador in 2009 revealed a new species of *Gnathymenus* that fits into the overall distribution along the Andean range and the main occurrence in the cloud forest zone. It was found in the Bellavista Cloud Forest Reserve at 2400 m elevation. This species is described together with records of two other species deposited in my collection. The new *Oedichirus* species was in the collection that was delivered to me by Dr. H. Schubart during my stay at the INPA, Manaus, Brazil, and could be described now after the fundamental work on the genus by HERMAN (2013).

Material and Methods

The material studied in this investigation is presently deposited in my collection (UIC) or the collection of the Instituto Nacional de Pesquisas da Amazonia (INPA), Manaus, Brazil. For the photographs of the species, a Makroskop M 420 (Wild Herbrugg) was used in combination with a digital camera (Leica EC3). CombineZ5 Software (www.hadleyweb.pwp.blueyonder.co.uk)

was used to optimise depth of focus. Length was measured in the middle of tagmata: head from clypeus to posterior edge, pronotum from anterior to posterior edge along midline, elytra from anterior edge at shoulders to posterior edge; width at the widest part of tagmata (head width includes eyes). In the measurement of total length, the abdominal intersegmental space is subtracted.

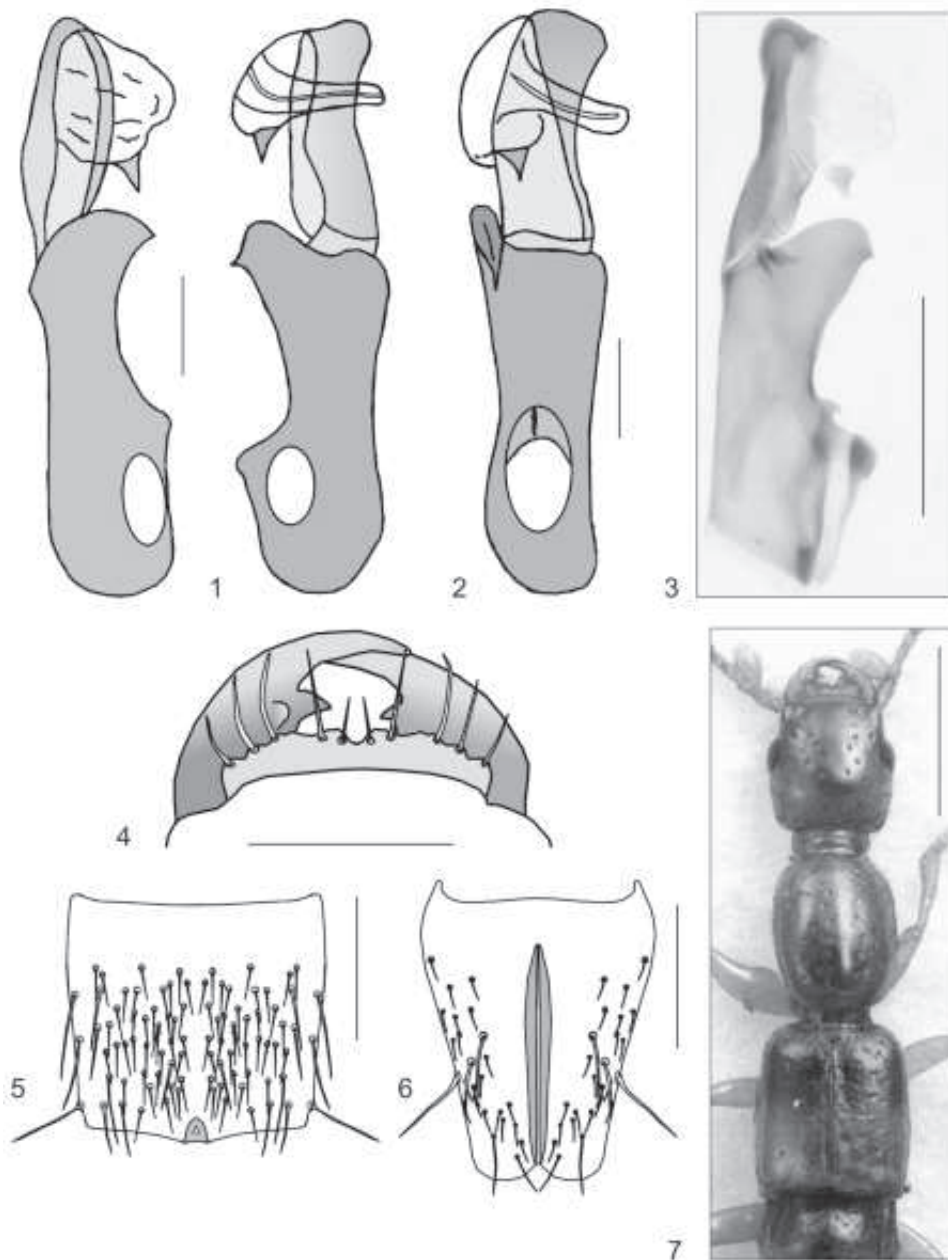
***Gnathymenus bellavistae* sp.n.**

TYPE MATERIAL: **Holotype** ♂: Ecuador: Pichincha Prov. Bellavista Reserve nr. Nanegalito (78°49.47'W, 0°00.37'N), cloud forest, on twigs and lichens, sifted, 2300 m elev., 31.7.2009, leg. U. Irmeler (UIC).

DESCRIPTION (Figs. 1–7): Length: 2.9 mm. Colouration: light brown; anterior half of elytra dark brown; legs and antennae yellow. Head: 0.41 mm long, 0.37 mm wide; eyes slightly prominent; temples approximately twice as long as eyes; posterior angles rounded to neck; clypeus nearly as long as eyes; sides parallel; at base of antennae nearly rectangular; anterior edge of clypeus slightly prominent in convex curve; labrum undulate with slightly deeper incision at middle; maxillae prominent; each one with long inner tooth; left one with additional short dorsal tooth; setiferous punctation deep, but sparse; on average, interstices between punctures twice as wide as diameter of punctures; setae slightly longer than interstices between punctures; punctation on posterior vertex near neck denser; along middle impunctate; impunctate space at middle divergent to front edge of clypeus; without microsculpture; surface polished. Antenna longer