

Carabid Fauna of Cheju Island, Korea (Insecta, Coleoptera)

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Carabid Fauna of Cheju Island, Korea (Insecta, Coleoptera)^{1),2)}

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Abstract. A total of 37 species of Carabidae are recorded from the Cheju Island on the material taken in 1990, including 13 species new to its fauna.

Introduction

Study on the carabid fauna of Cheju Island was initiated by Tatum (1847), who described a new taxon of the Carabini. Thence, Lapouge (1911) described 3 species, Okamoto (1924) recorded 3 species, Breuning (1927) reported 1 species, Mori (1928) reported 1 species, Cho (1963) enumerated 26 species, anonym (1968) listed 7 species, Seok (1970) assembled the records of 27 species, Komiya (1971) listed 7 species, Lee and Kwon (1974) reported 3 species, Nakane (1977) reported 6 species, Kwon and Lee (1984) revised the Carabinae of Korea, Habu (1985) described 2 new species of the genus *Pterostichus* and made a list of Carabidae, Lee, Kim & Kim (1985) reported 58 species, Kwon and Lee (1986) enumerated 70 species from this island in his list of Korean Caraboidea, Paik (1988) added 17 species, Imura and Kezuka (1992) reviewed Carabina, and a total of 95 species of Carabidae have been known to occur on this island up to the present.

Present material taken in 1990 comprises 37 species, of which 13 species are new to the fauna of this island.

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- 1) Results from the Korea-Japan Co-operative Science Program on "The Evolution and Biogeography of the Insects in the East Asia". No. 25.
 - 2) Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 4, No. 84).

Family CARABIDAE

Subfamily CARABINAE

1. *Damaster (Coptolabrus) smaragdinus monilifer* (Tatum, 1847)

(Fig. 1A)

Specimens examined: 1 male 9 females, Yongshil, 23-25. vii. 1990, K. Yahiro leg.; 1 male 1 female, Cheju Junior College, Cheju City, 19. v. 1990, S. Nomura leg.; 2 females, same locality as above, 20. v. 1990, M. T. Chûjô leg.; 1 male 1 female, Ora-dong, 21. v. 1990, S. Nomura leg.; 2 females, same locality as above, 23. vii. 1990, S. Nomura leg.; 1 female, same locality as above, 28. vii. 1990, S. Nomura leg.; 1 male, Songsan, 19. v. 1990, K. Morimoto leg.; 1 female, Chungmun, 18. v. 1990, K. Morimoto leg.

Distribution. Korea (Cheju Is.).

2. *Damaster (Coptolabrus) jankowskii quelpartianus* (Breuning, 1937)

(Fig. 1B)

Specimens examined: 10 males 12 females, Yongshil, 23-25. vii. 1990, K. Yahiro leg.; 1 male, same locality as above, 27. vii. 1990, M. T. Chûjô leg.; 2 females, Kaewol Bridge, 20. v. 1990, S. Nomura leg.

Distribution. Korea (Cheju Is.).

3. *Hemicarabus (Hemicarabus) tuberculatus* (Dejean et Boisduval, 1829)

(Fig. 1C)

Specimens examined: 1 female, Yongshil, 23-25. vii. 1990, K. Yahiro leg.; 1 female, Kaewol Bridge, 20. v. 1990, S. Nomura leg.; 1 male, Cheju Junior College, Cheju City, 19. v. 1990, M. T. Chûjô leg.; 1 female, Orimok, 18. v. 1990, M. T. Chûjô leg.

Distribution. Korea, China, Siberia, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

4. *Carabus (Eucarabus) sternbergi sternbergi* Roeschbke, 1898

(Fig. 1D)

Specimens examined: 1 female, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.; 1 male 16 females, Kaewol Bridge, 20. v. 1990, S. Nomura leg.; 1 female, Orimok, 18. v. 1990, M. T. Chûjô leg.; 9 males 24 females, same locality as above, 20. v. 1990, S. Nomura leg.

Distribution. Korea.

5. *Carabus (Zsiocarabus) fiduciaris gisellae* (Csiki, 1927)

(Fig. 1E)

Specimens examined: 4 males 4 females, Ora-dong, 28. vii. 1990, K. Yahiro leg.; 3 males 5 females, Orimok, 20. v. 1990, S. Nomura leg.; 8 males 11 females, Cheju Junior College, Cheju City, 19. v. 1990, S. Nomura leg.; 6 males 2 females, same locality as above, 20. v. 1990, M. T. Chûjô leg.

