

Notes on the Japanese Species of the Genus *Rhagium* (s. str.)
(Coleoptera, Cerambycidae), with
Description of a New Species

Nobuo OHBAYASHI

Entomological Laboratory, College of Agriculture, Ehime University,
3-chome 5–7, Tarumi, Matsuyama, 790 Japan

Abstract After an investigation of a type specimen, it becomes clear that true *R. pseudojaponicum* PODANÝ occurs in the Tsushima Islands, Japan, and Korea including Jeju Island. The species distributed in Japan proper and hitherto regarded as *R. pseudojaponicum* is a new species and is described under the name *Rhagium femorale* sp. nov.

In former times, the Japanese species of the cerambycid genus *Rhagium* were considered monospecific, and the name *Rhagium inquisitor japonicum* BATES or *R. inquisitor rugipenne* REITTER was confusedly used for it. In 1960, HAYASHI divided them into two species, *R. japonicum* and *R. inquisitor rugipenne* based on the structure of male genitalia. In 1964, PODANÝ recognized four species in the Japanese fauna and newly described *R. pseudojaponicum* from the Tsushima Islands and *R. heylovskyi* from Jōzankei, Sapporo. AOKI (1972) revised Japanese species based on rich material from various areas and concluded that the Japanese fauna consists of three species, *R. japonicum* BATES, *R. heylovskyi* PODANÝ and *R. pseudojaponicum* PODANÝ. After this revision, TAKAKUWA (1984) added a new subspecies, *R. heyrovskyi hayakawai*, to the Japanese fauna.

Recently, I had an opportunity to examine a paratype of *Rhagium pseudojaponicum* PODANÝ used for taking the photograph accompanying the original description through the courtesy of Dr. Ilja OKÁLI of the Slovenské Národné Múzeum. This species was originally described from the Tsushima Islands of Nagasaki Prefecture, Japan, and I was also able to examine some specimens collected in these islands together with many specimens from other parts of Japan and some others from Korea. After a close examinations of these materials, it was concluded that the species distributed in Japan proper and hitherto regarded as *R. pseudojaponicum* was a new species. On the other hand, true *R. pseudojaponicum* is actually a Korean species, and its habitat in Japan is restricted to the Tsushima Islands, lying between Korea and Kyushu. Thus, we have to face a problem on the taxonomy of Japanese *Rhagium*, because PODANÝ (1964) cited other localities of *R. pseudojaponicum* in his original description, “Honshu, Hokkaido; Mt. Yatsugatake, Kamikochi, Sapporo,” based on his misunderstanding of HAYASHI’s paper (1960), and because AOKI (1972) did not examine any *Rhagium* specimen from the Tsushima Islands which are the type locality of *R. pseudojaponicum*. Description

of the new species and a redescription of *R. pseudojaponicum* are given in the following lines.

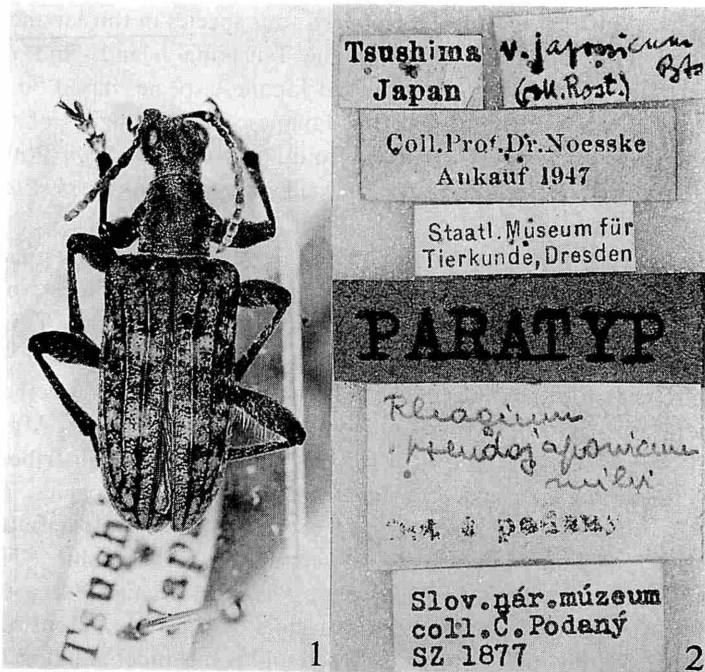
As the result, the *Rhagium* fauna of Japan consists of four species and one subspecies whose distributional ranges are as follows: *R. pseudojaponicum* PODANÝ in the Tsushima Islands, *R. heyrovskyi heyrovskyi* PODANÝ in Hokkaido, *R. heyrovskyi hayakawai* TAKAKUWA in central Honshu, *R. japonicum* BATES in Hokkaido to Honshu, and *R. femorale* sp. nov. in Honshu, Shikoku and Kyushu.

