

Notes on *Catops lydiae* IABLOKOFF-KHNZORIAN  
(Coleoptera, Cholevidae) from the Russian  
Far East and North Japan<sup>1)</sup>

Masaaki NISHIKAWA

27-1-115, Higashi-kashiwagaya 1, Ebina, 243-0401 Japan

and

German Sh. LAFER

Laboratory of Entomology, Institute of Biology and Pedology, Far East Branch,  
Russian Academy of Sciences, Vladivostok-22, 690022 Russia

**Abstract** A redescription is given on *Catops lydiae* IABLOKOFF-KHNZORIAN originally described from Sakhalin Island, Russia. In Japan, this species has previously been confused with *C. sparcepunctatus* JEANNEL, which is carefully compared with the former.

Although two Northeast Asian cholevid species, *Catops lydiae* IABLOKOFF-KHNZORIAN and *Catops sparcepunctatus* JEANNEL, are similar in general appearance to each other, their diagnostic characters have not been closely examined so far. LAFER (1989), tentatively recorded the former from Japan. After our cooperative study, it became clear that the species recorded as *C. sparcepunctatus* from North Japan is apparently identical with *C. lydiae*. Thus, we are going to redescribe it in the present paper together with new collecting data from the Russian Far East and North Japan. The abbreviations used herein are the same as those explained in NISHIKAWA'S previous papers. Measurements given are those of the specimens examined from Sakhalin.

Before going further, we wish to express our deep gratitude to Dr. Shun-Ichi UÉNO, Emeritus Curator of the National Science Museum (Nat. Hist.), Tokyo, for his kindness in critically reading the original manuscript of this paper. NISHIKAWA also wishes to express his hearty thanks to Prof. Yasuaki WATANABE and Dr. Masahiro ÔHARA, and to Messrs. Kaoru HAGA, Shigehisa HORI, Yuri M. MARUSIK, Hideaki MATSUMOTO, Toshinobu MATSUMOTO, Haruo MATSUZAWA and Nobuki YASUDA for giv-

.....

1) This study is supported in part by the Biological Science Directorate (Biotic Surveys and Inventories Program) and the International Program Division of the U.S. National Science Foundation, Grant No. DEB-9505031 (Theodore W. PIETSCH, principal investigator), and by the Japan Society for the Promotion of Science, Grant No. BSAR-401 (Kunio AMAOKA, principal investigator).

ing me materials.

*Catops lydiae* IABLOKOFF-KHNZORIAN, 1970

[Japanese name: Shiberia-chibishidemushi]

(Figs. 1-4)

*Catops lydiae* IABLOKOFF-KHNZORIAN, 1970, Dokl. Akad. Nauk. Armyanskoi, SSR, 51, p. 306, figs. 1 b, g, e, z, i; type locality: Mt. Chekhova near Yuzhno-Sakhalinsk, Sakhalin Is. .... GIACHINO, 1988, Revue suisse Zool., 95, p. 993, fig. 9. .... LAFER, 1989, Opred. Nasek. Dal'nego Vostoka SSSR, 3(1), p. 316, fig. 199,4.

*Catops alpinoides*: Pic, 1927, Ark. Zool., **19B**(3), p. 2. -----KONO, 1944, Rept. Scient. Exp. Kuril Isls., Tokyo, 1, p. 85. -----KUWAYAMA, 1967, Ins. Fauna S. Kuril Isls., Sapporo, p. 135. [Nec REITTER, 1901.]

*Catops alpinus*: JEANNEL, 1936, Mem. Mus. Hist. nat., Paris, (n. s.), 1, pp. 350, 375-376, figs. 764, 769-771, 800-801 [partim]. [Nec GYLLENHAL, 1827.]

