

## Fauna and ecology of Lamellicornia of subfamily Scarabaeinae (Scarabaeidae, Coleoptera) of Vietnam and some parts of adjacent countries: South China, Laos and Thailand

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### Abstract

Kabakov O.N., Napolov A. 1999. Fauna and ecology of Lamellicornia of subfamily Scarabaeinae (Scarabaeidae, Coleoptera) of Vietnam and some parts of adjacent countries: South China, Laos and Thailand. - Latv. Entomol., 37: 58-96.

A total of 256 species and subspecies of subfamily Scarabaeinae are reported from Vietnam and some parts of adjacent countries. One genus and 36 species and subspecies are recorded as new for Indo-China. The list of species contains as well new synonyms, collecting areas and some ecological data: landscapes-biotops, altitudes, months of collecting and substrata.

**Key words:** Scarabaeinae, Vietnam, Indo-China, systematics, fauna, ecology, biology.

### Introduction

The dung beetles of the subfamily Scarabaeinae of Vietnam and adjacent countries have not yet been studied adequately. And every new carefully done collection, particularly in the mountains, usually brings more and more new species of this subfamily. Very little is known about the beetles of Laos, and it is quite likely that a considerable number of new species of *Onthophagus* Latr. and possibly, some of other genera can be found in this region. A monograph (Balthasar, 1963) included 187 species of Scarabaeinae (Scarabaeidae) for the area under study. 116 other species of the beetles were added in the period from 1963 to 1998. These species were described by S.Endrödi, R.Paulian, K.Masumoto, T.Ochi, M.Zunino, D.Kral and O.Kabakov. Of the species quoted by V.Balthasar and others, we have failed to find 79 species. The list presented herein covers 256 species and subspecies. The total number of species (together with subspecies) has known for Vietnam and adjacent countries thus amounting to about 334.

The list contains the following data: 1) name; 2) year when the species was described (symbol \* stands for species that haven't been reported for Indo-China); 3) new synonyms (the synonyms given in the monograph of V.Balthasar are excluded); 4) numbers in brackets standing for collecting areas of O.Kabakov in North Vietnam (fig. 1); 5) name of collecting

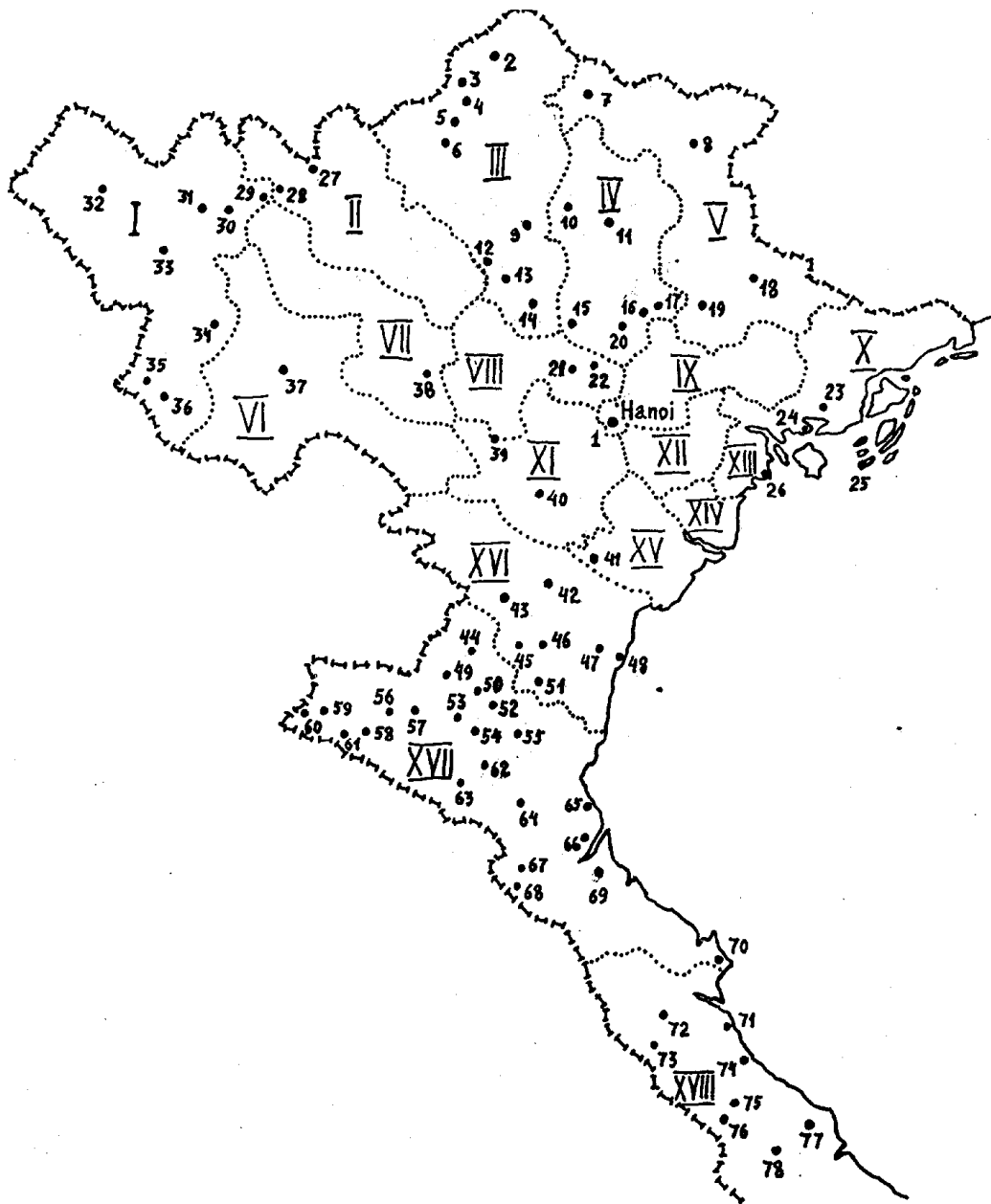


Figure 1. Map of North Vietnam showing provinces (I-XVIII) and collecting areas of O.Kabakov (1-78).

Provinces: I - Laichau, II - Hoanglienson, III - Hatuyen, IV - Bacthai, V - Caolang, VI - Sonla, VII - Ngialo, VIII - Vinhphu, IX - Habac, X - Quangninh, XI - Hasonbinh, XII - Haihung, XIII - Haiphong, XIV - Thaibinh, XV - Hanamninh, XVI - Thanhhoa, XVII - Ngetinh, XVIII - Binhtrithien.

Collecting areas and altitudes: 1 - Hanoi (10 - 20m), 2 - NE Hagiang (1000 - 1500m), 3 - NW Hagiang (900 - 1200m), 4 - env. Hagiang (300 - 500m), 5 - NW Bacquang (1500 - 1800m), 6 - SW Bacquang (500 - 600m), 7 - env. Baolac (1000 - 1200m), 8 - env. Caobang (300 - 1000m), 9 - Chiemhoa (300 - 500m), 10 - env. Baccan (600 - 800m), 11 - SE Baccan (1000m), 12 - NW Tuyenquang (300 - 500m), 13 - env. Tuyenquang (300 - 400m), 14 - SE Tuyenquang (200 - 300m), 15 - Sonduong (300 - 500m), 16 - NE Thainguyen (200 - 400m), 17 - 50km NE Thainguyen (Sammoc) (300 - 500m), 18 - env. Langson (300 - 400m), 19 - env. Bacson (400 - 600m), 20 - env. Thainguyen (100 - 200m), 21 - SW Tamdao (Daotru) (150 - 300m), 22 - env. resort Tamdao (900 - 1000m), 23 - NE Honggai (Hoanhbo) (100 - 400m), 24 - Honggai

(10 - 30m), 25 - Halong arch.(1 - 100m), 26 - resort Doson (1 - 100m), 27 - env. Laocai (200 - 500m), 28 - env. Sapa (1700 - 2000m), 29 - W Sapa, Fansipan (2000 - 2600m), 30 - Binhlu (500 - 600m), 31 - Dongpao (Namma riv.) (900 - 1200m), 32 - NW Laichau (500 - 800m), 33 - env. Laichau (500 - 800m), 34 - Thuanchau (800 - 1000m), 35 - Dienbienfu (800 - 1000m), 36 - SE Dienbienfu (1000 - 1300m), 37 - Sonla (600 - 700m), 38 - Ngialo (Tule) (1000 - 1500m), 39 - SW Hoabinh (Suoirut) (300 - 600m), 40 - Choben (100 - 200m), 41 - Chine (100 - 200m), 42 - Camthuy (100 - 200m), 43 - Langchanh (200 - 500m), 44 - Songchu (200 - 300m), 45 - SW Bithuong (Thuongsuan) (100 - 200m), 46 - SE Baithuong (50 - 100m), 47 - env. Thanhhoa (10 - 50m), 48 - Samson (1 - 20m), 49 - NW Quy Chau (Kimson) (400 - 600m), 50 - env. Quy Chau (300 - 400m), 51 - Nhuxuan (50 - 100m), 52 - SE Quy Chau (200 - 300m), 53 - Songcon (SW Quy Chau) (200 - 400m), 54 - Naca (Quihop) (100 - 200m), 55 - Fuqui (Sen) (50 - 100m), 56 - N Cuarao (300 - 400m), 57 - NE Cuarao (500 - 800m), 58 - env. Cuarao (200 - 300m), 59 - env. Muongxen (200 - 300m), 60 - W Muongxen (800 - 1100m), 61 - SW Cuarao (500 - 1000m), 62 - NE Concuong (300 - 500m), 63 - env. Concuong (100 - 200m), 64 - Anhson (50 - 100m), 65 - Cualo (1 - 50m), 66 - env. Vinh (10 - 20m), 67 - env. Kimcuong (300 - 400m), 68 - SW Kimcuong (400 - 700m), 69 - Nuiong mts.(200 - 500m), 70 - Ron (10 - 50m), 71 - Botrach (N Donghoi) (1 - 50m), 72 - NW Donghoi (200 - 300m), 73 - NW Donghoi, Raote (400 - 700m), 74 - env. Donghoi (1 - 20m), 75 - Myduc (SW Donghoi) (50 - 100m), 76 - SW Donghoi (100 - 300m), 77 - env. Vinhlinh (1 - 50m), 78 - SW Vinhlinh (100 - 300m).

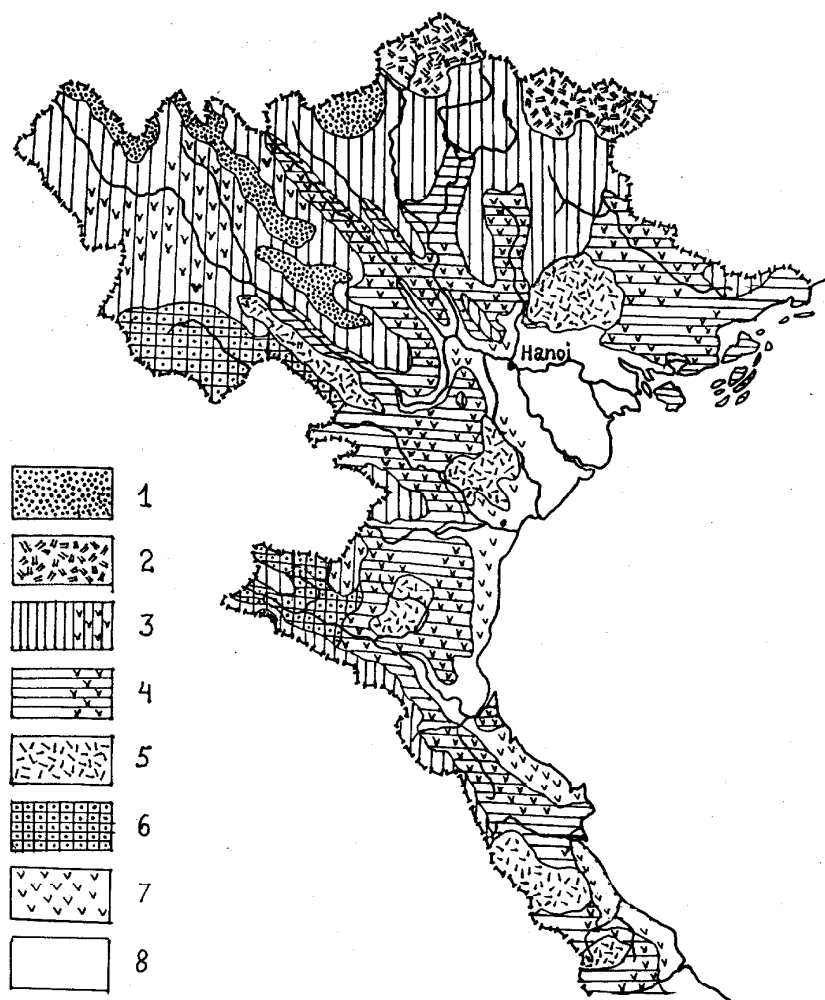


Figure 2. Map of the biotops of North Vietnam.