Before going further, I wish to express my sincere gratitude to Dr. Ilja OKÁLI of the Slovenské Národné Múzeum and Dr. Petr ŠVÁCH of the Czech Academy of Sciences for their kindness in loaning the type specimen. My thanks are due to Dr. Shun-Ichi UENO of the National Science Museum (Nat. Hist.), Tokyo, for his critical reading of the manuscript, and also to many entomologists, especially Dr. M. L. DANILEVSKY, Dr. M. SAKAI, Mrs. A. SAKAI, Messrs. K. TAKAHASHI, H. MAKIHARA, M. TAKAKUWA, Y. NOTSU and K. NAGATA for their kind offer of valuable specimens.

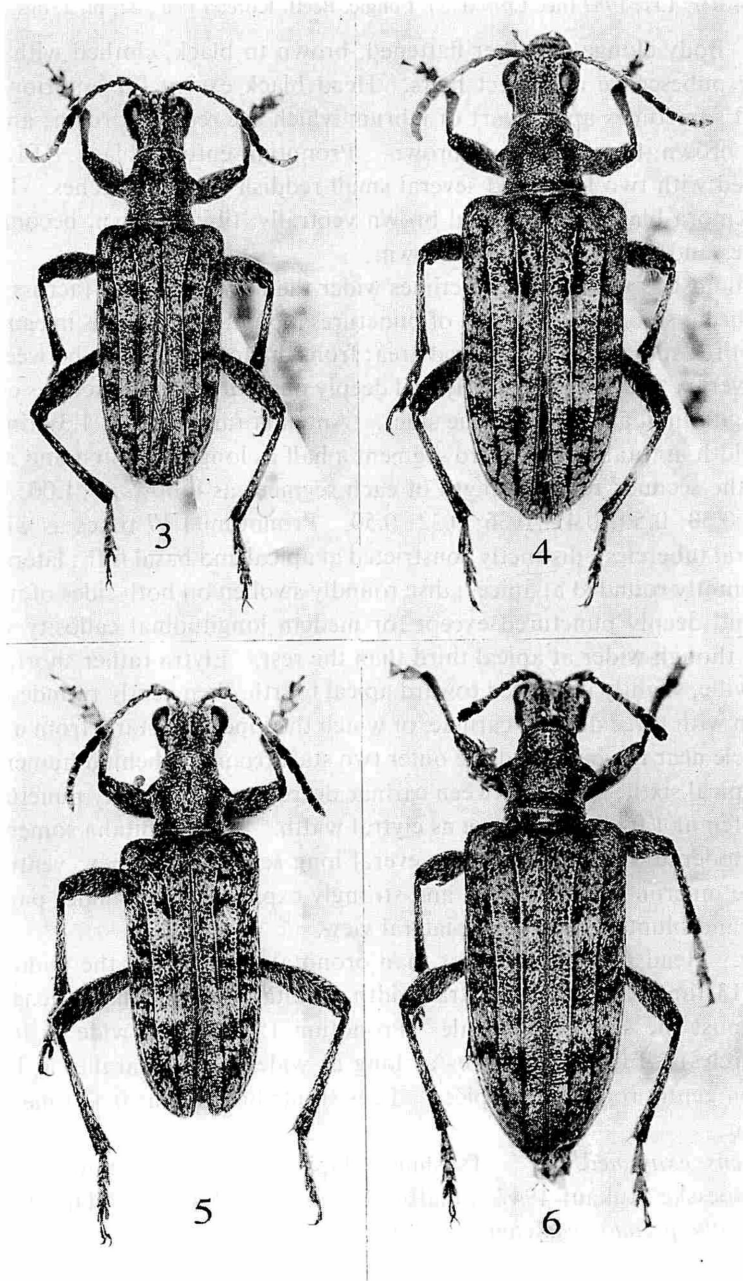
Rhagium (s. str.) *pseudojaponicum* PODANÝ

