

A New Genus and Species of Intertidal Oxypodini
(Coleoptera, Staphylinidae, Aleocharinae)
from the Eastern Palearctic Region

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Abstract *Oreuryalea watanabei* gen. et sp. nov., the first intertidal genus and species of the Oxypodini from the Holarctic Region, is described from the Russian Far East and from northern Japan and is distinguished from similar oxypodine genera. Its facies, mouthparts, and sexual characters are illustrated. The distribution of the species is mapped.

Introduction

Among the known species of coastal Coleoptera, the Staphylinidae by far outnumber any other family, with approximately 400 intertidal species worldwide (HAMMOND, 2000; MOORE & LEGNER, 1976). In view of the fact that the majority (35+) of the genera with intertidal species belong to the subfamily Aleocharinae, it seems remarkable that the diverse tribe Oxypodini is represented by only three genera: *Chilodera* from the Falkland Islands, and *Gyronotus* and *Dasydera* from New Zealand (CAMERON, 1944, 1945, 1948).

While the intertidal Aleocharinae of the Western Palearctic Region have been subject to a long taxonomic tradition and can be considered rather well-known (although some genera such as *Halobrecta* THOMSON still require revision), our current knowledge of Eastern Palearctic coastal Aleocharinae may still be somewhat incomplete, as is shown by numerous additions only in the past 50 years (*e.g.*, AHN & MARUYAMA, 2000; ASSING, 1995, 1997; MARUYAMA & AHN, 2000 a, b; SAWADA, 1955, 1971, 1991; ZERCHE, 1998). Nevertheless, the recent discovery of a large and conspicuous intertidal representative of the Oxypodini from the Russian Far East and northern

Japan seems remarkable; it was studied and eventually found to belong to an undescribed genus by both authors independently.

Material and Measurements

Material from the following institutions and private collections was examined:

DEI	Deutsches Entomologisches Institut, Eberswalde (L. ZERCHE)
MNHUB	Museum für Naturkunde der Humboldt-Universität, Berlin (M. UHLIG)
SEHU	Systematic Entomology, Hokkaido University (M. ÔHARA)
cAss	private collection V. ASSING, Hannover
cMar	private collection M. MARUYAMA, Sapporo
cPut	private collection A. PÜTZ, Eisenhüttenstadt
cSch	private collection M. SCHÜLKE, Berlin

The measurements are given in mm and abbreviated as follows:

AL:	length of antenna
HW:	head width across (and including) eyes
PW:	maximal width of pronotum
PL:	length of pronotum along median line
EL:	length of elytra from apex of scutellum to elytral hind margin
HTiL:	length of metatibia (external aspect)
HTaL:	length of metatarsus (claws not included)
HT1L:	length of first metatarsomere (dorsal view)
HT2L:	combined length of second to fourth metatarsomere (dorsal view)
ML:	length of median lobe of aedeagus (from base to apex of ventral process)
TL:	body length from apex of mandibles to hind margin of abdominal segment VIII.

The internal structures of the aedeagus were examined after dissecting the median lobe. After macerating the aedeagus in KOH, the dorsal membrane of the median lobe was removed with fine needles, the internal structures were then separated from the median lobe and mounted for examination under a compound microscope.

Oreuryalea gen. nov.

Type species: *Oreuryalea watanabei* sp. nov.

Description. Species of relatively large size (approx. 4–6 mm) and dark coloration, in general facies somewhat reminding of the genus *Euryalea* MULSANT et REY. Forebody with pronounced microreticulation, integument only with subdued shine or mat. Abdomen with weaker microreticulation and with moderate shine.

Head weakly transverse, widest across eyes, posteriorly distinctly margined, but not constricted; posterior angles completely obsolete, temples in dorsal view converging towards posterior margin in almost straight line; eyes large and prominent, longer than temples; frontal suture present. Puncturation moderately dense and shallow; pu-