*Catops sparcepunctatus*: KATAKURA & FUKUDA, 1975, Res. Bull., Coll. Exp. For., Hokkaido Univ., 32, p. 79. ----- HISAMATSU & HAYASHI, 1985, Coleopt. Japan Col., Osaka, 2, pp. 243-244, pi. 43, fig. 29 [partim]. -----NISHIKAWA, 1986, Coleopt. News, Tokyo, (73), p. 4. -----HISAMATSU, 1989, Check List Jpn. Ins., 1, p. 254 [partim]. ----- NISHIKAWA, 1995, Elytra, Tokyo, 23, p. 254. -----HORI, 1994, Rept. nat. Env. promint. natur. Areas Hokkaido, Sapporo, pp. 102, 138, 182, 211. -----HAGA, 1996, Sylvicola, Kushiro, 14, p. 25. [Nec JEANNEL, 1936.]

*Catops* sp.: HAGA, 1998, Bull. Higashi Taisetsu Mus. nat. Hist., Kamishihoro, (20), p. 51. -----ÔHARA *et al.*, 1999, Bull. Otaru Mus., Otaru, (12), p. 28.

Male. Length 3.05-3.60mm (from apical margin of clypeus to apices of elytra), width 1.48-1.80 mm. Body elongate, elliptical, almost wholly clothed with moderately long, yellowish brown, adpressed pubescence. Head, pronotum and scutellum blackish brown, shiny; mouth-parts reddish brown; antennae reddish brown in basal two segments, though the remainder is blackish brown; elytra reddish brown, shiny to almost dull, without opalescent lustre; epipleura also reddish brown; legs with femora blackish brown, though the tarsi and tibiae are reddish; ventral surface almost blackish brown.

Head gently convex, densely and finely foveolate, shagreened, with front margin straight, widest at the level of occipital carina (length: width =1: 1.3); labrum transverse, subtrapezoidal, slightly emarginate at front margin, punctate on surface; maxillary palpi with last segment slightly bent, about 1.3 X as long as the penultimate one; eyes normal, moderately prominent. Antennae relatively slender, reaching pronotal base, with segments II-IV each longer than wide, V feebly wider than long, VI-IX asymmetrical, VI and VIII-IX transverse, VII and IX about 1.3 X as wide as long, VIII small, about 2.0X as wide as long, X subspatulate, and XI pear-shaped.

Pronotum transverse, subtrapezoidal, widest at about basal 1/3, with base slightly narrower than elytral base, PW/HW 1.51-1.65 (M 1.58), PW/PL 1.51-1.64 (M 1.57); front margin feebly emarginate, well marginate; front angles rounded; sides well arcuate, gently marginate; basal margin gently bisinuate; hind angles obtuse; surface shagreened, densely clothed with asperate punctuations. Scutellum triangular, relatively

small, with asperate punctuations. Hind wings full.

Elytra elongate-ovate, slightly convex, widest at about basal 1/3, EW/PW 1.19-1.25 (M 1.21), EL/PL 2.40-2.85 (M 2.71), EL/EW 1.31-1.47 (M 1.43); sides arcuate, converging apicad, marginate except for apical portions, with apices separately rounded; suture entire; sutural striae gently arcuate outwards; surface densely and finely clothed with asperate punctuations, smooth or shagreened, the punctures larger than those on pronotum; epipleura ending at apical 1/10, with punctuations as on elytra. Pygidium punctate.