(Figs. 1-6, 15-20)

Rhagium pseudojaponicum PODANÝ, 1964, Acta zool. mex., 7: 26, pl. 6, fig. 3.



Figs. 1-2. *Rhagium pseudojaponicum* PODANÝ; 1, paratype, ♂ (Tsushima, Japan); 2, labels attached to the paratype.



Figs. 3-6. *Rhagium pseudojaponicum* PODANÝ. — 3, Kamisaka, Tsushima Is., ♂; 4, same, ♀; 5, Pusan, Korea, ♂; 6, same, ♀.

Rhagium inquisitor: LEE, 1987 (nec LINNAEUS), Longic. Beetl. Korean Pen., 22, pl. 2, figs. 16 a–b.

Male. Body elongate, rather flattened, brown to black, clothed with recumbent pale yellow pubescence and erect hairs. Head black except for anterior margin of clypeus and sometimes apical part of labrum which are reddish brown; antenna with scape dark brown, the remainders brown. Pronotum entirely black. Elytron black and provided with two large and several small reddish brown blotches. Legs brown to black; femora black dorsally and brown ventrally, tibiae brown, becoming darker toward bases and apices, tarsi dark brown.

Head almost as wide as or sometimes wider than pronotal base (across the middle of eyes); labrum smooth with a row of punctures along base; clypeus irregularly punctured except for smooth reddish apical area; frons distinctly concave between antennal insertions; vertex to occiput distinctly and deeply punctured, the punctures closer along median longitudinal area than at the sides. Antenna rather short, 1.39 times as long as elytral width in total length; third segment a half as long as the first and about twice as long as the second; relative length of each segment as follows:— 1.00: 0.27: 0.50: 0.41: 0.77: 0.50: 0.50: 0.41: 0.36: 0.32: 0.50. Pronotum 1.17 times as wide as long (across lateral tubercles), distinctly constricted at apical and basal fifth; lateral tubercles short and bluntly rounded at apices; disc roundly swollen on both sides of median line, distinctly and deeply punctured except for median longitudinal callosity which runs throughout though wider at apical third than the rest. Elytra rather short, 1.95 times as long as wide, slightly narrowed toward apical fourth, then gently rounded to apices; each elytron with three distinct carinae, of which the inner one starts from an indistinct small tubercle near the base, and the outer two start from just behind humerus and are jointed at apical sixth; spaces between carinae deeply and irregularly punctured. Legs stout, hind femur 1.09 times as long as elytral width. Male genitalia somewhat stout; paramere moderate in thickness with several long setae at the apex; ventral plate of median lobe mucronate at the apex and strongly expanded to shoulder part in dorsal view, thick and blunt at the apex in lateral view.

Female. Head slightly narrower than pronotal base (across the middle of eyes). Antenna 1.13 times as long as elytral width in total length; relative length of each segment almost the same as in male. Pronotum 1.2 times as wide as long (across lateral tubercles). Elytra 1.92 times as long as wide, almost parallel in basal three-fourths, then gently rounded to apices. Legs stout; hind femur 0.87 times as long as elytral width.

Specimens examined. 1 ♂, Tsushima, Japan (with the following label: Coll. Prof. Dr. Noeske Ankauf 1947; Staatl. Museum für Tierkunde, Dresden; PARATYPE; *Rhagium pseudojaponicum* mihi, Det. C. Podaný; Slov. nár. múzeum coll. C. Podaný SZ1877); 2 ♂♂, 1 ♀, Kamisaka, Tsushima Isls., 10~11-V-1978, A. ODA leg.; 1 ♂, 1 ♀, Ooboshiyama, Is. Tsushima, 5-V-1980, H. SHIBATA leg.; 1 ♂, 1 ♀, Pusan, Korea, III-1989, N. ENDA leg.; 1 ♂, Saishuto (=Jeju Is., Korea), VI-1910, C. INOUE leg.; 1 ♀, Seiryu, Corea, 12-IV-1928, S. KOSEKI leg.