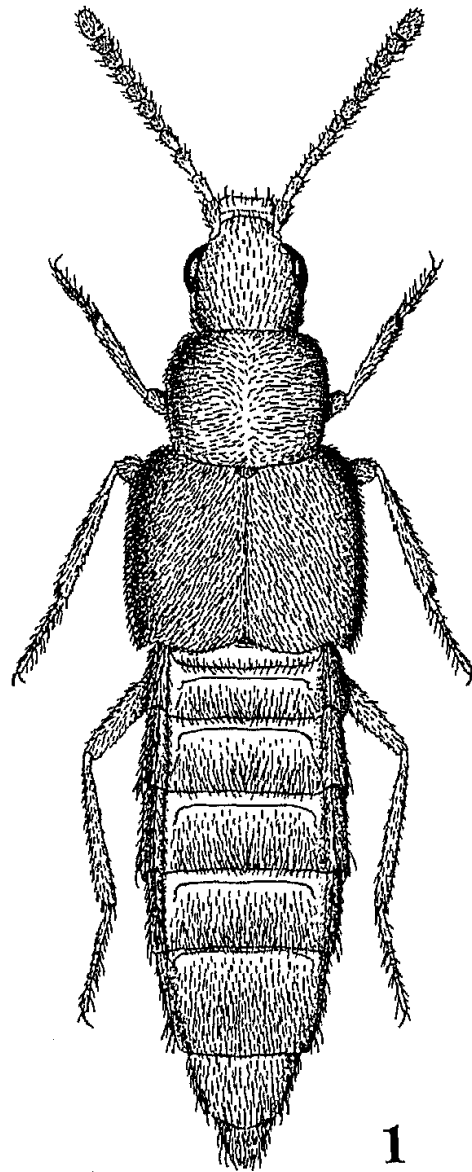
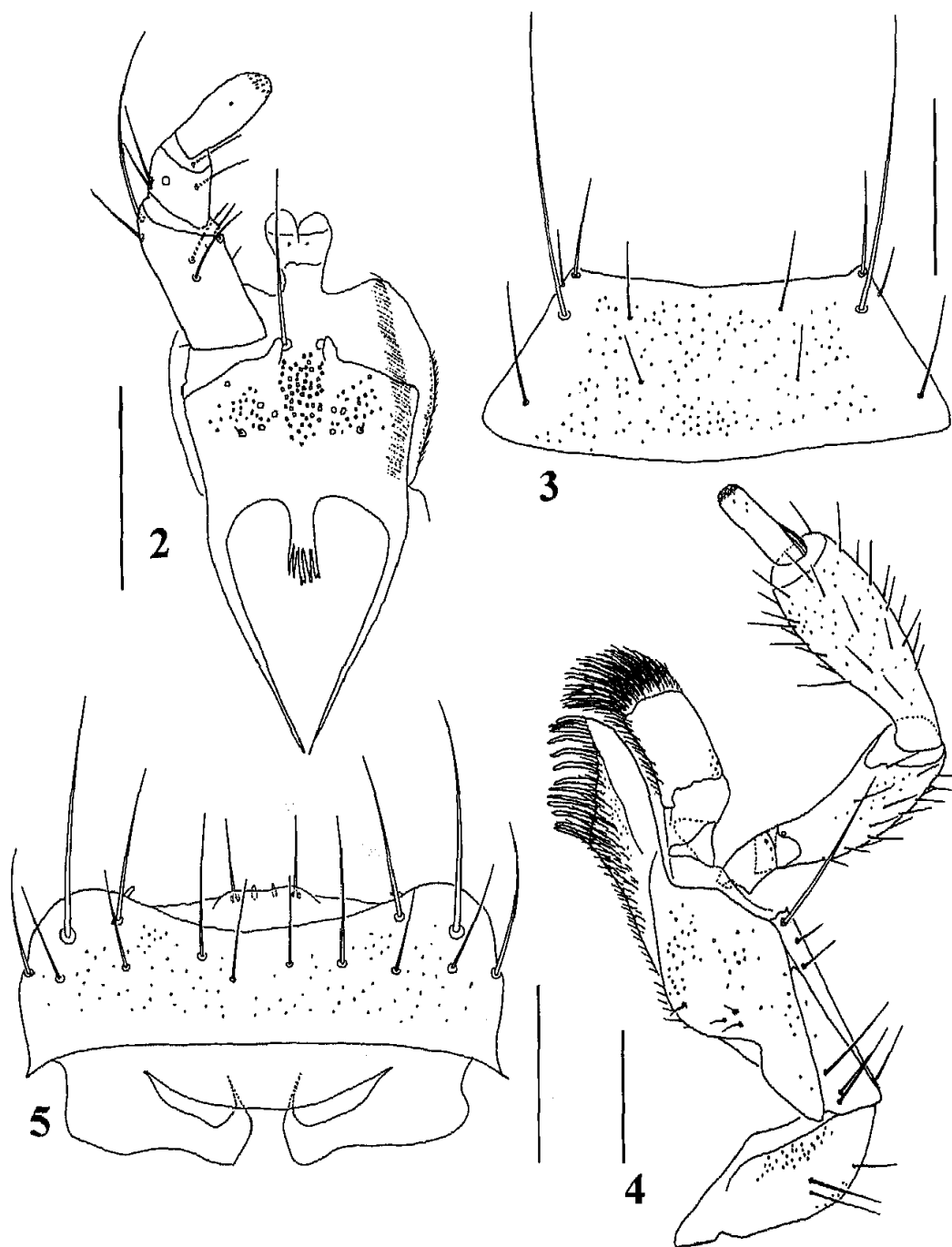