1 - Montane subalpine biotops (MSB), h = 1800 - 3140m. Forests of trees: *Rhododendron*, *Podocarpus*, *Cunninghamia*, *Fokienia*, *Acer*, *Tilia*, *Alnus nepalensis*, *Betula*, *Salix* and other trees; *Cyatheus*,

*Hedera nepalensis*. Subalpine grassfields: *Lilium*, *Artemisia*, *Achillea*, *Sclerium*, *Pteridium*, *Lycopodium* and *Equisetum*.

2 – Montane limestone plateau (MLP), h = 1200 - 2500m. There may be sparse forests of trees: *Pinus*, *Keteleeria*, *Cupressus*, *Magnolia*, *Ficus*; palms: *Cariota baesonensis*; *Cicas*; *Smilax*, *Clausena*.

3 - Montane tropical forests (MTF), h = 900 - 2000m, on silicate soils. Trees: *Castanopsis*, *Passania*, *Quercus*, *Carpinus*, *Cinnamomum*, *Magnolia*, *Pinus*, *Aralia*, *Ficus*; *Cyatheus*; lianas: *Vitis*, *Smilax*; palms: *Caryota*, *Pinanga*; *Musa wilsoni*. Secondary montane savannah (MS, V). Bushes: *Rubus*, *Alnus nepalensis*, *Melastoma*; grasses: *Thyisonaloena*, *Solanum*, *Ischemum*, *Paspalum*, *Centelia*, *Artemisia*, *Achillea*.

4 – Biotops of tropical rain forests (evergreen) (RTF), h = 10 - 900m on silicate soils. Forests of large trees: *Dipterocarpus*, *Hopea*, *Vatica*, *Lagerstroemia*, *Terminalia*, *Erythrophleum*, *Ficus* and many other trees; palms: *Areca*, *Arenga*, *Livistona*, *Rhapis*; lianas: *Dioscorea*, *Bauchinia*, *Calamus*; bamboo: *Dendrocalamus* and many other species; epiphytes; *Musa coccinea*, *Pandanus*, *Laportea*, *Allocasia*. Secondary tropical forests (SF). Trees: *Rhus*, *Randia*, *Litrea*, *Trema*, *Melia*, *Citrus decumuna*, *Baccaurea*; many species of bamboo. Secondary savannah (S, V). Grasses: *Imperata*, *Saccharum spontanum*, *Mimosa pudica*, *Vernonia*; bushes: *Eupatorium*, *Melastoma*; palms *Fenix*; trees: *Liquidambar*, *Trema*, *Mallotus*.

5 – Biotops of tropical forests on limestone (karst plateau and karst valleys) (LTF), h = 10 - 900m. Trees: *Parapentace tonkinensis*, *Dipterocarpus*, *Burretiodendron*, *Garcinia*, *Ficus*, *Saraca dives*, *Dillenia* and many other species; palms: *Cariota*, *Arenga*; *Pandanus*; *Cordyline*; *Cupressus*; *Vitis*; lianas: *Hodgsonia*, *Potos*, bamboo-liana; grasses: *Aglonaema*, *Allocasia*, *Amorphocephalus*, *Zinziber* and other species.

6 – Biotops of semiarid semideciduous tropical forests (DTF), h = 200 - 1200m. Trees: *Dipterocarpus*, *Altingia*, *Pentace*, *Shorea*, *Terminalia*, *Careya*, *Pinus*; bushes: *Vitis*, *Solanum*, *Eupatorium*; palms: *Arenga*, *Fenix*, *Areca*; many species of bamboo; grasses: *Alpinia*, *Zinziber*, *Scleria*, *Coralia*, *Phrinium*.

7 – Biotops of secondary savannah (S, V), h = 10 - 800m, with plantations of trees: *Pinus*, *Eucalyptus*, *Casuarina*; bushes: *Rhodomyrtus*, *Baekkea* and other Myrtaceae; palms: *Phaenix hanceana*; *Pandanus*; grasses: *Imperata*, *Paspalum*, *Fimbristilus*. Biotops of seashore and rocks.

8 – Biotops of cultural landscape (A), h = 1 - 200m. Paddy fields; plantations of citruses, coffee trees, bananas, coco palms; orchards; pastures and roadside plants of banana, *Ananas*, *Lantana indica*, *Clerodendron*, *Datura* and other species.

For China, included in the list are also: Subtropical forests (STF), montane pine forests (MPF), alpine biotops of alpic grass fields, screes, snow-capped, glacier (M).

areas with the initials (occasionally surname) of collectors in brackets; 6) number of specimens studied; 7) records - known distribution; 8) symbols (letters) designating landscapes-biotopes (fig. 2); 9) altitude of collecting areas; 10) month of collecting; 11) ecological data on collecting areas and substrata: e.g., collected at the light of electric lamp, type of dung and other decomposable substrata, etc..

O.Kabakov (O.K.) collected beetles in North Vietnam from October 1961 to April 1964 and in Laos in October 1984 and January-March 1986.

A.Napolov (A.N.) collected beetles in South Vietnam in May-August 1995 and also in North Vietnam in cooperation with I.Roma (I.R.) in May-August 1996. The present study uses as well the material collected by A.Napolov in 1997 and in 1998 during baseline biological surveys in the protected areas of North Vietnam carried out as a result of a joint venture between the Society for Environmental Exploration (London) and the Institute for Ecology and Biological Resources (Hanoi) through the SEE-Vietnam Forest research Project.

Included also are all the species collected by a Soviet-Chinese expedition in Yunnan, China, in 1955-1957 designated by (SCE), as well as the material collected by A.Gorokhov (A.G.), E.Isokh (E.I.), I.Boguslavski (I.B.), I.Vasiliev (I.V.), G.Medvedev (G.M.),

L.Medvedev (L.M.), N.Orlov (N.O.), S.Bielokobylski (S.B.), V.Solyanikov (V.S.), V.Yanushev (V.Y.).

We have also used the data contributed by the Czech entomologists: D.Kral (D.K.), E.Jendek (E.J.), I.Farkač (I.F.), J.Horak (J.H.), J.Strnad (J.S.), M.Nikodim (M.N.), P.Pacholátka (P.P.), R.Červenka (R.Č.), V.Kubán (V.K.) and the German scientist J.Klapperich (J.K.).

The Authors wish to express their deep gratitude to all the above-mentioned entomologists and to our Czech friends in particular.

Explanations to the list of species: N.P. = National Park; excr. = excrements.

## List of species of Scarabaeinae

### Tribus Gymnopleurini

*Paragymnopleurus* Shipp, 1897

*P. melanarius* Harold, 1867.

China: Yunnan (SCE). N.Vietnam: 23, 33, 37 (O.K.). C.Vietnam: 45, 46, 52 (O.K.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Vientian (O.K.). Thailand: Chiang Mai (V.K.). 16♂ 24♀.

Records: S.China, India, Burma, Ceylon, Indo-China, Sumatra, Java, Taiwan.

DTF, SF, S, A; 10-1000m; III-XI; cow, buffalo, pig dung, human's excr.

*P. sinuatus assamensis* Waterhouse, 1890\*.

China: Yunnan (SCE). Taiwan: Pu-li. C.Vietnam: 57, 60 (O.K.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Mai (V.K.). 40♂ 45♀.

Records: Nepal, Sikkim, Assam, Burma.

MTF, DTF, SF, S; 200-1600m; IV-XI; cow, buffalo dung.

*P. sinuatus abax* Sharp, 1875.

N.Vietnam: 22 (O.K.); Dongho isl. (V.Y.). S.Vietnam: Dongnai, Cattien (A.N.). 7♂ 10♀.

Records: Cambodia.

DTF, SF, S; 10-200m; III-VII; cow dung.

*P. sinuatus productus* Sharp, 1875.

N.Vietnam: 23, 33 (O.K.). 4♂ 7♀.

Records: Laos, Cambodia, Vietnam.

S; 100-200m; V-VI; cow dung.

*P. brahminus* Waterhouse, 1890\*.

N.Vietnam: 22, 28 (O.K.); Dongho isl. (V.Y.); Vinhphu, Tamdao (A.N.). C.Vietnam: 74 (O.K.); Thanhhoa, Benen N.P. (A.N.); Hoanglienson, Sapa (A.N.). 10♂ 18♀.

Records: C. and S. China

MTF, SF, S; 10-1000m; III-IX; human's excr., rotten fish.

### Tribus Sisyphini

*Sisyphus* Latreille, 1807*S. neglectus* Gory, 1833\*.

China: Yunnan (SCE). N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Dao, Mae Hong Son (V.K.). 16♂ 18♀.

Records: S.China, India, Burma.

RTF, MTF, SF; 100-1100m; III-X; human's excr.

*S. laoticus* Arrow, 1927, [mistaken for a synonym of *S. neglectus* Gory (Haaf, 1955)].

(We assume that it is a good species on the basis of the studied material.)

Laos: Khammouan, Boneng (O.K.). 2♂ 3♀.

Records: Laos (Paulian, 1945).

LTF; 200m; 20.X.1984; human's excr.

*S. denticrus* Fairmaire, 1836, [mistaken for a synonym of *S. neglectus* Gory (Haaf, 1955)].

(We assume that it is a good species on the basis of the studied material.)

S.Vietnam: Dongnai, Cattien (A.N.). 2♂ 3♀.

Records: S.China, Sikkim, Assam, Burma, Indo-China.

DTF; 200-300m; VI-VII; human's excr.

*S. popovi* Kryzhanovskii et Medvedev, 1966.

China: Yunnan, SW Mansi, 1200m (SCE).

Records: Yunnan (type serie) 1♂ 1♀.

MTF; 900-1200m; V.

**Tribus Canthonini***Cassolus* Sharp, 1907*C. nudus* Sharp, 1875.

C.Vietnam: 45, 57, 60 (O.K.); Darlac, Buonmethuot (L.M.). 2♂ 4♀.

Records: Indo-China, S.China.

RTF, DTF; 300-1100m; VI-XI; on rotten mushrooms.

*C. humeralis* Arrow, 1907.

China: Yunnan (SCE). 1♂.

Records: India, N to Himalaya mnt.

MTF; 1400m; V; on rotten mushrooms.

*C. fuciensis* Balthasar, 1960.

C.Vietnam: 75, 76 (O.K.); Gialai Contum, Buonluoi (L.M.). 2♂ 4♀.

Records: China, Fukien.

RTF, MTF; 300-2400m; III-VI; on rotten mushrooms.

*Panelus* Lewis, 1895*P. tonkinensis* Paulian, 1939.

N.Vietnam: Hatuyen, Nahang (A.N.&I.R.); Vinhphu, Tamdao (A.N.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 4♂ 3♀.

Records: Tonkin.

MTF, S; 10-1000m; VII-IX; human's excr.

*Phacosoma* Boucomont, 1914

*Ph. obscurum* Boucomont, 1920.

C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 1♂ 2♀.

Records: Burma, Laos.

S; 10-100m; VII; human's excr.

*Ph. fallacilaetum* Masumoto, 1989\*.

N.Vietnam: Vinhphu, Tamdao (A.G., A.N.). 2♂ 1♀.

Records: Thailand.

MTF; 900-1000m; IX; human's excr.

### **Tribus Dichotomini (Pinotini)**

*Parachorius* Harold, 1873

*P. thomsoni* Harold, 1873.

China: Yunnan (SCE). N.Vietnam: 22 (O.K.). 2♂ 1♀.

Records: India, S.China, Vietnam.

MTF; 900-1900m; V-IX; at light, on rotten mushrooms and fish.

*P. fungorum* Kryzhanovskiy et Medvedev, 1966.

China: Yunnan (SCE), 2♀ (type serie); Baoshan city env. (A. Gorodinski), 1♀.

Records: Yunnan.

MTF; 1900m; VI-VII; on rotten mushrooms.

*Paraphitus* Harold*P. dentifrons* Lewis, 1895.

N.Vietnam: 15, 16, 19, 22 (O.K.). C.Vietnam: 43, 53 (O.K.). 46♂♀.

Records: S.Japan, Vietnam.

RTF, LTF, MTF; 200-900m; I-XII; in burrow Passalidae *Acerarius grandis* Burm. on its excrements.**Tribus Alloscelini***Haroldius* Boucomont, 1914*H. perroti* Paulian, 1939.N.Vietnam: Vinhphu, Tamdao (A.N.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 2♂  
1♀.

Records: Vietnam.

MTF, S; 10-900m; VII-IX; in forest humus.

**Tribus Coprini***Synapsis* Bates, 1868*S. tridens* Sharp, 1881.

N.Vietnam: 28 (O.K.). C.Vietnam: 60 (O.K.). 2♂ 1♀.