Remarks. This species is closely allied to *Rhagium inquisitor rugipenne*, and there

still remains problem on its independency because only a few materials from the Asian Continent are available for this study. However, a comparative study with specimens collected on Mt. Altai, Artybash, Russia, which is not far from the type locality of *R. inquisitor rugipenne* REITTER, shows that this species can be distinguished from the latter as follows: elytra shorter (1.95 times as long as wide instead of 2.2 times), antennae shorter (1.39 times as long as elytral width instead of 1.56 times), elytral costae stronger and the punctures on head and pronotum more closely arranged. Besides, the tegmen of the male genitalia is as long as the median lobe (Figs. 15–16, 18–19) instead of being obviously shorter than the median lobe (Figs. 12–13).

Rhagium (s. str.) *femorale* N. OHBAYASHI, sp. nov.

(Figs. 7–11)

Rhagium inquisitor var. *japonicum* BATES, 1884, J. Linn. Soc. London, (Zool.), 18: 209 [part.].

Rhagium inquisitor: HAYASHI, 1963, Ins. matsum., 25: 129 [nec LINNÉ].

Rhagium inquisitor rugipenne: NAKANE, 1954, Scient. Rept. Saikyo Univ., 1: 192, fig. [nec REITTER].

Rhagium (*Allorhagium*) *inquisitor rugipenne*: HAYASHI, 1955, Col. Illustr. Ins. Japan, 1, (ed. 1): 23, pl. 10, fig. 17 [nec REITTER].

Rhagium inquisitor japonicum: HAYASHI, 1955, Col. Illustr. Ins. Japan, 1, (ed. 2): 135, pl. 42, fig. 958.

— NAKANE & OHBAYASHI, 1959, Scient. Rept. Kyoto pref. Univ., 3: 65, fig. 3 [nec BATES].

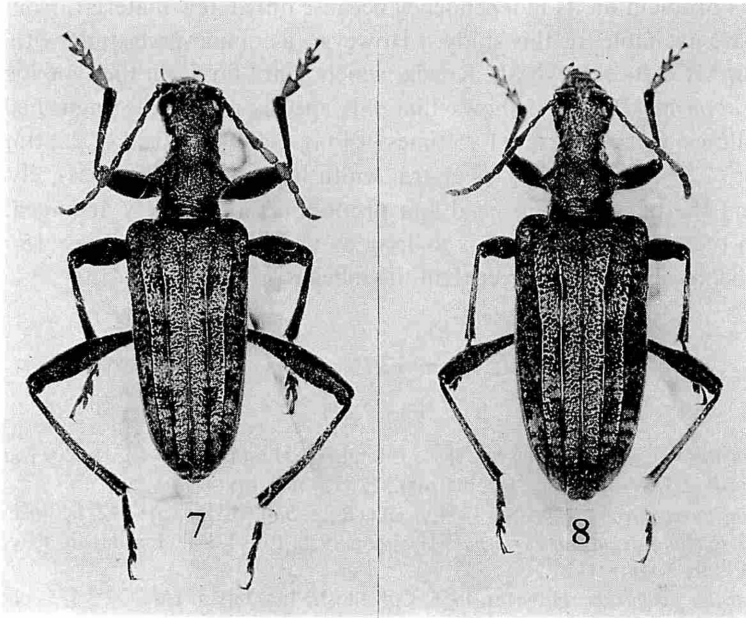
Rhagium rugipenne: HAYASHI, 1960, Niponius, Takamatsu, 1 (6): 3–4, fig. 2 [nec REITTER].

Rhagium japonicum: OHBAYASHI, 1963, Icon. Ins. Japon. Col. nat. ed., 2: 270, pl. 135, fig. 13 [nec BATES].