Distribution. Korea.

Subfamily NEBRIINAE

6. *Nebria (Orientonebria) chinensis* Bates, 1872

(Fig. 1F)

Specimens examined: 11 males 18 females, Kaewol Bridge, 20. v. 1990, S. Nomura leg.; 1 male 3 females, same locality as above, 27. ix. 1990, M. T. Chûjô leg.; 1 male 2 females, Cheju Junior College, Cheju City, 20. v. 1990, M. T. Chûjô leg.; 1 female, Orimok, 8. v. 1990. M. T. Chûjô leg.; 1 female, Kwanum Temple, 29. ix. 1990, K. Morimoto leg.

Distribution. Korea, China, Japan (Honshu, Shikoku, Kyushu).

7. *Nebria (Paranebria) livida angulata* Banninger, 1949

(Fig. 1G)

Specimens examined: 1 female, Ora-dong, 27. ix. 1990, M. T. Chûjô leg.

Distribution. Korea (Cheju Is.)-new record, China, Siberia, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

8. *Notiophilus impressifrons* Morawitz, 1862

(Fig. 1H)

Specimens examined: 1 female, Mt. Hallasan, 25. vii. 1990, K. Yahiro leg.

Distribution. Korea (Cheju Is.)-new record, China, Siberia, Europe, North America, Japan (Hokkaido, Rishiri Is., Honshu, Shikoku, Kyushu).

Subfamily SCARITINAE9. *Scarites sulcatus* Oliver, 1795

(Fig. 1I)

Specimens examined: 1 male 1 female, Ora-dong, 28. vii. 1990, K. Yahiro leg.

Distribution. Korea, China, Formosa, South East Asia, India, Japan (Honshu, Shikoku, Kyushu).

10. *Scarites terricola pacificus* Bates, 1873

(Fig. 1J)

Specimens examined: 1 female, Ihô Beach, 26. vii. 1990, K. Yahiro leg.; 1 female, Ora-dong, 28. vii. 1990, K. Yahiro leg.

Distribution. Korea, China, Formosa, Japan (Honshu, Shikoku, Kyushu).

Subfamily BEMBIDIINAE11. *Tachyura exarata* (Bates, 1873)

(Fig. 1K)

Specimens examined: 1 female, Ora-dong, 18. v. 1990, M. T. Chûjô leg.; 2 females, same locality as above, 21. v. 1990, M. T. Chûjô leg.

Distribution. Korea (Cheju Is.)-new record, China, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima).

12. *Tachyura (Tachyura) fuscicauda* (Bates, 1873)

(Fig. 1L)

Specimens examined: 9 males 10 females, Ora-dong, 28. vii. 1990, M. T. Chûjô leg.; 6 males 10 females, same locality as above, 27. ix. 1990, M. T. Chûjô leg.

Distribution. Korea (Cheju Is.)-new record, China, Japan (Hokkaido, Honshu, Sado, Shikoku, Kyushu).

Subfamily PATROBINAE

13. *Archipatrobis flavipes* Motschulsky, 1864

(Fig. 2A)

Specimens examined: 1 female, Songsan, 19. v. 1990, M. T. Chûjô leg.

Distribution. Korea, China, Japan (Hokkaido, Honshu, Sado, Shikoku, Iki).

Subfamily PTEROSTICHINAE

14. *Lesticus (Trigonotomatina) magnus* (Motschulsky, 1860)

(Fig. 2B)

Specimens examined: 2 females, Yongshil, 23-25. vii. 1990, K. Yahiro leg.

Distribution. Korea, China, Formosa, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

15. *Pterostichus (Rhagadus) quelpartensis* Habu, 1985

(Fig. 2C)

Specimens examined: 1 female, Mt. Hallasan, 25. vii. 1990, K. Yahiro leg.; 1 female, same locality as above, 25. vii. 1990, K. Yoshizawa leg.; 2 males 1 female, Mt. Hallasan, 25. vii. 1990, S. Kamitani leg.

Distribution. Korea (Cheju Is.).

