

Family: Elateridae

Common name: Click beetles, skipjacks, wireworms (larvae)

Order: Coleoptera
Family: Elateridae
Taxonomic Name: *Amychus candezei* Pascoe, 1876
Common Names: Chatham Islands click beetle (Scott & Emberson 1999)
Synonyms: *Amychus schauinslandi*, *A. rotundicollis* (Schwarz 1901 cited in Emberson 1998b). Hudson incorrectly thought *A. candezei* and *Psorochroa granulata* to be synonymous (J. Marris pers. comm. 2000)

M&D Category: C

Conservancy Office: WL

Area Office: Chatham Islands

Description: A large flightless click beetle, 16 - 23 mm long. Generally brown, but variegated and variable in colour, with a rough surface resembling bark (Emberson & Marris 1993a; Emberson et al. 1996; Klimaszewski & Watt 1997).

Type Locality: Pitt Island, Chatham Islands (Pascoe 1876).

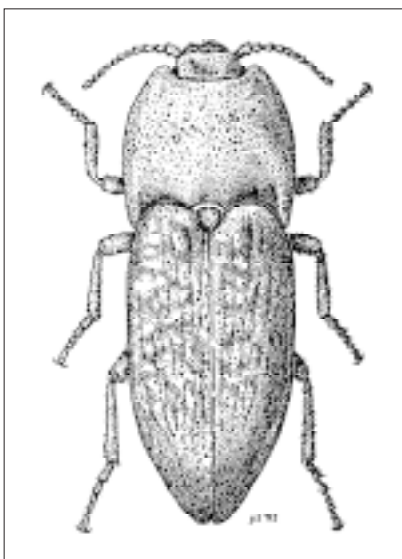
Specimen Holdings: LUNZ, MONZ, NZAC.

Distribution: Found on Rangatira (South East) Island; Main Dome, Middle Sister Island; Big Sister Island; Robin Bush, Mangere Island; (Emberson & Marris 1993a; Emberson et al. 1996); Little Mangere (Tapuaenuku) Island; and Motuhope Island, Star Keys (Emberson 1998b). Originally described from Pitt Island, however, it has not been seen there for many years. It was also present at Hapupu, Chatham Island, until at least 1967 (Emberson 1998b). Estimate a population in the thousands (Emberson 1998a).

Habitat: Adults are most commonly found on tree trunks at night (Emberson & Marris 1993a), but have occasionally been found under logs, rocks, and amongst organic litter (Emberson 1998b; Emberson et al. 1996; Klimaszewski & Watt 1997; J. Marris pers. comm. 2000). The larvae have been found in soil, litter, and rotten wood (Emberson et



Body length: 23 mm



Permission: Manaaki Whenua Press.
 Klimaszewski & Watt 1997, p 144, Fig. 167.



Permission: Manaaki Whenua Press.
 Meads 1990a, p. 39.

al. 1996; R. Emberson pers. comm. 2000; J. Marris pers. comm. 2000), where they probably feed on organic matter and opportunistically prey on insect larvae. One pupa was collected from soil among tussock roots on Star Keys (J. Marris pers. comm. 2000)

Threats: Not under any threat at present (R. Emberson pers. comm. 1999). The main potential threat is the establishment of introduced vertebrate predators on any of the islands which currently hold populations of *A. candezei*.

Work Undertaken to Date: Goats eradicated in 1916 and sheep removed in 1961, from Rangitirā. Cattle were also removed at some stage (Atkinson & Taylor 1992). Sheep removed from Mangere Island in 1968 (Island animal pest eradication database DOC). Goats, rabbits and cats have also been eradicated from the island (Atkinson & Taylor 1992). A draft management plan has been written for the Hapupu National Historic Reserve (R. Emberson pers. comm. 2000). Robin Bush has undergone protection (rodent quarantine etc.) and revegetation to extend the bush area (H. Aikman pers. comm. 2000).

Priority Research, Survey, and Monitoring: 1) Determine if *A. candezei* is still present on Chatham Island. Search areas in the south of Chatham Island which have little modified understorey.

2) Investigate the status of the populations on the Sisters Islands because the vegetation may have suffered from a series of dry years and increased seabird populations.

3) Check outlying vegetated islands of the Chatham Island Group for additional populations of *A. candezei* (Emberson et al. 1993).

Management Needs: 1) Maintain island security i.e. rodent quarantine procedures.

2) If baiting for rodents check to see if any *A. candezei* are present because they have been found in association with Talon and Ditrac baits (R. Emberson pers. comm. 1999).

Contacts: Rowan Emberson, John Marris.