Fig. 1. *Oreuryalea watanabei* sp. nov., facies.

bescence relatively long, erect, in central dorsal area directed predominantly anteriad. Genal carinae pronounced; ventral aspect of head conspicuously flat; gular sutures widely separated; submentum delimited by fine carina, basally with transverse furrow; submentum and mentum (Fig. 3) with numerous pseudopores (as in *Euryalea*). Maxilla similar to that of *Euryalea*, 4-jointed, slender (Fig. 4); labial palpi 3-jointed, stouter than in *Euryalea* (Fig. 2); ligula relatively short and broad, apically moderately sclerotized and with weak median incision (Fig. 2). Labrum (Fig. 5) transverse, anteriorly broadly concave and membranous. Right mandible with distinct tooth.

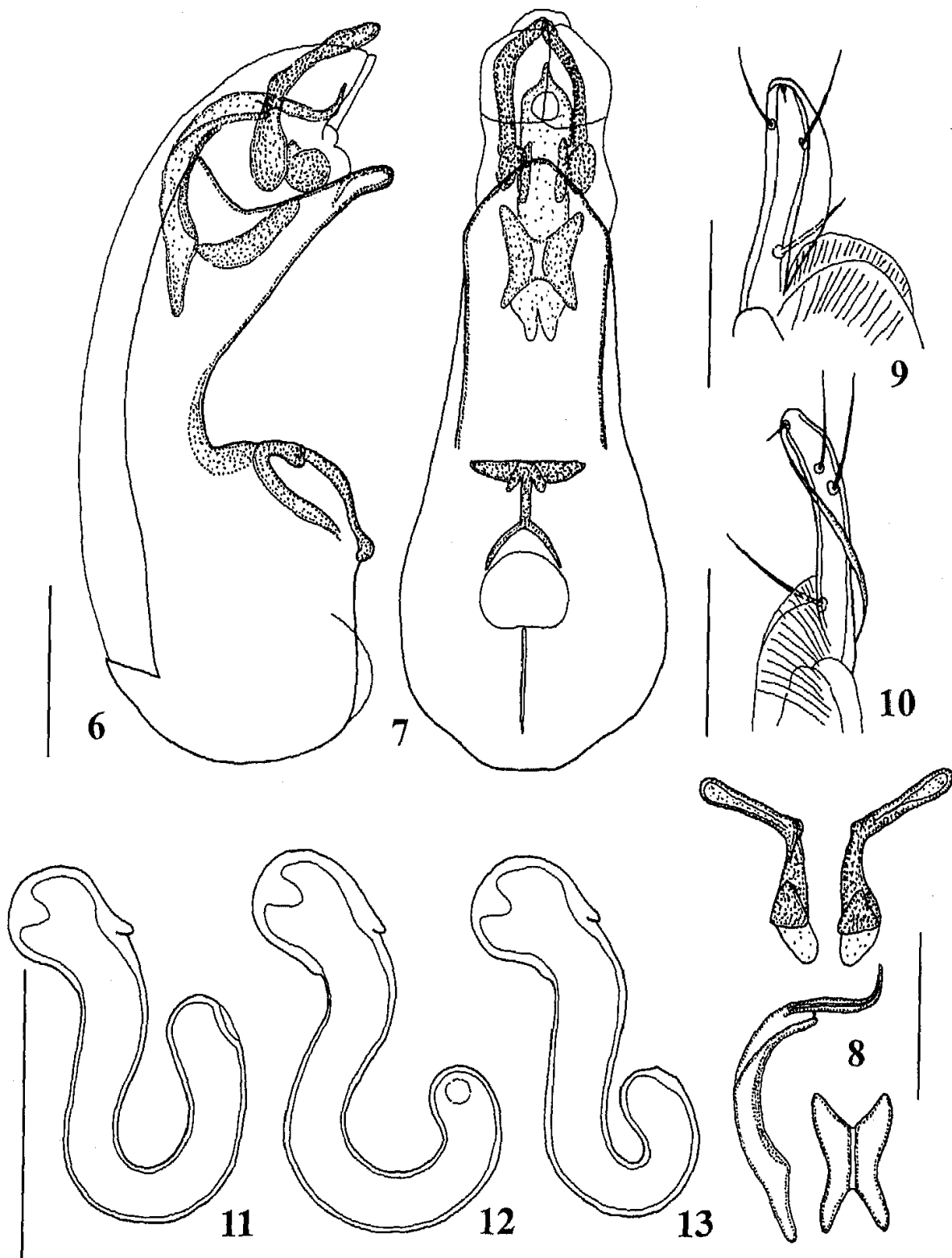
Antennae relatively slender and moderately long; antennomeres I and II distinctly oblong and of equal length; antennomere III slightly shorter than II; IV and V weakly oblong, weakly coniform, and of similar length; VI-X almost wedge-shaped, oval in