than head and neck combined; first to third antennomeres elongate; first one longer and thicker than third; fourth to eleventh antennomeres slightly longer than wide. Pronotum: 0.44 mm long, 0.36 mm wide; oval; widest at middle; narrowed in anterior and posterior angles in smooth convex curve; anterior and posterior angles widely rounded; in dorsal aspect lateral margin visible only at posterior angles; setiferous punctation deep, but sparse; adjacent to impunctate midline in irregular row; laterad with irregular punctation; partly with impunctate spaces; in posterior half shortly in front of posterior edge; impunctate midline bordered by deeply impressed punctures; thus, midline at posterior end slightly elevated; interstices between punctures twice to three times as wide as diameter of punctures; without microsculpture; surface polished. Elytra: 0.48 mm long, 0.44 mm wide; nearly parallel; at mid-length only slightly widened; posterior angles rectangular; shoulders widely rounded; not angulate; setiferous punctation deep; punctures large, in particular in anterior half; arranged in irregular longitudinal rows; sutural line indistinct; mainly marked by longitudinal row of punctures; setae pointing posteriad; on disc, on each side of suture two punctures with longer vertical setae; surface weakly coriaceous; less shiny than head and pronotum. Abdomen parallel; tergites with deep and denser setiferous punctation than on fore-body; interstices between punctures as wide as to twice as wide as diameter of punctures; netlike microsculpture weak; surface less shiny than that of fore-body; sternite VII at middle of posterior edge with short triangular prominence; prominence divergent posteriad; sternite VIII with central incision; continued anteriad in elongate impression. Aedeagus elongate; divided into broader basal and narrower apical lobe; anterior lobe with cap-like apex; filled with thick transparent lobe; transparent lobe with triangular tooth; basal lobe at apex with broad prominence with short lateral tooth.

DIAGNOSIS: Among the Ecuadorian species, *G. bellavistae* mostly resembles *G. angulus* HERMAN, 1981, *G. spereus* HERMAN, 1981, and *G. rossii* ASSING, 2013 in the overall shape concerning length of elytra and shape of head and pronotum. However, the aedeagus is totally different compared to these species. The aedeagus resembles that of *G. catillus* HERMAN, 1981, but the aedeagus of *G. catillus* is not divided in two lobes. The sternites VII and VIII of *G. bellavistae* also resemble those of *G. catillus*.