Order: Coleoptera
Family: Elateridae
Taxonomic Name: *Amychus granulatus* (Broun, 1886)
Common Names: Cook Strait click beetle (Scott & Emberson 1999)
Synonyms: *Psorochroa granulata* (Emberson et al. 1993), *Amychus stephensiensis* (Marris 1996b)
M&D Category: B
Conservancy Office: NM
Area Office: Sounds



Body length: 20 mm

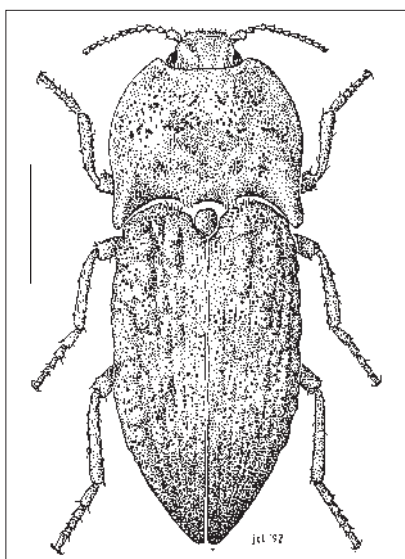
Description: A large flightless click beetle, 18 - 20 mm long (Gibbs & Allen 1990). The body is broad and rough surfaced, brown with the thorax paler and brighter (Broun 1886).

Type Locality: Little Brother (North Brother) Island.

Specimen Holdings: NZAC, CUNZ, LUNZ, NHML, MONZ, AMNZ, VUNZ (Marris 1996b).

Distribution: Found on islands in the Marlborough Sounds. Present distribution: Keepers Bush and Frog Bank Bush (also Top Winch Bush in 1963), Stephens Island; Middle Trio Island; South Trio Island; Main Bush area above the Comalco Lodge, Maud Island; Sentinel Rock (Hudson 1934; Gibbs & Allen 1990; Marris 1996b). Historically present on North Brother (Little Brother) Island; probable remains have been found in North Canterbury (Worthy & Holdaway 1996), and there was a sighting of the beetle on Outer Chetwode (Te Kakaho) Island (M. Meads pers. comm. 2000).

Habitat: Adults have been found at the base of rank grass, under rocks, and on tree trunks at night, including ngaio (*Myoporum laetum*), *Coprosma*, tawa (*Beilschmiedia tawa*), kohekohe (*Dysoxylum spectabile*) and under New Zealand spinach (*Tetragonia tetragonioides*). They often favour craggy knot-holed trees (Marris 1996b). During the day they are generally found sheltering under logs (I. Millar pers. comm. 1999). Adults are present throughout the year, and feed on sap oozing from tree trunks (Marris 1996b).



Drawing: Joanna Liddiard

Permission: Landcare Research (NZ) Ltd.k15.w/9(all)10(y

Permission: Manaaki Whenua Press.

Meads 1990a, p. 39.

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Only one larva has been collected, it was found in the rotten roots of an *Olearia* tree on Middle Trio Island (J. Marris pers. comm. 2000).

Threats: On Stephens Island they appear to be declining. This decline is thought to be linked to forest deterioration, especially lack of rotten wood. Predation by tuatara could also factor (Gibbs & Allen 1990). Appear to have become extinct on Little Brother Island sometime during the past 2 - 3 decades (I. Millar pers. comm. 2000).

Work Undertaken to Date: -

Priority Research, Survey, and Monitoring: 1) Survey South Brother Island to see if *A. granulatus* may be present there.

2) Survey North Brother and the Outer Chetwode Island (Te Kakaho) to determine if *A. granulatus* is present on these islands (Marris 1996b; I. Millar pers. comm. 1999).

3) Survey and monitor Maud Island to get an idea of distribution and to assess the feasibility of establishing a monitoring programme (I. Millar pers. comm. 1999).

Management Needs: 1) Provide 'substitute logs' on Stephens Island as artificial refuges, to compensate for the lack of rotten wood on the island.

2) Investigate the possibility of transferring *A. granulatus* to other islands such as Motuara Island (Marris 1996b), or possibly Titi Island (I. Millar pers. comm. 1999), but not to Outer Chetwode because a population may still exist there (Marris 1996b).

Contacts: John Marris, George Gibbs, Ian Millar, Brian Paton.

Order: Coleoptera
Family: Elateridae
Taxonomic Name: *Amychus* sp.
Common Names: -
Synonyms: -
M&D Category: I

Conservancy Office: NL

Area Office: Kaitaia

Description: A rough surfaced, flightless click beetle, about 23 mm long, and with a broad body.

