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Additions to the knowledge of the Vietnamese tiger beetle species (Coleoptera: Cicindelidae)

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Additions to the knowledge of the Vietnamese tiger beetle species (Coleoptera: Cicindelidae)

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Abstract. *Therates tuberosus* Fleutiaux, 1893 and *Calochroa octogramma octogramma* (Chaudoir, 1852) (Coleoptera: Cicindelidae) are **newly recorded** for Vietnam. Ten additional species are reported to have new provincial records in Vietnam.

Key words. Vietnam, faunistic, new records.

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Introduction

Since the last comprehensive overview of the tiger beetle fauna of Vietnam (Wiesner et al. 2017), 16 additional scientific articles have been published that include 14 newly described species from Vietnam, five new country records for Vietnam, and eight taxonomic changes to Vietnamese species, as listed below:

Recently described taxa

- 1. Therates lamdongensis Wiesner and Anichtchenko 2018: 217.
- 2. Naviauxella fedorenkoi Matalin 2019: 17.
- 3. Naviauxella pseudolabiosa Matalin 2019: 20.
- 4. Neocollyris (Isocollyris) sharovae Matalin 2021: 390.
- 5. Neocollyris (Neocollyris) trichocephala Anichtchenko and Wiesner 2022: 68.
- 6. Neocollyris (Neocollyris) hirsuta Anichtchenko and Wiesner 2022: 70.
- 7. Neocollyris (Stenocollyris) fedorenkoi Matalin 2022a: 119.
- 8. Neocollyris (Isocollyris) ornata Matalin 2022b: 3.
- 9. Therates fruhstorferi australis Matalin and Wiesner 2023: 406.
- 10. Therates caobangensis Wiesner 2023: 19.
- 11. Therates osaoi Wiesner and Lien 2023: 82.
- 12. Therates miyagawai Wiesner and Lien 2023: 83.
- 13. Cosmodela horii Wiesner and Lien 2023: 89.
- 14. Pseudoverticina horii Wiesner and Lien 2023: 91.

New records for Vietnam

- 1. Cylindera (Eriodera) albopunctata (Chaudoir, 1852) by Matalin 2020: 17.
- 2. Tricondyla wiesneri Naviaux, 2002 by Wiesner 2022: 191.
- 3. Therates pseudoconfluens Sawada and Wiesner, 1999 by Wiesner 2022: 191.
- 4. Neocollyris (Leptocollyris) restricta Naviaux, 2008 by Matalin and Fedorenko 2024: 7.
- 5. Pronyssa ingridae Sawada and Wiesner, 1999 by Matalin and Fedorenko 2024: 10.

Changes in taxonomy

- 1. Sophiodela Nakane, 1955 elevated to generic status by Fukuda et al. 2019: 282.
- 2. Heptodonta ferrarii Gestro, 1893 synonymized into Heptodonta pulchella (Hope, 1831) by Görn 2020: 48.
- 3. Cosmodela duponti (Dejean, 1826) revised by Klicha and Wiesner 2021: 2.
- 4. Therates vitalisi vitalisi Horn, 1913 revised by Matalin and Wiesner 2023: 410.
- 5. Cosmodela separata (Fleutiaux, 1893) revised by Wiesner and Lien 2023: 89.
- 6. Pseudoverticina Cassola, 2011 elevated to generic status by Wiesner and Lien 2023: 91.
- 7. Pseudoverticina antennalis (Cassola, 2011) revised by Wiesner and Lien 2023: 93.
- 8. Pseudoverticina antoni (Cassola and Probst, 1996) revised by Wiesner and Lien 2023: 91.

Recently, the co-authors received material from the Vietnamese collector Vao Dang that include new records for several Vietnamese provinces as well as two new records for the country. The table from Wiesner et al. (2017) is herein updated with details of these findings as well as the additions from the 16 papers mentioned above.

Materials and Methods

Specimens mentioned here are deposited in:

CKGC Collection of Christian Kerkering, Emsdetten, Germany.

JWGC Collection of Jürgen Wiesner, Meine, Germany.

MKCC Collection of Miroslav Klicha, Praha, Czech Republic.

New Records

Tricondyla (Tricondyla) pulchripes White, 1844

Records. NORTH CENTRAL COAST: Nghe An, Hoang Mai town env., leg. V. Dang, vi. 2023, 1 male (CKGC). **Remarks.** New record for Nghe An province.

Tricondyla (Tricondyla) stricticeps Chaudoir, 1864

Records. CENTRAL HIGHLANDS: Lam Dong, Lang Bian, leg. Dembicky & Pacholatko, v./vi. 1964, 1 female (JWGC).

Remarks. New record for Lam Dong province.

Tricondyla (Tricondyla) gestroi gestroi Fleutiaux, 1893

Records. CENTRAL HIGHLANDS: Kon Tum, Ngoc Linh Mts., Annamite Range, 2000 m, leg. V. Dang, vi. 2023, 1 female (CKGC).

Remarks. New record for Kon Tum province.

Neocollyris (Neocollyris) pseudosignata (Horn, 1902)

Records. NORTHEAST: Cao Bang, Vin Den vic., Nui Pia Oac Nat. Reserve, N22°33'53" E105°52'53", 900-1300 m, leg. R. Gerstmeier, 6-10. v. 2013, 1 female (JWGC).

Remarks. New record for Cao Bang province.

Neocollyris (Pachycollyris) fasciata (Chaudoir, 1864)

Records. NORTHEAST: Cao Bang, vic. Vin Den, Nui Pia Oac Nat. Res. 22°33'53"N, 105°52'53"E, 900-1300m, leg. A. Skale, 6.-10. v. 2013, 1 female (JWGC). **Remarks.** New record for Cao Bang province.

Therates tonkinensis Horn, 1902

Records. NORTHEAST: Yen Bai, Thac Ba Lake surroundings, leg. V. Dang, viii. 2023, 1 female (CKGC). **Remarks.** New record for Yen Bai province.

Therates haucki Moravec and Wiesner, 2001

Records. NORTHEAST: Yen Bai, Thac Ba Lake surroundings, leg. V. Dang, viii. 2023, 1 female (CKGC). **Remarks.** New record for Yen Bai province.

Therates tuberosus Fleutiaux, 1893, new country record

(Fig. 1)
Records. NORTHEAST: Yen Bai, Thac Ba Lake surroundings, leg. V. Dang, viii. 2023, 1 male (CKGC).
Distribution. Laos (Luangnamtha), Vietnam (Yen Bai).
Remarks. New records for Vietnam and for Yen Bai province.