Rhagium pseudojaponicum: KOJIMA & HAYASHI, 1969, Ins. Life Japan, 1: 8, pl. 3, fig. 4. — AOKI, 1972, Kontyû, Tokyo, 40: 168–169, figs. 4, 7. — KUSAMA & TAKAKUWA, 1983, Long. Beetl. Japan Col., 158, pl. 7, figs. 35, 35 a–c. — N. OHBAYASHI *et al.*, 1992, Ill. Guide Ident. Longic. Beetl. Japan, 17, 424 c [nec PODANÝ].

Male. Body elongate, rather flattened, brown to black, clothed with recumbent pale yellow to golden yellow pubescence and erect hairs. Head black except for anterior margin of clypeus and basal part of mandibles which are reddish brown; antenna with scape dark brown, the remainders brown. Pronotum black except for apical and basal margins which are more or less reddish. Elytron black with two large and several small reddish brown blotches. Legs brown to black; femora black dorsally and reddish brown ventrally, tibiae brown and darkened toward bases and apices, each tarsal segment brown basally and becoming darker toward apex.

Head wider than pronotal base (across the middle of eyes); labrum smooth with a row of punctures along base; clypeus irregularly punctured except for smooth reddish apical area; frons distinctly concave between antennal insertions; vertex densely, deeply and wrinkly punctured; occiput densely and evenly punctured. Antenna rather long, 1.75 times as long as elytral width in total length; third segment 0.61 times as long as the first and 2.34 times as long as the second; relative length of each segment as follows:— 1.00: 0.26: 0.61: 0.57: 0.87: 0.65: 0.65: 0.52: 0.48: 0.43: 0.65. Pronotum 1.22 times as wide as long (across lateral tubercles), distinctly constricted at apical and basal fifth; lateral tubercles long and acutely pointed postero-dorsad; disc feebly swollen on both