Type Locality: Not described.

Specimen Holdings: -

Distribution: Found on Great Island (Marris 1996a), and South West Island (R. Parrish pers. comm. 2000) in the Three Kings Islands group.

Habitat: Have been found on kanuka (*Kunzea ericoides*) at night, on Great Island (A. Booth pers. comm. 2000).

Threats: Not known.

Work Undertaken to Date: Goats introduced to Great Island 1889, eradicated from Great Island in 1946 (Turbott 1948).

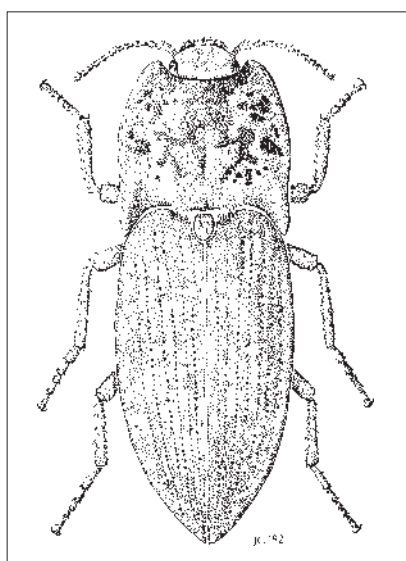
Priority Research, Survey, and Monitoring: 1) Survey Great Island and South West Island to obtain an estimate of distribution and abundance.

Management Needs: -

Contacts: Andrea Booth, John Marris.



Body length: 23 mm



Drawing: Joanna Liddiard
Permission: Landcare Research (NZ) Ltd.

Photo: John Marris, Lincoln University.

Order: Coleoptera
Family: Elateridae
Taxonomic Name: *Metablax* sp.
Common Names: -
Synonyms: -
M&D Category: I

Conservancy Office: NL

Area Office: Kaitaia

Description: A large bodied click beetle with stripes down the side.

Type Locality: Not described.

Specimen Holdings: NZAC.

Distribution: Spirits Bay, Mt Unuwhao, 640 m (1966) (NZAC). There is also a possible record from Tauputaputa (A. Booth pers. comm. 2000).

Habitat: Not known, has been found at 640 m.

Threats: -

Work Undertaken to Date: Survey planned in 2000 (A. Booth pers. comm. 2000).

Priority Research, Survey, and Monitoring: 1) Survey to obtain an estimate of distribution and abundance, and determine whether this species is of conservation concern.

Management Needs: -

Contacts: Andrea Booth.

See Plate 3, No. 16.



Body length: 21 mm

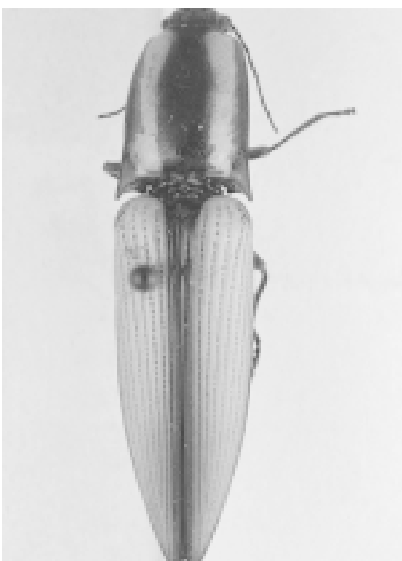



Photo: Andrew Townsend.

Family: Lucanidae

Common name: Stag beetles

Order: Coleoptera
Family: Lucanidae
Taxonomic Name: *Geodorcus auriculatus* (Broun, 1903)
Common Names: Te Aroha stag beetle (Scott & Emberson 1999)
Synonyms: *Dorcus auriculatus*, *Lissotes auriculatus* (Holloway 1961, 1996)
M&D Category: A
Conservancy Office: WK, BP
Area Office: Hauraki, Tauranga


 Body length: 20 mm

Description: A large flightless stag beetle. The body is blackish, flecked with brown (Veitch 1991), and glossy. Males have an expanded head compared to females (Klimaszewski & Watt 1997). Males measure around 25 mm including mandibles (or 20 mm excluding mandibles), and are 11.5 mm wide. Females measure around 20.1 mm including mandibles (or 18.4 mm excluding mandibles), and are 9.2 mm wide. The