Figs. 2–5. *Oreuryalea watanabei* sp. nov.; 2, labium; 3, mentum; 4, maxilla; 5, labrum. Scale: 0.1 mm.

cross-section, apically distinctly widened, gradually increasing in breadth towards apex of antenna; antennomere XI approximately as long as combined length of IX and X, distinctly constricted in anterior half, without sexual dimorphism.

Pronotum moderately transverse, approximately 1.2 times as wide as long and approximately 1.3 times as wide as head, maximal width a short distance anterior to middle; lateral margins weakly concave near posterior angles, the latter obtuse, but well-



Figs. 6–13. *Oreuryalea watanabei* sp. nov.; 6, median lobe of male genitalia in lateral view; 7, median lobe in ventral view; 8, internal structures of median lobe; 9, apical lobe of paramere, lateral view; 10, apical lobe of paramere, ventral view; 11–13, spermathecae. Scale: 0.2 mm.

defined. Pubescence suberect, directed cephalad along most of midline and caudad only for short distance near posterior margin; pubescence of lateral areas predominantly transverse and near lateral margin predominantly caudad. Puncturation denser and less distinct than that of head. Hypomera in lateral view distinctly visible; prosternum similar to that of *Euryalea*, but with acute median process.

Elytra large and long, wider than pronotum, posterior margin near posterior angles weakly sinuate; pubescence suberect, directed predominantly caudad to transversely latero-caudad; puncturation similar to that of pronotum; hind wings fully developed. Mesosternum anteriorly with delimited area of triangular shape (similar in shape and size to scutellum), extending ventrad into a weak median carina, mesosternal process long and acute, reaching more than halfway between mesocoxae; mesocoxal cavities posteriorly and laterally delimited from metasternum by distinct carina; metasternum very long (longer than in *Euryalea*).

Legs long and slender, pro- and mesotibiae with spines on external sides; first metatarsomere long, longer than the combined length of the two following metatarsomeres; claws broad and moderately long. Tarsal formula: 5-5-5.

Abdomen subparallel up to tergum VI; terga III-VI with moderately deep anterior impressions, that of tergum VI only slightly shallower than those of terga III-V. Puncturation relatively dense and distinct, not distinctly sparser on posterior than on anterior terga. Tergum VIII posteriorly convex to pointed, at hind margin with moderately long thin setae (Figs. 14, 15); tergum X with sexual dimorphism, in ♂ anteriorly with narrow (Fig. 18), in ♀ anteriorly with broader base (Fig. 19); pubescence dense, not particularly stout.