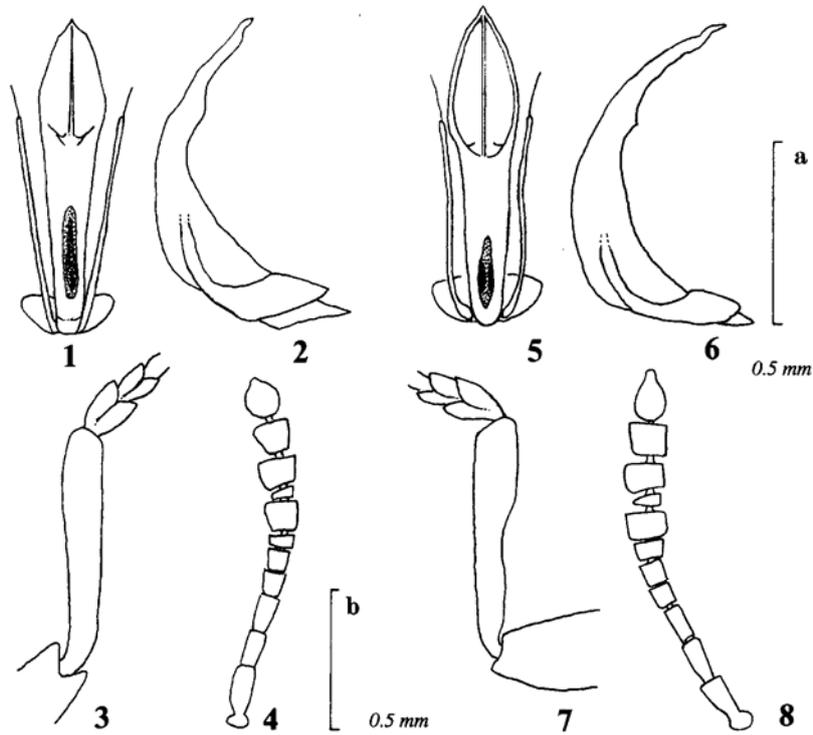
Ventral surface with thoracic parts clothed with microscopic wrinkles; abdominal sternites asperate-punctate.

Legs with protarsus slightly dilated, the first segment 4/5 as wide as the apex of protibia, which is gradually dilated from basal 1/3 towards the apex along inner margin; profemur without any tubercle on under side; mesotarsus with first segment the longest, thicker than the remainder; metafemur roundly depressed in preapical portion of under side.

Aedeagus lanceolate, feebly asymmetrical, widest at about apical 1/4 which is feebly angulate though variable, with apex projected, well arcuate in lateral view; dorsal surface with a longitudinal ridge from behind middle towards just before the apex along mid-line; ventral surface concave in apical half, with apical orifice situated at apical 1/3, though the ligulae are undeveloped. Parameres reaching apical 1/4 of aedeagus. Basal piece ample.

Female. Length 3.10-3.50 mm, width 1.53-1.75 mm (measured as in male). Similar to male in general appearance. Proportions of body parts as follows: PW/HW 1.60-1.66 (M 1.63), PW/PL 1.54-1.59 (M 1.57), EW/PW 1.19-1.27 (M 1.22); EL/PL 2.76-3.00 (M 2.86), EL/EW 1.39-1.59 (M 1.51). Abdominal sternite V longitudinally grooved along mid-line, deeply emarginate at the middle of apical margin. Legs normal in shape.

*Specimens examined.* Russia: [Kamchatka Peninsula] 1 ♀, 20 km N of Kozyrevsk, 21-VII-1985, D. KASPARJAN leg. [Khabarovskij Kray] 8 ♂♂, 1 ♀, Mt. Tardoki-Yani, 1,400 m in alt. (*Picea* forest), Sikhote-Alin Range, 18, 24, 29-VI-1980, G. LAFER leg. [Primorskij Kray] 1 ♀, Shkotovskoye Plateau, 800 m in alt. (taiga), upper reaches of Gorbatyi Kljuch River, 15 km E of Tzentral'noye Vill., Shkotovsky Distr, 2-VI-1979, A. PLUTENKO leg.; 1 ♂, Mt. Tumannaya, 300m in alt. (needle-fir forest, *Abies holophylla*), upper reaches of Kangauz River, 22—VIII—1991, G. LAFER leg.; 13 ♂♂, 15 ♀♀, Mt. Oblachnaya (mainly at upper forest level), Chuguevsky Distr., 10-15-VII-1977, G. LAFER leg. [Sakhalin Is.] 1 ♂, Chirie, Futatitsuwa, 22-VII-1933, no collector's name; 1 ♂, 1 ♀, Central Expt. Sta., Horo (=Dudino, 34 km E of Tomari, Dolinsky Distr.), 9-VIII-1933, no collector's name; 4 ♂♂, 1 ♀, mouth of Anna River (taiga), 38 km NE of Yuzhno-Sakhalinsk, Susunaysky Range, 27, 29-VII-1977, G. LAFER leg.; 1 ♂, Novikovo (*Abies* forest), Tonino-Anivsky Peninsula, Korsakovsky Distr., 1—VIII—1977, G. LAFER leg.; 4 ♂♂, same locality and collector (larch forest on a hill), 3-VIII-1977; 2 ♂♂, 1 ♀, same locality and collector, 3-4-VIII-1977; 1 ♂, same