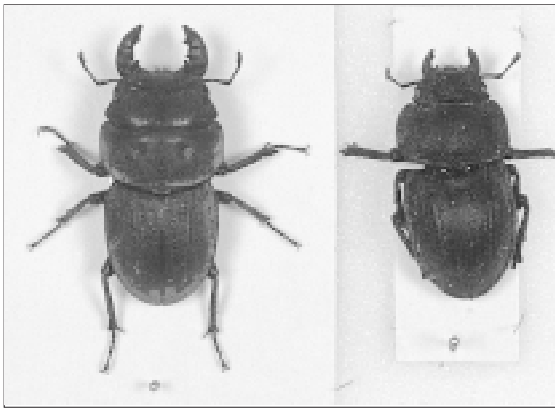
male is best distinguished by the mandibles, which are forked in two at the tips, and have a large vertical, forked, tooth, on the top of the mandible, near the middle (Holloway 1961). The wing cases and the front part of the thorax often appear hairy, although the hairs may be rubbed off the thorax of older specimens (C. Green pers. comm. 1999).

Type Locality: Thames (Holloway 1961).

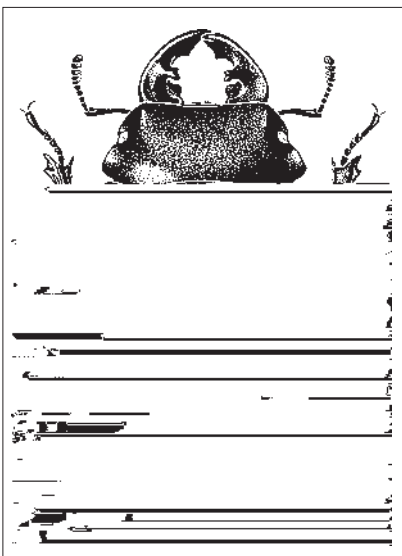
Specimen Holdings: NHML, NZAC.

Distribution: This is the most widely distributed of the North Island *Geodorcus* species (C. Green pers. comm. 1999), being recorded from the Waikato and Coromandel areas (Holloway 1961; Klimaszewski & Watt 1997). Specimens have been collected recently (since 1980) from; Trig 1092, Te Puru 700-

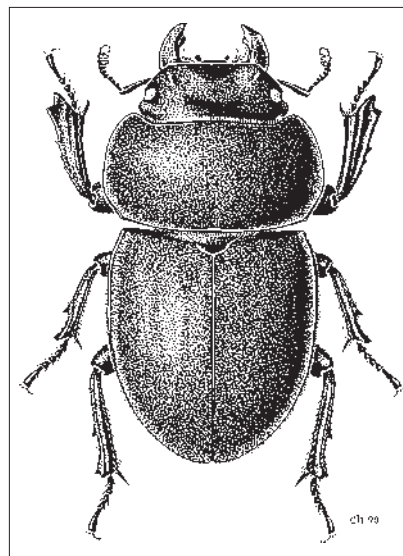
720m; Grace Darling Stream catchment of the Waitekauri River, 500 m, southern Coromandel Ranges; Mount Te Aroha 950m; Mt Te Aroha summit, summit BCLTV repeater, and near summit (Owen 1991); 1 km below summit, Mt Te Aroha; Mangakino Ridge, Coromandel (Sherley et al. 1994); walking track from Mt Te Aroha summit to Te Aroha Domain in the Tutumangae Stream catchment, 620 m; upper Mangakino Stream track near Lewis and Bartley Creeks, 640 m (Owen 1991); near Motutapere Hill; about 7 km south-east of Manaia (Sherley 1990); Tui Stream headwaters; Waiorongomai Stream headwaters; Dog Kennel Flat,



Permission: Landcare Research (NZ) Ltd.



Male. Permission: Manaaki Whenua Press. Klimaszewski & Watt 1997, p 138, Fig. 141.



Female. Permission: Manaaki Whenua Press. Klimaszewski & Watt 1997, p 138, Fig. 142.

Mt Te Aroha (unpublished reports, Tauranga Area Office); The Pinnacles, Kauaeranga Valley, Coromandel (AMNZ). Occurs as far north as Kakatarahae, on the Coromandel Peninsula (F. Buchanan pers. comm. 1999). Historically present in Thames (Owen 1991).

Habitat: Found on the ground or at the base of tree trunks at night, and is probably a sap feeder. It has been found under logs of 200 - 250 mm diameter, in decaying matter between the sound timber and the soil (Sherley et al. 1994), and where a good humus and leaf litter layer are present. It occurs in a moist to relatively dry microhabitat, and has been found between 500 - 719 m (Sherley et al. 1994). Found associated with a variety of vegetation (see Owen 1991 and Sherley et al. 1994 for detail), common characteristics have been the presence of unmodified tawa (*Beilschmiedia tawa*)/tawari (*Ixerba brexioides*) or tawa/rimu (*Dacrydium cupressinum*)/northern rata (*Metrosideros robusta*)/kauri (*Agathis australis*) forest, the exception being specimens from Mt Te Aroha at 900 - 950 m in the general area of the TV repeater station, or in the adjacent silver beech (*Nothofagus menziesii*)/tawari forest (Owen 1991). Kamahi (*Weinmannia racemosa*), and kanono (*Coprosma grandifolia*) are also present at some sites.