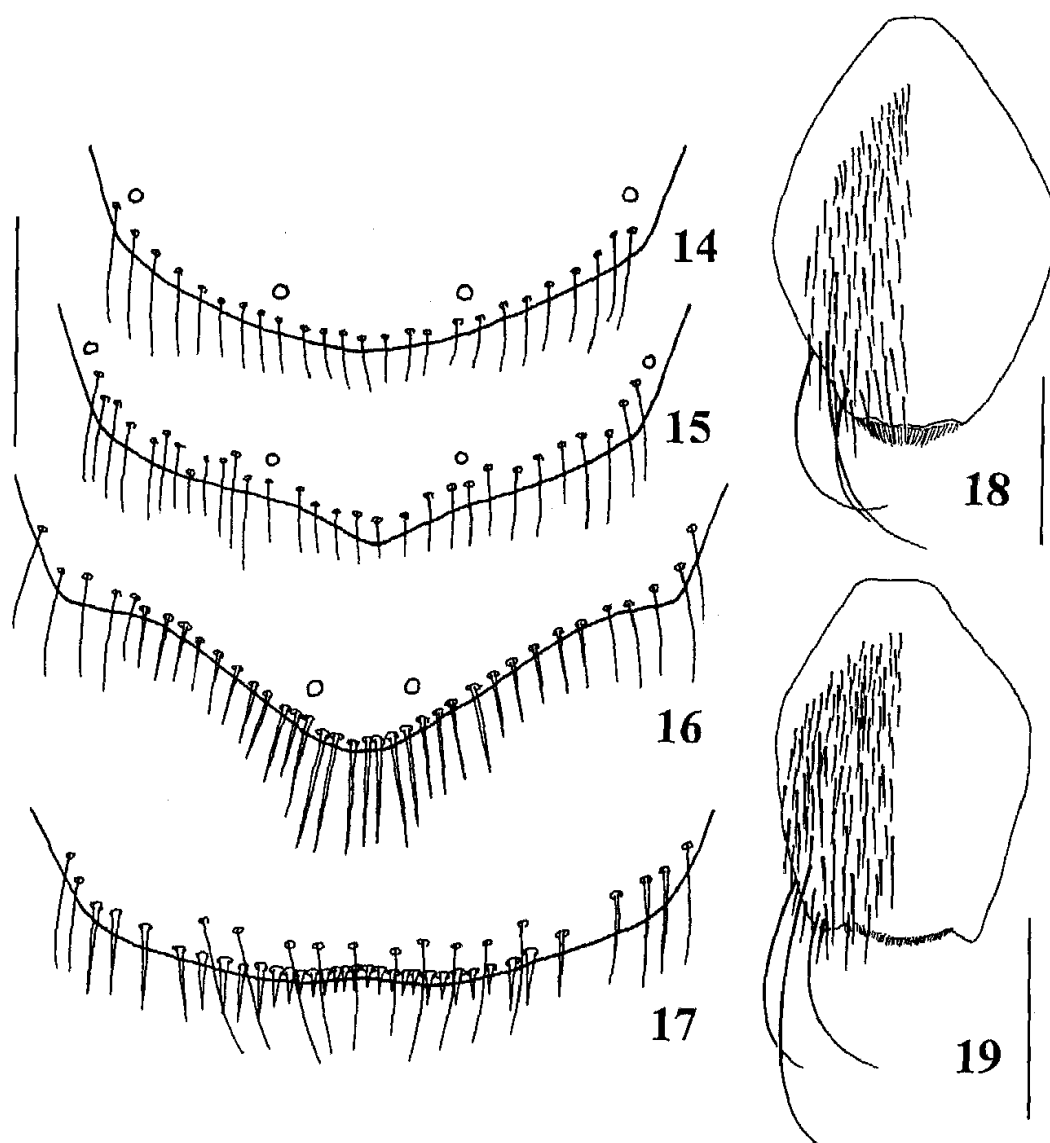
♂: Sternum VIII posteriorly obtusely pointed, marginal setae in the middle of posterior margin distinctly longer than in lateral parts. Aedeagus large, with median lobe distinctly arched in lateral view; internal structures similar to those in *Ilyobates* KRAATZ and *Calodera* MANNERHEIM; apical lobe of paramere moderately long, with one long basal, two long subapical, and one short apical setae (Figs. 9, 10).

♀: Posterior margin of sternum VIII weakly convex, in the middle with shallow concavity; with modified stout marginal setae, which are longer laterally than centrally, and without micro-pubescence. Spermatheca with relatively short, broad, proximally curved duct (Figs. 11-13).

Etymology. The name (gender: feminine) is composed of the Latin noun *ora* (=coast) and the generic name *Euryalea*.

Systematics and comparative notes. Based on morphological characters, the new genus is attributed to the tribe Oxypodini. As a comprehensive phylogenetic study of the Palearctic genera of this tribe has never been attempted, the phylogenetic affiliations of *Oreuryalea* within the Oxypodini are doubtful.