Records: NE India, Burma, S.China, Vietnam, Laos.

MTF; 1100-1800m; V-IX; horse and buffalo dung.

*S. simplex* Sharp, 1875.

China: Yunnan (SCE). C.Vietnam: 60 (O.K.). 2♂ 1♀.

Records: Laos, Vietnam.

RTF, MTF; 200-1100m; VI-IX; buffalo dung.

*S. yama* Gillet, 1911.

N.Vietnam: 22 (O.K.); Hatuyen, Nahang (A.N.&amp;I.R.). C.Vietnam: Thanhhoa, Hatrung (V.Y.); Thanhhoa, Benen N.P. (A.N.). 14♂ 15♀.

Records: Laos, Vietnam.

MTF, RTF, S; 10-1000m; VI-XI; cow dung, human's excr.

*S. ovalis* Boucomont, 1920.

S.Vietnam: Songbe, Bugiamap (A.N.). 1♂ 2♀.

Records: Laos.

DTF; 100-200m; V; cow dung.

*S. naxiorum* Kral et Rejsek, 1996.

China: Yunnan, Hutiao gorge Jinsha riv. (D.K.). 1♂ (paratypus).

MTF; 2000m; VII.

*S. birmanicus* Gillet, 1907\*.

China: Yunnan (SCE). 1♂ 1♀.

Records: Burma.



RTF; 600m; VI.

*Heliocopriss* Hope, 1837

*H. bucephalus* (Fabricius), 1775.

China: Yunnan (SCE). N.Vietnam: 23, 26 (O.K.). 4♂ 6♀.

Records: India, Burma, S.China, Thailand, Laos, Cambodia, Vietnam, Java.

SF, S; 10-200m; VI-XI; buffalo and cow dung.

*H. dominus* Bates, 1868.

Burma: Tenasserim. 1♂ 1♀.

(no data)

*Catharsius* Hope, 1837

*C. molossus* (Linnaeus), 1758.

China: Yunnan, Sichuan (SCE). N.Vietnam: 1, 4, 6, 12-14, 16-23, 27-30, 33-37, 40, 41 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 42, 44-47, 50, 52-54, 58, 60, 62, 64, 68, 70-72, 74, 75, 77, 78 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buanluoi (A.G., V.Y.). S.Vietnam: Songbe, Bugiamap (A.N.); Dongnai, Cattien (A.N.). Laos: Vientian, N.Vientian, Ngamngum; Khammouan, Boneng; Attopeu, Sesu riv. (O.K.). >500♂♀.

Records: E.Afganistan, India, Ceylon to C.China, Taiwan, Indonesia, Timor and Flores isl.

RTF, MTF, LTF, SF, S, A; 10-2000m; I-XII; pig, cow, buffalo dung, human's excre; fly at light.

*C. birmanicus* Lansberge, 1878.

Laos: Khammouan, Boneng (O.K.). Thailand: Tap Tan, NW Uthai Thani (Leg.N.Boonkong). 1♂ 4♀.

Records: Butan, Sikkim, Burma, Laos.

LTF, S; 100-300m; II-X; buffalo, cow dung.

*C. javanus* Lansberge, 1886.

C.Vietnam: 41, 69 (O.K.). 1♂ 1♀.

Records: Assam, Burma, Indo-China, S.China, Indonesia, Taiwan.

DTF, S; 100-300m; V-VIII; buffalo, cow dung.

*Copris* Geoffroi, 1762

subgen. *Copris* (s. str.) Geoffroi, 1762

*C. (s. str.) siamensis* Gillet, 1910.

Laos: Savannaket env. (O.K.). Thailand: NW Bangkok; Mikdahar (Mecong riv.); Tap Tan, NW Uthai Thani (Leg.N.Boonkong). 3♂ 4♀.

Records: Thailand.

SF, S; 10-200m; II-IV; buffalo and cow dung.

*C. (s. str.) nevinsoni* Waterhouse, 1891.

S.Vietnam: Songbe, Phugiao (A.N.). Thailand: NW Bangkok; Tap Tan, NW Uthai Thani (Leg.N.Boonkong). 4♂ 5♀.

Records: Laos, Vietnam, Thailand.

DTF, S; 100-300m; III-X; buffalo and cow dung.

C. (s. str.) sinicus Hope, 1842.

China: Yunnan (SCE). N.Vietnam: 4, 6, 13, 15, 16, 21, 23, 26, 34, 35 (O.K.). C.Vietnam: 42, 43, 49, 53, 60, 62, 75, 76 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi, Tramlap (A.G., V.Y.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). Thailand: NW Bangkok (A.G.). 200♂♀.

Records: Burma, Thailand, Indo-China, S.China.

DTF, SF, S, A; 10-1800m; I-XII; buffalo, cow and pig dung, human's excr.

C. (s. str.) carinicus Gillet, 1910.

China: Yunnan (SCE). N.Vietnam: 14, 16, 17, 21, 22, 35, 37 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Boneng (A.G.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). 100♂♀.

Records: Assam, Burma, Laos.

RTF, LTF, SF, S; 10-1800m; I-XII; buffalo, cow and pig dung, human's excr., rotten mushrooms.

C. (s. str.) repertus Walker, 1858\*.

China: Yunnan (SCE). C.Vietnam: 60 (O.K.). Laos: Attopeu, Sesu riv. (O.K.). 6♂ 5♀.

Records: India, Ceylon, S. China.

MTF, SF, S; 300-1100m; III-X; cow dung.

C. (s. str.) magicus Harold, 1881.

China: Yunnan (SCE). N.Vietnam: 28, 29 (O.K.); Hoanglienson, Sapa (A.N.). C.Vietnam: 60 (O.K.). 21♂ 32♀.

Records: Sikkim, Burma, S.China, Laos, Tonkin.

MTF; 1100-2200m; V-IX; cow dung, rotten mushrooms.

C. (s. str.) corpulentus Gillet, 1910.

China: Yunnan (SCE). N.Vietnam: 4, 13, 14, 16, 17, 21-23, 34, 37 (O.K.). C.Vietnam: 46, 49, 50, 53, 58, 60-64, 67, 68, 73 (O.K.); Thanhhoa, Benen N.P. (A.N.). Laos: Vientian; Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). 100♂♀.

Records: Assam, Burma, Laos, Vietnam.

DTF, MTF, SF, S; 100-1600m; I-XII; cow, pig, buffalo dung.

C. (s. str.) confucius Harold, 1877.

China: Yunnan (SCE). N.Vietnam: 4, 14, 16, 21-23, 31, 37 (O.K.). C.Vietnam: 42, 43, 46, 49, 53, 54, 60, 62, 76 (O.K.); Thanhhoa, Benen N.P. (A.N.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). 200♂♀.

Records: S.China, Indo-China, Taiwan.

MTF, LTF, SF, S; 100-1000m; I-XII; cow, buffalo and pig dung, human's excr.

C. (s. str.) numa Lansberge, 1886 (?).

C.Vietnam: 60, 61 (O.K.). 2♂ 5♀.

Records: Assam, Burma, Malacca, Sumatra, Borneo.

DTF, MTF; 300-1100m; I-X; buffalo dung.

C. (s. str.) obenbergeri Balthasar, 1933.

China: Yunnan (V.K.). 2♂ (f.minor).

Records: China, Sichuan.

MTF; 1300m; VI.

*C. (s. str.) sorex* Balthasar, 1942\*.

N.Vietnam: 22 (O.K.). 1♂.

Records: S. China.

MTF; 900-1000m; IX; rotten fish.

*C. (s. str.) vietnamicus* Kabakov, 1994.

N.Vietnam: 22 (O.K.); Vinhphu, Tamdao (A.N.). 2♂.

Records: Vietnam, Tamdao.

MTF; 900-1000m; IX; rotten fish.

*C. (s. str.) angusticornis* Arrow, 1933.

China: Yunnan (SCE). 1♂ 1♀.

Records: Vietnam.

MTF; 600-1500m; V-VI.

*C. (s. str.) bengalensis* Arrow, 1911.

China: Yunnan (SCE). 1♀.

Records: Burma.

MTF; 900m; V.

*C. (s. str.) delicatus* Arrow, 1931\*.

China: Yunnan (SCE). 1♂.

Records: Himalaya (Dargeeling env.).

MTF; 1500m; VI.

*C. (s. str.) agnus* Sharp, 1875\*.

Thailand: Phanom Sarat Thani (A.G.). 1♂.

Records: Singapur, Borneo.

S; 1000m; VII.

*C. (s. str.) sp.*

C.Vietnam: Gialai Contum, Buonluoi (A.G.). 1♂ 1♀.

DTF; 600m; IV.

subgen. *Paracopris* Balthasar, 1939*C. (P.) punctulatus* Wiedeman, 1823.

China: Yunnan (SCE). N.Vietnam: 34-36 (O.K.). C.Vietnam: 75, 76 (O.K.). Laos: Khammouan, Boneng; Attopeu, Sesu riv. (O.K.). Thailand: Chiang Dao (V.K.). 100♂♀.

Records: Assam, Burma, Vietnam, Laos, Cambodia, Malacca, Indonesia, Celebes.

SF, S; 100-1300m; X-XII, I-IV.

*C. (P.) cariniceps* Felsche, 1910.

N.Vietnam: Hatuyen, Nahang (A.N.&amp; I.R.). C.Vietnam: 60 (O.K.); Thanhhoa, Benen N.P. (A.N.). 14♂ 16♀.

Records: S.China.

*C. (P.) ramosiceps* Gillet, 1921.

Malaysia: Kuala-Tahau, Taman-Negare (A.G.). 1♂. VII.

subgen. *Microcopris* Balthasar, 1958*C. (M.) reflexus* (Fabricius), 1787.

China: Yunnan (SCE). N.Vietnam: 1, 2, 4, 7-23, 26, 27, 30, 31, 33, 37, 38, 41 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Vinhphu, Tamdao (V.K.); Sonla, Songma (A.G.). C.Vietnam: 42, 43, 45-50, 53-58, 62-68, 72-76, 78 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (A.G., V.Y.). Laos: Vientian; Khammouan, Boneng; Attopeu, Sesu riv. (O.K.). Thailand: Chiang Dao (V.K.). 400♂♀.

Records: S. and C. China, Taiwan, Burma, Indo-China, Malacca, Indonesia.

MTF, MLP, RTF, LTF, DTF, SF, S, A; 10-2000m; I-XII; cow, buffalo and pig dung, human's excr.

*C. (M.) propinquus* Felsche, 1910 [- *C. (M.) minutus* Kryzh. et Medv., 1966, syn. n.].

China: Yunnan (SCE). N.Vietnam: 14, 16, 17, 21-23 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 42, 43, 46, 49-51, 53, 60, 62, 73, 76 (O.K.); Thanhhoa, Benen N.P. (A.N.);

Gialai Contum, Buonluoi (A.G.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). 200♂♀.

Records: S.China, Taiwan, Laos.

DTF, MTF, SF, S, A; 10-1100m; I-XII; cow, buffalo and pig dung, human's excr.

*C. (M.) vitalisi* Felsche, 1921 (- *C. (M.) propinquus* Kryzh. et Medv., 1966, nec Felsche, syn. n.).

China: Yunnan (SCE). N.Vietnam: 22, 31 (O.K.). C.Vietnam: 57 (O.K.). Thailand: Chiang Dao (V.K.). 16♂ 19♀.

Records: Assam, Laos, Cambodia, Vietnam.

MTF, S; 500-1700m; V-IX; human's excr., bear dung, fly at light.

*Copris. (M.) sp.*

S.Vietnam: Dongnai, Cattien, (A.N.). 1♀. VII.

## Tribus Onitini

*Onitis* Fabricius, 1798

*O. falcatus* (Wulfen), 1878.

China: Sichuan, Yunnan (SCE). N Vietnam: 1, 4, 7, 8, 14, 16, 21-23, 32, 33, 40 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Vinhphu, Tamdao (A.N.); Hoanglienson, Sapa (A.N.). C.Vietnam: 43, 49, 53, 54, 57, 60, 62, 69, 72, 73, 75 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (V.Y., A.G.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). 270 ♂♀.

Records: S.China, Taiwan, India, Burma, Indo-China, Philippines.

LTF, RTF, DTF, SF, S, A; 10-1100m; I-XII; cow and buffalo dung, human's excr.

*O. excavatus* Arrow, 1931\*.

N.Vietnam: 34, 36 (O.K.). C.Vietnam: 60 (O.K.). 4♂ 2♀.

Records: S.China, Assam, Burma.

DTF, SF, S; 400-1100m; X-XII; buffalo dung.

*O. subopacus* Arrow, 1931.

China: Yunnan (SCE). N.Vietnam: 1, 4, 7, 8, 11, 13-23, 26, 30-38, 40 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hoanglienson, Tule (E.I.). C.Vietnam: 42-45, 49-54, 58, 62-66, 69, 70,

75 (O.K.); Gialai Contum, Buonluoi (V.Y., A.G.). Laos: Vientian; Khammouon, Boneng; Attopeu, Sesu riv., Ban Mai (O.K.). Thailand: Chiang Dao (V.K.). >400 ♂♀.