ETYMOLOGY: The name of the species refers to the type locality, Bellavista cloud forest reserve.



Figs. 1–7: *Gnathymenus bellavistae* sp.n.: 1–2) aedeagus in 1) lateral aspects, and 2) ventral aspect; 3) photograph of aedeagus in lateral aspect; 4) labrum; 5) sternite VII; 6) sternite VIII; 7) fore-body. – Scale bars: 0.1 mm (1–2), 0.2 mm (3–6), 0.5 mm (7).



Fig. 8: Habitat of *Gnathymenus bellavistae*: cloud forest at Bellavista Reserve, Ecuador.

New records of *Gnathymenus* SOLIER, 1849

Gnathymenus klimai (BERNHAEUER, 1927)

Brazil: Rio de Janeiro, Floresta da Tijuca (43°14'W, 22°57'S), 1 ♀, 17.7.1960, leg. H. Schubart (UIC); Trapicheiro (43°13'W, 22°56'S), 1 ♀, 16.12.1961, leg. H. Schubart (UIC).

Gnathymenus fiscus HERMAN, 1981

Venezuela: Aragua, Portachuelo, Parque Pittier (67°35'W, 10°24'N), cloud forest, litter, 1 ♂, 1 ♀, 13.3.1998, leg. M. v. Tschirnhaus (UIC).

Oedichirus schubarti sp.n.

TYPE MATERIAL: **Holotype** ♂: Brazil: Minas Gerais, Sul Barreira de Piquete, Sierra Mantiqueira, 1500 m alt., 6.1.1961, leg. H. Schubart (INPA).

DESCRIPTION (Figs. 9–14): Length: 9.5 mm. Colouration: black; femur dark brown; tibia slightly lighter brown; tarsi light brown; antennae yellow. Head: 1.09 mm long, 1.35 mm wide; large and prominent; longer than temples; frontoclypeal ridge complete; setiferous punctation deep and coarse; irregularly dense; on average interstices as wide as diameter of punctures; on clypeus sparser than on anterior vertex; posterior vertex with v-shaped impunctate spot; without microsculpture or micro-punctation; surface polished; neck nearly half as wide as width of head including eyes; labrum with sparse granulate setiferous punctures; bidentate; widely emarginate at middle. Antennae nearly as long as head and pronotum combined; first antennomere elongate; thicker than following antennomeres; second antennomere shorter, two thirds of first antennomere; third antennomere as long as first, but narrower; following antennomeres as wide as third;

decreasing in length; tenth antennomere as long as second. Pronotum: 1.63 mm long, 1.33 mm wide; widest in anterior third; shortly narrowed to neck; narrowed in straight line to posterior obtuse angles; setiferous punctures deep and coarse; irregularly dense; at midline two to three longitudinal lines of punctures; left side differing from right side; posterior medial elongate spot impunctate and few lateral spots impunctate, too; punctures partly forming irregular grooves; without microsculpture or micro-punctuation; surface polished. Elytra: 1.23 mm long, 1.28 mm wide; without shoulders; approximately triangular shape, setiferous punctures deep and coarse; denser than on head and pronotum; without suture lines; surface with weak coriaceous ground-sculpture; less shiny than head and pronotum. Abdomen densely and irregularly punctate; setiferous punctuation much denser than on head and pronotum; on average, interstices between punctures less than half as wide as diameter of punctures; segment III with very short paratergal carina; as long as one third of segment length; at middle with median point extending from transverse basal ridge; tergum VIII with posterior margin truncate; transverse basal ridge slightly sinuate and with apically open broad median point; tergum IX with posterior margin semi-circular; sternum VIII at posterior margin with y-shaped swelling margined apically by deep groove. Aedeagus broad; more or less symmetrical; apical sclerite with broad apically truncate short process; apical process at apex with ventrally extending hook-like swelling; basal part of ventral sclerite with asymmetrical elongate broad ridge; ventral sclerite apically broadly truncate; less sclerotised than ventral sclerite; paramera broad and thick; more or less triangular; apex reaching nearly apical third of ventral sclerite; with slightly curved ridge from base to near apex.

