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Notes on two genera of the jumping spiders, *Anarrhotus* Simon, 1902 and *Pancorius* Simon, 1902 (Aranei: Salticidae) in Vietnam, with description of a new species

Заметки о двух родах пауков-скакунчиков, *Anarrhotus* Simon, 1902 и *Pancorius* Simon, 1902 (Aranei: Salticidae) Вьетнама, с описанием нового вида

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KEY WORDS: Araneae, diversity, DNA barcodes, monotypic, Plexippina, synonym.
КЛЮЧЕВЫЕ СЛОВА: Araneae, разнообрзие, ДНК баркоды, монотипический, Plexippina, синоним.

ABSTRACT. A new species of the jumping spiders, *Pancorius taynguyen* Hoang et Zhang sp.n. (♂) is described from Vietnam (Tan Phu District and Chu Yang Sin National Park). The genus *Anarrhotus* Simon, 1902, with the type species *A. fossulatus* Simon, 1902 (♂), is recorded from Vietnam for the first time. In addition, a new combination *Anarrhotus latus* (Cao et Li, 2016), comb.n., ex *Pancorius* is proposed. A refined diagnosis of *Anarrhotus*, detailed descriptions, photographs of the copulatory organs, somatic features, distribution map and COI sequences of all the species from Vietnam are provided.

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РЕЗЮМЕ. Новый вид пауков-скакунчиков, *Pancorius taynguyen* Hoang et Zhang sp.n. (♂) описан из Вьетнама (Тань Фу Дистрикт и Чу Янг Син Национальный парк). Род *Anarrhotus* Simon, 1902, с типовым видом *A. fossulatus* Simon, 1902 (♂), впервые отмечен из Вьетнама. Дополнительно предложена новая комбинация: *Anarrhotus latus* (Cao et Li, 2016), comb.n., ex *Pancorius*. Представлены уточнённый диагноз рода *Anarrhotus*, подробные описания, фотографии копулятивных органов, соматические признаки, карты распространения и последовательности COI для всех изученных вьетнамских видов.

Introduction

Salticidae is the world's largest spider family, accounting for 6419 species in 664 genera [WSC, 2022]. To date, a total of 137 salticid species in 67 genera have been recorded/described from Vietnam (Quang Duy Hoang, unpubl. data). However, most of the studies on jumping spiders have focused on northern Vietnam [Żabka, 1985; Peng, Li, 2003; Logunov, 2021; etc]. For instance, Żabka [1985] described some 100 salticid species from northern Vietnam. Conversely, only a few studies have been conducted in the remaining regions of the country [Simon, 1903; Hogg, 1922; Logunov, Jäger, 2015]. Therefore, a true diversity of Salticidae in Vietnam is still unclear and requires intensive surveys throughout Vietnam, especially in remote areas.

Simon [1902] erected two genera, *Anarrhotus* Simon, 1902 and *Pancorius* Simon, 1902, both belonging to the subtribe Plexippina Simon, 1901 (*sensu* Maddison [2015]). The genus *Anarrhotus* is still monotyp-

Table 1. Specimens used in the present study.
Таблица 1. Образцы, использованные в данной работе

	Species	Sex	Genbank accession Numbers	Collection localities
1	*Anarrhotus fossulatus*	Male	ON554203	Tan Phu Dist., Dong Nai Prov.; and Chu Yang Sin National Park, Dak Lak Prov., Vietnam
2	*Anarrhotus fossulatus* (*)	Unknown	EU815605	Pahang: Taman Negara, Malaysia
3	*Pancorius taynguyen* sp.n.	Male	ON568780	Tan Phu Dist., Dong Nai Prov.; and Chu Yang Sin National Park, Dak Lak Prov., Vietnam
4	*Pancorius crinitus*	Male	ON563156	Tan Phu Dist., Dong Nai Prov., Vietnam
5	*Pancorius magnus* (*)	Unknown	MK392848	Assam, India

(*) indicates that downloaded from Genbank.

ic, with the type species *A. fossulatus* Simon, 1902. The type locality is Singapore, not Malaysia (see Prószyński [1984: 400], contra WSC [2022]). Hitherto, *A. fossulatus* has not been recorded from Vietnam.

The genus *Pancorius* seems to be paraphyletic [Kanesharatnam, Benjamin, 2021] and remains poorly defined. Currently, it includes 40 species, mainly from the Oriental Region [WSC, 2022]. To date, six *Pancorius* species have been recorded/described from Vietnam: viz., *P. crassipes* (Karsch, 1881) [Żabka, 1985: sub *Evarcha c.*], *P. crinitus* Logunov et Jäger, 2015, *P. dabanis* (Hogg, 1922) [Hogg, [1922: sub *Menemerus d.*], *P. magnus* Żabka, 1985, *P. nahang* Logunov, 2021, and *P. pseudomagnus* Logunov, 2021 [Hogg, 1922; Żabka, 1985; Ono, Thinh, Sac, 2012; Logunov, Jäger, 2015; Logunov, 2021], and a new species *P. taynguyen* Hoang et Zhang sp.n. from Dak Lak Province of the Central Highlands and Dong Nai Province of Southeast, Vietnam described herein. Hence, as of now, *Pancorius* is one of the most diverse genera of the jumping spiders in Vietnam.