16. *Trigonognatha (Myadinu) coreana* (Tschitscherine, 1895)

(Fig. 2D)

Specimens examined: 1 female, Kaewol Bridge, 26-28. vii. 1990, K. Yahiro leg.

Distribution. Korea (Cheju Is.)-new record, Japan (Honshu, Shikoku, Kyushu).

17. *Agonum (Nipponanchus) leucops* (Bates, 1873)

(Fig. 2E)

Specimens examined: 2 females, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.; 1 male, Kaewol Bridge, 26-28. vii. 1990, S. Kamitani leg.

Distribution. Korea (Cheju Is.)-new record, Formosa, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

18. *Colpodes (Metacolpodes) buchanani* Hope, 1831

(Fig. 2F)

Specimens examined: 1 female, Kaewol Bridge, 23. vii. 1990, S. Nomura leg.; 1 male, same locality as above, 26. vii. 1990, K. Morimoto leg.; 1 female, same locality as above, 26-28. vii. 1990, K. Yahiro leg.; 1 female, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.; 1 male, Kwanum Temple, 29. ix. 1990, K. Morimoto leg.; 1 female, Songpanak, Mt. Hallasan, 28. ix. 1990, K. Morimoto leg.; 1 female, Mt. Hallasan, 25. vii. 1990, S. Nomura leg.

Distribution. Korea, China, Philippines, Java, Sumatra, South East Asia, India, North America, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Okinawa, Kume Is., Keruma Is., Ishigaki Is.).

19. *Dicranoncus femoralis* Chaudoir, 1850

(Fig. 3G)

Specimens examined: 2 males 2 females, Kaewol Bridge, 26-28. vii. 1990, K. Yahiro leg.

Distribution. Korea (Cheju Is.)-new record, China, Formosa, Malay Peninsula, Burma, Nepal, India, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

20. *Dolichus (Sphodrina) halensis* (Schaller, 1783)

(Fig. 3H)

Specimens examined: 1 male 1 female, Kuwanum Temple, 29. ix. 1990, M. T. Chûjô leg.; 1 female, same locality as above, 29. ix. 1990, K. Morimoto leg.; 1 male, Ora-dong, 24. vii. 1990, K. Yoshizawa leg.

Distribution. Korea, Palaearctic Region, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

21. *Platynus (Pseudoplatynus) magnus* Bates, 1873

(Fig. 3I)

Specimens examined: 1 female, Songsan, 19. v. 1990, K. Morimoto leg.; 1 female, same locality as above, 19. v. 1990, M. T. Chûjô leg.; Kujwa, 19. v. 1990, K. Morimoto leg.; 1 male 1 female, Ora-dong, 27. ix. 1990, M. T. Chûjô leg.

Distribution. Korea, Formosa, Amur, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Ryukyu).

Subfamily ZABRINAE

22. *Amara (Curtonotus) macronota macronota* Solsky, 1875

(Fig. 3J)

Specimens examined: 1 male, Songsan, 19. v. 1990, M. T. Chûjô leg.

Distribution. Korea (Cheju Is.)-new record, China, Siberia.

Remarks. This species is closely related with *Amara macronota ovalipennis* Jedlicka from Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Subfamily HARPALINAE

23. *Anisodactylus (Anisodactylus) punctatipennis* Morawitz, 1862

(Fig. 3K)

Specimens examined: 1 female, Orimok, 18. v. 1990, M. T. Chûjô leg.; 1 male 2 females, Kaewol Bridge, 24. vii. 1990, K. Yoshizawa leg.; 1 male, same locality as above, 26. vii. 1990, S. Nomura leg.; 1 female, 26-28. vii. 1990, same locality as above, S. Kamitani leg.

Distribution. Korea, China, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

24. *Harpalus (Pseudoophonus) roninus* Bates, 1873

(Fig. 3L)

Specimens examined: 1 male, Cheju Junior College, 20. v. 1990, M. T. Chûjô leg.; 1 female, Songpanak, Mt. Hallasan, 28. ix. 1990, K. Morimoto leg.

Distribution. Korea, China, Formosa, Japan (Honshu, Kyushu, Tsushima).

25. *Harpalus (Acardystus) rubefactus* Bates, 1873

(Fig. 3M)

Specimens examined: 1 male, Cheju Junior College, 20. v. 1990, M. T. Chûjô leg.