DIAGNOSIS: Due to the existence of median punctures on tergum III and VIII and the symmetric structure of sternum VIII in males, *O. schubarti* sp.n. resembles *O. echinatus* HERMAN (2013). Moreover, the labrum is only bidentate and the femurotibial joint without dark maculation as in *O. echinatus*. A bidentate labrum is also found in *O. lunatus* HERMAN, 2013 and *O. procerus* HERMAN, 2013. In contrast to *O. schubarti*, in *O. lunatus* and *O. procerus* the pronotum is as wide as long and sparsely punctate, whereas it is longer than wide and densely punctate in *O. schubarti*. According to L. Herman, to whom I sent the species for a quick study, the structure of sternum VIII of the male is unique among the Neotropical *Oedichirus* species.

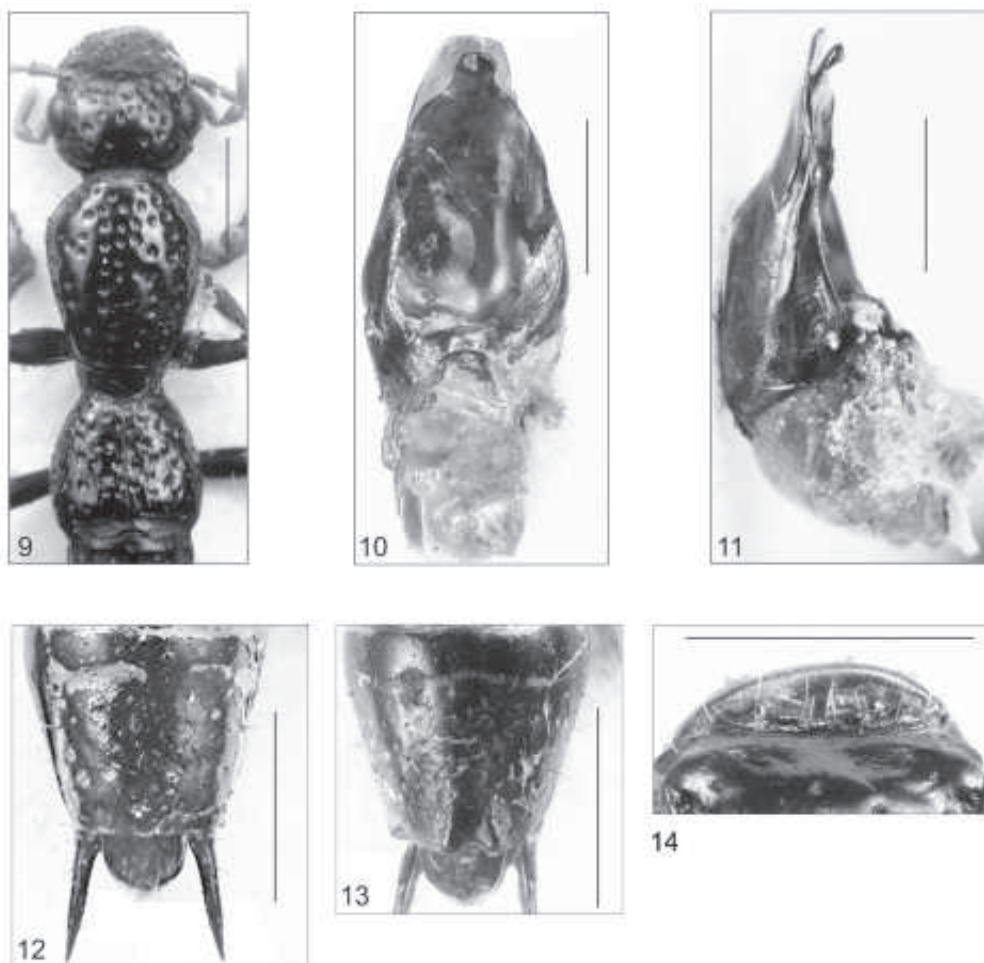
ETYMOLOGY: The species name honours Dr. H. Schubart, the former chief of the INPA, who collected the species and who delivered to me a number of staphylinids for study.

Discussion

Among the little information on the collecting circumstances and habitat requirements of the genus *Gnathymenus* given by HERMAN (1981), beating and fogging were mentioned, as well as for some species, litter and bromeliads but also hanging nests of birds, as habitats. Concerning the different information given by the collectors, *Gnathymenus* species seem to inhabit different strata from upper vegetation, canopy of rainforests, nest, under bark, but also litter on the forest floor.