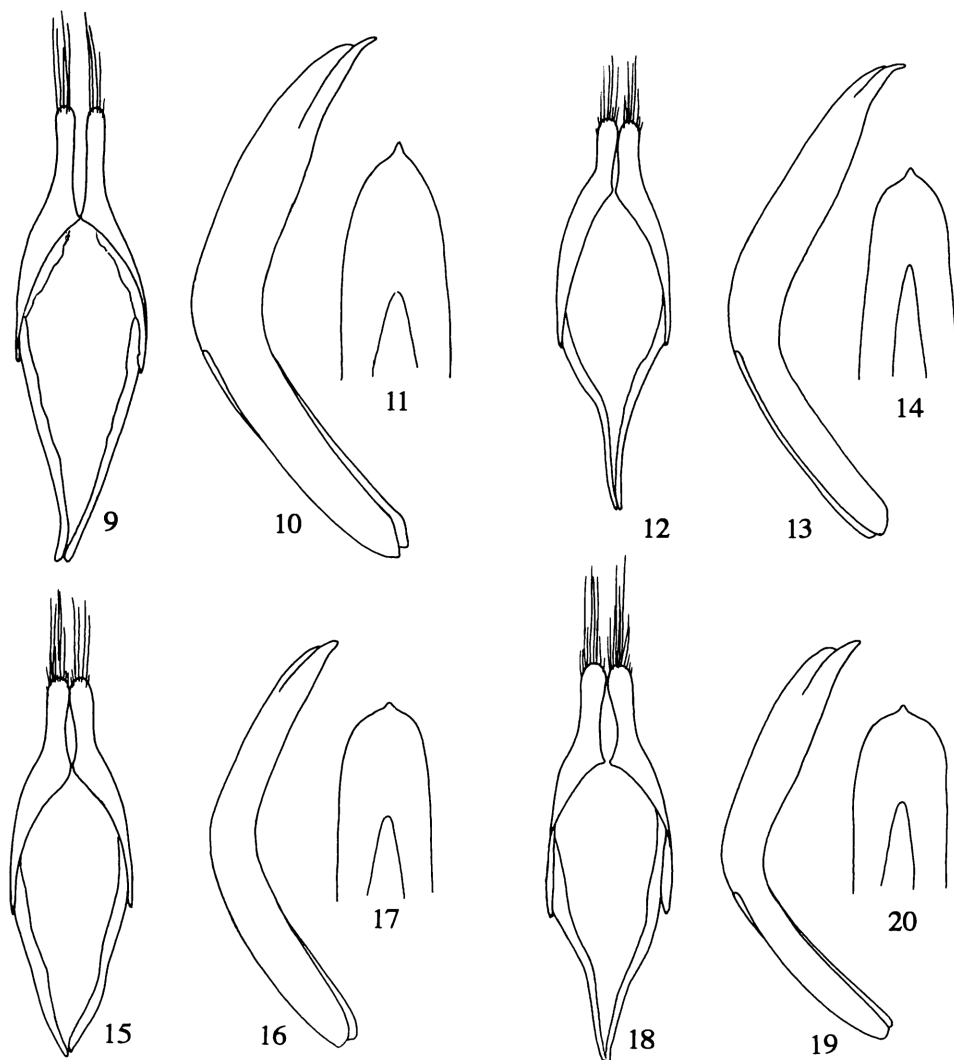


Figs. 7-8. *Rhagiium femorale* N. OHBAYASHI, sp. nov. — 7, Oono-gun, Ôita Pref., paratype ♂; 8, same, paratype ♀.

sides of median line, distinctly and deeply punctured except for median longitudinal callosity which is vague in basal and apical areas. Elytra rather long, 2.07 times as long as wide, distinctly narrowed toward gently rounded apices; each elytron with three distinct carinae, of which the inner one starts from an indistinct small tubercle near the base, and the outer two start from just behind humerus and are jointed at apical seventh; spaces between carinae deeply and irregularly punctured. Legs long and slender; hind femur 1.25 times as long as elytral width. Male genitalia feeble; paramere thin and slender, with a few long setae at the apex; ventral plate of median lobe mucronate at the apex and obliquely expanded posteriad in dorsal view, thin and acute at the apex in lateral view.

Female. Antenna 1.29 times as long as elytral width in total length; third segment 0.53 times as long as the first and 2.42 times as long as the second; relative length of each segment as follows:— 1.00: 0.22: 0.53: 0.49: 0.82: 0.55: 0.55: 0.44: 0.38: 0.33: 0.51. Elytra 1.92 times as long as wide, slightly narrowed toward gently rounded apices. Legs long and slender; hind femur as long as elytral width.

Holotype: ♂, allotype: ♀, Mt. Takao, Tokyo, 27-III-1982, K. TAKAHASHI leg. Paratypes: [Honshu] 10 ♂♂, 7 ♀♀, Gandôko Lake, Iwate Pref., 7-X-1988, M. SUZUKI leg.; 9 ♂♂, 1 ♀, same locality, reared and emerged in X-1988, M. SUZUKI leg.; 7 ♂♂, 4 ♀♀, Tsunagi, Morioka, Iwate Pref., 8-XI-1981, 14-III-1982, 4-IV-1982, 16-V-1982, M. SUZUKI leg.; 2 ♂♂, Yoshibe-zawa, Mt. Hayachine, Iwate Pref., 13-VI-



Figs. 9–20. Male genitalia of *Rhagium* spp. — 9–11, *Rhagium femorale* N. OHBAYASHI, sp. nov. (Mt. Takao, Tokyo); 12–14, *R. inquisitor rugipenne* REITTER (Mt. Altai, Artybash, Russia); 15–17, *R. pseudojaponicum* PODANÝ (Kamisaka, Tsushima); 18–20, *Rhagium pseudojaponicum* PODANÝ (Pusan, Korea). — 9, 12, 15, 18, Tegmen in dorsal view; 10, 13, 16, 19, median lobe in lateral view; 11, 14, 17, 20, apical part of median lobe in dorsal view.

1992, 20–VI–1992, H. MAKIHARA leg.; 2 ♂♂, 1 ♀, Tateiwa – Hinoemata, Fukushima Pref., 27~29–VI–1981, N. OHBAYASHI leg.; 2 ♂♂, Funamata-rindô, Hinoemata, Fukushima Pref., 2–VI–1980, K. TAKAHASHI leg.; 1 ♂, 1 ♀, Hinoemata, Fukushima Pref., 26–VI–1967, M. TAKAKUWA leg.; 2 ♂♂, 1 ♀, Shindenbara, Tateiwa, Fukushima Pref., 2–VI–1980, K. TAKAHASHI leg.; 1 ♀, Tateiwa-mura, Fukushima Pref., 29–VI–1981, Y.