Distribution. Korea (Cheju Is.)-new record, China, Japan (Honshu).

26. *Bradycellus (Desbordesius) laeticolor* Bates, 1873

(Fig. 4A)

Specimens examined: 1 male, Tacheon-dong, Songdang-ri, 28. ix. 1990, K. Morimoto leg.; 3 males 4 females, Songpanak, Mt. Hallasan, 28. ix. 1990, K. Morimoto leg.; 1 female, Kwanum Temple, 29. ix. 1990, K. Morimoto leg.

Distribution. Korea (Cheju Is.)-new record, China, Formosa, Japan (Honshu, Shikoku, Kyushu).

Subfamily LICININAE

27. *Diplocheila zeelandica* (Redtenbacher, 1868)

(Fig. 4B)

Specimens examined: 1 female, Ora-dong, 24. vii. 1990, K. Yoshizawa leg.; 1 female, Kaewol Bridge, 26. vii. 1990, K. Yoshizawa leg.

Distribution. Korea, China, Formosa, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Okinawa).

Subfamily PANAGAEINAE

28. *Dischissus mirandus* Bates, 1873

(Fig. 4C)

Specimens examined: 1 female, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.

Distribution. Korea (Cheju Is.), Formosa, Japan (Honshu, Shikoku, Kyushu, Ryukyu).

Subfamily CALLISTINAE

29. *Chlaenius (Chlaenius) pallipes* Gebler, 1823

(Fig. 4D)

Specimens examined: 1 male, Ora-dong, 24. vii. 1990, K. Yoshizawa leg.

Distribution. Korea, China, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

30. *Chlaenius variicornis* Morawitz, 1863

(Fig. 4E)

Specimens examined: 1 male, Ora-dong, 18. v. 1990, S. Nomura leg.; 1 female, same locality as above, 21. v. 1990, S. Nomura leg.; 1 female, Ora-dong, 27. ix. 1990, M. T. Chûjô leg.

Distribution. Korea (Cheju Is.)-new record, China, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Subfamily LEBIINAE

31. *Anchistu binotata* (Dejean, 1825)

(Fig. 4F)

Specimens examined: 1 female, Kaewol Bridge, 26. vii. 1990, S. Nomura leg.; 1 female, same locality as above, 26-28. vii. 1990, K. Yahiro leg.; 3 males 3 females, Yongshil, 24. vii. 1990, K. Morimoto leg.; 1 male 2 females, Orimok, 27. vii. 1990, K. Morimoto leg.

Distribution. Korea. (Cheju Is.)-new record, China, Formosa, Philippines, Borneo, Java, Sumatra, Burma, India, Mariana Is., New Guinea, Japan (Kyushu, Satsunan, Ryukyu).

32. *Lebia (Poecilothuis) retrofusiutu* Motschulsky, 1864

(Fig. 4G)

Specimens examined: 2 males 2 females, Orimok, 27. vii. 1990, K. Morimoto leg.; 1 female, same locality as above, 27. vii. 1990, S. Nomura leg.; 1 female, Kaewol Bridge, 27. vii. 1990, M. T. Chŭjŏ leg.; 1 male 1 female, same locality as above, 27. ix. 1990, K. Morimoto leg.; 1 female, Kwanum Temple, 29. ix. 1990, K. Morimoto leg.; 1 female, Ora-dong, 21. v. 1990, K. Morimoto leg.

Distribution. Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

33. *Lachnolebia cribricollis* (Morawitz, 1862)

(Fig. 4H)

Specimens examined: 1 male, Mt. Hallasan, 25. vii. 1990, K. Morimoto leg.

Distribution. Korea, China, Siberia, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Subfamily ZUPHIINAE

34. *Guleritu (Guleritu) orientulis* Schmidt-Göbel, 1846

(Fig. 4I)

Specimens examined: 2 females, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.

Distribution. Korea, China, Formosa, Malay Peninsula, Sumatra, Java, Burma, India, Japan (Honshu, Shikoku, Kyushu).

35. *Plunetes (Plunetes) puncticeps* Andrewes, 1919

(Fig. 4J)

Specimens examined: 1 male, Ora-dong, 24. vi. 1990, K. Yoshizawa leg.

Distribution. Korea, China, Formosa, Japan (Honshu, Shikoku, Kyushu, Satsunan).