The new species, *Gnathymenus bellavistae* sp.n., was collected from litter containing twigs and lichens fallen down at a roadside. Evidently, it must have fallen down some days before. Thus, it is not clear, whether the species had fallen down together with the twigs and lichens or invaded afterwards.

The information given for the altitudes showed a lower variance than the habitats. In the southern and northern area of their distribution, lower altitudes seem to be inhabited than in the warmer tropical regions. In both Chile and the Central American countries from Panama to Mexico, 200–700 m and 50–2000 m, respectively, are published, whereas in the warmer tropical regions from Ecuador to Venezuela altitudes ranged between 400 m and 3050 m.



Figs. 9–14: *Oedichirus schubarti* sp.n.; 9) fore-body in dorsal aspect; 10) aedeagus in ventral aspect; 11) aedeagus in lateral aspect; 12) terga VIII–IX; 13) sternite VIII; 14) labrum. – Scale bars: 1 mm (9, 12–14); 0.5 mm (10–11).

For the southern Brazilian locations no exact altitudes are available, however, the estimation that can be derived from the locations is about 100 m to lower than 1000 m. Regarding this range, *Gnathymenus* species seem to live in lower montane to cloud forests at its southern and northern borders of distribution, but in the upper montane to upper cloud forests in the central tropical region. This may also explain, why no species of *Gnathymenus* were found in the lower rainforests of the Amazon basin.

Gnathymenus bellavistae fits into this overall ecological assessment. It was found in a secondary cloud forest at about 2300 m altitude with 2400 mm average annual rainfall, and a mean daily temperature between 15°C and 19°C slightly changing between the seasons. Habitat: Fig. 8.

Most of the species were known from very restricted areas. Even between the small countries of Panama and Costa Rica, only one species out of totally 22 species occurred in both countries. The new records support the low dispersal ability of the species. The two species *G. klimai* (BERNHAEUER, 1927) and *G. fiscus* HERMAN, 1981 were collected in the same areas, that were already published for the species.

The genus *Oedichirus* shows a similar distribution in the Neotropics as *Gnathymenus*. According to HERMAN (2013), the species mainly occur in southeastern Brazil in the Atlantic rainforest from Santa Catarina up to Bahia (19 species out of a total of 28 species including the new one). Only one species invaded the eastern parts of the lowland Amazon rainforest and several more species are found along the Andean range up to Mexico. Thus, the genus *Oedichirus* is clearly a faunal element of the Atlantic rainforest. The new species fits into this picture of geographical distribution pattern. The Sierra de Piquete is part of a montane range between São Paulo and Rio de Janeiro. The collecting altitude at 1500 m reveals that the species was found in the cloud forest region. According to the information given by Herman (2013), other species of the Atlantic rainforest were collected at 300–975 m in the southern region and between 50–120 m elevation in the northern region of Bahia. Thus, the altitude of *O. schubarti* is located clearly above all the other sampling locations. This fact indicates that a lot of additional species may be found if more intensive collecting effort is performed in upper altitudes of the Atlantic forest.

References

- ASSING, V. 2013: Two new species and a new record of Dolicaonina from Ecuador (Coleoptera: Staphylinidae: Paederinae). – Linzer biologische Beiträge 45: 1541–1547.
- HERMAN, L.H. 1981: Revision of the subtribe Dolicaonina of the new world, with discussion of phylogeny and the old world genera (Staphylinidae, Paederinae). – Bulletin of the American Museum of Natural History 167: 327–520.
- HERMAN, L.H. 2013: Revision of the New World species of *Oedichirus* (Coleoptera: Staphylinidae: Paederinae: Pinophilini: Priocirrina). – Bulletin of the American Museum of Natural History 375: 1–137.

Dr. Ulrich IRMLER

Institute for Ecosystem Research, Dept. of Applied Ecology, University of Kiel, Olshausenstraße 40, D – 24098 Kiel, Germany (uirmler@ecology.uni-kiel.de)

Koleopterologische Rundschau	85	120	Wien, September 2015
------------------------------	----	-----	----------------------

Buchbesprechung

BOUCHARD, P. (Hrsg.) 2014: The Book of Beetles. A life-size guide to six hundred of nature's gems. – Lewes (East Sussex): Ivy Press Limited, 656 pp. Preis (Amazon): € 52,74.-
Format: 18,5 × 27,5 cm. Auch als eBook erhältlich.