Therates rugosoangustatus Horn, 1929

Records. NORTHEAST: Ha Giang, Ha Giang town env., Song Lo Riv. leg. V. Dang, v. 2022, 1 male (CKGC).

Remarks. New record for Ha Giang province.

Therates vitalisi vitalisi Horn, 1913

Records. CENTRAL HIGHLANDS: Kon Tum, Ngoc Linh Mts., Annamite Range, 2000 m, leg. V. Dang, vi. 2023, 1 male, 1 female (CKGC).

Remarks. New record for Kon Tum province.

Calochroa octogramma octogramma (Chaudoir, 1852), new country record

(Fig. 2)

Records. NORTHEAST: Ha Giang, Ha Giang town env., Song Lo Riv., leg. V. Dang, v. 2022, 1 male (CKGC); Ha Giang, Ha Giang env. 1500 m, 29. Vii. 2022, 3 males (MKCC).

Distribution. Nepal (Bagmati, Madhesh, Koshi), India (Assam, Bihar, Himachal Pradesh, Jharkhand, Uttarakhand, West Bengal), Myanmar (?province), Vietnam (Ha Giang), China (Yunnan).

Remarks. New records for Vietnam and Ha Giang province.

Cylindera (Ifasina) kaleea kaleea (Bates, 1866)

Records. NORTHEAST: Ha Giang, Ha Giang town env., Song Lo Riv., leg. V. Dang, v. 2022, 1 female (CKGC); NORTH CENTRAL COAST: Nghe An, Hoang Mai town env., leg. V. Dang, v. 2023, 1 male (CKGC).

Remarks. New record for Ha Giang and Nghe An provinces.



Figure 1. Habitus of *Therates tuberosus* Fleutiaux, 1893. Scale = 5 mm.



Figure 2. Habitus of *Calochroa octogramma octogramma* (Chaudoir, 1852). Scale = 5 mm.

Discussion

Since the last comprehensive summary of the tiger beetle fauna of Vietnam (Wiesner et al. 2017), intensive research efforts by international institutions and private collectors have significantly increased our understanding of the tiger beetle fauna of this country.

The number of tiger beetle species known from Vietnam (Fig. 3–10) increased by 14 to 191 species, and the number of endemic species increased by 13 to 72 species. The number of tiger beetle species known from each region of Vietnam are as follows, in order of species richness:

Northeast: 112 (increase of seven species) Central Highlands: 78 (increase of eight species) Red River Delta: 60 (no change) North Central Coast: 60 (increase of seven species) Southeast: 53 (no change) Northwest: 49 (increase of four species) South Central Coast: 13 (increase of nine species) Mekong Delta: 4 (decrease of one species).

The increase in reported species from the South Central Coast region is the most significant and perhaps indicates this region is under explored and more species are likely here.

The number of tiger beetle species endemic to Vietnam and occurring within each region of Vietnam are as follows: Northeast 30 (15.7% of total Vietnamese tiger beetle species richness), Central Highlands 24 (12.6%), Red River Delta 18 (9.4%), North Central Coast 14 (7.3%), Southeast 11 (5.8%), Northwest 8 (4.2%), South Central Coast 6 (3.1%), Mekong Delta 0. Among the genera, *Neocollyris* Horn, 1901 with 34 (17.8%) species and *Therates* Latreille, 1816 with 21 species (11.0%) exhibit the highest proportion of endemics.

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Regions and Provinces of Vietnam

		Nr.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
		species	Tricondyla (Tricondyla) pulchripes White, 1844	Tricondyla (Tricondyla) stricticeps Chaudoir, 1864	Tricondyla (Tricondyla) ledouxi Naviaux, 2002	Tricondyla (Tricondyla) macrodera abruptesculpta Hom, 1925	Tricondyla (Tricondyla) deuvei Naviaux, 2002	Tricondyla (Tricondyla) distincta Fleutiaux, 1893	Tricondyla (Tricondyla) mourzinei Naviaux, 2002	Tricondyla (Tricondyla) gestroi gestroi Fleutiaux, 1893	Tricondyla (Tricondyla) gestroi scabra Fleutiaux, 1920	Tricondyla (Tricondyla) ovaligrossa W.Hom, 1922	Tricondyla (Tricondyla) wiesneri Naviaux, 2002	Tricondyla (Tricondyla) mellyi Chaudoir, 1850	Tricondyla (Tricondyla) annulicornis Schmidt-Goebel, 1846	Tricondyla (Tricondyla) proxima Fleutiaux, 1893	Protocollyris festiva Naviaux, 2008	Protocollyris grossepunctata (W.Hom, 1935)	Protocollyris annamensis Naviaux, 1996	Neocollyris (Brachycollyris) purpureomaculata borea Naviaux, 1994	Neocollyris (Brachycollyris) brevis Naviaux, 1994	Neocollyris (Brachycollyris) torosa Naviaux, 2010	Neocollyris (Isocollyris) fruhstorferi (W.Hom, 1902)	Neocollyris (Isocollyris) resplendens (W.Hom, 1902)	Neocollyris (Isocollyris) grandivadosa (W.Hom, 1935)	Neocollyris (Isocollyris) purpurascens Naviaux, 1992	Neocollyris (Isocollyris) paradoxa Matalin & Naviaux, 2008
		endemic Province?			*		*		*							-			*		*			*	*	*	*
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	5	Lao Cai Yen Bai	X							X	X			X		X						X	X		X		
	7	Phu Tho Ha Giang																X					X				
east	8	Tuyen Quang	x																	x			x			x	x
Northeast	10	Cao Bang Bac Kan	X	X			X		X					X X				X					X	X	X		
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Figure 3. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 1 to 25.