Records: E.Afghanistan, India, Burma, S.China, Indo-China, Malaysia, Indonesia.

RTF, LTF, MTF, SF, S, A; 10-1800m; I-XII; buffalo, cow and pig dung, human's excr.

*O. virens* Lansberge, 1875.

N.Vietnam: 1, 14 (O.K.). C.Vietnam: 43 (O.K.); Nghiabinh, Binhson (V.Y.). 4♂2♀.

Records: India, Burma, S.China, N.Vietnam, Laos.

S, A; 10-200m; IV-XI; buffalo dung.

*O. feae* Felsche, 1907.

China: Yunnan (SCE). N.Vietnam: 16, 17, 34 (O.K.). C.Vietnam: 45, 49 (O.K.).

13♂12♀.

Records: Burma, Laos.

MTF, DTF, SF; 600-1000m; IX-XII, I-III; buffalo, cow and pig dung.

*O. niger* Lansberge, 1875.

C.Vietnam: 69 (O.K.); Phukhanh, Nhatrang; Thuanhai, Phanrang (V.Y.). 4♂3♀.

Records: Vietnam, Java.

MS, S; 100-1000m; X-XII, I-III; cow, buffalo and pig dung.

*O. bordati* Cambefort, 1989.

N.Vietnam: Sonla env. (V.S.). 1♀.

Records: S.Vietnam.

S; 600m; V; fly at light.

*O. intermedius* Frivaldsky, 1872.

N.Vietnam: 23 (O.K.). C.Vietnam: 43 (O.K.) 2♂4♀.

Records: China, Vietnam.

S; 300-500m; IV-VII; buffalo dung.

## Tribus Oniticellini

*Liatongus* Reitter, 1892 (1893)

*L. phanaeoides* Westwood, 1840.

C.Vietnam: 60 (O.K.). 4♂6♀.

Records: India, Burma, Laos, Vietnam, (indication from Japan, SE Siberia and N.China regards to *L. minutus* Motschulsky).

MTF, MS; 1000-1100m; X; buffalo dung.

*L. incurvicornis* Fairmaire, 1887.

China: Yunnan (SCE); env. Dali Tsusun (Leg.A.Tomsky); Yulong mts. (I.B.), Lijiang (Leg.M.Bočak). 4♂3♀.

Records: S.China: Sichuan, Yunnan, E.Tibet.

MPF; 2000-3200m; V-VIII; cow and horse dung.

*L. endroedi* Balthasar, 1956.

China: Sichuan, Xiancheng (Leg.A.Strelkov). 1♂1♀.

Records: China, Sichuan.

STF; 2700m; VI.

*L. ancorifer* Kral et Reisek, 1995.

China: Yunnan, Hutiao (D.K.). 1♂1♀ (paratypes).

MPF; 2000m; VII; cow dung.

*L. davidi* Boucomont, 1919.

China: Sichuan, Hailougou (D.K., I.F.). 2♂1♀.

STF; 1200-1900m; V-VIII.

*L. vertagus* (Fabricius), 1798.

China: Yunnan (SCE). N.Vietnam: 1-23, 26-38 (O.K.); Vinhphu, Tamdao (A.N.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 42-46, 49-57, 60-64, 67-69, 72-75 (O.K.); Hoanglienson, Sapa (A.N.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (V.Y.). Laos: Vientian; Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). >1000♂♀.

Records: C. and S.China, Taiwan, Burma, Assam, Indo-China.

RTF, LTF, DTF, MTF, SF, S, A; 10-2000m; I-XII; buffalo, cow and pig dung, human's excr.

*L. venator* (Fabricius), 1801.

C.Vietnam: Gialai Contum, 5 km N Ankhe (V.Y.). 3♂5♀.

Records: Burma, Laos, C.Vietnam, Java, Lombok.

MS; 600-800m; X.

*L. affinis* Arrow, 1908.

China: Yunnan (SCE). C.Vietnam: 57, 60 (O.K.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). 7♂6♀.

Records: India, Burma, Thailand, Indo-China.

MTF, SF, S; 200-1000m; V-X; cow and pig dung, human's excr.

*L. tridentatus* Boucomont, 1919.

China: Yunnan (SCE). C.Vietnam: 57, 60 (O.K.); Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). 16♂27♀.

Records: S.China, Indo-China.

LTF, DTF, S, in alluvial soils; 10-1100m; IV-XI; pig dung, human's excr.

*L. gagatinus* (Hope), 1831.

China: Yunnan, Sichuan (SCE). N.Vietnam: 28, 31 (O.K.); Hoanglienson, Sapa (A.N.). Thailand: Chiang Dao (V.K.). 52♂110♀.

Records: India, Burma, Laos, Tonkin.

MSB, MTF, MS; 1500-2800m; V-IX; horse, cow and pig dung.

*L. bucerus* (Fairmaire), 1891.

China: Yunnan (SCE). 2♀.

Records: S.China.

MPF; 1800-1900m; V-VI.

*L. femoratus* (Illiger), 1800\*.

Laos: Khammouan, Boneng (O.K.). 1♀.

Records: Burma, Thailand, Malacca, Java, Sumatra.

LTF; 200-300m; X; cow dung.

*Scaptodera* Hope, 1837

[-*Pseudoniticellus* Paulian, 1945,

-*Paraliatongus* Balthasar, 1953 (syn. according to Paulian, 1986).]

*S. rhadamistus* (Fabricius), 1775.

Laos: Khammouan, Boneng (O.K.). 10♂9♀.

Records: Ceylon, India, Burma, Thailand, Laos.

LTF; 200-300m; X; cow dung, collected at night.

*Oniticellus* Serville, 1825*O. cinctus* (Fabricius), 1775.

China: Yunnan (SCE). N.Vietnam: 1, 4, 9, 10, 13-19, 21-23, 26-28, 31-37 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Vinhphu, Tamdao (A.N.); Hanamninh, Cucphuong (I.V.). C.Vietnam: 43, 46, 47, 49, 50, 62, 64, 66, 67, 69, 75 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Ankhe, Buonluoi (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Vientian, N env. Of Vientian; Khammouan, Boneng; Attopeu, Sesu riv. (O.K.). Thailand: Chiang Dao (V.K.). >400♂♀.

Records: India, Burma, S.China, Thailand, Indo-China, Malacca.

RTF, LTF, DTF, MTF, SF, S, A; 10-2000m; I-XII; buffalo, cow, horse and pig dung, human's excr.

*O. tessellatus* Harold, 1879.

N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 45 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Ankhe (V.Y.). 7♂9♀.

Records: Thailand, Indo-China.

DTF, SF, S; 10-600m; I-VII; cow dung.

*Drepanocerus* Kirby, 1828*D. sinicus* Harold, 1868.

China: Yunnan (SCE). N.Vietnam: 3, 18, 22, 34, 36 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 68, 75 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (V.Y.). Laos: N.Vientian, Namngum; Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). 150♂♀.

Records: India, Burma, S.China, Indo-China.

DTF, SF, MS, S, A; 10-1600m; I-IV, IX-XII; buffalo and cow dung.

*D. runicus* Arrow, 1909.

China: Yunnan (SCE). N.Vietnam: 22, 34 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 74, 75 (O.K.). 15♂22♀.

Records: Burma, Vietnam.

MS, S; 10-900m; I-III, XI-XII; cow dung.

*D. striatulus* Paulian, 1945.

N.Vietnam: 16 (O.K.); Hatuyen, Nahang (A.N.&I.R.). Thailand: Chiang Dao (V.K.). 7♂10♀.

Records: S.China, N.Vietnam.

SF, S; 100-1000m; V-VII; cow dung, human's excr.

*Sinodrepanus* Simonis, 1985\*

*S. falsus* (Sharp), 1875\* (♀) [- *S. excul* Sharp, 1875 (♂)].

N.Vietnam: 22 (O.K.); Vinhphu, Tamdao (J.S.). 1♂4♀.

Records: Assam, Thailand, Laos.

MTF; 900-1000m; V-IX; rotten fish.

*S. vietnamicus* Kabakov sp.n., in litt\*.

C.Vietnam: 57, 60 (O.K.). 2♂1♀.

MTF, DTF; 600-1100m; IX-XI; rotten mushrooms.

*S. besucheti* Simonis, 1985\*.

China: Kuatun, Fukien (J.K.). 1♂1♀.

Records: China.

MTF; 2300m; IV.

*Sinodrepanus. sp\**.

S.Vietnam: Dongnai, Cattien (A.N.). 2♂1♀.

DTF; 100-200m; VI.

### Tribus Onthophagini

*Onthophagus* Latreille, 1802

subgen. *Micronthophagus* Balthasar, 1935

*O. (M.) vigilans* Boucomont, 1921.

China: Yunnan (SCE). N.Vietnam: 3 (O.K.). C.Vietnam: Darlac, Methuot (G.M.). S.Vietnam: Songbe, Bugiamap (A.N.); Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). Thailand: Chiang Dao (D.K., V.K.). 4♂6♀.

Records: India, Laos, Vietnam.

LTF, DTF, MTF; 10-1000m; IV-X; human's excr., rotten fish, in soil.

*O. (M.) falsivigilans* Masumoto, 1995\*.

C.Vietnam: Gialai Contum, Buonluoi, Ankhe (V.Y.); Darlac, Methuot (G.M.). S.Vietnam: Songbe, Bugiamap (A.N.); Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). 5♂7♀.

Records: Thailand.

LTF, DTF; 10-600m; IV-X; human's excr.

*O. (M.) taayai* Masumoto, 1995.

S.Vietnam: Dongnai, Cattien (A.N.). 1♀.

Records: Thailand.

DTF; 100-200m; VI.

subgen. *Indachorius* Balthasar, 1941

*O. (I.) magnini* Paulian, 1933.

China: Yunnan (SCE). C.Vietnam. 76 (O.K.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng, SW Phontieu (O.K.). 3♂5♀.

Records: Vietnam.

LTF, DTF, MTF; 100-1000m; III-X; cow dung, human's excr.

*O. (I.) rubropictus* Boucomont, 1924.



C.Vietnam: 73, 74 (O.K.).

Records: S.Vietnam.

S; 10-200m; III-X; human's excr.

*O. (I.) phuquoci* Paulian, 1945.

C.Vietnam: Gialai Contum, Baucan (V.Y.). 2♂4♀.

Records: S.Vietnam.

S; 10-200m; X; human's excr.

*O. (I.) saigonensis* Boucomont, 1924.

C.Vietnam: Darlac, Methuot, Conhanung (V.Y.). 2♂3♀.

Records: S.Vietnam.

Plantation coffee; 600m; V-VI; human's excr.

*O. (I.) bonengus* Kabakov, 1994.

S.Vietnam: Condao isl. (V.Y.); Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). 4♂6♀ (type serie).

LTF, DTF; 10-300m; VII-X; human's excr.

*O. (I.) octonaevus* Kabakov, 1994.

C.Vietnam: Tiam isl.; Gialai Contum, Buonluoi (V.Y.); Kontarang (N.O.). 4♂5♀.

DTF, SF, S; 10-800m; I-VII; human's excr.

*O. (I.) tiamicus* Kabakov, 1994.

C.Vietnam: Tiam isl. (V.Y.). 1♂ (Holotypus).

SF; 10-100m; III.

*O. (I.) subsapaensis* Kabakov, 1994.

N.Vietnam: Hoanglienson (J.S.). 1♂2♀ (type serie).

MTF; 1600-1800m; VI.

*O. (I.) baykanus* Kabakov, 1994.

S.Vietnam: Condao isl. (V.Y.); Dongnai, Cattien (A.N.). 1♂2♀ (type serie and 1♀).

SF; 10-100m; IV-VI; human's excr.

*O. (I.) heterorrhinus* Lansberge, 1885.

Thailand: Chiang Dao (V.K.); Mao Hong Son, Ban Si Lang (J.H.). 1♂1♀.

Records: Burma.

DTF, S; 600-1200m; V; human's excr.

*O. (I.) peninsularis* Boucomont, 1916.

Laos: Khammouan, Boneng (O.K.), 1♀.

Records: Malacca, Laos.

LTF; 200-300m; X; human's excr.

*O. (I.) lamyi* Paulian, 1945.

C.Vietnam: 74 (O.K.). 1♂2♀.

S; 10-100m; V-VII; cow dung.

*O. (I.) sp.*

Thailand: resort Krabi (Leg.P.Slepička). 1♀.

Seashore; 0-10m; V.

subgen. *Relictonthophagus* Kabakov, 1979

(- *Parentius* Zunino, 1979)

*O. (R.) kabakovi* Martin Piera, 1985.