The new genus shares various characters with *Euryalea* MULSANT et REY: the general facies (size, proportions, coloration), the slender antennae, the general morphology of the mouthparts and of the ventral aspect of head and thorax, the presence of an anterior impression on the abdominal tergum VI (variable in *Euryalea*), the sexual



Figs. 14–19. *Oreuryalea watanabei* sp. nov.; 14, posterior margin of ♂ tergum VIII; 15, posterior margin of ♀ tergum VIII; 16, posterior margin of ♂ sternum VIII; 17, posterior margin of ♀ sternum VIII; 18, ♂ tergum X; 19, ♀ tergum X. 14–17: Long setae omitted. Scale: 0.2 mm.

dimorphism of tergum X, the shape and chaetotaxy of sternum VIII, and the lamellate extension of the apical lobe of the paramere. On the other hand, there are numerous characters distinguishing *Oreuryalea* from *Euryalea*: the pronounced microsculpture, as well as the denser and more erect pubescence of the body (morphological adaptations found also in many other intertidal Aleocharinae), the apically constricted antennomere XI, the presence of a frontal suture, the less slender maxillary and labial palpi, the shorter and broader ligula, the pronotal pubescence pattern, the acute process of the prosternum, the large anterior triangular area on the mesosternum, the longer metasternum, the shorter and less slender legs, the spinose pro- and mesotibiae, the shorter and much broader tarsal claws, the different morphology of the median lobe of

the male genitalia (including internal structures), and the longer and more slender duct of the spermatheca.

The external morphology of the median lobe and the sclerotized structures in the internal sac are similar to those found in *Ilyobates* KRAATZ and *Calodera* MANNERHEIM, genera with which *Oreuryalea* also shares a similar general morphology of the mouthparts, a flattened ventral aspect of the head (only *Ilyobates*), a weakly transverse pronotum, the presence of a median carina on the mesosternum (only *Ilyobates*), a long and acute mesosternal process, the presence of an anterior impression on the abdominal tergum VI, the absence of micropubescence at the posterior margin of the sternum VIII, the presence of a lamellate extension on the apical lobe of the paramere (much less pronounced in *Calodera* and *Ilyobates*), and a short duct of the spermatheca (only *Ilyobates*). From both genera, however, *Oreuryalea* is distinguished by the pronounced microreticulation and more erect pubescence of the forebody, the completely different morphology of the antennae, the stouter and broader terminal segment of the labial palpi, the shorter ligula, the chaetotaxy of the labrum, the pronotal pubescence pattern, the acute process of the prosternum, the larger triangular area at the anterior margin of the mesosternum, the longer metasternum, the spinose pro- and mesotibiae, the shorter and much broader tarsal claws, the anteriorly only weakly constricted sterna III–VI, the shallower impressions on terga III–VI, the sexual dimorphism of tergum X, and by the more pronounced lamellate extension and the chaetotaxy of the apical lobe of the paramere. For illustrations of the mouthparts, other morphological characters, and of the genitalia of *Euryalea*, *Ilyobates*, and *Calodera*, see ASSING (1996, 1999) and ASSING and WUNDERLE (1997, 1998).

As can be inferred from their respective descriptions (CAMERON, 1944, 1945), the three previously known genera of intertidal Oxypodini are apparently not closely related to *Oreuryalea*, which, in view of their distributions, is not particularly surprising. *Chilodera* from the Falkland Islands differs from *Oreuryalea* in the relatively wider head and narrower pronotum (head as wide as pronotum, pronotum not transverse), the apically dentate mandibles, the much smaller eyes, the distinctly longer mesosternal process, the shorter and much narrower elytra, the shorter legs, tarsi, and first metatarsomere, and the absence of spines on the pro- and mesotibiae. In *Dasydera*, the antennae are massive and distinctly incrassate apically, the mandibles are edentate, the labium is of different morphology, the mesosternal process is longer, and the microsculpture is very weak or absent. In *Gyronotus*, the integument of the whole body lacks microsculpture, the genal carinae are absent, the mandibles are edentate, the third segment of the labial palpi is much longer, the ligula is long, narrow, and apically divided, the elytra are distinctly emarginate postero-externally, the pro- and mesotibiae are not spinose, and the first metatarsomere is shorter.

Distribution and bionomics. The genus is apparently confined to the Eastern Palearctic Region (Russian Far East, Japan), where it was found in coastal habitats, in seaweed and other debris on sandy beaches. *Oreuryalea* is the first example of intertidal Oxypodini occurring in the Holarctic Region.