			Nr.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
													022															
			species	Neocollyris (Isocollyris) convergentefrontalis (W.Hom, 1923)	Neocollyris (Isocollyris) sharovae Matalin, 2021	Neocollyris (Isocollyris) ornata Matalin, 2022	Neocollyris (Isocollyris) apiceflava Dheurle, 2017	Neocollyris (Isocollyris) auripennis (W.Hom, 1902)	Neocollyris (Isocollyris) erichwerneri Naviaux & Schüle, 2008	Neocollyris (Isocollyris) moraveci Naviaux, 2004	Neocollyris (Isocollyris) modica Naviaux, 1994	Neocollyris (Paracollyris) brevipronotalis (W.Hom, 1929)	Neocollyris (Neocollyris) trichocephala Anichtchenko and Wiesner, 2022	Neocollyris (Neocollyris) hirsuta Anichtchenko and Wiesner, 2022	Neocollyris (Neocollyris) bonellii bonellii (Guérin-Méneville, 1834)	Neocollyris (Neocollyris) moesta moesta (Schmidt-Gocbel, 1846)	Neocollyris (Neocollyris) moesta fusca Naviaux, 1994	Neocollyris (Neocollyris) cruentata (Schmidt-Goebel, 1846)	Neocollyris (Neocollyris) stiengensis (W.Hom, 1914)	Neocollyris (Neocollyris) impressifrons (Chaudoir, 1864)	Neocollyris (Neocollyris) orichalcina orichalcina (W.Hom, 1896)	Neocollyris (Neocollyris) intermedia Naviaux, 1994	Neocollyris (Neocollyris) fuscitarsis (Schmidt-Gocbel, 1846)	Neocollyris (Neocollyris) pseudosignata (W.Hom, 1902)	Neocollyris (Neocollyris) compacta Naviaux, 1994	Neocollyris (Neocollyris) deuvei Naviaux, 1991	Neocollyris (Neocollyris) similis (Lesne, 1891)	Neocollyris (Neocollyris) rufipalpis (Chaudoir, 1864)
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	outh	47	Bình Thuan																									
	Š	48 49	Dong Nai Ba Ria-Vung Tau	-	-	-	-	-	-		-	-	<u> </u>		X X	-	X	X	X				X	-	-	X	X	
		50	Ho Chi Minh City														x									Ê		
		51 52	Long An Dong Thap	-	-	-	-	-	-	-	-	-	-			-	-	-				-		-	-			
		53	An Giang																									
	lta	54 55	Kien Giang Tien Giang	\vdash	-	-	-	-	-		-	-	-			-	-					-		-	-	-		
	Mekong Delta	56	Ben Tre																									
	kon	57 58	Vinh Long Tra Vinh																									
	Me	59	Can Tho City																									
		60 61	Hau Giang Soc Trang									_												_				
		62	Bac Lieu																									
F	L	63	Ca Mau China					x							x	x		x			x		x				x	x
			Laos												X	X X	x	X			X	X	X X	X			X	X
			Cambodia												X	X			X	X			X					X

Figure 4. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 25 to 50.

			Nr.	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
				6				()																				
			species	Neocollyris (Orthocollyris) crassicornis crassicornis (Dejean, 1825)	Neocollyris (Orthocollyris) karli Naviaux, 1996	* Neocollyris (Orthocollyris) labiopalpalis (Hom, 1932)	Neocollyris (Orthocollyris) rapillyi Naviaux, 1992	Neocollyris (Leptocollyris) linearis linearis (Schmidt-Gocbel, 1846)	Neocollyris (Leptocollyris) discretegrossesculpta (Hom, 1942)	Neocollyris (Leptocollyris) restricta Naviaux, 2008	Neocollyris (Leptocollyris) gomyi Naviaux, 2008	Neocollyris (Leptocollyris) rogeri Shook and Wu, 2006	Neocollyris (Leptocollyris) concinna Naviaux, 1995	Neocollyris (Leptocollyris) variicornis (Chaudoir, 1864)	Neocollyris (Leptocollyris) subtilis subtilis (Chaudoir, 1863)	Neocollyris (Leptocollyris) juergenwiesneri Naviaux, 1995	Neocollyris (Leptocollyris) variitarsis (Chaudoir, 1860)	Neocollyris (Leptocollyris) minuta Naviaux, 1995	Neocollyris (Leptocollyris) ampliata Naviaux, 1995	Neocollyris (Leptocollyris) cylindripennis (Chaudoir, 1864)	Neocollyris (Leptocollyris) laosensis Naviaux, 1999	Neocollyris (Leptocollyris) globicollis Naviaux, 1995	Neocollyris (Mesocollyris) kabakovi Naviaux and Matalin, 2003	Neocollyris (Stenocollyris) rubens (Batcs, 1875)	Neocollyris (Stenocollyris) compressicollis (Hom, 1909)	Neocollyris (Stenocollyris) fedorenkoi Matalin, 2022	Neocollyris (Stenocollyris) signata (Hom, 1902)	Neocollyris (Pachycollyris) bipartita bipartita (Fleutiaux, 1897)
			endemic Province?		*	*	*				*		*			*			*			*	*			*		
	Northwest	1 2 3	Lai Chau Dien Bien																									
	Nort	4	Son La Hoa Bình			X	X	X	X			X	X				X X								x			
		5	Lao Cai Yen Bai	X		X		X	X	X		X		X			X		X	X	x			X	X		X	X
		7	Phu Tho Ha Giang	x		-		X X		_		X		X			X								X		x	
	Northeast	8 9 10	Tuyen Quang Cao Bang	^				X X	X			X					X X								x		X	
	Nort	11	Bac Kan																						X		v	
		12 13	Thai Nguyen Lang Son					X																	x		X X	
		14 15	Bac Giang Quang Ninh					X									x											
		16 17	Vinh Phuc Ha Noi City				x	X	X X			X X							X						x			
	Red River Delta	18	Ha Nam Ninh Bình									x													x			
	iver]	20 21	Nam Dinh Hung Yen									-									_				<u> </u>			
	ed R	21 22 23	Thai Binh																									
	Re	24	Bac Ninh Hai Duong																									
nam	le le	25	Hai Phong City Thanh Hoa	x							-		X												-			
Viet	entra	26 27 28 29	Nghe An Ha Tinh	_				X X				X		X			X								\vdash			
Regions and Provinces of Vietnam	North Central Coast	28	Quang Binh					X																				
vince	· · ·	30 31	Quang Tri Thua Thien-Hue					x			x	x				x	x								x		x	
Pro	South Central Coast	32 33	Da Nang City Quang Nam		-	-	-				-	x			<u> </u>	<u> </u>	-		<u> </u>			<u> </u>	-	-	-	-		
and	South tral C	34 35	Quang Ngai Bình Dinh																						\vdash			
ions	Centr	36	Phu Yen																									
Reg	s	37 38 39	Khanh Hoa Kon Tum					X																	X		X	
	Central lighlands	<u>39</u> 40	Gia Lai Dak Lak		X			X			X			X	X		x			X			X		X		X	
	Cen	41 42	Dak Nong Lam Dong		F	F		x			x			x	x	x	x					x		F	F	x		
		43 44	Binh Phuoc Bình Duong					-			<u> </u>			_	-	-	Ë			X		-						
	east	45	Tay Ninh																									
	Southeast	46 47	Ninh Thuan Bình Thuan																									
	Š	48 49	Dong Nai Ba Ria-Vung Tau					X X			X				X			X										
	<u> </u>	50 51	Ho Chi Minh City Long An					X			-						-								—			
		52	Dong Thap An Giang																									
	a	53 54	Kien Giang																									
	Mekong Delta	55 56 57	Tien Giang Ben Tre	X																								
	kong	57 58	Vinh Long Tra Vinh		-																							
	Me	59 60	Can Tho City Hau Giang																		-							
		61	Soc Trang																									
		62 63	Bac Lieu Ca Mau																									
E			China Laos	X X				X X	X	X		X		X X	x		X X			X X	x				X X		X X	X
			Cambodia	X				X							X					X								

Figure 5. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 51 to 75.