The genus *Anarrhotus* is recorded from Vietnam for the first time, and the male of *A. fossulatus* Simon, 1902 is redescribed. Thus, with the addition of a new species and a new record, the current salticid fauna of Vietnam reaches 139 species in 68 genera. To facilitate the matching of their conspecific females, as well as for further studies, we have also provided DNA barcodes of the studied species.

Materials & Methods

Specimens were collected by beating trays in two regions of Vietnam: Chu Yang Sin National Park (Dak Lak Province) in the Central Highlands, and Dong Nai Province in south-eastern Vietnam. Legs II and III on the right side were cut out and preserved in absolute ethanol for DNA analysis, the remaining body was preserved in 70% ethanol for morphological examination. The specimens were examined with a Zeiss Stemi 508 stereo microscope (up to 100X magnification). Photos were taken using Jenoptik ProgRess CF Scan 12.5MP camera and a software Jenoptik ProgRes Capture Pro 2.10.0.1. The photos were stacked using Helicon focus 7.0.2 Pro software and then modified using Adobe Photoshop CS2 9.0. All measurements are given in millimeters (mm). The leg spination follows Ono [1988]. Measurements of leg segment lengths are given as follows: femur + patella + tibia + metatarsus + tarsus (total length). Measurements of eye rows follow Yamasaki [2010]. Maps were created using the online mapping software SimpleMappr [Shorthouse, 2010].

The studied specimens have been deposited in the Vietnam National Museum of Nature (VNMN), Hanoi, Vietnam.

Abbreviations used are as follows: ALE — anterior lateral eyes; AME — anterior median eyes; PLE — posterior lateral eyes; PME — posterior median eyes; ALT — apical lobe of tegulum; Fm — femur; Pt — patella; Tb — tibia, Mt — metatarsus; the position of spines on legs: ap — apical; d — dorsal; pr — prolateral; rt — retrolateral; v— ventral. Museum acronyms: MNHN — Muséum National d'Histoire Naturelle, Paris, France.

The QIAamp DNA Mini Kit (Qiagen, Germany) was used to extract genomic DNA from muscle tissues of leg II and/or III. The partial fragment of the mitochondrial gene cytochrome c oxidase subunit I (COI) gene was amplified and sequenced using the universal primer pairs LCO1490/HCO2198 [Folmer *et al*., 1994]. In this work, we have tested the COI sequences of *Anarrhotus fossulatus, Pancorius crinitus* and *P. taynguyen* Hoang et Zhang sp.n. from Vietnam and were verified by using BLAST (https://www.ncbi.nlm.nih.gov) and deposited in GenBank. The COI sequence of *Pancorius magnus* was downloaded from the NCBI database (National Center for Biotechnology Information) and accession numbers are given in Table 1.

The COI sequences were aligned using MUSCLE [Edgar, 2004] built in the software MEGA version 11.0.11 [Tamura *et al.*, 2021] under default parameters. The genetic distance was calculated using Kimura's two parameter (K2P) model using the software MEGA 11 [Tamura *et al.*, 2021]. The

Table 2. Pairwise distances in K2P model of the genus *Anarrhotus*.
Таблица 2. Парные расстояния в K2P модели рода *Anarrhotus*.

	Species	1	2
1	*A. fossulatus*		
2	*A. fossulatus (*)*	0.0487	

sequence distance was separately calculated with two datasets of COI sequences for the genus *Anarrhotus* (Table 2) and *Pancorius* (Table 3).

Taxonomy

Family Salticidae Blackwall, 1841
Genus *Anarrhotus* Simon, 1902

Anarrhotus Simon, 1902

Anarrhotus Simon, 1902: 421

Type species: *Anarrhotus fossulatus* Simon, 1902

SPECIES INCLUDED. *A. fossulatus* Simon, 1902, and *A. latus* (Cao et Li, 2016), comb.n.

DIAGNOSIS. The genus *Anarrhotus* was compared with *Pancorius* [Simon, 1902], but it also resembles *Orientattus* Caleb, 2020 in having (1) the similar short, strong, curved, and beak-shaped embolus, (2) the tegulum with posterior lobe extending prolaterally, and (3) the palpal tibia shorter than half of the cymbium in length (cf. figures in Metzner [2022]). From both genera, *Anarrhotus* can be distinguished by the triangular bulbus with a posterior lobe extending prolaterally (Fig. 6), compared to the rounded/oval bulbus in *Pancorius* and *Orientattus* (yet, a few species of *Pancorius* could have a small posterior lobe); the single, trapezoidal retrolateral tibial apophysis (Fig. 7) compared to the bifurcated one in *Orientattus* and pointed in *Pancorius*.

DISTRIBUTION. Singapore [Prószyński, 1984; Murphy, Murphy, 2000; Song *et al.*, 2002], Vietnam (present data), China [Cao *et al.*, 2016], and Malaysia [Simon, 1902; Roewer, 1954; Murphy, Murphy, 2000; Song *et al.*, 2002; and Maddison *et al.*, 2008] (Map 1). The type species *A. fossulatus* was described from a single male, with an erroneous data on its locality: as Peninsula Malayana. Roewer [1954] listed this species from Malakka (probably Malacca), Malaysia in his catalogue without any explanation. However, Prószyński [1984] re-examined the type of *A. fossulatus* and found out that it was actually collected from Singapore (see Prószyński [1984: 400]). Several subsequent authors, like Murphy & Murphy [2000], Song *et al.* [2002] followed both these works and listed the species as occurring both in Malaysia and in Singapore, while Maddison *et al.* [2008] used the specimen collected from Malaysia for their molecular analysis.