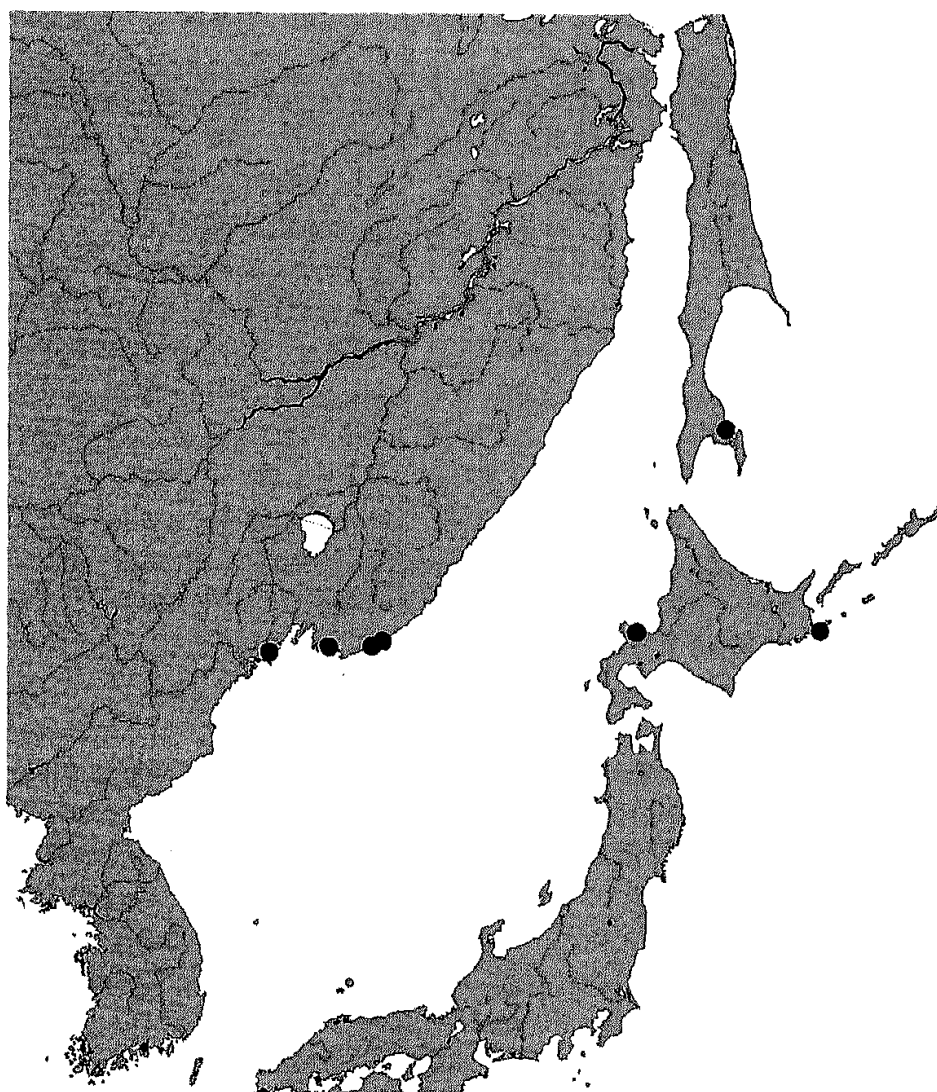


Fig. 20. Distribution of *Oreuryalea watanabei* sp. nov.

***Oreuryalea watanabei* sp. nov.**

Holotype ♂: "RUSSIA, Sakhalin, Korsakov distr., Ismenshyroye lake, 21./22.VII.1993, Pütz & Wrase (cAss) / Holotypus ♂ *Oreuryalea watanabei* sp. n. Assing & Maruyama 2001" (cAss).

Paratypes: [Russian Federation]: 1 ♂, 5 ♀♀ (two ♀♀ each with a mature egg in the ovaries), same data as holotype (cAss, cPüt); 1 ♂: "UdSSR: RSFSR: Fernost, Bezirk Primorje, Umgeb. Wladiwostok, leg. U. Heinig/Japanisches Meer, Annabucht bei Liwadija, ca. 30 km. nord-westl. Nachodka, 5.–10.VII.1991" (cAss); 1 ♂: "Rußland, Ussuri-Gebiet, leg. Sundukow/Nat. Reserv. Lazo Kordon Petrow, 12.IV.1993, Sandstrand" (MNHUB); 1 ♂: "Russia or. Primorie, Lasovsky Nat. Res. Kordon Proselochny, 134°07'43E, 43°00'34N, 4.–6.X.1999, leg. J. Sundukov" (cSch); 1: "RUSSIA: Primorskiy Kray, Ryazanovka, 14 km SW Slavyanka/42.48 N 131.12 E, 16.VI.1993, Beach, leg. Zerche" (DEI).