A large and					Nr.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Image: construct of the second seco																											21			
Province? Image: constraint of the second seco						Neocollyris (Pachycollyris) bij	Neocollyris (Pachycollyris) in	Neocollyris (Pachycollyris) bio	Neocollyris (Pachycollyris) for	Neocollyris (Pachycollyris) vit	Neocollyris (Pachycollyris) tri	Neocollyris (Pachycollyris) pa	Neocollyris (Pachycollyris) fas	Neocollyris (Pachycollyris) bii		Neocollyris (Pachycollyris) sa	Neocollyris (Pachycollyris) mu	Neocollyris (Pachycollyris) str	_	Neocollyris (Pachycollyris) ps		Collyris mniszechii Chaudoir	Therates rugulosus Hom, 19	Therates cribratus Fleutiaux,	Therates baolocensis Wiesner	Therates lamdongensis Wicsi		Therates probsti Wiesner, 198		Therates concinnus Gestro, 1
Image: state of the s	\vdash				Province?		*								*	*	*		*	*		x			*	*	*		*	
Image: state of the s			thwes	1	Dien Bien			X																					\vdash	\square
Image: state of the s			Nor	4	Hoa Bình	X		v			v	v	X				x	X	v								X	X	X	X
Image: state of the s				6	Yen Bai						<u>л</u>		<u> </u>														x		x	
Image: section of the sectio			ast	8	Ha Giang			X									x	X	x											\vdash
Image: section of the sectio			orthe	10	Cao Bang				x	X			X			X		-					x					X		\square
Interface Interface <t< td=""><td></td><td></td><td>Ň</td><td>12</td><td>Thai Nguyen</td><td></td><td></td><td>v</td><td>v</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td>\square</td></t<>			Ň	12	Thai Nguyen			v	v									X					•							\square
Image: state of the s				14	Bac Giang			A																					⊨	
Image: state of the s		F		15	Vinh Phuc	x		v				v				x		X	X								x			
Image: constraint of the second sec			elta	17	Ha Nam			X				X							<u>^</u>								v	<u> </u>		v
Image: constraint of the second sec			ver D	20	Nam Dinh													<u>л</u>									<u>л</u>			
Image: constraint of the second sec			ed Ri	21 22	Thai Binh																									
Verticity Verticity <t< td=""><td></td><td></td><td>R</td><td>24</td><td>Hai Duong</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			R	24	Hai Duong																									
Verticity Verticity <t< td=""><td>man</td><td>ŀ</td><td>al</td><td>25 26</td><td>Thanh Hoa</td><td>x</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td></t<>	man	ŀ	al	25 26	Thanh Hoa	x																							X	
Verticity Verticity <t< td=""><td>Viet</td><td></td><td>Centr ast</td><td>27 28</td><td>Nghe An Ha Tinh</td><td>X</td><td></td><td></td><td>_</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>x</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>x</td><td></td></t<>	Viet		Centr ast	27 28	Nghe An Ha Tinh	X			_	X								x			_								x	
Topological The Standard X X X X X X 40 Dak Lak X X X X X X 40 Dak Nong X X X X X X 41 Dak Nong X X X X X X 42 Lam Dong X X X X X X 43 Binh Phuoc X X X X X X 44 Binh Phuoc X X X X X X 45 Tay Ninh X X X X X X 46 Ninh Thuan X X X X X X 47 Binh Thuan X X X X X X 50 Ho Chi Minh City X X X X X X 52 Dong Thap	to sea		Cos	29 30	Quang Binh		_			_						—			—								X			
Topological The Standard X X X X X X 40 Dak Lak X X X X X X 40 Dak Nong X X X X X X 41 Dak Nong X X X X X X 42 Lam Dong X X X X X X 43 Binh Phuoc X X X X X X 44 Binh Phuoc X X X X X X 45 Tay Ninh X X X X X X 46 Ninh Thuan X X X X X X 47 Binh Thuan X X X X X X 50 Ho Chi Minh City X X X X X X 52 Dong Thap	nivo			31	Thua Thien-Hue						_	X	X						X								-			
Topological The Standard X X X X X X 40 Dak Lak X X X X X X 40 Dak Nong X X X X X X 41 Dak Nong X X X X X X 42 Lam Dong X X X X X X 43 Binh Phuoc X X X X X X 44 Binh Phuoc X X X X X X 45 Tay Ninh X X X X X X 46 Ninh Thuan X X X X X X 47 Binh Thuan X X X X X X 50 Ho Chi Minh City X X X X X X 52 Dong Thap			th Coas	33	Quang Nam																						\vdash			
Topological The Standard X X X X X X 40 Dak Lak X X X X X X 40 Dak Nong X X X X X X 41 Dak Nong X X X X X X 42 Lam Dong X X X X X X 43 Binh Phuoc X X X X X X 44 Binh Phuoc X X X X X X 45 Tay Ninh X X X X X X 46 Ninh Thuan X X X X X X 47 Binh Thuan X X X X X X 50 Ho Chi Minh City X X X X X X 52 Dong Thap	ns an		Sou	35	Bình Dinh					F																	F		F	\square
Topological The Standard X X X X X X 40 Dak Lak X X X X X X 40 Dak Nong X X X X X X 41 Dak Nong X X X X X X 42 Lam Dong X X X X X X 43 Binh Phuoc X X X X X X 44 Binh Phuoc X X X X X X 45 Tay Ninh X X X X X X 46 Ninh Thuan X X X X X X 47 Binh Thuan X X X X X X 50 Ho Chi Minh City X X X X X X 52 Dong Thap	Peoio			37	Khanh Hoa																						\vdash		F	
O Bit All Dak Nong N	[· •	tral ands	39	Gia Lai								X	x										x					F	\square
43 Binh Phuog X <th< td=""><td></td><td>0</td><td>Cen</td><td>41</td><td>Dak Nong</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		0	Cen	41	Dak Nong																									
45 Tay Ninh X		┢	I	43	Binh Phuoc	X	X							X	X X				x	X					X					
49 Ba Ria-Vung Tau			ast	45	Tay Ninh																									
49 Ba Ria-Vung Tau			uthe	46	Bình Thuan														X								F			
S0 Ho Chi Minh City Image: Chi Minh City			Se	48	Dong Nai Ba Ria-Vung Tau					X																	F		F	F
52 Dong Thap Image: Constraint of the second secon		┝		50	Ho Chi Minh City		_			_						-			-						-		-		\square	F
interface interface <t< td=""><td></td><td></td><td></td><td>52</td><td>Dong Thap</td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td>\vdash</td><td>H</td></t<>				52	Dong Thap					-																	-		\vdash	H
60 Hau Giang Image: Constraint of the second secon			lta	54	Kien Giang																						F		\vdash	\square
60 Hau Giang Image: Constraint of the second secon			g Del	56	Ben Tre																						F		F	\square
60 Hau Giang Image: Constraint of the second secon			ekon	58	Tra Vinh																									
62 Bac Lieu Image: Ca Mau Imau Imau Imau			M	60	Hau Giang																									
63 Ca Mau K </td <td></td> <td></td> <td></td> <td>62</td> <td>Bac Lieu</td> <td></td> <td>\vdash</td>				62	Bac Lieu																									\vdash
Laos X X X X X X X X X X X X X X X X X X X	F			63	China	E	E	x	E	x	X			E		E	E	E	E	E	E	x	x	E	E	E	E	E		E
	F								F		X		X	X		F		X	F				X	X			F	X	\vdash	X