C.Vietnam: 74 (O.K.); Tiam isl. (V.Y.). 2♂3♀.

Records: Vietnam.

S; 10-100m; III; human's excr.

*O. (R.) lilliputanus* Lansberge, 1883\*.

Laos: N.Vientian, Namngum (O.K.). 1♂.

Records: India, Burma, Java, Borneo, Phillipines.

DTF; 150m; II; rotten fruit.

*O. (R.) tritinctus* Boucomont, 1914\*.

N.Vietnam: Hasonbinh, Dobac, Tulu (S.B.). C.Vietnam: Gialai Contum, N Ankhe (V.Y.). Laos: Attopeu, Ban Mai (O.K.). 1♂2♀.

Records: Ceylon, India, S.China.

MTF, DTF; 100-600m; III-X; human's excr., rotten fruit.

subgen. *Furconthophagus* Zunino, 1979*O. (F.) papulatus* Boucomont, 1914 (- *papulatus boucomonti* Paulian, 1931, syn. according to Kabakov, in litt.).

N.Vietnam: 16, 17 (O.K.); Hatuyen, Nahang (A.N.&amp;I.R.); Hasonbinh, Baolang (V.Y.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). Laos: Khammouan, Boneng (O.K.). Thailand: Cham Thong (P.P.). &gt; 250 ♂♀.

Records: Indo-China, Borneo.

RTF, LTF, SF; 10-600m; IV-XII; rotten fruit *Hodgsonia*, human's excr., cow and pig dung.*O. (F.) papulatorius* Kabakov sp.n. in litt.

C.Vietnam: 75, 76 (O.K.); Gialai Contum, Playcu, Baucan, Ankhe, Buonluoi, Conhanung (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Attopeu, Sesu riv. (O.K.). &gt; 200♂♀.

DTF, MTF, SF, S; 10-1000m; II-XII; rotten fruit, human's excr., pig dung, occasionally on cow and buffalo dung.

*O. (F.) dapcauensis* Boucomont, 1921.

N.Vietnam: Hatuyen, Nahang (A.N.&amp;I.R.). C.Vietnam: 48, 74 (O.K.); Phukhanh, Che isl. (V.Y.). 64 ♂♀.

Records: N and S Vietnam, Taiwan.

Seashore, river banks; III-XII; under a dead serpent, cow and buffalo dung, human's excr.

*O. (F.) promontorii* Boucomont, 1924.

C.Vietnam: 71, 74 (O.K.); Isl. Ue (V.K.). 8♂15♀.

Records: S.Vietnam.

Seashore, littoral dunes; 10-100m; III-XI; cow and buffalo dung.

*Onthophagus. (F.) sp.*

N.Vietnam: Thu isl. (Phucui) (leg. N.Kuznetzov). 1♂.

Seashore; IV.

subgen. *Onthophagiellus* Balthasar, 1935

(- *Paronthophagus* Balthasar, 1959)

*O. (O.) crassicollis* Boucomont, 1913.

China: Yunnan (SCE). N.Vietnam: 22 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Vinhphu, Chuche (V.S.); Hasonbinh, E.Hoabinh (V.Y.). C.Vietnam: 45, 46, 58 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, N. Playcu, Bienho, Baucan, Buonluoi (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). 1000♂♀.

Records: Burma, Indo-China, Malacca, Sumatra.

RTF, DTF, MTF, SF, S; 10-1000m; I-XII; human's excr., bird's excr., pig, rarely cow dung.

*O. (O.) kondaoensis* Kabakov, 1994.

S.Vietnam: Condao isl. (V.Y.). 31♂9♀.

RTF, SF; IV; in the soil.

*O. (O.) popovi* Kabakov, 1994.

China: Yunnan (SCE). N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.). 4♂5♀.

Records: S.China.

MTF, DTF; 100-700m; IV-VII; human's excr.

*O. (O.) unguiculatus* Kabakov, 1994.

China: Yunnan (SCE) (Holotypus). 1♂.

MTF; 940m; V.

subgen. *Colobonthophagus* Balthasar, 1935

*O. (C.) tragus* (Fabricius), 1792.

China: Sichuan, Yunnan (SCE). N.Vietnam: 23 (O.K.); Caolang, Langson env. (I.V.); Habac, Jendung (V.Y.). C.Vietnam: 64, 65, 74, 78 (O.K.); Gialai Contum, Buonluoi (V.Y., A.G.). Thailand: Chomthong (P.P.). 35♂47♀.

Records: China, Taiwan, India, Burma, Indo-China, Malaysia, Indonesia to Celebes.

DTF, MTF, STF, MS, S, A; 10-1300m; III-XII; cow, buffalo and pig dung.

*O. (C.) tragoides* Boucomont, 1914\*.

China: Yunnan (SCE). N.Vietnam: 34-37 (O.K.); Sonla, Songma (A.G.). Thailand: Chomthong, Kanchanaburi (P.P.); Umphang riv. (D.K.). >100♂♀.

Records: Burma, Laos.

SF, MS; 600-1600m; X-XII, I-V; cow and buffalo dung.

*O. (C.) lunatus* Harold, 1868.

China: Hainan isl. (Leg.A.Strelkov). N.Vietnam: 26 (O.K.); Quangninh, Doson (V.Y.). C.Vietnam: 48, 71, 74, 77 (O.K.). >100♂♀.

Records: China, Hong Kong env., Indo-China.

S, seashore, littoral dunes; 1-200m; IX-XII, I-III; cow, buffalo and pig dung.

*O. (C.) armatus* Blanchard, 1853 [-*pseudoarmatus* Balthasar, 1943(1944), syn. according to Kabakov, in litt.].

China: Hong Kong env. (SCE). N.Vietnam: 1, 26 (O.K.). C.Vietnam: 47, 74 (O.K.); Thanhhoa, Dangtianh (V.Y.). 80♂♀.

Records: India, Burma, Indo-China, Taiwan, Philippines, Indonesia.

A; 1-100m; I-XII; attracted in numbers at light, cow dung, human's excr.

*O. (C.) caprai* Frey, 1956.

Thailand: Ban Huai Po (I.F.). 1♂.

Records: Burma.

MTF; 1800m; V.

*O. (C.) thai* Kabakov, 1994<sup>a</sup>.

Thailand: Chomthong, Kanchanaburi (P.P.). 8♂10♀ (type serie).

*O. (C.) piceorufulus* Kabakov, 1994.

N.Vietnam: Hanamnhinh, Cucphyong N.P. (Beliaeva, I.V.). 5♂3♀ (type serie).

LTF; 100m; V-IX; cow dung.

subgen. *Phanaeomorphus* Balthasar, 1935

-*Strandius* Balthasar, 1935 (syn. according to Kabakov, 1979)

*O. (Ph.) sycophanta* Fairmaire, 1887.

China: Sichuan, Yunnan (SCE). N.Vietnam: 3, 31 (O.K.); Hoanglienson, Sapa (A.N.); Hatuyen, Nahang (A.N.&I.R.). 36♂45♀.

Records: S.China, Tonkin.

STF, MTF, MS; 1000-2000m; V-VIII; cow, horse, pig and buffalo dung.

*O. (Ph.) gagates* Hope, 1831.

China: Yunnan (SCE, D.K., E.J.). N.Vietnam: 28, 29 (O.K.). 16♂18♀.

STF, MTF, MS; 2000-3600m; IV-VIII; horse and cow dung.

*O. (Ph.) fodiens* Waterhouse, 1875.

China: Sichuan (SCE).

Records: SE Siberia, China, Japan.

MS; 600-2100m; V-X; cow dung.

*O. (Ph.) černyi* Balthasar, 1935.

China: Yunnan (SCE); Kuatun, Fukien (J.K.). 3♂2♀.

Records: *O. (Ph.) ater* var. *černyi* Balthasar to China: Kuatun.

MTF; 1000-2000m; IV-VII; cow dung.

*O. (Ph.) strandi* Balthasar, 1935.

China: Kuatun, Fukien (J.K.); Hunan, SE Guidong env. (J.S.). N.Vietnam: 7 (O.K.). 4♂1♀.

Records: S.China.

MTF; 1000-2000m; IV-V; cow and buffalo dung.

*O. (Ph.) dorsofasciatus* Fairmaire, 1893.

N.Vietnam: 16 (O.K.); Hoanglienson, Sapa (J.S.) ; Hatuyen, Nahang (A.N.&I.R.). 5♂8♀.

Records: China, N.Vietnam.

MTF, LTF, SF; 200-1600m; V-VIII; cow and buffalo dung.

*O. (Ph.) tonkineus* Gillet, 1921.

N.Vietnam: Fonvong isl. (Halong archipelago) (V.Y.); Hatuyen, Nahang (A.N.&I.R.). 22♂41♀.

Records: Indo-China.

RTF, SF; 10-200m; III-VI; human's excr.

*O. (Ph.) janushevi* Kabakov, 1994.

C.Vietnam: Gialai Contum, 20km E Ankhe (V.Y.). (type serie), 3♂4♀.  
RTF; 600-800m; XI; human's excr.

*O. (Ph.) procurvus* Balthasar, 1935.

China: Sichuan, Wolong (S. Kurbatov)). 3♂2♀.

Records: China.

STF; 1700m; V; horse dung.

*O. (Ph.) pseudojaponicus fukiensis* Balthasar, 1942.

China: Kuatun, Fukien (J.K.). 1♂1♀.

Records: S.China.

MTF; 2300m; IV.

*O. (Ph.) schafernai* Balthasar, 1935.

China: Sichuan, Guanxian; Yunnan, Dali env. (R.Č.). 3♂.

Records: China.

SF, MTF; 1000-1800m; V-VI.

subgen. *Paraphanaeomorphus* Balthasar, 1959

*O. (P.) trituber* (Wiedeman), 1823.

China: Yunnan (SCE). N.Vietnam: 4, 16, 17, 22, 26, 31, 33, 34 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hasonbinh, E.Hoabinh (V.Y.). C.Vietnam: 49, 62 (O.K.); Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Vientian; Khammouan, Boneng (O.K.). Thailand: Chiang Dao (V.K.). >400♂♀.

Records: S.China, Taiwan, Indo-China, Thailand, Malacca, Indonesia, Philippines.

RTF, LTF, DTF, MS, S, A; 10-1600m; III-XII; human's excr., bird's excr., cow and pig dung.

*O. (P.) pseudojavanus* Paulian, 1931.

N.Vietnam: 23 (O.K.). 6♂4♀.

Records: Tonkin.

SF; 200-300m; VI; in rotten mushrooms.

*O. (P.) acuticornis* Endrödi, 1973.

N.Vietnam: 22, 31 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 62 (O.K.). 5♂6♀.

Records: N.Vietnam.

MTF, LTF, SF; 300-1000m; V-IX; human's excr.

*O. (P.) insignicollis* Frey, 1954\*.

C.Vietnam: 78 (O.K.); Gialai Contum, Buonluoi (V.Y.).

Records: India.

MS, SF, S; 200-800m; III-X; pig dung.

*O. (P.) quadricolor* Kabakov, 1994.

N.Vietnam: 14 (O.K.). 1♂ (Holotypus). C.Vietnam: 62 (O.K.) 1♀.

RTF, LTF; 400-900m; II-IV; rotten fish.

*O. (P.) napolovi* Kabakov, 1998.

S.Vietnam: Dongnai, Cattien (A.N.); Vungtau, Mada (V.Y.). 3♂3♀ (type serie).

DTF, S; 10-200m; VII-X; human's excr.

*O. (P.) barbieri* Paulian, 1978.

S.Vietnam: Dongnai, Cattien (A.N.). 156♂♀.

Records: S.Vietnam.

DTF; 100-200m; VI-VII; human's excr.

*O. (P.) punneeae* Masumoto, 1989\*.

S.Vietnam: Dongnai, Cattien (A.N.). 184 ♂♀.

Records: Thailand.

DTF; 100-200m; VI-VII; human's excr.

*O. (P.) carinensis* Boucomont, 1914\*.

China: Yunnan, Ypingland (V.K.) 2♀.

Records: Burma.

MTF; 1600m; VI.

*O. (P.) argyropygus* Gillet, 1927.N.Vietnam: Quangninh, Catba isl. (V.Y.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.).  
Laos: Attopeu, SW Ban Mai (O.K.). 3♂1♀.

Records: S.China, Taiwan.

DTF, SF, S; 10-300m; I-III; human's, dog's excr.

*O. (P.) strnadi* Kabakov, 1998.N.Vietnam: Vinhphu, Tamdao (J.S., A.N.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.).  
11♂10♀.

MTF, S; 10-900m; V-VIII; human's excr.

*O. (P.) comottoides* Kabakov, 1998<sup>a</sup>.N.Vietnam: Vinhphu, Tamdao (J.S.); Hasonbinh, Huongson (J.S.). C.Vietnam:  
Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Condao isl. (V.Y.). Thailand: Chiang Dao (V.K.).  
192 ♂♀.