Family BRACHINIDAE

36. *Pheropsophus jessoensis* Morawitz, 1862

(Fig. 4K)

Specimens examined: 12 males 14 females, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.; 3 males 3 females, Ora-dong, 24. vii. 1990, K. Yahiro leg.; 3 males 1 female, Cheju Junior College, Cheju City, 1. v. 1990, S. Nomura leg.; 3 males 4 females, same locality as above, 20. v.

1990, M. T. Chûjô leg.; 2 males 3 females, Kaewol Bridge, 20. v. 1990, S. Nomura leg.; 1 male, Songsan, 19. v. 1990, K. Morimoto leg.

Distribution. Korea, China, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Yaku Is., Amami Ôshima Is., Tokara Is.).

37. *Brachinus scotomedes* Redtenbacher, 1868

(Fig. 4L)

Specimens examined: 15 males 14 females, Don-nae-ko, 27. vii. 1990, K. Yahiro leg.

Distribution. Korea (Cheju Is.)-new record, China, Formosa, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

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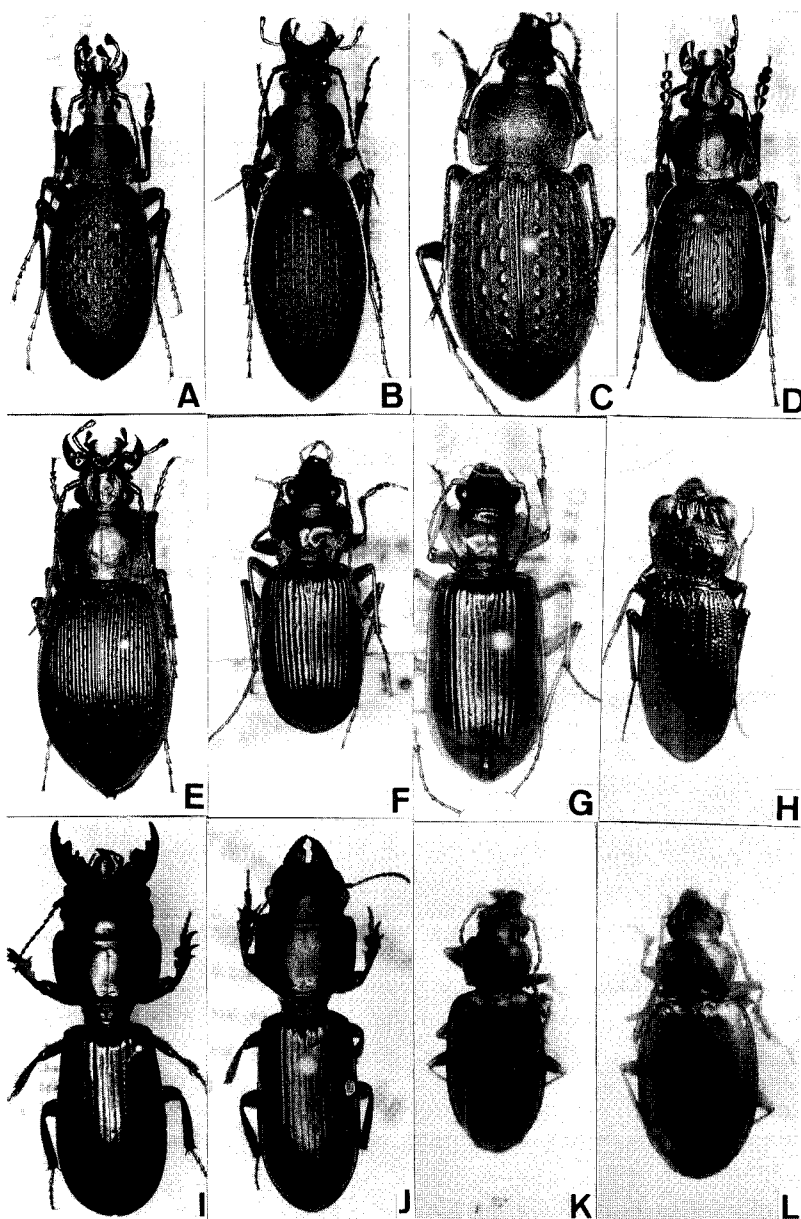