REMARKS. Based on the shape of the copulatory organs of *A. fossulatus*, and *Pancorius* (*s. lat.*; see comparative illustrations in Metzner [2022]), we have come to the conclusion that *Pancorius latus* Cao et Li, 2016 should also be assigned to *Anarrhotus*, rather than to *Pancorius*. Such conclusion has been based on the following characters of *P. latus*: the similar short, strong, curved, and beak-shaped embolus; the triangular bulbus, with a posterior lobe extending prolaterally; the single, trapezoidal retrolateral tibial apophysis (in retrolateral view); and the palpal tibia almost equals to a half of the cymbium. Therefore, a new combination is proposed here: *A. latus* (Cao et Li, 2016), **comb.n.**

Although the genus *Anarrhotus* is clearly distinct from *Pancorius* and other Plexippina genera [Maddison *et al.*, 2008; Bodner, Maddison, 2012; Kanesharatnam, Benjamin, 2021], its status and relationships with other genera of the subtribe needs further study because both its species remain known from the males only.

Anarrhotus fossulatus Simon, 1902
Figs 1–7, Map 1.

Anarrhotus fossulatus Simon, 1902: 421 (♂)

Anarrhotus fossulatus Prószyński, 1984: 401, figs 3–4 (♂)

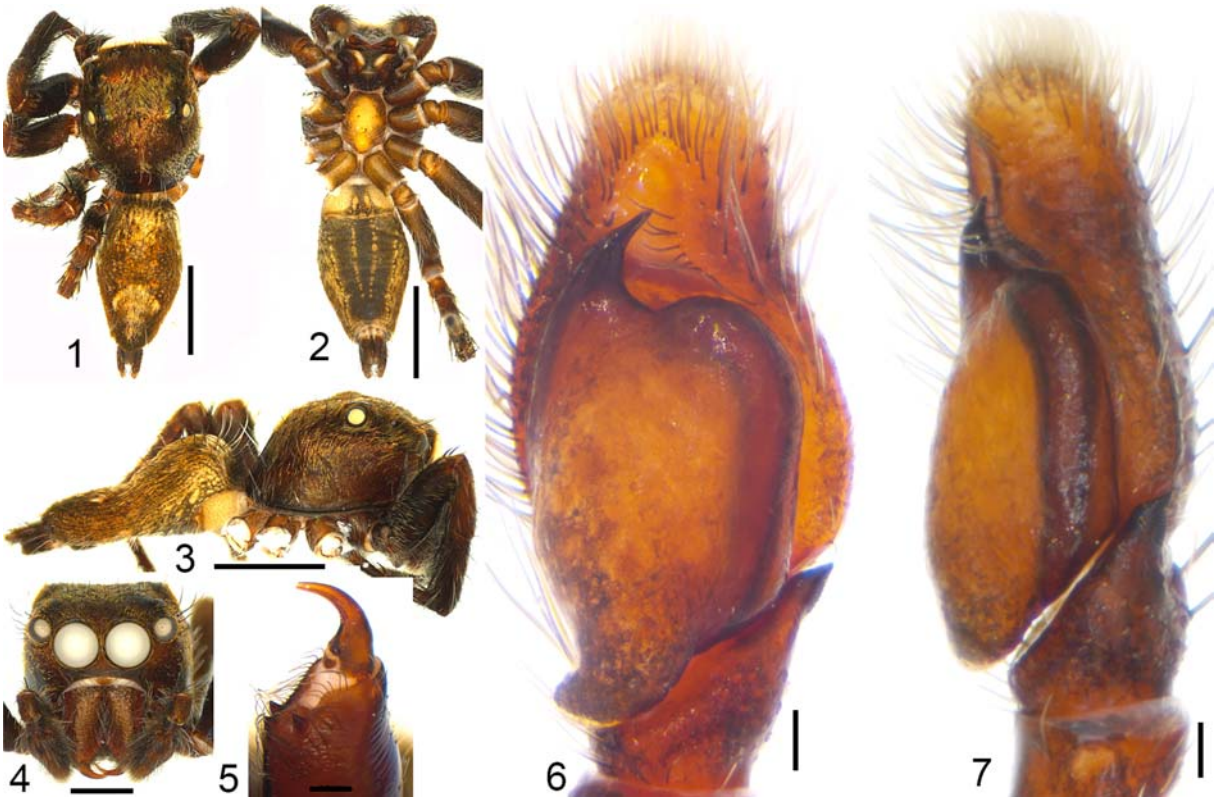
Anarrhotus fossulatus Prószyński, 2017: 26, fig. 11B (♂)

TYPE. Holotype ♂ (MNHN), "14233 *Anarr[otus] fossulatus* Singapore", coll. Simon; not examined (see Prószyński [1984: 400]).

MATERIAL. 1 ♂ (VNMN-ARA-SAL-94.1), Vietnam, Dak Lak Prov., Krong Bong District, Chu Yang Sin National Park (12.43358°N, 108.2579°E), 450 m a.s.l., 15.I.2022, Q.D. Hoang; 1 ♂ (VNMN-ARA-SAL-94.2), Vietnam, Dong Nai Prov., Tan Phu District (11.40633°N, 107.4370°E), 121 m a.s.l., 22.XI.2021, Q.D. Hoang.