Insgesamt 10 Autoren haben an der Entstehung dieses zwei Kilo Wälzers mitgewirkt: P. Bouchard, Y. Bousquet, C. Carlton, M. Lourdes Chamorro, H.E. Escalona, A.V. Evans, A. Konstantinov, R.A.B. Leschen, S. Le Tirant, S.W. Lingafelter. Fünf stammen aus den USA, drei aus Kanada und je einer aus Australien und Neuseeland.

Ich kenne kein anderes Buch, in dem eine derart große Vielfalt an Käfern in farbigen Aufnahmen dargestellt ist. Insgesamt 600 Arten sind inkludiert. Jede einzelne Art ist auf einer eigenen Seite mit Verbreitungskarte, einer Strichzeichnung des Käfers in Dorsolateral-Ansicht, sowie kurzem Text über systematische Stellung und Lebensweise etc. vertreten. Pro Spezies sind zwei Fotos abgebildet, eines in der Originalgröße des Käfers und ein vergrößertes Foto. Bei vielen Arten zeigt das letztere aber nicht den gesamten Habitus, sondern ein irgendwie abgeschnittenes Bild, was ein wenig gewöhnungsbedürftig ist.

Nach einer kurzen Einleitung folgen acht kurze Kapitel zu den Themen: "Was ist ein Käfer?", "Klassifikation", "Evolution und Vielfalt", "Kommunikation, Vermehrung und Entwicklung", "Verteidigung", "Fressverhalten", "Naturschutz", und "Käfer & Mensch".

Lediglich etwas mehr als 10 Käferfamilien (z.B. Boridae, Glaphyridae, Hybosoridae, Metaxinidae) sind in diesem Werk nicht berücksichtigt. Eine Begründung für das Fehlen dieser zum Teil recht bemerkenswerten Familien wird nicht geliefert.

Die Auswahlkriterien für die Aufnahme der einzelnen Arten begründen die Autoren in der Einleitung folgendermaßen: sie sind wissenschaftlich interessant, sie haben außergewöhnliche Lebensweise, sie sind kulturell oder ökonomisch bedeutsam, selten und gefährdet, bzw. bezüglich Größe, Form oder Färbung beeindruckend.

Die Auswahl der Arten scheint mir aber nicht immer optimal. Man hätte bei vielen Familien Vertreter finden können, die den vorgegebenen Kriterien weit eher entsprechen, so zum Beispiel bei den Hydraenidae, Dryopidae, Dascillidae, Elmidae oder bei den Psephenidae (*Sinopsephenoides* (siehe: <http://www.zin.ru/animalia/coleoptera/rus/sinmalak.htm>) zählt wohl zu den morphologisch absonderlichsten Käfern überhaupt und sollte in so einem Buch keinesfalls fehlen).

Die Familienzugehörigkeit und die Texte zu den einzelnen Arten sind größtenteils aktuell. Erfreulicherweise ist der in vielen Internet-Quellen falsch zitierte Name *Leptodirus hochenwartii* korrekt geschrieben. Allerdings gehören die Drilidae heute zu den Elateridae und die Malachiidae sind mittlerweile auch wieder als eigene Familie anerkannt. Die Gattung *Eubrianax* enthält nicht 18 sondern 22 Arten.

Die farbigen Habitus-Abbildungen der einzelnen Arten sind von höchst unterschiedlicher Qualität. Während viele Arten, auch einige von den sehr kleinen (z.B. *Sphaerius acaroides*), in hervorragender Auflösung dargestellt werden, sind andere, zum Teil deutlich größere Arten (z.B. *Ochthebius aztecus*), mehr oder weniger unscharf. Das liegt daran, dass die einzelnen Fotos aus vielen verschiedenen Quellen stammen.

Dennoch ist dieses Buch auf Grund seiner Einzigartigkeit durchaus empfehlenswert. Es ist eine wahre Freude, darin zu blättern.

M.A. JÄCH

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Koleopterologische Rundschau](#)

Jahr/Year: 2015

Band/Volume: [85_2015](#)

Autor(en)/Author(s): Irmeler Ulrich

Artikel/Article: [New species and new records of the Neotropical genera Gnathymenus SOLIER, 1849 and Oedichirus ERICHSON, 1839 \(Coleoptera: Staphylinidae: Paederinae\) 113-119](#)