Fig. 1. Dorsal aspects. A, *Damaster smaragdinus monilifer* (Tatum); B, *D. jankowskii quelpartianus* (Breuning); C, *Hemicarabus tuberculatus* (Dejean et Boisduval); D, *Carabus sternbergi sternbergi* Roeschke; E, *C. fiduciaris gisellae* (Csiki); F, *Nebria chinensis* Bates; G, *N. livida angulata* Banninger; H, *Notiophilus impressifrons* Morawitz; I, *Scarites sulcatus* Oliver; J, *S. terricola pacificus* Bates; K, *Tachyura exarata* (Bates); L, *T. fuscicauda* (Bates).

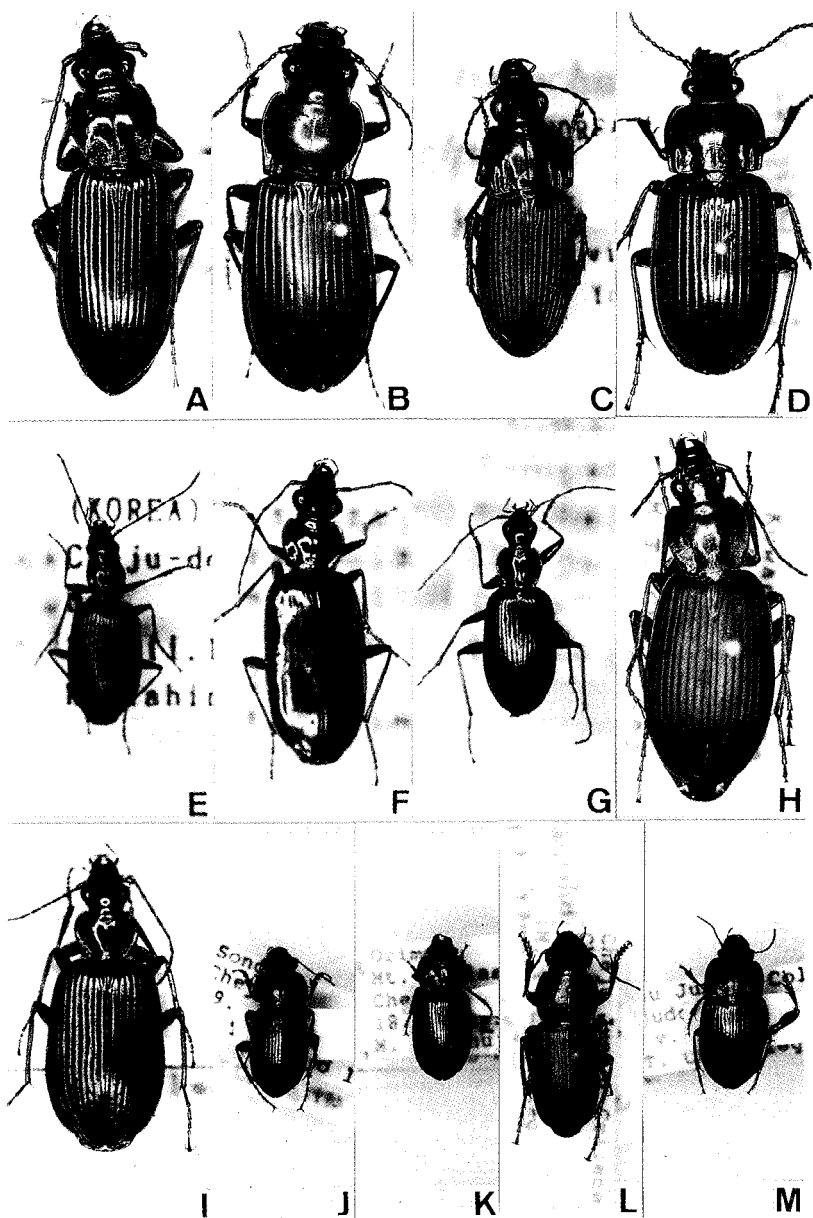


Fig. 2. Dorsal aspects. A, *Archipatrobus flavipes* Motschulsky; B, *Lesticus magnus* (Motschulsky); C, *Pterostichus quelpartensis* Habu; D, *Trigonognatha coreana* (Tschitscherine); E, *Agonum leucops* (Bates); F, *Colpodes buchani* Hope; G, *Dicranoncus femoralis* Chaudoir; H, *Dolichus halensis* (Schaller); I, *Platynus magnus* Bates; J, *Amara macronota macronota* Solsky; K, *Anisodactylus punctatipennis* Morawitz; L, *Harpalus roninus* Bates; M, *Harpalus rubefactus* Bates.