Figs. 1-8. *Catops* spp.; 1-4, *Catops lydiae* IABLOKOFF-KHINZORIAN, 1970, from Mt. Tardoki-Yani, Sikhote-Alin Range, Khabarovskij Kray, Russia; 5-8, *C. sparcepunctatus* JEANNEL, 1936, from Mt. Sagami-Ôyama, Kanagawa Pref., C Honshu, Japan. — 1, 5, Male genitalia in dorsal view; 2, 6, same in lateral view (apical 2/3 of left paramere is omitted); 3, 7, apical part of profemur, protibia and basal two segments of protarsus, ♂; 4, 8, left antenna, ♂. Scales: a for Figs. 1-3 and 5-7, and b for Figs. 4 and 8.

locality and collector (fringe of *Abies* forest on a hill), 5-VIII-1977; 1 ♀, same locality and collector (park, *Abies* forest under a hill), 5-VIII-1977; 18 ♂♂, 10 ♀♀, Pozharskoye (coniferous forest near slope of a hill), Kholmsky Distr., 12—VIII—1977, G. LAFER leg.; 2 ♂♂, 3 ♀♀, Firsovo (*Abies* forest), 40km N of Dolinsk, 21-VIII-1977, G. LAFER leg. [Kuril Is.] 1 ♀, southwards of Severo-Kurilsk, Paramushir Is., 23-VII-1964, G. KRIVOLUTSKAYA leg.; 1 ♀, Kunashir Is. (meadow near a forest), 3-VII-1974, no collector's name; 1 ♂, 95-YMM-115, 120, 44°0.72'N, 145°6.28'E, Kunashir Is., 1-2-IX-1995, Y. M. MARUSIK leg. (by hand & sifter). Japan: [Rishiri-to Is.] 1 ♂, 1 ♀, Rishiri-to Is., 14-15-VII-1968, H. TAKIZAWA leg.; 1 ♀, Mt. Chokan-yama, 7-VIII-1984, T. MATSUMOTO leg. [Rebun-to Is.] 1 ♂, Mt. Gorota-yama, 10-VIII-1986, H.