NOTSU leg.; 2 ♂♂, Ichimi-mura, N. Aizu, 16-IV-1948, Y. KUROSAWA leg.; 10 ♂♂, 6 ♀♀, same data as the holotype; 1 ♂, Mt. Takao, Tokyo, 6-IV-1949, H. HATTORI leg.; 1 ♂, 1 ♀, same locality, 15-III-1940, H. HASEGAWA leg.; 2 ♂♂, Mt. Daibosatsu, Yamanashi Pref., 29-VI-1967, M. TAKAKUWA leg.; 1 ♂, Mt. Mikuni, Aichi Pref., 9-IV-1978, M. HASEGAWA leg.; 2 ♂♂, Hiwada-Kôgen, Takane-mura, Gifu Pref., 19-VII-1992, N. YUZAWA leg.; 2 ♂♂, Takayama, Gifu Pref., 31-III-1955, H. TORIGAI leg.; [Shikoku] 15 ♂♂, 4 ♀♀, Sanagôchi, Myôdô-gun, Tokushima Pref., 19-X-1975, 26-X-1975, H. IUCHI leg.; 1 ♀, Mt. Tsurugi-san, Tokushima Pref., 12-VII-1984, A. YONETSU leg.; 1 ♂, Mt. Ishizuchi, Ehime Pref., 27-VII-1947, M. MIYATAKE leg.; 1 ♀, same locality, 17-VI-1951, M. MIYATAKE leg.; 1 ♂, Tsuchigoya, Mt. Ishizuchi, Ehime Pref., 5-VII-1984, S. NAGAI leg.; 1 ♂, Omogokei, Ehime Pref., 4-V-1958, K. ÔTA leg.; 1 ♂, same locality, 7-V-1977, Y. NOTSU leg.; 2 ♀♀, Sugitate, Ehime Pref., 4-III-1953, M. MIYATAKE leg.; 1 ♂, 1 ♀, west ravine of Shiratsue, Ehime Pref., 3-V-1968, S. HISAMATSU leg.; 1 ♂, Komenono, Ehime Pref., 5-V-1976, Y. NOTSU leg.; 1 ♂, Kuroson, Kôchi Pref., 30-IV-1956, S. HISAMATSU leg.; 1 ♂, Mt. Kajigamori, Kôchi Pref., 30-V-1960, M. MIYATAKE leg.; 1 ♂, 1 ♀, Yusuhara, Kôchi Pref., 9-XI-1950, J. YAMAMOTO leg.; [Kyushu] 1 ♂, 2 ♀♀, Tashiro, Fukuoka Pref., 25-I-1953, C. KUKIHARA & Y. NOBUKUNI leg.; 1 ♀, Mt. Shôji-iwa, Ôita Pref., 9-I-1979, Y. TSUTSUMIUCHI leg.; 1 ♀, Inonose, Ôita Pref., 9-III-1979, S. SASAKI leg.; 1 ♂, Chôjabaru, Ôita Pref., 22-XI-1978, S. SASAKI leg.; 2 ♂♂, 1 ♀, Obira, Ogata-machi, Ohno-gun, Ôita Pref., 18-II-1979, Y. TSUTSUMIUCHI leg.; 1 ♀, Hakuchô-san, Kumamoto Pref., 17-V-1978, K. ÔHARA leg.; 1 ♂, Mt. Takachiho, Kagoshima Pref., 2-V-1967, H. MAKIHARA leg.; 25 ♂♂, 18 ♀♀, Mt. Kurinodake, Kagoshima Pref., III-1976, K. ÔHARA leg.

Remarks. This is a well known species and commonly found in Honshu, Shikoku and Kyushu, Japan. It has rather distinct features such as long slender legs, long antennae, posteriorly narrowed elytra in the male, and so on, and is easily distinguished from the other known Japanese species by these characters. This new species seems most closely related to the Taiwanese species *R. morrisonense* KANO, but can be distinguished by different shape of the pronotum and its tubercles.