MTF, SF, S; 10-1000m; III-VIII; human's excr.

*O. (P.) sobrius* Balthasar, 1960.

China: Kuatun, Fukien (Tshung Sen). 1♂ (Holotypus).

*O. (P.) prope sobrius* Kabakov, in litt.N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.).  
450♂♀.

SF, S; 10-300m; VI-VIII; human's excr.

*O. (P.) phanaeiformis* Boucomont, 1914.N.Vietnam: Hasonbinh, Bavi mts. (V.Y.). C.Vietnam: Gialai Contum, Buonluoi (V.Y.).  
3♂1♀.

Records: Burma, N.Vietnam.

RTF; 300-800m; I-IV; in the soil.

*O. (P.) vaulogeri* Boucomont, 1923.China: Yunnan (SCE). N.Vietnam: 16, 17, 31 (O.K.); Hasonbinh, Bavi mts. (V.Y.).  
C.Vietnam: 49 (O.K.); Gialai Contum, Buonluoi (V.Y.). Laos: Khammouan, Boneng (O.K.).  
60♂♀.

Records: India, Burma, Laos, N.Vietnam.

RTF, LTF, SF; 100-900m; VII-XI; in rotten fruit *Hodgsonia*, human's excr.*O. (P.) semipiceus* Kabakov, 1988.

N.Vietnam: Hatuyen, Nahang (A.N.&I.R.); Vinhphu, Tamdao (A.N.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (V.Y.). 3♂7♀ (type serie).

MTF, SF, S; 10-1000m; I-VI; human's excr.

*O. (P.) parvidens* Frey, 1971.

C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 3♂4♀.

Records: N.Vietnam.

S; 10-100m; VIII; middle-size mammals excr. (Viverridae?).

*O. (P.) lindae* Masumoto, 1989.

Thailand: Chiang Dao (D.K., V.K.). 2♂1♀.

Records: Thailand.

MTF; 1000m; V.

*O. (P.) kulti* Balthasar, 1952\*.

C.Vietnam: Nghetinh, Sen (Fuqui) (I.B.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng, Fontieu; Attopeu, Ban Mai (O.K.). 8♂11♀.

Records: S.China.

SF, S; 100-300m; IV-X; human's excr.

subgen. *Gibbonthophagus* Balthasar, 1935

*O. (G.) atripennis* Waterhouse, 1875.

China: Sichuan, Emea Shan (R.Č., SCE). 3♂5♀.

Records: SE Siberia, China, Japan.

STF; 500-1000m; V-X; cow dung.

*O. (G.) cervus* (Fabricius), 1798\*.

Thailand: Chomthong, Kanchanaburi (P.P.). 1♂1♀.

Records: India, Ceylon, Andaman isl..

MTF; 1000m; V-VII; cow dung.

*O. (G.) balthasari* Všetěčka, 1939.

China: Yunnan (SCE). N.Vietnam: 22 (O.K.); Hatuyen, Nahang (A.N.&I.R.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). 21♂26♀.

Records: China.

MTF, DTF, LTF, SF; 200-1000m; III-X; cow and pig dung, human's excr.

*O. (G.) duporti* Boucomont, 1914.

China: Yunnan (SCE). N.Vietnam: Bacthai, Baccan (I.B.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Gialai Contum, Ngatrang, Bienho, Contum, Baucan (V.Y.). Laos: Vientian; Khammouan, Boneng; Attopeu, Ban Mai (O.K.). Thailand: Chomthong (P.P.). 16♂10♀.

Records: India, Burma, Indo-China.

DTF, LTF, SF, S; 100-1000m; X-XII, I-III; cow and buffalo dung.

*O. (G.) dubernardi* Boucomont, 1914.

China: Yunnan (SCE). N.Vietnam: 1 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Langchanh (I.B.); Gialai Contum, Ankhe (V.Y.). Laos: Khammouan, Boneng (O.K.). 10♂11♀.

Records: Sikkim, Burma, S.China, N.Vietnam.

SF, S; 200-1000m; II-XI; cow, pig dung, rotten fruit.

*O. (G.) gracilipes* Boucomont, 1914.

China: Yunnan (SCE). N.Vietnam: Quangninh, Catba isl. Laos: Khammouan, Boneng (O.K.). 2♂3♀.

Records: Burma, Laos, Vietnam.

MTF, LTF, SF; 100-1300m; I-X; cow dung, human's excr.

*O. (G.) denticornis* Boucomont, 1914\*.

N.Vietnam: 16 (O.K.). Laos: Khammouan, Boneng (O.K.). 2♂.

Records: Burma.

LTF; 200-300m; IX-X; cow dung.

*O. (G.) limbatus* (Herbst), 1789.

China: Yunnan (SCE). N.Vietnam: 1, 17, 18 (O.K.). C.Vietnam: 75 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, S Contum, Buonluoi (V.Y., A.G.). Laos: Vientian (O.K.). Thailand: Chomthong (P.P.). 25♂42♀.

Records: China, Indo-China, Indonesia.

MS, S, A; 10-1200m; I-IV, IX-XII; cow, buffalo and pig dung, human's excr.

*O. (G.) proletarius* Harold, 1875.

China: Yunnan (SCE). N.Vietnam: 1, 9, 16, 17, 22, 23, 26, 31 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hasonbinh, E.Hoabinh (V.Y.). C.Vietnam: 43, 54, 62, 78 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Baucan, Bienho, Baolang (V.Y.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Vientian; Khammouan, Boneng (O.K.). Thailand: Chomthong (P.P.). >200♂♀.

Records: Burma, S.China, Taiwan, Indo-China.

MTF, MS, SF, S, A; 10-1000m; I-XII; cow, buffalo and pig dung, human's excr., rotten fruit *Hodgsonia*.

*O. (G.) taurinus* White, 1844.

N Vietnam: 22 (O.K.); Vinhphu, Tamdao (I.V.). C.Vietnam: 44, 49, 57 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi, Ankhe (A.G., V.Y.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.). Thailand: Lansang N.P., Umphang riv. (D.K.). >300♂♀.

Records: S.China, Taiwan, India, Burma, Thailand, Indo-China.

DTF, LTF, MTF, SF, MS, S; 100-1000m; V-X; cow, buffalo and pig dung, human's excr.

*O. (G.) rectecornutus* Lansberge, 1963.

China: Yunnan (SCE). N.Vietnam: 1-8, 13-27, 31-37, 40 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hasonbinh, E.Hoabinh (V.Y.). C.Vietnam: 42-46, 49, 52, 55, 58, 62-69, 74-77 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Playcu, Baucan, Bienho, Ankhe, Buonluoi, Conhanung (V.Y., A.G.); Thuanhai, Tiengiao (V.Y.). S.Vietnam: Songbe, Bugiamap; Dongnai, Cattien (A.N.). Laos: Vientian; N.Vientian, Namngum; Khammouan, Boneng, Fontieu; Attopeu, Sesu riv., Ban Mai (O.K.). Thailand: Chiang Dao (J.S.). >1000♂♀.

Records: India, Burma, China, Taiwan, Indo-China, Philippines, Indonesia.

DTF, LTF, MTF, SF, MS, S, A; 10-2000m; I-XII; cow and buffalo dung.

*O. (G.) luridipennis* Bohemann, 1858.



China: Yunnan (SCE). N.Vietnam: 1-8, 13-27, 31-37, 40 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hasonbinh, E.Hoabinh (V.Y.). C.Vietnam: 42-46, 49, 52, 55, 58, 62-69, 74-77 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Playcu, Baucan, Bienho, Ankhe, Buonluoi, Conhanung (V.Y., A.G.); Thuanhai, Tiengiao (V.Y.). S.Vietnam: Songbe, Bugiamap; Dongnai, Cattien (A.N.). Laos: Vientian; N.Vientian, Namngum; Khammouan, Boneng, Fontieu; Attopeu, Sesu riv., Ban Mai (O.K.). Thailand: Chiang Dao (J.S.). >1000♂♀.

Records: India, Burma, China, Taiwan, Indo-China, Philippines, Indonesia.

DTF, LTF, MTF, SF, MS, S, A; 10-2000m; I-XII; cow, buffalo and pig dung, human's excr.

*O. (G.) ?remotus* Harold, 1879 (-*luridipennis* Paulian, 1945, nec Bohemann, 1858, syn. according to Kabakov, in litt.).

N.Vietnam: 16, 17 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Boneng (O.K.)

Records: Burma.

DTF, LTF, SF, S; 10-400m; III-X; cow, buffalo and pig dung.

*O. (G.) šusterai* Balthasar, 1952.

China: Kuatun, Fukien (J.K.). 1♂ (Holotypus).

MTF; 2500m; V.

*O. (G.) asiaticus* Endrödi, 1973.

N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). 2♂.

Records: N.Vietnam.

SF; 200-300m; VI; human's excr.

*O. (G.) chineicus* Kabakov, 1998<sup>a</sup>.

N.Vietnam: Hanamninh, Chine (I.B.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 20♂11♀ (type serie).

LTF, SF, S; 10-300m; V-VII; cow and buffalo dung.

*O. (G.) privus* Kabakov, 1998<sup>a</sup>.

N.Vietnam: Bacthai, N.Thainguyen (J.B.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 2♂1♀ (type serie).

SF, S; 10-300m; VI-XI; cow dung, human's excr.

*O. (G.) lenis* Kabakov, 1998<sup>a</sup>.

N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 11♂7♀ (type serie).

SF, S; 10-300m; VI-IX; human's excr.

*O. (G.) hiabunicus* Kabakov, 1998.

Laos: Khammouan, Hiabun riv., Boneng (O.K.). 2♂.

LTF; 100-200m; X; cow dung.

*O. (G.) euryceros* Kabakov, 1998<sup>a</sup>.

N.Vietnam: Vinhphu, Tamdao (I.V.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P.(A.N.). 20♂12♀ (type serie).

MTF, SF, S; 10-1000m; V-IX; human's excr.

*Onthophagus* (? s.str.)

*O. (? s.str.) kinhthaicus* Kabakov, 1998.

Vietnam: Haiphong env., Kinhthai riv. (V.Y.). 1♂1♀ (type serie).  
Riverside; at ultraviolet light; 10m; III.

subgen. *Altonthophagus* Kabakov, 1990

*O. (A.) turpidus* Reitter, 1887.

China: Sichuan, Kanding, Tagu, Quinghai, Yushu, Mugesu lake, S. Huangyuan, Paumachan mts. (J.Schneider, M.N.,D.K., I.F.). 19♂10♀.

Records: Nepal, Tibet, China.

M; 2500-4900m; VI-VIII; horse and marmot dung.

*O. (A.) inelegans* Balthasar, 1935.

China: Sichuan, Nitou, Tatsienlu (J.K.); Yunnan, W.Zhongdian, Heishui env., Yolongdian mts. (D.K.,I.F.,R.Č.). 16♂15♀.

Records: China.

M; 2800-4200m; V-VIII; marmot dung.

*O. (A.) kozlovi* Kabakov, 1990.

China: Ganhsu, Xiahe (M.N.); Sichuan, Kanding Tagu (Leg.J.Schneider); E.Tibet: mts. N. of Nyingchi, W.Kanglissu Shan mts., Nakaerh-Choshul (Leg.L.&R.Businsky, A. Wrzeconka). 3♂4♀.

Record: China: E.Tibet.

M; 3500-5200m; VII.

*O. (A.) turpidoides* Kabakov sp.n. in litt.

China: Ganhsu, Xiahe; Sichuan, Quinghai reg., S.Huangyuan (M.N.). 4♂6♀ (type serie).

M; 2500m; VII.

*Onthophagus. (A.) sp.*

China: Ganhsu, Xiahe; Sichuan, Quinghai reg., S.Huangyuan (M.N.). 2♂2♀.

M; 2500m; VII.

*Onthophagus* (s. lato)

Orientalis group.

*O. (s. lato) orientalis* Harold, 1868.

China: Yunnan (SCE). N.Vietnam: 1, 4, 13-18, 21-23, 26, 31, 33, 36-40 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hasonbinh, Caophong (V.Y.). C.Vietnam: 42, 43, 45, 48, 53, 56, 59, 62-65, 69, 72, 74, 75 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, N.Playcu, Bienho, Baucan, Ankhe, Buonluoi, Conhanung (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Vientian; Khammouan, Boneng; Attopeu, Sesu riv. (O.K.). Thailand: Chiang Dao (V.K.). >1000♂♀.

Records: China, India, Burma, Indo-China, Thailand, Malacca, Indonesia, Philippines.

RTF, LTF, DTF, MTF, SF, S, A; 1-2000m; I-XII; pig dung, human's excr., rarely cow and buffalo dung.

*O. (s. lato) brutus* Arrow, 1931\*.