MATSUMOTO leg. [Hokkaido] 4 exs., Mt. Poronupuri, Utanobori, Soya, 7-VII-1992, S. HORI leg.; 3 exs., Mt. Pin'neshiri-dake, Nakatonbetsu, Soya, 8, 21-VII-1992, S. HORI leg.; 5 exs., nr. Teshio-gawa Riv., Teshio, Rumoi, 11, 26-VIII-1992, S. HORI leg. (traps); 3 ♂♂, 2 ♀♀, Shiretoko-toge Pass, 650-700m in alt., Shari, Abashiri, 3—VIII—1989, K. HAGA leg. (from drains along a road); 1 ♀, Kan'non'iwa (oak forest), left side of the mouth of Unakibetsu-gawa Riv., Rausu, Nemuro, 4-VIII-1989, K. HAGA leg. (trap); 1 ♀, near Penkechisenbetsu-zawa-bunki, upper Misatobetsu-gawa Riv., Horoka, Ashoro, Tokachi, 1-VII-1990, K. HAGA leg. (on a log); 1 ♂, 2 km upstream from Horokapiribetsu Dam, Mt. Kitoushi-yama, Ashoro, Tokachi, 4-VI-1989, K. HAGA leg. (from the sap of a birch stump); 1 ♀, old site of JNR Kamishihoro Station, Kamishihoro, Tokachi, 19—23-VI-1989, K. HAGA leg. (from resin of a pine log); 5 ♂♂, 5 ♀♀, Mt. Daisetsu-zan, 850-1,050m in alt., Kamikawa, 2-VII-1982, N. YASUDA leg. (traps); 3 exs., Mt. Hako-dake, Bifuka, Kamikawa, 12, 25-VIII-1992, S. HORI leg. (traps); 1 ♂, Mt. Yubari-dake, Hidaka, 11-VIII-1966, H. TAKIZAWA leg.; 1 ♀, Sapporo, 24-VIII-1966, H. TAKIZAWA leg.; 1 ex., Shojin-gawa Riv., Sapporo, 11-12-VI-1992, S. HORI leg.; 1 ♂, Okusawa-suigenchi, Shiraisawa, Otaru, 28-VI-1996, M. OHARA & Y. SASAKI leg. (Malaise trap); 3 ♂♂, same locality, 5-VII-1996, M. OHARA & Y. SASAKI leg. (Malaise trap); 1 ♀, same locality, 6-IX-1996, Y. SASAKI & R. TAKAHASHI leg. (Malaise trap); 2 ♂♂, Okawa-rindo, 500m in alt., on Mt. Yokotsu-dake, Nanae, Oshima, 16—VIII—1993, M. NISHIKAWA leg.

*Additional specimens examined.* [Kuril Isls.] 2 ♂♂, 1 ♀, Yuzhanka River, Shumshu Is., 10—VIII—1997, A. LELEJ leg.; 1 ♀, vicinity of Severo-Kuril'sk (*Alnus* forest, 250m in alt.), Paramushir Is., 30-VIII-13-IX-1996, Yu. M. MARUSIK leg.; 1 ♂, Anchiferova Is., 15—VIII—1987, A. LELEJ & S. STOROZHENKO leg.; 1 ex., Makanrushi Is., 18-VIII-1997, A. LELEJ leg.; 1 ♀, Shiashkotan Is., 2-VIII-1999, A. LELEJ & S. STOROZHENKO leg.; 6 ♂♂, 6 ♀♀, Chirinkotan Is., 10-VIII-1996, A. LELEJ leg.; 1 ♀, Ekarma Is., 10-VIII-1996, E. SAENKO leg.; 2 ♂♂, Raikoke Is., 13-VIII-1996, A. LELEJ leg.; 1 ♀, Yankicha Is., Ushishir Isls., 5-VIII-1999, A. LELEJ & S. STOROZHENKO leg.

*Distribution.* Russian Far East (Kamchatka Pen., Khabarovskij Kray, Primorskij Kray, Sakhalin Is., Kuril Isls.); North Japan (Rishiri-to Is.!, Rebun-to Is.!, Hokkaido!).

*Notes.* As was noticed in the introduction, the present species and *C. sarpunctatus* JEANNEL (1936, pp. 349, 378, fig. 772, 1950, p. 31, figs. 1-2) seem closely related to each other. The former (Figs. 1-4) is distinguished from the latter by the following points: antennae slender, with segments V-IX asymmetrical, X subspatulate, and XI pear-shaped; male protibiae gradually and straightly expanded along the inner margin; aedeagus with feebly angulate sides; female abdominal sternite V longitudinally grooved along the mid-line, and deeply emarginate at the middle of apical margin. In the latter (Figs. 5-8), the antennae are comparatively robust, with the segments VII-IX asymmetrical, in particular VIII and IX strongly modified, X ordinary in shape, and XI elongate; the male protibiae are sinuously expanded; the aedeagus has distinctly marginate sides in its apical portion which is gently arcuate; the female abdominal sternite V is widely depressed longitudinally along the mid-line, and is emarginate

at the middle of apical margin. .