DIAGNOSIS. In having the triangular bulbus with a posterior lobe extending prolaterally, the strong, short, curved and beak-shaped embolus (Fig. 6; Cao *et al.* [2016: fig. 30]), and the short palpal tibia, *A. fossulatus* resembles *A. latus* (Cao et Li, 2016) comb.n., but can be distinguished from it by the tegulum bearing an expansion at 9 o'clock directed prolaterad (Fig. 6; at 7 o'clock in *A. latus*, cf. fig. 30C, D in Cao *et al.* [2016]), and the pointed (in ventral view) retrolateral tibial apophysis (with three little apical tips in *A. latus* comb.n.; cf. fig. 30C in Cao *et al.* [2016]).

DESCRIPTION. MALE: Unidentate jumping spider. Measurements: Carapace length 3.44, width 2.73; Abdomen length 3.57, width 1.95. Clypeus height 0.11. Carapace high, yellowish brown, with several protruding long dark brown hairs, mid-dorsally with a longitudinal pale band followed by a tuft of white hairs posteriorly, a short longitudinal fovea is apparent. Lateral sides of the carapace covered with sparse yellowish brown and white hairs (Figs 1, 3). Anterior eyes are surrounded by yellowish brown hairs (Fig. 4). Clypeus dark brown (Fig. 4) accompanied by some brown hairs. Sternum yellow, densely covered with white hairs followed by a thick rim of yellow brown hairs laterally (Fig. 2). Endites and labium dark brown to light yellow anteriorly (Fig. 2). Chelicerae brown, with scattered long white hairs, promargin with two teeth, retromargin with one tooth (Fig. 5). Abdomen: dark brown, with yellowish brown spots, covered with some long dark hairs, with bright inverted chevrons in the posterior half of dorsum (Fig. 1), with three pairs of conspicuous sigillae; venter with a dark brown rectangle, with two longitudinal rows of spots narrowing towards spinnerets. Spinnerets brown. Legs dark brown, covered with



Figs 1–7. *Anarrhotus fossulatus* Simon, 1902, male (VNMN-ARA-SAL-94.2). 1 — habitus, dorsal view; 2 — same, ventral view; 3 — same, lateral view; 4 — carapace, frontal view; 5 — left chelicera, ventral view; 6 — palp, ventral view; 7 — same, retrolateral view. Scale bars: 2 mm (1–3), 1 mm (4), 0.2 mm (5), 0.1 mm (6, 7).

Рис. 1–7. *Anarrhotus fossulatus* Simon, 1902, самец (VNMN-ARA-SAL-94.2). 1 — габитус, вид сверху; 2 — то же, вид снизу; 3 — то же, вид сбоку; 4 — карапакс, вид спереди; 5 — левая хелицера, вид снизу; 6 — пальпа, вид снизу; 7 — то же, вид сбоку-сзади. Масштаб: 2 мм (1–3), 1 мм (4), 0,2 мм (5), 0,1 мм (6, 7).

short dense hairs. Width of eyes row: I 2.48; II 2.14; III 2.45. Length of ALE-PLE 0.75; ALE-PME 1.51. Diameter of eyes: AME 0.74; ALE 0.37; PME 0.08; PLE 0.39. Length of leg segments: I 2.10 + 1.48 + 1.56 + 1.01 + 0.57 (6.72); II 1.62 + 1.08 + 1.27 + 1.08 + 0.44 (5.49); III 1.71 + 1.12 + 1.14 + 1.21 + 0.62 (5.80); IV 1.95 + 1.01 + 1.44 + 1.41 + 0.59 (6.40). Leg formula I–IV–III–II. Leg spination: I: Fm d 0–1–1–4; Pt pr and rt 1–1; Ti pt 1–1–0, v 2–2–2ap; Mt v 2–2ap. II: Fm d 1–1–1–5; Pt pr 1–1; Tb pr 1–1, v 2–2–2ap; Mt v 2–2ap. III: Fm d 1–1–1–4, pr 0–0–1; Pt pr and rt 1; Tb d 1–0, pr and rt 1–1–1, v 0–1–0–2ap; Mt d 0–0–2ap, pr and rt 1–0–1ap, v 2–0–2ap. IV: Fm d 0–1–1–5; Pt pr and rt 1; Tb d 1–0–0, pr and rt 1–1–1, v 0–1–0–2ap; Mt d 2–2–2ap, pr and rt 1ap, v 0–2–2ap. Palp (Figs 6, 7): The palpal tibia shorter than half the cymbium in length. The retrolateral tibial apophysis trapeze-shaped in the retrolateral view (Fig. 7) with pointed tip in the ventral view (Fig. 6). Tegulum with protraction of the posterior lobe protruding prolaterad at 9 o'clock direction (Fig. 6). The embolus short, slightly bent, strong, and beak-shaped (Fig. 6).

FEMALE: Unknown.

DISTRIBUTION. Singapore (the type locality), Vietnam (Dak Lak and Dong Nai Prov.) [present data], and Malaysia (Pahang: Taman Negara, see Maddison *et al.* [2008]); Malacca [Roewer, 1955] (Map 1).