China: Yunnan (SCE). N.Vietnam: 22, 31 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Gialai Contum, Bienho, Buonluoi (V.Y., A.G.). Laos: Khammouan, Fontieu (O.K.). Thailand: Chiang Dao (V.K., D.K.); Mao Hong Son env., Ban Hual Po (I.F.). 38♂46♀.

Records: India, Burma.

RTF, DTF, MTF, SF, MS; 100-1800m; IV-X; cow, buffalo and pig dung, human's excr.

*O. (s. lato) pseudobrutus* Kabakov, 1994.

China: Yunnan (SCE). N.Vietnam: 31 (O.K.). Thailand: Palong, Akha vil. (D.K.). 3♂1♀ (type serie).

MTF, SF; 600-900m; V-X; cow dung.

*O. (s. lato) chrysurus* Arrow, 1931\*.

S.Vietnam: Dongnai, Cattien (A.N.). Laos: Attopeu, SW Ban Mai (O.K.). 2♀.

Records: Assam.

DTF; 100-300m; III-VI; cow dung.

*O. (s. lato) zimmermanni* Balthasar, 1960\*.

China: Sichuan (SCE). N.Vietnam: Vinhphu, Tamdao (J.S.). 2♂2♀.

Records: China: Sichuan.

STF, MTF; 900-2000m; V-VI; cow dung.

*O. (s. lato) purpurascens* Boucomont, 1914.

China: Yunnan (SCE). N.Vietnam: 17 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 43, 45, 46, 52, 57 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, N.Playcu, Bienho, Baucan, Conhanung, Buonluoi (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: N.Vientian, Nam Ngum (O.K.). Thailand: Doi Chiang Dao (D.K.). >300♂♀.

Records: Burma, Laos, Tonkin.

RTF, LTF, DTF, MTF, SF, S, A; 10-1000m; I-VIII; cow, buffalo and pig dung, human's excr.

*O. (s. lato) acrisius* Balthasar, 1946\*.

N.Vietnam: Quangninh, Dongkho isl. (V.Y.); Sonla, Songma (A.G.). S.Vietnam: Dongnai, Cattien (A.N.). 5♂8♀.

Records: S.China.

DTF, SF, S; 1-700m; III-VII; human's excr.

*O. (s. lato) vulpes* Harold, 1877.

Malay peninsula: Tahau Taman Negare (A.G.). 1♂.

Records: Malacca, Indonesia to Celebes.

DTF; 100-300m; VII.

*O. (s. lato) jacobus* Boucomont, 1924.

C.Vietnam: Gialai Contum, Playcu (V.Y.). 3♀.

Records: S.Vietnam,

SF; 600-800m; X; buffalo dung.

*O. (s. lato) kontumicus* Kabakov, 1994.

C.Vietnam: Gialai Contum, Conhanung (V.Y.). 1♂ (Holotypus).

SF; 600-800m; XI.

Mopsus group.

*O. (s. lato) hastifer* Lansberge, 1885.

China: Hainan isl. (Leg.A.Strelkov). N.Vietnam: 26 (O.K.); Vinhphu, Tamdao (J.S.). C.Vietnam: 74 (O.K.); Phukhanh, Ngatrang (V.Y.). Thailand: Chomthong (P.P.). 10♂12♀.  
Records: S.China, Taiwan, Burma, N. and C.Vietnam.  
MTF, SF, S, A, seashore; 1-900m; III-XI; buffalo and cow dung.

Pacificus group.

*O. (s. lato) pacificus pacificus* Lansberge, 1885.

China: Yunnan (SCE). N.Vietnam: 16, 17 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 31♂36♀.

Records: Indonesia.

RTF, SF, S; 100-300m; V-XI; human's excr.

*O. (s. lato) pacificus peguanus* Boucomont, 1914.

N.Vietnam: 1, 34 (O.K.). C.Vietnam: 58 (O.K.). S.Vietnam: Dongnai, Cattien (A.N.). 100♂♀. Laos: N.Vientian, Nam Ngum; Khammouan, Boneng (O.K.). ~100♂♀.

Records: India, Burma, Indo-China, Malacca.

SF, S, A; 10-300m; III-XII; cow dung, human's excr.

*O. (s. lato) tricolor* Boucomont, 1914.

N.Vietnam: 7 (O.K.); Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: 74 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Playcu, Buonluoi (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). ~100♂♀.

Records: S.China, Tonkin, Java.

DTF, SF, MS, S; 10-800m; III-IX; cow, buffalo and pig dung, human's excr.

*O. (s. lato) coracinoides* Kabakov, 1994.

China: Yunnan (SCE). C.Vietnam: 60 (O.K.); Gialai Contum, Buonluoi (A.G.) (type serie). Thailand: Doi Chiang Dao (D.K.). 5♂7♀.

MTF, DTF; 600-2000m; IV-V; cow dung.

*O. (s. lato) pseudocoracinus* Kabakov, 1994.

N.Vietnam: 16, 17 (O.K.). C.Vietnam: Gialai Contum, Buonluoi (V.Y.). 2♂1♀ (type serie).

RTF; 300-800m; III; cow dung.

*O. (s. lato) šulci* Balthasar, 1935.

China: Kuatun, Fukien (J.K.). 1♂1♀.

Records: C. and S.China.

*O. (s. lato) laevis asiaticus* Boucomont, 1919.

China: Yunnan (SCE); Yulong mts., Yulongshan mts. (D.K.). C.Vietnam: 60 (O.K.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Khammouan, Fontieu (O.K.). Thailand: Doi Chiang Dao (D.K.); Mao Hong Son, Ban Si Lang (J.H.). 10♂14♀.

Records: S.China, Burma, India, Laos.

LTF, DTF, MTF; 200-3500m; IV-XI; cow and buffalo dung, human's excr.

*O. (s. lato) laevis lampromelas* Fairmaire, 1891.

N.Vietnam: 28 (O.K.). C.Vietnam: 57 (O.K.). 1♂2♀.

Records: Tonkin, Laos.

MTF; 1100-1800m; VIII-IX; horse, buffalo dung.

Rutilans group.

*O. (s. lato) rutilans* Sharp, 1875.

S.Vietnam: Dongnai, Cattien (A.N.). 20♂24♀.

Records: Laos, Singapur, Sumatra, Borneo.

DTF; 100-300m; VI-VII; human's excr.

*O. (s. lato) boucomontianus* Balthasar, 1935, stat.n. (- *rutilans boucomontianus* Balthasar, 1935).

China: Yunnan (SCE). N.Vietnam: Hatuyen, Nahang (A.N.&amp;I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (V.Y.). 8♂9♀.

Records: S.and C.China.

MTF, SF, S; 100-1000m; I-VIII; human's excr.

## Rugulosus group.

*O. (s. lato) rugulosus* Harold, 1866.

China: Yunnan (SCE). N.Vietnam: Hoanglienson, Sapa; Vinhphu, Tamdao (J.S.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 1♂6♀.

Records: SE Siberia, China, Taiwan, Assam.

MTF, S; 100-2000m; VII-VIII; human's excr.

*O. (s. lato) nampatensis* Kabakov sp.n., in litt.

Laos: Khammouan, Boneng (O.K.). 1♂ (Holotypus).

LTF; 200-300m; X; cow dung.

*O. (s. lato) sp.*

C.Vietnam: Tiam isl. (V.Y.). 1♀.

## Deflexicollis group.

*O. (s. lato) aloysiensis* Zunino, 1977.

N.Vietnam: 16, 17, 22 (O.K.); Hatuyen, Nahang (A.N.&amp;I.R.). C.Vietnam: 45, 60 (O.K.); Gialai Contum, Bienho, Buonluoi (V.Y.). 17♂24♀.

Records: N.Vietnam, Burma.

MTF, DTF, SF, S; 100-1100m; IV-X; in the soil, rotten fruit, mushrooms.

*O. (s. lato) nasonis* Kabakov, 1998<sup>a</sup>.

C.Vietnam: Thanhhoa, Benen N.P. (A.N.). 6♂2♀ (type serie).

S; 10-100m; VIII; middle-size mammal's (Viverridae?) excr..

*O. (s. lato) collaris* Kabakov sp.n. in litt.

China: Yunnan, Damonlun (SCE). 1♂ (Holotypus).

MTF; 700m; IV.

## Incertae sedis.

*O. (s. lato) tatsienlunensis* Balthasar, 1942.

N.Vietnam: Vinhphu, Tamdao (A.G.). Thailand: Mao Hong Son (J.H.).

Records: China, Sichuan.

STF, MTF; 1000-2000m; IX; at light.

*O. (s. lato) vulpinus* Arrow, 1931.

N.Vietnam: Bacthai, N.W. Thainguyen, Daitu (I.V.); Hasonbinh, Maihou (S.B.); Hatuyen, Nahang (A.N.&amp;I.R.). Laos: Khammouan, Boneng (O.K.). 2♂3♀.

Records: Assam, Burma.

RTF, LTF; 100-300m; VIII-XI; rotten fruit.

*O. (s. lato) ?bourgognei* Paulian, 1945.

N.Vietnam: 16 (O.K.). 1♂.

Records: Tonkin.

LTF; 200-300m; VI.

*O. (s. lato) dissentaneus* Balthasar, 1964.

China: Yunnan, Heishui (E.J.). 1♀.

*Serrophorus* Balthasar, 1935, (st. n. according to Kabakov, 1992)

-*Serrophorus* Balthasar (pars)

*S. seniculus* (Fabricius), 1781.

China: Yunnan (SCE). N.Vietnam: 1, 3, 8, 11, 15-17, 22-27, 31, 34-40 (O.K.); Hatuyen, Nahang (A.N.&I.R.); Hasonbinh, E Hoabinh (V.Y.); Vinhphu, Tamdao (A.N.). C.Vietnam: 43, 45, 50, 52, 58, 62, 75, 76 (O.K.); Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Playcu, Bienho, Ankhe, Baucan, Buonluoi, Conhanung; Phuchanh, Ngatrang (V.Y., A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: Vientian; Attopeu, Sesu riv. (O.K.). Thailand: Chiang Dao; Kanchanaburi, Chomtong (V.K.). >300♂♀.

Records: S.China, Taiwan, Burma, Indo-China.

LTF, RTF, MTF, DTF, MS, SF, S, A; 10-1000m; I-XII; buffalo, cow and pig dung, human's excr.

*S. senex* Boucomont, 1914.

Laos: Khammouan, Boneng (O.K.). 8♂10♀.

Records: S.E.China, Burma, Indo-China.

LTF; 100-200m; X; cow dung, night activity.

*S. sagittarius* (Fabricius), 1775.

N.Vietnam: 1, 7, 15-17, 34 (O.K.). C.Vietnam: 48, 58, 73, 75 (O.K.); Gialai Contum, S.Contum, Buonluoi; Phuchanh, Ngatrang (V.Y., A.G.). Laos: Vientian (O.K.). Thailand: Chomthong, Kanchanaburi (P.P.). ~100♂♀.

Records: India, Burma, S.China, Taiwan, Indo-China, Malacca, Indonesia.

LTF, SF, MS, S, A; I-XII; buffalo, cow and pig dung, human's excr.

*S. atropolitus* d'Orbigny, 1902\*.

Thailand: Chiang Dao (V.K.). 1♂1♀.

Records: India, Sikkim, Burma.

MS; 1000m; VI.

*S. anguliceps* Boucomont, 1914\*.

China: Yunnan (SCE), Taiwan isl. (Leg.Siguru Eda). N.Vietnam: Hatuyen, Nahang (A.N.& I.R.). Thailand: Chiang Dao (V.K., D.K.). 5♂6♀.

Records: India, Butan, Burma, Taiwan isl..

MTF, SF; 300-1600m; V-VII; cow and buffalo dung.

*S. diabolicus* Harold, 1877.

N.Vietnam: 6, 22, 31 (O.K.); Vinhphu, Tamdao (A.N., J.S.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). Thailand: Chiang Dao, Umphang riv. (V.K., J.S.). 11♂14♀.

Records: S.China, Vietnam, Laos, Indonesia.

MTF, SF, MS, S; 10-1000m; V-IX; rotten fish, human's excr.

*S. manipurensis* Arrow, 1907\*.

China: Yunnan (SCE). Laos: Luan Prabang, Pakseng (Leg.I.Grachiov). 1♂1♀.

Records: Assam, Burma.

MTF; 1000-1400m; VI.

*S. avocettoides* Kabakov, 1994.

N.Vietnam: 22, 28 (O.K.); Vinhphu, Tamdao (A.N.). 16♂10♀.

MTF; 900-1000m; VI-IX; rotten fish, human's excr.

*Parascatonomus* Paulian, 1932, (st. n. according to Kabakov, 1992)

*P. discedens* (Sharp), 1875.

N.Vietnam: 16 (O.K.). S.Vietnam: Condao isl. (V.Y.); Dongnai, Cattien (A.N.). 2♂3♀.

Records: Burma, S.China, Indo-China, Malacca, Indonesia.