The distributional ranges of the two species are very clearly separated within the Japanese Islands; *C. lydiae* commonly occurs only in Hokkaido and a few small northern islands but *C. sparcepunctatus* occurs mainly in mountain areas of Honshu<sup>2)</sup> and Shikoku. Thus, they are separated from each other by the Tsugaru Straits between Hokkaido and Honshu. On the other hand, *Catops alpinus* GYLLENHAL has been recorded by Pic (1927) from Taporkoff Island off the Kamchatka Peninsula as *C. alpinoides* REITTER, also recorded by SZYMCAKOWSKI (1976) from the Chann-Pay [=Ch'ang-pai] Mountains on the borders of North Korea and China. However, the former seems to belong to *C. lydiae*, since we have examined it not only from the peninsula itself but also from the Kuril Islands, and the latter seems to be the same situation, since it will be recorded by NISHIKAWA and CHO (2000) from South Korea.

In spite of the gradual progress of our knowledge of their distribution in North-east Asia, their accurate zoogeography remains to be confirmed. Though *C. lydiae* was originally placed in the *longulus* group of the genus *Catops*, its male genitalia (fig. 1 z in the original description) apparently show that the species belongs to the *alpinus* group, which was recently separated into the *alpinus* and the *subfuscus* groups by GIACHINO (1988, pp. 992-995, figs. 9-10). He has considered that *C. lydiae* belongs to the latter group, and proposed an analysis of geographical distribution of the two groups. However, his splitting of species-groups has not gained the consensus of opinion of other specialists (cf. PERREAU, 1990), so that the distributional pattern of the group of *C. alpinus* should be redefined on more accurate data.

#### 要 約

西川正明・German Sh. LAFER：ロシア極東部と北日本産のシベリアチビシテムシに関する知見。——シベリアチビシテムシ *Catops lydiae* IABLOKOFF-KHIZORIAN (和名は桑山(1967)による)は、サハリン産の標本をもとに記載されたが、LAFER (1989)は本種を疑問符付きで日本から記録した。西川はミヤマチビシテムシ *C. sparcepunctatus* JEANNEL と同定した北日本産のものと本州中央部産のものとの、若干の相違があることを認識していたが確定を逡巡していた。今回の共同研究により、北日本産のそれらは *C. lydiae* であることが判明すると同時に、*C. alpinus* または *C. alpinoides* としてカムチャツカ半島、オホーツク海沿岸地方、沿海州、クリル列島から記録 (JEANNEL, 1936; PIC, 1927; KONO, 1944; KUWAYAMA, 1967) されていたものも本種だと考えられたので、訂正のうえ、再記載し、各地の記録を掲げた。日本列島内では津軽海峡を挟んで、北方に本種が、南方にミヤマチビシテムシが異所的に分布している。

#### References

GIACHINO, P. M., 1988. *Catops cavazzutii* n. sp. della Turchia (Coleoptera, Catopidae) e considerazioni

2) *Catops sparcepunctatus* JEANNEL. Specimens from northernmost Honshu examined are as follows:

2♂♂, 3♀♀, Jogakura, nr. Sukayu, Aomori Pref, NE. Japan, 20-21-VIII-1983, T. MATSUMOTO leg.