REMARKS. A COI dataset consisting of 417 bp from 02 samples of *A. fossulatus* was analysed. Although the COI sequence of *A. fossulatus* based on the specimen collected from Vietnam and Malaysia (not illustrated, see Maddison *et al.* [2008]), showed a genetic divergence of 4.87% (Table 2), but no distinct morphological differences (cf. Prószyñski [1984]). Therefore, it is safe to conclude that it is merely an intraspecific divergence reflecting a geographical variation [Robinson *et al.*, 2009; Astrin *et al.*, 2016]. As the intraspecific divergence of *A. fossulatus* exceeds the estimated delimitation threshold in comparison with Indian spiders by 2.6 to 3.7% [Tyagi *et al.*, 2019], this could also suggest the existence of cryptic species [Robinson *et al.*, 2009; Blagoev *et al*., 2013; Tyagi *et al.*, 2019] within *A. fossulatus*.

Genus *Pancorius* Simon, 1902

Pancorius crinitus Logunov et Jäger, 2015
Figs 8–14, Map 2.

Pancorius crinitus Logunov, Jäger, 2015: 357, figs 40–44 (D♂♀).

MATERIAL. 2 ♂♂ (VNMN-ARA-SAL-116.1 and VNMN-ARA-SAL-116.2), Vietnam, Dong Nai Prov., Tan Phu District (11.40633°N, 107.4370°E), 121 m a.s.l., 22.XI.2021, Q.D. Hoang.

DISTRIBUTION. Vietnam (Dong Nai Prov.) (Map 2).

Map 1. Distribution of *A. latus* (Cao et Li, 2016) comb.n. (red square), and *A. fossulatus* Simon, 1902 (yellow circles).
Карта 1. Распространение *A. latus* (Cao et Li, 2016) comb.n. (красный квадрат), и *A. fossulatus* Simon, 1902 (желтые кружки).

Pancorius taynguyen Hoang et Zhang **sp.n.**
Figs 15–21, Map 2.

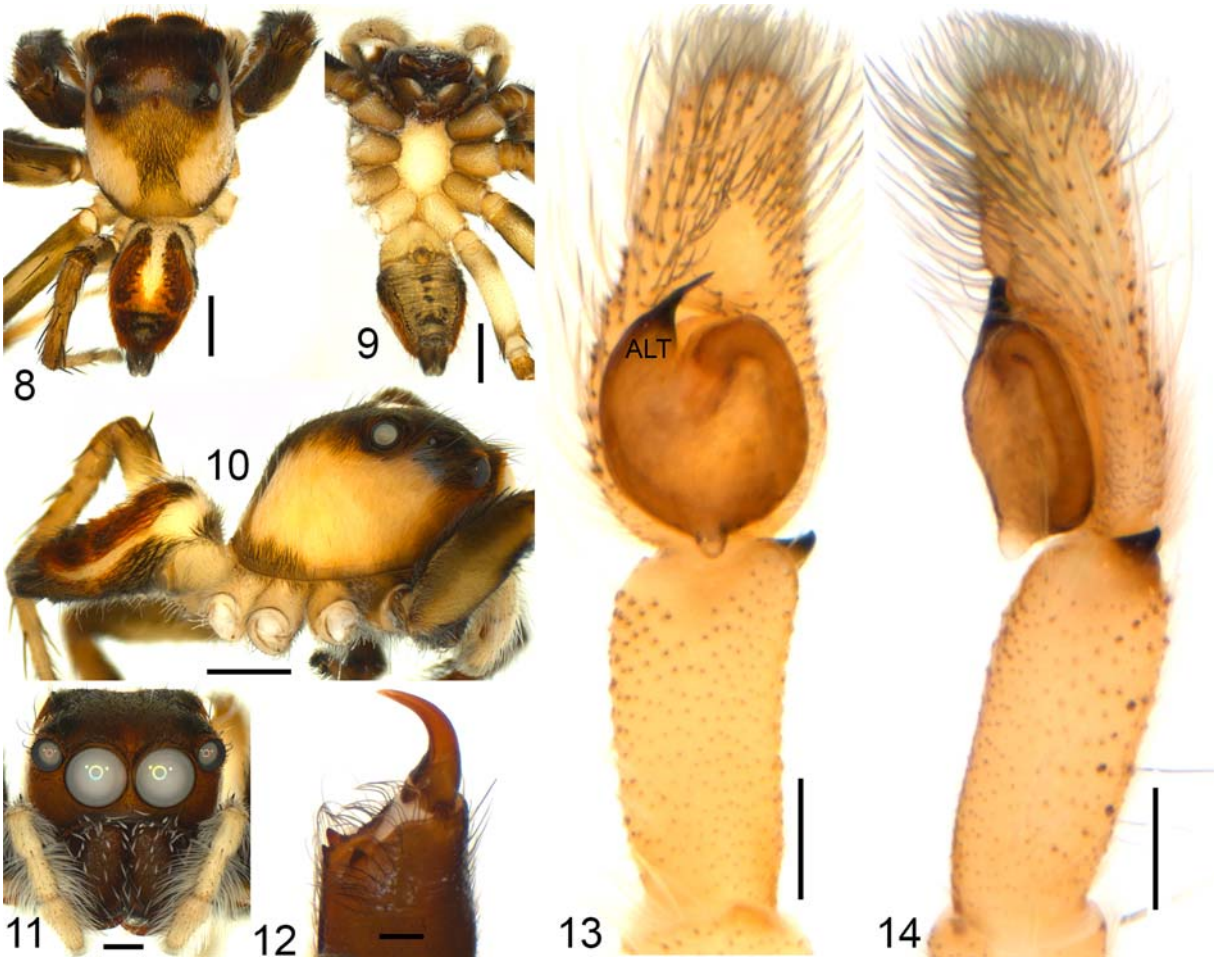
TYPES. Holotype ♂ (VNMN-ARA-SAL-87.1), Vietnam, Dong Nai Prov., Tan Phu District (11.40633°N, 107.4370°E), 121 m a.s.l., 22.XI.2021, Q.D. Hoang. Paratype: 1 ♂ (VNMN-ARA-SAL-87.2), Vietnam, Dak Lak Prov., Krong Bong District, Chu Yang Sin National Park (12.43358°N, 108.2579°E), 450 m a.s.l., 15.I.2022, Q.D. Hoang.