Figure 6. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 76 to 100.

			Nr.	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
			species	Therates bannapecolus Sawada and Wicsner, 1999	Therates gestroi Hom, 1900	Therates osaoi Wiesner and Lien, 2023	Therates pearsoni Wiesner, 2013	Therates confluens Wicsner, 1988	Therates pseudoconfluens Sawada and Wiesner, 1999	Therates schuelei Wiesner, 2013	Therates rugifer Hom, 1902	Therates caobangensis Wicsner, 2023	Therates aligii Wicsner, 2016	Therates paulae Wicsner, 2016	Therates miyagawai Wicsner and Lien, 2023	Therates tonkinensis Hom, 1902	Therates kubani Wiesner, 1988	Therates haucki Moravec and Wiesner, 2001	Therates davicornis Hom, 1902	Therates kaliakini Matalin and Wiesner, 2006	Therates dalatensis Matalin, Wiesner and Udovichenko, 2012	Therates angustatus angustatus Hom, 1902	Therates tuberosus Fleutiaux, 1893	Therates angustatus pseudotuberosus Wiesner, 1988	Therates rugosoangustatus Hom, 1929	Therates frukstorferi frukstorferi Hom, 1902	Therates fruhstorferi australis Matalin and Wiesner, 2023	Therates vitalisi vitalisi Hom, 1913
-			endemic Province?			*	*			*	*	*	*	*	*	*	*		*	*	*	*	*		*		*	
	west	1	Lai Chau Dien Bien																									
	Northwest	3	Son La Hoa Bình													x		x								x		x
		5	Lao Cai													X							v		x			X
		6 7	Yen Bai Phu Tho													X		X					X			X X		X X
	east	<u>8</u> 9	Ha Giang Tuyen Quang	-	x	X	-		<u> </u>	-	x				X	x	-	-	x	<u> </u>		-			X	X X X		
	Northeast	10 11	Cao Bang Bac Kan									X				X										X		
	Ž	12	Thai Nguyen													X	x									X		
		13 14	Lang Son Bac Giang								X					X			X			X				X X		
		15 16	Quang Ninh Vinh Phuc		-		-				x						x	-	-			-	x		x	x		x
	R	17	Ha Noi City															x								X		
	Red River Delta	18 19 20	Ha Nam Ninh Bình	x							x															X		
	iver	20	Nam Dinh Hung Yen		-		-											-	-			-			-			
	ed R	21 22 23	Thai Binh																									
	2	23 24 25	Bac Ninh Hai Duong																									
am	-	25 26	Hai Phong City Thanh Hoa				<u> </u>											-	-			<u> </u>			-	x		x
Vietr	North Central Coast	20 27 28	Nghe An							X																X X		X
Jo S	th Cen Coast	28 29 30	Ha Tinh Quang Binh				x																			X		X
ince	Nort	<u>30</u> 31	Quang Tri Thua Thien-Hue							x			X	X												x		
Prov		32 33	Da Nang City										~	~												-	v	
pu	South tral Co	34	Quang Nam Quang Ngai																								X	
ns a	South Central Coast	35 36 37	Bình Dinh Phu Yen		_				_																			
Regions and Provinces of Vietnam		37	Khanh Hoa											v						X							x	x
1	tral ands	38 39	Kon Tum Gia Lai						x					X													X	•
	Cent Highls	40 41	Dak Lak Dak Nong											X														
	H		Lam Dong Binh Phuoc					X													X		X					
		43 44	Bình Duong																									
	east	45 46	Tay Ninh Ninh Thuan	-	-	-	-	<u> </u>	-	-	<u> </u>		-		_		-	-	-		-	-		_	-	-		
	Southeast	47 48	Bình Thuan Dong Nai																									
	s s	49	Ba Ria-Vung Tau																									
		50 51	Ho Chi Minh City Long An	-	-		-		-													-			-			
		52	Dong Thap An Giang																									
		53 54	Kien Giang																									
	Mekong Delta	55 56	Tien Giang Ben Tre		-																	-			-			\vdash
	ong	57	Vinh Long Tra Vinh												_													
	Mek	58 59	Can Tho City																									
		60 61	Hau Giang Soc Trang																			-						
		62	Bac Lieu																									
\vdash		63	Ca Mau China						x																	x		x
			Laos Cambodia	X	X				X									X				—				X		X
			Cambodia		-	-	-			-							-	-	-	L				-		-	-	

Figure 7. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 101 to 125.