- filogenetiche e zoogeografiche sui *Catops* del ((gruppo *alpinus*)) (sensu JEANNEL 1936 e SZYMCAKOWSKI 1964, 1976). *Revue suisse Zool*, 95: 987-995.
- HAGA, K., 1996. Beetles collected from Shiretoko Pass. *Sylvicola, Kushiro*, 14: 21-31. (In Japanese, with English title.)
- 1998. The Coleoptera fauna of alpine zone of Mt. Upepesanke, the Daisetsu (Taisetsu) Mountain Range, Hokkaido. *Bull. Higashi Taisetsu Mus. nat. Hist., Kamishihoro*, (20): 35-59. (In Japanese, with English title and summary.)
- HISAMATSU, S., 1989. Catopidae. In HIRASHIMA, Y., *et al.* (eds.), *A Check List of Japanese Insects*, [1]: 253-254. Kyushu University, Fukuoka. (In Japanese.)
- & Y. HAYASHI, 1985. Catopidae. In UÉNO, S.-I., Y. KUROSAWA & M. SATO (eds.), *The Coleoptera of Japan in Color*, 2: 241-245. Hoikusha, Osaka. (In Japanese.)
- HORI, S., 1994. Insect fauna. In: Report on the Natural Environment of the Prominent Natural Areas in Hokkaido (Dohoku and Dowo Districts), Sapporo, 99-107, 135-138, 180-182, 207-213. (In Japanese.)
- IABLOKOFF-KHNZORIAN, S. M., 1970. Two new species of the genus *Catops* PAYK. in Sakhalin (Insecta, Catopidae). *Dokl. Akad. Nauk. Armyanskoi, SSR*, 51: 304-308. (In Russian.)
- JEANNEL, R., 1936. Monographie des Catopidae (Insectes Coleopteres). *Mem. Mus. Hist. nat., Paris*, (n. s.), 1: 1-433.
- 1950. Sur quelques *Catops* du Japon. *Revue fr. Ent.*, 17: 31-33.
- KATAKURA, H., & H. FUKUDA, 1975. Faunal makeup of ground and carrion beetles in Kamiotoineppu, Hokkaido University Nakagawa Experiment Forest, northern Japan, with some notes on related problems. *Res. Bull., Coll. Exp. For., Hokkaido Univ.*, 32: 75-92.
- KÔNO, H., 1944. Die Kafer-Fauna der Nord-Kurilen (XI. Beitrag zur Kenntnis der Kaferfauna der Kurilen). *Report of the Scientific Expedition of the Kuril Islands, Tokyo*, 1: 74-92. (In Japanese, with German title.)
- KUWAYAMA, S., 1967. Insect Fauna of the Southern Kuril Islands. 225 pp., 6 pls. Hokunokai, Sapporo. (In Japanese.)
- LAFER, G. Sh., 1989. Cem. Catopidae. In LER, P. A. (ed.), *Opredelitel Nasekomykh Dal'nego Vostoka SSSR v Shesti Tomakh*, 3(1): 310-317. (In Russian.)
- NISHIKAWA, M., 1986. Three cholevid beetle's from Rishiri-to Island and Hokkaido (Distributional records of the Cholevidae 4). *Coleopt. News, Tokyo*, (73): 4. (In Japanese.)
- 1995. Cholevid beetles from the Daisetsu-zan Mountains in central Hokkaido, Northeast Japan. *Elytra, Tokyo*, 23: 251-255.
- & Y. B. Cho, 2000. Three new *Catops* (Coleoptera, Leiodidae) from South Korea, with a preliminary check-list of the subfamily Cholevinae known from Korea. *Elytra, Tokyo*, 28: 87-99.
- ÔHARA, M., K. MIZOTA, M. MARUYAMA & A. YAMAMOTO, 1999. Notes on insect fauna of the Okusawa-Suigenchi area, Otaru, central Hokkaido, Japan, No. 12. Records of Coleoptera collected by Malaise trap in 1996. *Bull. Otaru Mus., Otaru*, (12): 25-42. (In Japanese, with English title and abstract.)
- PERREAU, M., 1990. Nouvelles especes de Cholevidae de Chine [Col.]. *Bull. Soc. ent. Fr.*, 94: 273-281.
- Pic, M., 1927. Entomologische Ergebnisse der schwedischen Kamtschatka-Expedition 1920-1922. 14. Coleoptera (ex. p.) 2. *Ark. Zool.*, 19B(3): 1-3.
- REITTER, E., 1901. Uebersicht der Coleopteren-Gattung *Catops* PAYK. aus der palaarktischen Fauna. *Dt. ent.Z.*, **1901**: 39-48.
- SZYMCAKOWSKI, W., 1976. Remarques sur la taxonomie et distribution des Catopidae (Coleoptera) palearctiques. *Acta zool. cracov.*, 21: 45-71.