NAME. This specific epithet is a noun in apposition taken from the first author's university, Tay Nguyen University (located in Dak Lak Prov., Viet Nam), where he works.

DIAGNOSIS. In the palpal conformation and general appearance, *P. taynguyen* Hoang et Zhang sp.n. (Figs 15–21) resembles *P. crinitus* (cf. Figs 8–14, and figs 40–44 in Logunov & Jäger [2015]). But it can be distinguished by the following characters: the bulbus almost rounded, the posterior lobe with a protraction at 9 o'clock directed prolaterad (Fig. 20), compared to a small posterior lobe at 6 o'clock directed proximad in *P. crinitus* (Fig. 13); the embolus

Table 3. Pairwise distances in K2P model of the genus *Pancorius*.
Таблица 3. Парные расстояния в K2P модели рода *Pancorius*.

	Species	1	2	3
1	*P. taynguyen* sp.n.			
2	*P. crinitus*	0.0846		
3	*P. magnus (*)*	0.1381	0.1414	

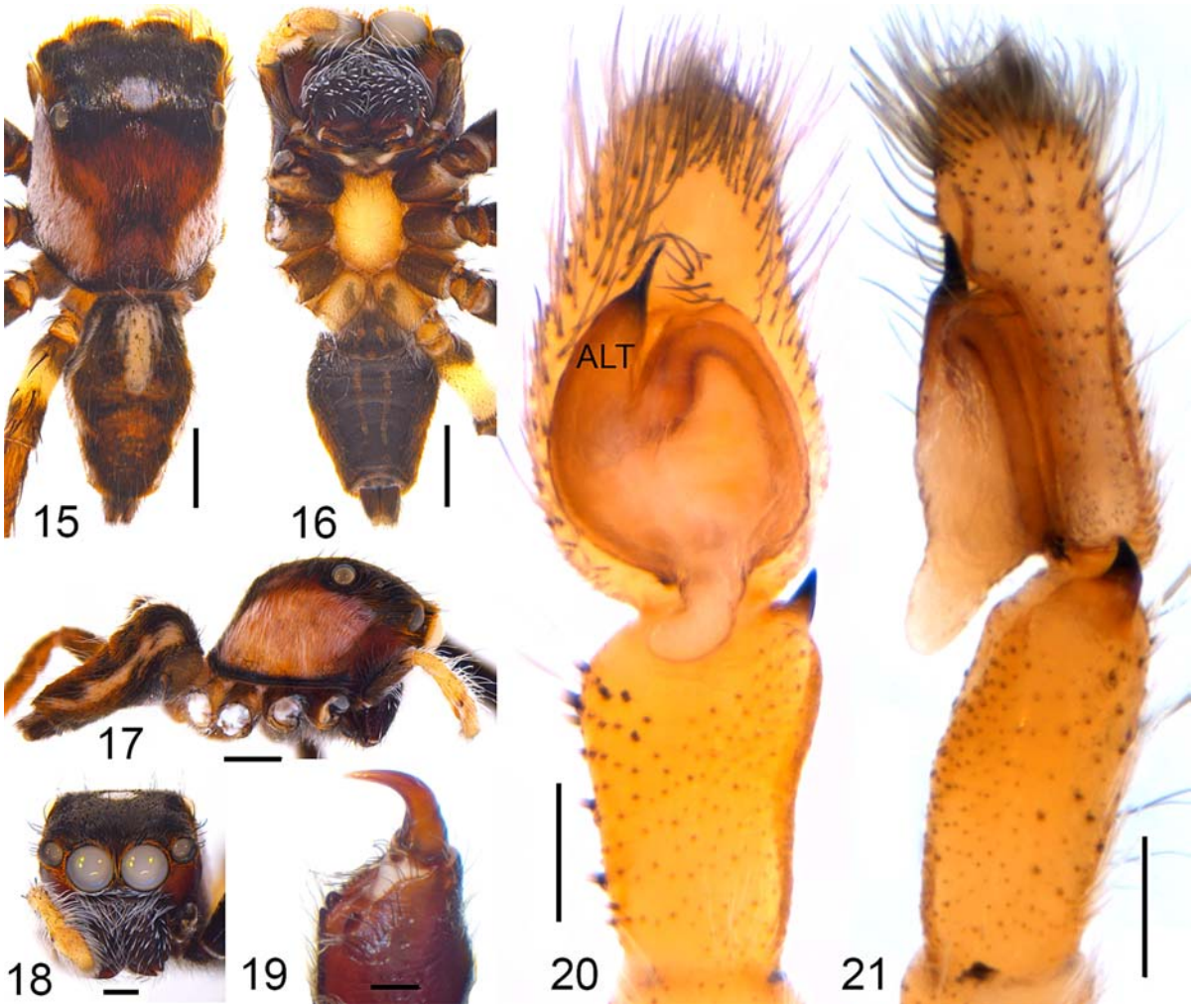


Figs 8–14. *Pancorius crinitus* Logunov et Jäger, 2015, male (VNMN-ARA-SAL-116.1). 8 — habitus, dorsal view; 9 — same, ventral view; 10 — same, lateral view; 11 — carapace, frontal view; 12 — left chelicera, ventral view; 13 — palp, ventral view; 14 — same, retrolateral view. Scale bars: 1 mm (8–10), 0.5 mm (11), 0.2 mm (12–14).

Рис. 8–14. *Pancorius crinitus* Logunov et Jäger, 2015, самец (VNMN-ARA-SAL-116.1). 8 — габитус, вид сверху; 9 — то же, вид снизу; 10 — то же, вид сбоку; 11 — головогрудь, вид спереди; 12 — левая хелицера, вид снизу; 13 — пальпа, вид снизу; 14 — то же, сбоку-сзади. Масштаб: 1 мм (8–10), 0,5 мм (11), 0,2 мм (12–14).

minute slender, shorter apical lobe of tegulum (ALT) in comparison with that of *P. crinitus* (Fig. 13); different conformation of the retrolateral tibial apophysis, which is directed ventrad (Figs 21–21; dorsad in *P. crinitus*, Figs 13–14).

DESCRIPTION. MALE (holotype): Unidentate jumping spider. Measurements: Carapace length 3.13, width 2.47; Abdomen length 2.49, width 1.61. Clypeus height 0.17. Carapace high, yellowish brown covered with black hairs, around of eye region with black accompanied a white spot in the center (Fig. 15), protruding long dark hairs. Two