			Nr.	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
																	Calochroa interruptofasciata interruptofasciata (Schmidt-Goebel, 1846)											
																	1, 18											
									4								bebel											
				2					196								ğ	2										
				184		25)	896		lier,								mid	186			0							
				bel,	189	18	1	0	tiva					831			Sch	oir,			1852				<u></u>			
				ğ	Ľ,	leay	Hor	500	sa F					, 1)e, 1			ata (haud			jir,			6	195			
				nidt	i He	Mac	ieri	uve,	acio				666	(Hol			ascie	0			audo	74)	1908	179	ier,	2)		
			8	Schr	ebel	la (ano	Ď	fall				зт, 1	ata	882	913)	ptof	eata	l 💭	32)	(Cp	11	É	us,	ival	182	26)	
			species	Prothyma (Paraprothyma) exornata Schmidt-Goebel, 1846	Prothyma (Paraprothyma) schmidtgoebeli Hom, 1895	Prothyma (Genoprothyma) heteromalla (Maclcay, 1825)	Prothyma (Genoprothyma) bouvieri bouvieri Hom, 1896	Prothyma (Genoprothyma) annamica Deuve, 2002	Prothyma (Genoprothyma) fallaciosa fallaciosa Rivalici, 1964	365	1		Pronyssa ingridae Sawada and Wiesner, 1999	Calochroa flavomaculata flavomaculata (Hope, 1831)	Calochroa elegantula (Dokhtouroff, 1882)	Calochroa pseudosiamensis (Hom, 1913)	inne	Calochroa interruptofasciata flavolineata (Chaudoir, 1865)	Calochroa harmandi (Fleutiaux, 1893)	Calochroa bramani (Dokhtouroff, 1882)	Calochroa octogramma octogramma (Chaudoir, 1852)	Sophiodela chinensis chinensis (Geer, 1774)	Calomera brevipilosa brevipilosa (Hom, 1908)	Calomera angulata angulata (Fabricius, 1798)	Calomera plumigera scoliographa (Rivalier, 1953)	Calomera funerea funerea (Macleay, 1825)	Calomera funerea genetica (Hom, 1926)	6
			S.	orne	mi	ater o	uvi	nan	llaci	r, 18	183	74	M P	ome	onro	Hon	inte	flav	ux,	Iroff	ram	sis (osa	(Fa	aph	facle	Iom	1826
				ex () scl	he () pe	() an	() fa	iopr	ope,	, 18	a and	flav	kht	sis (iata	iata	cutia	htou	ctog	nen	ipil	lata	iogr	2	a (J	'an
				yma,	yma	June	mu	mu	June	Chat	Ĕ	ates	wad	lata	ĕ	nen	fasc	fasc	(FI	Dok	10 0	chi	bre	ngu	scol	nere	netic	Deje
				oth.	oth.	roth	roth	roth	roth	tia	ella	is E	e Sa	acu	tula	sia	tpto.	tpto.	ndi	ni (ump	usis	osa	ta a	era	fur l	gei	n ()
				rapi	rapi	dou	dou	dou	dou	ngen	ulch	icoll	ida	mon	gan	ende	terri	terri	rma	ama	ogr	ine	vipil	gula	mig	erec	ere	uodi
				(Pa	(Pa	<u>e</u>	6	<u>e</u>	<u>(</u>	ta ei	a p	pou	ingr	ı fla	i ele	1 bse	im	im	t ha	1 pre	1 00	a ch	bre	ang	plu	fun	fun	np a
				ma	ma	vma	yma	ma	yma	nop	nob	ssa	ssa	hroe	hroe	hroe	hroe	hroe	hroe	hroe	hroe	odel	era.	ıera	i era	era.	tera	odel
				oth	oth	oth	oth	oth	oth	Heptodonta eugenia Chaudoir, 1865	Heptodonta pulchella (Hope, 1831)	Pronyssa nodicollis Bates, 1874	Suo	lloci	loci	loci	loci	loci	loci	loci	loci	phi	nom	non	non	nom	non	Cosmodela duponti (Dejean, 1826)
				P	P	P	P		P	H	H	P	P	Ŭ	Ŭ	Ŭ	Ŭ	Ŭ	Ŭ	Ŭ	ŭ	Se	Ŭ	ŭ	Ŭ	Ŭ		Ŭ
\vdash			endemic Province?	-	x	-	-	* X		-	-	<u> </u>		-	x	-	-	-	-	-	<u> </u>	<u> </u>	x	\vdash	\vdash	\vdash	*	\vdash
	vest	1	Lai Chau									x																
	Northwest	2 3 4	Dien Bien Son La	-	-	-	-	-			-	-			-	-	-	-		-	<u> </u>		-	\vdash	\vdash		\vdash	\vdash
	2°	4	Hoa Bình								x						x	x						<u> </u>				
		5	Lao Cai Yen Bai	-	-	X	-	-			-	X		X	-	-	-			-	-	-	-	X	X		\vdash	X
		7	Phu Tho								X																	
	ast	8 9 10	Ha Giang Tuyen Quang	<u> </u>	-			-				X		x	-	-	-	X	<u> </u>	-	X	<u> </u>	<u> </u>	x		X	\vdash	X
	Northeast	10	Cao Bang								X			^										X		X		X
	No	11 12	Bac Kan Thai Nguyen					<u> </u>									x											
		13	Lang Son								X						X											
		14 15	Bac Giang Quang Ninh								X											X						X X
	<u> </u>	16	Vinh Phuc								X							X				<u>^</u>		X				<u>^</u>
	g	17 18	Ha Noi City Ha Nam											X											X			
	Red River Delta	19	Ninh Bình															X										
	iver	20 21	Nam Dinh Hung Yen							_						<u> </u>	<u> </u>											
	d R	21 22 23	Thai Binh																									
	Re	23	Bac Ninh Hai Duong																_									
E		24 25	Hai Phong City																									
etna	tral	26 27 28 29	Thanh Hoa Nghe An								X		x											x		x		
fVi	th Cen Coast	27	Ha Tinh								Λ		X													X		X
es o	North Central Coast	29 30	Quang Binh Quang Tri							_														X		X	v	X X X X X
vinc	°N	31	Thua Thien-Hue								X													X		X	Λ	X
Pro	ast	32	Da Nang City Quang Nam		-												-											XX
put	South Central Coast	32 33 34 35	Quang Ngai																									A
ns a	Sontra	35	Bình Dinh Phu Yen		-																				\square			
Regions and Provinces of Vietnam		36 37	Khanh Hoa																					X				X
 ≃	Central Highlands	38 39	Kon Tum Gia Lai	-	+	<u> </u>		-	\vdash	X	X			-	<u> </u>	X	<u> </u>	<u> </u>	x	-		-	<u> </u>	X	\square	X	\square	XX
	Central	40	Dak Lak																Ê									<u> </u>
	C Hig	41 42	Dak Nong Lam Dong			x	x			x	X			X						x				\vdash			\square	X
		43	Binh Phuoc				X X		X	X X				^						X X						X		X
	st	44 45	Bình Duong Tay Ninh	x	-	X										-	-			x				\square	\square		\square	\vdash
	heat	46	Ninh Thuan	Â																Â						x		X
	Southeast	47 48	Bình Thuan Dong Nai	x		X				X				X						x				x			\square	x
		49	Ba Ria-Vung Tau			^				X				•						X				•				A .
	<u> </u>	50 51	Ho Chi Minh City Long An		-																			\square			\square	
		52	Dong Thap																									
		53	An Giang Kien Giang			x																						H
	elta	54 55	Tien Giang																									
	Mekong Delta	56	Ben Tre Vinh Long																									
	kon	57 58	Tra Vinh																									
	Me	59	Can Tho City		F	-		F							—	—	—		-	—			—	\square		F		
		60 61	Hau Giang Soc Trang													F	F									F		\square
		62	Bac Lieu																					\square	\square			\square
F	L	63	Ca Mau China		x					x	x	x		x	x	x	x					x	x	x	x	x		\square
			Laos		X		X		X	X	X		X	X	X	x	X X	X	X	X			X	X	X	X		X
			Cambodia	X	X	X	X			X				X	X		X	X	X	X				X	X	I X		X