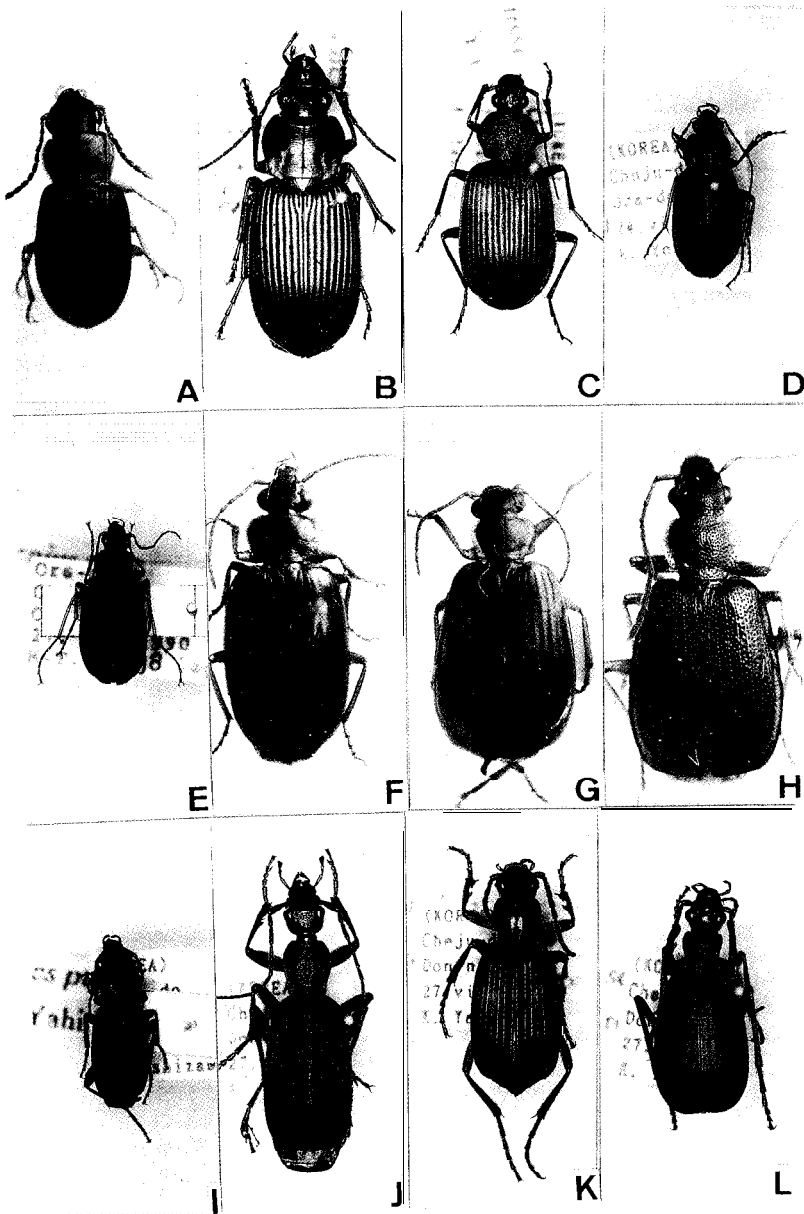


Fig. 3. Dorsal aspects. A, *Bradycellus laeticolor* Bates; B, *Diplocheila zeelandica* (Redtenbacher); C, *Dischissus mirandus* Bates; D, *Chlaenius pallipes* Gebler; E, *C. variicornis* Morawitz; F, *Anchista binotata* (Dejean); G, *Lebia retrofasciata* Motschulsky; H, *Lachnolebia cribricollis* (Morawitz); I, *Galerita orientalis* Schmidt-Göbel; J, *Planetes puncticeps* Andrewes; K, *Pheropsophus jessoensis* Morawitz; L, *Brachinus scotomedes* Redtenbacher.