lateral bands of carapace covered with white hairs (Figs 15, 17). ALEs surrounded by yellow-orange hairs, AMEs with yellow orange hairs anteriorly, white hairs posteriorly (Fig. 18). Clypeus short, densely covered with long white hairs (Fig. 18). Sternum yellow with densely covered by white hairs (Fig. 16). Endites and labium dark brown, with light yellow apexes. Chelicerae dark brown, densely covered with long protruding white hairs, promargin with two teeth, retromargin with a tooth (Fig. 19). Abdomen: yellowish brown, with sparse long protruding brown hairs, a bright longitudinal marking in the anterior half of dorsum (Fig. 15); venter dark, with two rows of spots towards spinnerets (Fig. 16). Lateral sides of abdomen with a white band (Figs 15, 17), lateral and dorsal bands separated (Fig. 15). Spinnerets yellowish brown. Legs I, II, and III dark brown, leg IV yellowish brown, covered with dense short hairs. Width of eyes row: I 2.36; II 2.05; III 2.24. Length of ALE-PME 0.55; ALE-PLE 1.23. Diameter of eyes: AME 0.68; ALE 0.41; PME 0.07; PLE 0.26. Length of leg segments: I 2.09 + 1.26 + 1.65 + 1.24 + 0.66 (6.90); II 1.88 + 0.88 + 1.29 + 1.07 + 0.51 (5.63); III 1.60 + 1.12 + 1.40 + 1.51 + 0.68 (6.31); IV 1.78 + 1.32 + 0.84 + 1.38 + 0.78 (6.10). Leg formula I–III–IV–II. Leg spination: I: Fm d 0–1–1–4; Pt pr and rt 1; Ti pt 1–1–1–1, rt 1–1–1, v 2–2–2ap; Mt pt and rt and v 2–2ap. II: Fm d 0–1–1–5; Pt rt 1; Tb pr 1–1–1–1, rt 1–1–1, v 2–2–2ap; Mt pr and rt 0–1–1ap, v 2–2ap. III: Fm d 0–1–1–5, pr and rt 1; Pt pr and rt 1; Tb d 1–0–0, pr and rt 1–1–1, v 1–0–2ap; Mt d 0–0–2ap, pr and rt 1–0–1ap, v 2–0–2ap. IV: Fm d 0–1–1–5; Pt pr and rt 1; Tb d 1–0–2ap, pr and rt 1–1–1, v 1–0–1ap; Mt d 0–0–2ap, pr and rt 1–1–1ap, v 1–0–2ap. Palp (Figs 21–21) yellow, except for dark



Figs 15–21. *Pancorius taynguyen* Hoang et Zhang sp.n., holotype male (VNMN-ARA-SAL-87.1). 15 — habitus, dorsal view; 16 — same, ventral view; 17 — same, lateral view; 18 — carapace, frontal view; 19 — left chelicera, ventral view; 20 — palp, ventral view; 21 — same, retrolateral view. Scale bars: 1 mm (15–17), 0.5 mm (18), 0.2 mm (19–21).