Figure 8. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 126 to 150.

			Nr.	151	152	153	154	155	156	157	158	159	160	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170
			endemic	Cosmodela juxtata (Acciavatti and Pearson, 1989)	Cosmodela virgula (Fleutiaux, 1893)	Cosmodela horii Wiesner and Lien, 2023	Lophyra (Lophyra) fuliginosa (Dejcan, 1826)	Lophyra (Lophyra) cancellata cancellata (Dejean, 1825)	* Lophyra (Lophyra) kuznetzowi Tscherkasov, 1992	Lophyra (Spilodia) striolata striolata (Illiger, 1800)	Lophyra (Spilodia) striolata dorsolineolata (Chevrolat, 1845)	Lophyra (Spilodia) lineifrons (Chaudoir, 1865)	* Lophyra (Spilodella) cora Matalin and Cherkasov, 2004	* Naviauxella rufovittata Cassola and Wemer, 1995	* Naviauxella snowiana Cassola, 2002	* Naviauxella acciavattii Naviaux, 1994	* Naviauxella fedorenkoi Matalin, 2019	* Naviauxella labiosa Naviaux, 1994	* Naviauxella pseudolabiosa Matalin, 2019	Probstia triumphalis (Hom, 1902)	* Pseudoverticina antennalis (Cassola, 2011)	* Pseudoverticina horii Wicsner and Lien, 2023	Pseudoverticina antoni (Cassola and Probst, 1996)	Cylindera (Cylindera) delavayi (Faimaire, 1886)	Cylindera (Ifasina) foveolata (Schaum, 1863)	Cylindera (Ifasina) cyclobregma Acciavatti and Pearson, 1989	Cylindera (Ifasina) viduata (Fabricius, 1801)	Cylindera (Ifasina) fallaciosa (Hom, 1897)
			Province?																									
	west	1	Lai Chau	X			X			X		X													X		X	
	Northwes	2	Dien Bien Son La																						x		x	
	ž	4	Hoa Bình	X	X	v				v		v								X			v	v		v	X	
		5	Lao Cai Yen Bai	X	X	X				X		X								X			X	X	X	X		
		7	Phu Tho		X	v				v										X		¥.		X			V	
	east	8 9	Ha Giang Tuyen Quang	x	x	X	X			X X	x	x										X			X X		X X	
	Northeast	10	Cao Bang	X X X	X X X	X X															X			X				
	No.	11 12	Bac Kan Thai Nguyen	X	X	X	X				X						-			-					X X		x	
		13	Lang Son Bac Giang	X						X		X								X				X				
		14 15	Bac Giang Quang Ninh		X	X				x	X						_			X			<u> </u>		X		X	X
		16	Vinh Phuc	X	X					~	X	X								X				X				
	z	17	Ha Noi City Ha Nam		X			X									_									_		
	Red River Delta	18 19 20 21 22 23 24	Ninh Bình		X						X									X								
	iver	20	Nam Dinh Hung Yen																							_		
	d R	21	Thai Binh																									
	Re	23	Bac Ninh Hai Duong																									
в		24	Hai Phong City																									
tua	ral	26	Thanh Hoa	X	X			v			X									X				v				
Vie	North Central Coast	26 27 28 29 30	Nghe An Ha Tinh	-	X			X			X						-			-				X				-
s of	th Cer Coast	29	Quang Binh							X	X																X	
ince	Nor	30	Quang Tri Thua Thien-Hue	-							x	-			x		-			-			-					
rov		32	Da Nang City																									
1 pt	C B	33	Quang Nam Quang Ngai											X						<u> </u>				X				
s ar	South tral Co	35	Bình Dinh																									
Regions and Provinces of Vietnam	Cen	31 32 33 34 35 36 37 38 39	Phu Yen Khanh Hoa																									
Re	l sp	38	Kon Tum				X	X		X		X												X			X	
	Central South lighlands Central Coast	39 40	Gia Lai Dak Lak	-	-	-	X			X	-	X		X	X	X	X	x	X	-		-	-	X			X	
	Cer High	41	Dak Nong															-										_
		42 43	Lam Dong Binh Phuoc	-		-	X X			X	-	X X		X	X		-					-		X	X X	X	X X	X
		44	Bình Duong																									
	east	45 46	Tay Ninh Ninh Thuan	-		-	X															-					X	
	Southeast	47	Bình Thuan																									
	Š	48 49	Dong Nai Ba Ria-Vung Tau	X			X X		X	X		X X	X X	X	X							-			X		X	
		50	Ho Chi Minh City				<u> </u>	X				<u> </u>	<u>^</u>															
		51 52	Long An Dong Thap																			-						
		53	An Giang																									
	lta	54 55	Kien Giang Tien Giang	-	-	-	-				-	-			-		-		<u> </u>	-		-	-				-	
	De	56	Ben Tre																									
	Mekong Delta	57 58	Vinh Long Tra Vinh																									
	Mek	59	Can Tho City				x					x																
		60	Hau Giang Soc Trang																									
		61 62	Bac Lieu	E																		E						
\vdash		63	Ca Mau China		x	x	X	x		x	x	x								x				v	x		v	x
			Laos	X	X	X	X	X		X	A	X											x	X X	X	x	X X	X
			Cambodia	X	X		X	X		X		X													X		X	

Nr. 151 152 153 154 155 156 157 158 159 160 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170

Additions to knowledge of Vietnamese tiger beetles

Figure 9. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 151 to 170.