要 約

大林延夫：日本産ハイイロハナカミキリ属の1新種記載を含む知見。——ニセハイイロハナカミキリ *R. pseudojaponicum* PODANÝ の基準標本を調査した結果、本種は長崎県対馬を基準産地とし、朝鮮半島および済州島にも分布する大陸系の種で、近縁の *R. inquisitor rugipenne* REITTER と形態的に区別できる、独立した種だと考えられた。いっぽう、本州、四国、九州に分布し、従来、本種とされていたものは、未記載の新種であることが明らかになったので、ホンドハイイロハナカミキリ *R. femorale* N. OHBAYASHI と命名して記載した。

References

- AOKI, S., 1972. A revision of the Japanese species of *Rhagium* (Coleoptera: Cerambycidae). *Kontyû, Tokyo*, **40**: 162–173.
- BATES, H. W., 1884. Longicorn beetles of Japan. Additions, chiefly from the later collection of Mr. George LEWIS; and notes on the synonymy, distribution, and habits of the previously known species. *J. Linn. Soc. London, (Zool.)*, **18**: 205–262, pls. 1–2.
- HAYASHI, M., 1955. Cerambycidae. In The Kinki Coleopterol. Soc. (ed.), *Coloured Illustrations of the Insects of Japan*, 1, (ed. 1): 19–76, pls. 9–27. Hoikusha, Osaka. (In Japanese, with English book title.)
- 1955. Cerambycidae. In The Kinki Coleopterol. Soc. (ed.), *Coloured Illustrations of the Insects of Japan*, 1, (ed. 2): 132–190, pls. 41–59. Hoikusha, Osaka. (In Japanese, with English book title.)
- 1960. Study of Lepturinae (Col.: Cerambycidae). *Niponius, Takamatsu*, **1** (6): 3–5.
- 1963. Revision of some Cerambycidae on the basis of the types of the late Drs. KANO and MATSUSHITA, with descriptions of three new species (Col.). *Ins. matsum.*, **25**: 129–136.
- KOJIMA, K., & M. HAYASHI, 1969. Longicorn Beetles. *Insects' Life in Japan*, **1**: XXIV + 295 pp., 56 pls. Hoikusha, Osaka. (In Japanese, with English book title.)
- KUSAMA, K., & M. TAKAKUWA, 1983. Lepturinae. In Jpn. Soc. Coleopterol. (ed.), *The Longicorn-Beetles of Japan in Color*, 153–248, pls. 5–25. Kodansha, Tokyo. (In Japanese, with English book title.)
- LEE, S., 1987. Lepturinae. In: *The Longicorn Beetles of Korean Peninsula*, 22–67, pls. 2–8. National Science Museum, Seoul. (In Korean, with English book title.)
- NAKANE, 1954. The male genitalia and their taxonomic importance in the Japanese Lepturinae (Coleoptera: Cerambycidae) (Preliminary report). *Scient. Rept. Saikyo Univ.*, **1**: 51–54.
- & K. OHBAYASHI, 1959. Notes on the genera and species of Lepturinae (Coleoptera, Cerambycidae) with special reference to their male genitalia. II. *Scient. Rept. Kyoto pref. Univ.*, **3**: 63–66.
- OHBAYASHI, K., 1963. Cerambycidae. In NAKANE, T., K. OHBAYASHI, S. NOMURA & K. KUROSAWA (eds.), *Iconographia Insectorum Japonicorum Colore naturali edita*, **2**: 267–318, pls. 134–159. Hokuryukan, Tokyo. (In Japanese, with English book title.)
- OHBAYASHI, N., 1992. Lepturinae. In OHBAYASHI, N., M. SATÔ & K. KOJIMA (eds.), *An Illustrated Guide to Identification of Longicorn Beetles of Japan*, 423–463. Tokai University Press, Tokyo. (In Japanese, with English book title.)
- PODANÝ, C., 1964. Monographie des genus *Rhagium* FABRICIUS (Col., Cerambycidae, Stenocorini). *Acta zool. mex.*, **7**: 1–55, pls. 1–7.