Рис. 15–21. *Pancorius taynguyen* Hoang et Zhang sp.n., голотип самец (VNMN-ARA-SAL-87.1). 15 — габитус, вид сверху; 16 — то же, вид снизу; 17 — то же, вид сбоку; 18 — головогрудь, вид спереди; 19 — левая хелицера, вид снизу; 20 — пальпа, вид снизу; 21 — то же, вид сбоку-сзади. Масштаб: 1 мм (15–17), 0,5 мм (18), 0,2 мм (19–21).

brown femur. Retrolateral tibial apophysis thorn-shaped, slightly bent, directed ventrad and pointed (Figs 20–21). Bulbus rounded, with a posterior lobe at 9 o'clock directed prolaterad (Fig. 20). Embolus slender with pointed end (Fig. 20).

DISTRIBUTION. Dak Lak and Dong Nai Provinces of Vietnam (Map 2).

REMARKS. The new species is only known from the males, but significantly differs by body colouration from *P. nahang* Logunov, 2021 and *P. pseudomagnus* Logunov, 2021 known from the females from northern Vietnam (cf. figs 103–106, 112–115 in Logunov [2021]), and differ from them in having a short strip on anterior half of dorsum, compared to a serrated longitudinal strip throughout the dorsum in both related species. A COI dataset consisting of 582 bp from 03 samples of three species of the genus *Pancorius* was analysed. The COI sequences of *Pancorius taynguyen* Hoang et Zhang sp.n. and *P. crinitus* showed a genetic divergence of 8.46% (Table 3).

Compliance with ethical standards

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical approval: No ethical issues were raised during our research.

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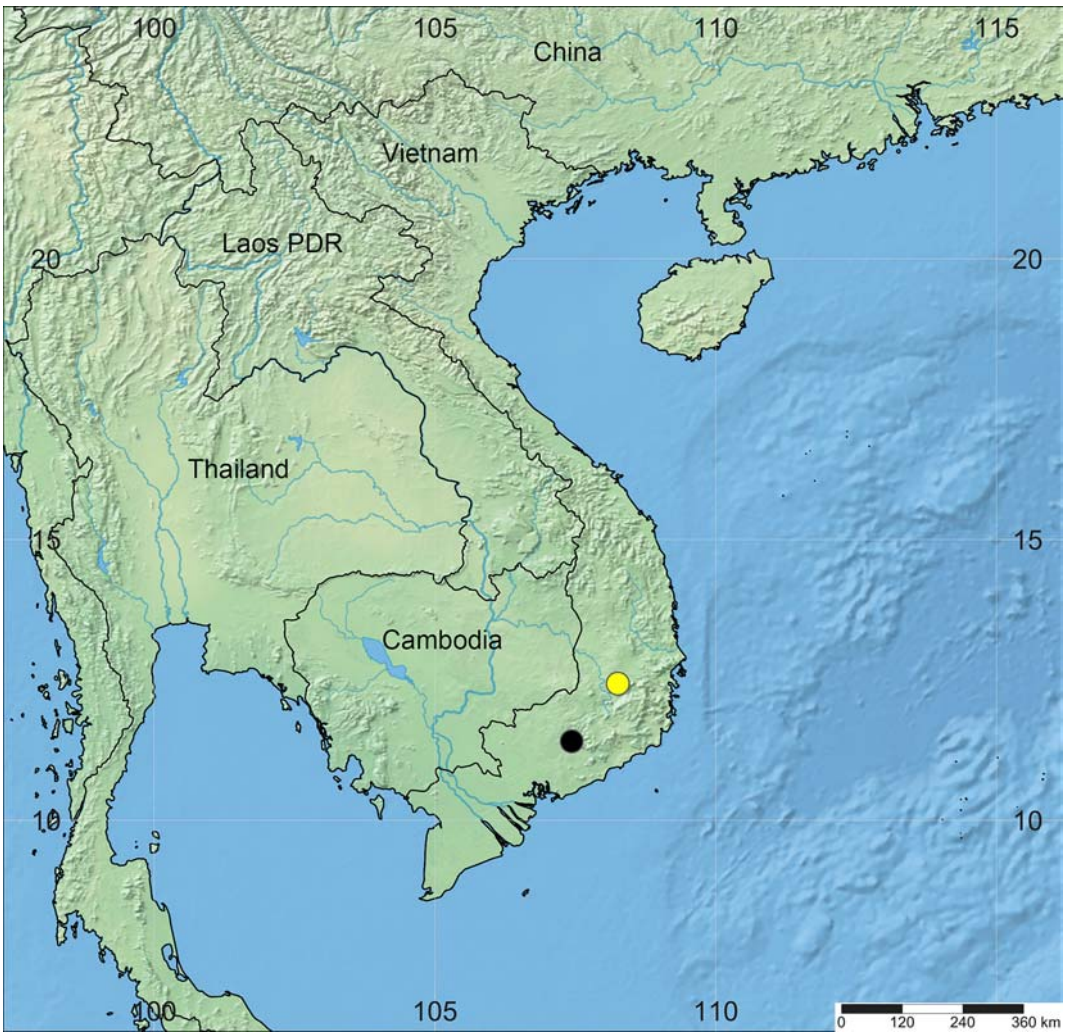

Map 2. Distribution of *Pancorius taynguyen* sp.n. (circles), and *P. crinitus* Logunov et Jäger, 2015 (black circle).
Карта 2. Распространение *Pancorius taynguyen* sp.n. (кружки), и *P. crinitus* Logunov et Jäger, 2015 (чёрный кружок).

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