			Nr.	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191		
			शुभ्र di	Cylindera (Ifasina) somnuki Naviaux, 1991	Cylindera (Ifasina) pronotatis (Hom, 1922)	Cylindera (Ifasina) spinolae spinolae (Gestro, 1889)	Cylindera (Ifasina) decolorata (Hom, 1907)	Cylindera (Ifasina) lesnei (Babault, 1923)	* Cylindera (Ifasina) ilonae Matalin, 2015	Cylindera (Ifasina) decempunctata (Dejean, 1825)	Cylindera (Ifasina) humillima (Gestro, 1893)	Cylindera (Ifasina) kaleea kaleea (Batcs, 1866)	Cylindera (Eriodera) albopunctata (Chaudoir, 1852)	Cylindera (Eugrapha) elisae elisae (Motschulsky, 1859)	Cylindera (Eugrapha) minuta (Olivier, 1790)	Cylindera (Eugrapha) mutata (Fleutiaux, 1893)	Myriochila (Myriochila) sinica (Fleutiaux, 1889)	Myriochila (Myriochila) specularis specularis (Chaudoir, 1865)	Abroscelis anchoralis punctatissima (Schaum, 1863)	Abroscelis tenuipes tenuipes (Dejcan, 1826)	Abroscelis tenuipes araneipes (Schaum, 1863)	Callytron nivicinctum (Chevrolat, 1845)	Callytron andersonii (Gestro, 1889)	Enantiola hewittii (Hom, 1908)	Zd Taxa	<u>×</u> 37.7
			Province?			v																			6	3,1
	Northwest	1	Lai Chau Dien Bien			X																			12 3	6,3 1,6
	orth	3	Son La		v	X						X					X								9	4,7
	-	4	Hoa Bình Lao Cai		X	x	-	-	-	-	-	X	-	-	x	-		x	-	-	-	-	-		37 61	19,4 31,9
		6	Yen Bai																						7	3,7
		78	Phu Tho Ha Giang			-	-	-	-	X	-	X X	-	-		-	x	-	-		-	-	-		20 25	10,5
	Northeast	9	Tuyen Quang					X	X			X			X		X								43	22,5
	ht l	10	Cao Bang Bac Kan			<u> </u>	-	<u> </u>		X	-	X		<u> </u>		x		-	-		-	<u> </u>	<u> </u>		35 14	18,3
	Ž	11 12	Thai Nguyen									X				A									19	9,9
		13 14	Lang Son Bac Giang				x					X													27 16	14,1 8,4
		14	Quang Ninh				Λ					X													10	5,2
		16	Vinh Phuc									XX		X	v			X	X						50 26	26,2
	Ita	17 18	Ha Noi City Ha Nam			-		-			-	<u> </u>		-	X	-		-	-		-		-		20	13,6
	Red River Delta	18 19	Ninh Bình									X													17	8,9
	iver	20	Nam Dinh Hung Yen			<u> </u>	_	<u> </u>			-			-		-		-	-		-	_	-		0	0,0
	d R	22	Thai Binh																						0	0,0
	R	21 22 23 24 25	Bac Ninh Hai Duong			-		-			-					-		-	-			_			0	0,0
E		25	Hai Phong City																						1	0,5
etna	tral	26	Thanh Hoa Nghe An				_	_		X		X	X			X			X	X	x				22 23	11,5 12,0
[Zi	North Central Coast	26 27 28 29 30	Ha Tinh									X	•					X		•	<u>^</u>				11	5,8
es o	ခု ပိ	29	Quang Binh									X			X										18 3	9,4
vinc	No	30	Quang Tri Thua Thien-Hue																						27	1,6 14,1
Prov	ast	32	Da Nang City																	X					4	2,1
Regions and Provinces of Vietnam	C F	33 34	Quang Nam Quang Ngai					-	-		-		-		-	\vdash	-	\vdash				-			8 0	4,2
IS a	South Itral C	35	Bình Dinh																	X					1	0,5
giot	Cen	36 37	Phu Yen Khanh Hoa			-	-	-	-	-	-		-	-		-	-	-	-	x	-	-	-		0	0,0
R	ds	38	Kon Tum																				X		27	14,1
	Central South Highlands Central Coast	39 40	Gia Lai Dak Lak	x		-	-	-	-	-	-	-	-	-		-	-	-	-		-	-	-		34 6	17,8
	Ce Higt	41	Dak Nong																						0	0,0
	—	42 43	Lam Dong Binh Phuoc	X		X	-	-		X	-	-	-		X	-	X	-					-		50 24	26,2
	L 1	44	Bình Duong																						1	0,5
	eas	45 46	Tay Ninh Ninh Thuan	-		-	-	-	-	-	-	-	-	-	x	-	-	-	-		-	-			5	2,6
	Southeas	47	Bình Thuan																						0	0,0
	s	48 49	Dong Nai Ba Ria-Vung Tau								X				X					x	x	X	X	x	35	18,3
		50	Ho Chi Minh City														x			<u>^</u>	<u>^</u>				4	2,1
		51 52	Long An Dong Thap																						0	0,0
		53	An Giang																						0	0,0
	Ita	54 55	Kien Giang Tien Giang																						1	0,5
	Mekong Delta	56	Ben Tre																						0	0,0
	guo	57	Vinh Long																						0	0,0
	Iek	58 59	Tra Vinh Can Tho City					-	-	-	-	-	-	-		-	-	-	-			-	-		0 2	0,0
	–	60	Hau Giang																						0	0,0
		61 62	Soc Trang Bac Lieu																						0	0,0
	1	63	Ca Mau																						0	0,0
-					X	X	X	X				X	X	X	X	X	X	X	X			X	X		77	40,3
			China Laos	X	X	X	<u>^</u>			X		X			X	X	X	X					X		95	49,7

Figure 10. Table (adopted and updated from Wiesner et al. 2017: 95–100) of the provincial records of the tiger beetles of Vietnam, species 171 to 191.

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