LTF, SF; 10-300m; IV-VII; human's excr.

*P. laotianus* (Boucomont), 1914.

China: Yunnan (SCE). N.Vietnam: ? Hanoi env. (J.S.). C.Vietnam: Binhtrithien, Langho (L.M.). 2♂1♀.

Records: Laos.

MTF, S, A; 10-1700m; V-VI; human's excr.

*P. tricornis* (Wiedeman), 1823.

China: Yunnan (SCE). N.Vietnam: 27 (O.K.); Bacthai, N.W.Thainguyen, Daitu (I.V.). C.Vietnam: Gialai Contum, Buonluoi (A.G.). S.Vietnam: Dongnai, Cattien (A.N.). Laos: N.Vientian, Nam Ngum (O.K.). Thailand: Mae Hong Son (J.S.); Khomthong (P.P.); Umphang riv., Agha riv., Palong (D.K.). 23♂21♀.

Records: Japan, S.China, Taiwan, India, Burma, Indo-China.

RTF, DTF, MTF, SF; 200-1000m; III-XI; cow and pig dung, human's excr.

*P. anceyi* (Boucomont), 1921.

[-*Onthophagus* (*Parascatonomus*) *egregius anceyi* Boucomont, 1921.

-*O. (P.) topali* Endrödi, 1973, syn. according to Kabakov, 1992.]

(We assume that it is a good species on the basis of the studied material.)

N.Vietnam: 3 (O.K.); Hanamninh, Cucphuong (Leg.Siguru Eda). C.Vietnam: Thanhhoa, Benen N.P. (A.N.); Gialai Contum, N Cannac (A.G.). 12♂14♀.

MTF, LTF, S; 100-1100m; IV-X; rotten fish, human's excr.

*P. vitalisi* (Boucomont, Gillet), 1921.

N.Vietnam: 3 (O.K.); Hatuyen, Nahang (A,N.&I.R.). 3♂1♀.

Records: Laos.

MTF, SF; 300-1000m; VI-VII; rotten fish, human's excr.

*P. muticifrons* (Endrödi), 1973.

N.Vietnam: 3, 8, 22 (O.K.); Bacthai, Phuluong, Quangtri (A.G.); Vinhphu, Tamdao (V.K.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.); Gialai Contum, Buonluoi (A.G.). Laos: Khammouan, Boneng (O.K.). 32♂38♀.

Records: N.Vietnam.

MTF, LTF, SF, S; 10-1000m; III-XI; buffalo dung, rotten fish.

*P. muticifrons kontumensis* Kabakov, 1992.

C.Vietnam: Gialai Contum, Hanung (V.Y.). 1♂ (Holotypus)

DTF; 600-800m; XI.

*P. aurifex* (Harold), 1877\*.

Thailand: Chiang Dao (V.K.); Umphang riv. (D.K.). 3♂4♀.

Records: Borneo, Sumatra, Java.

MTF; 800-1000m; VII.

*P. naviculifer* (Boucomont), 1919 (1920)\*.

China: Yunnan, Diaclin N.P., 100 km W Quinmin (E.J.). Thailand: Mae Hong Son; Ban Si Lang (J.H.).

Records: Laos.

MTF, STF; 1000-1500m; V-VI.

*P. anguicorius* (Boucomont), 1914.

N.Vietnam: 1, 23 (O.K.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). Laos: Attopeu, Sesu riv. (O.K.). Thailand: Umphang riv.; Lansang N.P.; Palong (D.K.); Mao Hong Son (J.H.). 15♂20♀.

Records: S.E. China, Taiwan, N.Vietnam, Laos.

DTF, MTF, S, A; 10-1000m; II-X; cow, pig dung, Viverridae dung.

*P. funebris* (Boucomont), 1919.

N.Vietnam: 31 (O.K.). C.Vietnam: 73 (O.K.). 1♂1♀.

Records: S.China, N.Vietnam.

LTF, MTF; 300-1000m; III-V; cow dung.

*P. horni* (Balthasar), 1935.

China: Sichuan (SCE); Moxi Hailondon (D.K.). 1♂2♀.

Records: China, Sichuan, Kuatun.

STF; 1200-2000m; VI; cow dung.

*P. gangeticus* (Gillet), 1925\*.

Laos: SE Savannaket (O.K.). 1♀.

Records: India.

S; 100m; III; at light.

*P. apilularius* (Masumoto), 1995.

Thailand: Chiang Dao (V.K.,D.K.). 2♂5♀.

Records: Thailand.

MTF; 1000m; V.

*P. denticollis* (Lansberge), 1883\*.

Thailand: Resort Krabi (Leg.P.Slepička). 1♂1♀, IV.

Records: Malacca, Indonesia to Celebes.

*P. vasilievi* Kabakov, 1992.

N.Vietnam: Caolang, Caobang (I.V.). 1♀ (Holotypus).

*P. panfilovi* Kabakov, 1992.

China: Yunnan (SCE). N.Vietnam: Vinhphu, Tamdao (J.S.); Hasonbinh, Phuli (I.V.). Thailand: Tau Palong (V.K.); Palong, Akha vill.; Lansang N.P., Umphang riv. (D.K.). 11♂14♀.

MTF, S; 500-1500m; IV-V; cow and pig dung.

*P. rhombocephalus* Kabakov, 1992.

C.Vietnam: Gialai Contum, Ankhe (V.Y.). 1♂ (Holotypus).

DTF; 800m; XI.



*P. trungboiensis* Kabakov, 1992.

N.Vietnam: 28 (O.K.); Hasonbinh, Cucphuong (I.V.). 3♂1♀ (type serie).  
RTF, LTF; 300-1800m; IV-V; rotten fish.

*P. chapaensis* Kabakov, 1992.

N.Vietnam: 28 (O.K.). 3♂2♀ (type serie).  
MTF; 1800-2000m; V; rotten fish.

*P. atratus* Kabakov, 1992.

N.Vietnam: 23 (O.K.). C.Vietnam: 50, 56 (O.K.). 2♂1♀ (type serie).  
SF, S; 100-500m; VI-XII; cow and pig dung.

*P. striaticollis* Kabakov, 1992.

N.Vietnam: 3, 22, 28 (O.K.); Vinhphu, Tamdao (J.S.). 2♂3♀.  
MTF; 900-2000m; VI-IX; rotten fish.

*P. sp. prope funebris* (Boucomont), 1919.

Thailand: Chiang Dao (V.K.). 2♂4♀.  
MTF; 1000m; V-VI.

*P. sp. prope horni* (Balthasar), 1935.

Vietnam: Dong Mai, Mada forest sample (Leg.T.Sergeeva). 1♀.  
In epiphytes; VI.

*P. prope mairuu* (Masumoto), 1989.

Thailand: Chiang Dao (V.K.); Palong, Agha vill. (D.K.).  
MTF; 1000m; V.

*P. (?) rudis* (Sharp), 1875.

China: Yunnan (SCE). C.Vietnam: Gialai Contum, Buonluoi (V.Y.). S.Vietnam: Dongnai, Cattien (A.N.). Thailand: Lansang N.P., Umphang riv. (D.K.); Mao Hong Son (J.H.). 5♂7♀.

Records: S.China, India, Burma, Vietnam (? Philippines and Indonesia).  
RTF, DTF, MTF; 300-1400m; IV-VII; cow and pig dung.

*Pseudonthophagus* Balthasar, 1959, (stat.n. according to Kabakov, 1992)

[- *Onthophagus* (subgen. *Pseudonthophagus*), Balthasar, 1959.

- *Onthophagus* (subgen. *Parascatonomus*), Palestrini, 1982.]

*P. penicillatus* (Harold), 1879.

Thailand: Umphang riv. (D.K.). 4♂3♀.

Records: Sikkim, Assam, Burma, S.China, Indo-China, Sumatra, Borneo.  
MTF; 1000m; IV-VI; human's excr.

*P. mulleri* (Lansberge), 1883.

China: Yunnan (SCE). N.Vietnam: Vinhphu, Tamdao (L.M., J.S., E.J., A.N.).  
C.Vietnam: Gialai Contum, Buonluoi, Conhanung (V.Y.); Thanhhoa, Benen N.P. (A.N.).  
S.Vietnam: Dongnai, Cattien; Songbe, Bugiamap (A.N.). 7♂9♀.

Records: Indonesia, S.Vietnam.

SF, MTF, DTF; 10-1300m; IV-VII; human's excr.

*P. pollicatus* (Harold), 1879.

Thailand: Doi Chiang Dao mts. (D.K.). 4♂1♀.

Records: India, Burma.

SF; 1000m; VI.

*Digitonthophagus* Balthasar, 1959, (st. n. according to Kabakov, 1992)  
[*Onthophagus* (subgen. *Digitonthophagus*), Balthasar, 1959]  
[*Digitonthophagus* Zunino st. n., 1981].

*D. bonasus* (Fabricius), 1775.

C.Vietnam: 54 (O.K.). S.Vietnam: Songbe, Bugiamap (A.N.). Thailand: Kanchanaburi (P.P.). 11♂10♀.

Records: Afghanistan, India, Ceylon, Burma, Indo-China.

SF, S, riverside on the alluvial soils; IV-VI; cow and buffalo dung.

*Proagoderus* Lansberge, 1883, (stat.n. according to Kabakov, 1992)

*P. mouhoti* (Harold), 1875.

Thailand: Chiang Mai (D.K.); Mee Tha Lamphun (F.Ferrero). 2♂2♀.

Records: Thailand, Laos.

SF, S; 100-300m; VI.

*Caccobius* Thomson, 1863

subgen. *Caccobius* Thomson, 1863 (s. str.)

*C. (s. str.) demangei* Boucomont, 1919.

Vietnam: 16, 17 (O.K.). 8♂6♀.

Records: S.China, N. and C.Vietnam.

LTF; 300-400m; cow dung.

*C. (s. str.) gonoderus* Fairmaire, 1888.

China: Yunnan, Yulong mts.; Heishui env. (R.Č.). N.Vietnam: 28, 31 (O.K.). 6♂4♀.

Records: S.China, E.Tibet, Taiwan, Laos, N. and C.Vietnam.

SF, MTF; 1800-3200m; V-IX; horse and cow dung.

*C. (s. str.) imitans* Balthasar, 1933.

China: E.Tibet, Tsekow (Leg.Th.Monbeig). 2♂1♀.

subgen. *Caccophilus* Jekel, 1872

*C. (C.) unicornis* (Fabricius), 1798.

China: Sichuan, Yunnan (SCE). N.Vietnam: 1, 4, 16, 17, 23, 27 (O.K.); Hatuyen, Nahang (A.N.& I.R.). C.Vietnam: 43, 50, 74, 75, 77 (O.K.); Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.); Condao isl. (V.Y.). Laos: Khammouan, Boneng (O.K.). Thailand: Doi Chiang Dao mts. (J.S.). >1000♂♀.

Records: India, Burma, China, Korea, Japan, Taiwan, Indo-China, Malacca, Indonesia, Philippines.

LTF, DTF, SF, S, A; 10-1000m; I-XII; human's excr., pig and cow dung, rotten fish, at light.

*C. (C.) boucomonti* Balthasar, 1935.

China: Yunnan, Habashan mts., Yulong mts. (D.K.). 2♂1♀.

Records: China, Sichuan.

M, SF; 3200-4400m; VII.

C. (C.) masumotoi Cambefort, 1990.

(-yunnanicus Kabakov, 1994, syn. according to Kabakov, in litt.)

China: Yunnan (SCE). N.Vietnam: Hatuyen, Nahang (A.N.&I.R.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.). Thailand: Chiang Dao; Lansang (D.K.), 35♂52♀.

Records: Taiwan.

DTF, MTF, MS, S; 10-1000m; III-IX; goat, pig and cow dung, human's excr.

C. (C.) tortus Sharp, 1875.

C.Vietnam: 75, 76 (O.K.). 7♂10♀.

Records: SE China, N.Vietnam, Sumatra, Java.

S; 10-100m; III; cow dung.

C. (C.) bidentatus Boucomont, 1923.

Laos: Khammouan, Fontieu (O.K.). 1♂.

Records: Laos.

LTF; 100-200m; X; cow dung.

*Cleptocaccobius* Cambefort, 1985

C. simplex Boucomont, 1923.

China: Yunnan, Likiang (E.J.). C.Vietnam: Thanhhoa, Benen N.P. (A.N.). S.Vietnam: Dongnai, Cattien (A.N.). 160♂♀.

Records: China, Assam, N.Vietnam.

MS, S; 10-1800m; IV-IX; human's excr.

*Anoctus* Sharp, 1875

A. siamensis Balthasar, 1942.

C.Vietnam: Gialai Contum, N Ankhe (V.Y.). 2♂2♀.

Records: Thailand, S.Vietnam.

In Pheidole ants nests; MS; 800m; XI.

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Received: May 19, 1999.