[Japan]: 14♂♂, 22♀♀ [two ♀♀ each with a mature egg in the ovaries]: "Hama-matsu, Nemuro-shi, Hokkaido, JAPAN, 11.IX.1999, M. Maruyama leg." (cAss, cMar); 16♂♂, 12♀♀, same locality, "26. IX. 2000, M. Maruyama leg." (cMar, SEHU); 6♂♂, 1♀: "Yoichi, Shakotan-chô, Hokkaido, JAPAN, 21.VIII.1999, M. Maruyama leg./ under decayed seaweed in coarse sandy beach" (cAss, cMar). All paratypes with label: Paratypus *Oreuryalea watanabei* sp. n. Assing & Maruyama 2001.

Description (see also description of genus). Measurements and ratios (range, arithmetic mean; $n=17$): AL: 1.30–1.63, 1.46; HW: 0.63–0.72, 0.67; PW: 0.83–0.94, 0.88; PL: 0.66–0.79, 0.73; EL: 0.79–0.88, 0.82; HTiL: 0.79–0.88, 0.82; HTaL: 0.79–0.88, 0.83; HT1L: 0.16–0.20, 0.18; HT2L: 0.17–0.23, 0.21; ML: 0.69–0.74, 0.72; TL: 4.6–6.0, 5.2; PW/HW: 1.27–1.39, 1.31; PW/PL: 1.17–1.27, 1.22; EL/PL: 1.08–1.20, 1.13; HTaL/HTiL: 0.69–0.81, 0.73; HT1L/HT2L: 0.73–1.00, 0.85.

Whole body blackish; antennae blackish brown, with the connecting joints between antennomeres III–XI and sometimes also the bases of antennomeres I–III; legs brown to blackish brown, bases of the tibiae and femora usually slightly lighter.

Head with shallow central impression, which is sometimes almost obsolete; punctation distinct, but not very deep, interstices approximately as wide as diameter of punctures. Pronotum moderately transverse and wider than head (see ratios PW/PL and PW/HW), rather weakly convex in cross-section; midline mostly at least with very shallow impression; punctation denser, much finer, and less distinct than that of head. Elytra large and long, distinctly ($>1.4\times$) wider and at suture longer than pronotum (see ratio EL/PL); punctation similar to that of pronotum, or even finer and less distinct. Abdomen with more shiny and weaker microreticulation than forebody, densely and distinctly punctured; posterior margin of tergum VIII in both sexes angulate in the middle or broadly convex (Figs. 14, 15).

♂: Tergum X as in Fig. 18; posterior margin of sternum VIII pointed, marginal pubescence longer in the middle than in lateral areas; median lobe of aedeagus shaped as in Figs. 6, 7; internal sac with distinctly sclerotized structures (Fig. 8); apical lobe of paramere as in Figs. 9, 10.

♀: Posterior margin of sternum VIII weakly convex, in the middle shallowly convex, laterally with longer and sparser, centrally with short and dense modified setae; spermatheca of somewhat variable shape (Figs. 11–13).

Etymology. We dedicate the species to Dr. Yasuaki WATANABE for his invaluable contributions to the Eastern Palearctic and Oriental staphylinid fauna.

Intraspecific variation. Most morphological characters are subject to only modest intraspecific variation. In the material examined from Primorskiy Kray, however, the legs and antennae are mostly of lighter colour and the abdominal tergum VIII is broadly convex, whereas in the material from Japan and Sakhalin it is more or less distinctly angulate.

Distribution and bionomics. *Oreuryalea watanabei* is currently known from the Pacific coasts of Japan (Hokkaido) and of the Russian Far East (Primorskiy Kray, Sakhalin) (Map 1). As far as is known, the species lives in debris and seaweed on

sandy shores. In Sakhalin, it was collected on the sandy shore of a salt lake, together with the intertidal *Aleochara (Emplenota) puetzi* (ASSING) and *Aleochara (Triochara) nubis* (ASSING). Four females collected in July and September each had a mature egg in the ovaries.

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