Threats: Threatened by habitat modification and introduced predators (Sherley 1990). Rats and possums are potential threats to both the habitat and the insect (Owen 1991). Pigs could be a problem at Coromandel sites (C. Green pers. comm. 1999), and are also present in very low numbers at Mt Te Aroha (J. Heaphy pers. comm. 1999).

Work Undertaken to Date: Survey: Mt Te Aroha, 3 day, 5 person; 1992, ridges off Mt Te Aroha, 2 day, 5 person; 1993, Mangakino Ridge off Mt Te Aroha, 3 day, 5 person; 1993, Coromandel Peninsula (Castle Rock area from T11 390850 to 391855; the forest to within 20 m of the road verge along Hodder East Rd from the start of Castle Rock track to a point at T11 380874, and neighbouring stream catchment; walking track to Kauri Grove; summit of Route 25 to Kaipawa Trig, then to Radio-Mast Trig and out to the Kennedy Bay Rd) 24 person hours (Sherley et al. 1994).

Priority Research, Survey, and Monitoring: 1) Survey outside of the known range of this species on Mt Te Aroha and the Coromandel, in an attempt to determine the distribution.

2) Examine the effects of rat predation on *G.auriculatus* to determine the impact of this threat (C. Green pers. comm. 1999).

Management Needs: 1) May not warrant intensive management, dependent on the outcome of survey work.

Contacts: Chris Green, Beverley Holloway, Keith Owen, Greg Sherley.

Order: Coleoptera
Family: Lucanidae
Taxonomic Name: *Geodorcus ithaginis* (Broun, 1893)
Common Names: Mokohinau stag beetle (Scott & Emberson 1999)
Synonyms: *Dorcus ithaginis* (Holloway 1961, 1996), *Lissotes ithaginis* (Broun 1893)
M&D Category: A
Conservancy Office: AU
Area Office: Great Barrier



Body length: 24.8 mm

Description: A large flightless stag beetle. The body is blackish-brownish, glossy, 25.5 - 32.8 mm long, including the mandibles (or 20.5 - 24.8 mm excluding mandibles), and 10.4 - 12.4 mm wide. It is distinguished from all other New Zealand stag beetles by the presence of a long, conical, vertical, tooth, on the top of the mandible, in both sexes (Holloway 1961). However, if you find a large lucanid in the Mokohinau Islands, it is likely that it is *G. ithaginis* (C. Green pers.comm. 1999).

Type Locality: Halodroma Islet, Mokohinau Islands (Holloway 1961). There is no Halodroma Islet in the Mokohinau Islands group and it is thought that the Type Locality is most likely Lizard Island (B. Holloway pers. comm. In Sherley et al. 1994), or possibly Stack H (C. Green pers.comm. 1999).

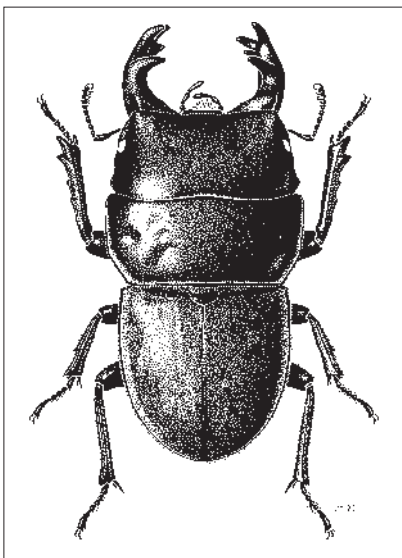
Specimen Holdings: NHML (type), MONZ, NZAC (B. Holloway pers. comm. 2000).

Distribution: Appears to be restricted to Stack H, Mokohinau Islands (Sherley 1990a; Sherley et al. 1994).

Habitat: Stack H is arid with very poor moisture retention and a complete absence of rotten logs, habitat which is associated with other *Geodorcus* spp on the mainland (Green 1997). The beetle can be found in the peat-like layer formed by the native succulent plant horokaka (*Disphyma australe*) (Veitch 1991), which it burrows through

(Broun 1893). It has also been found under rocks and leaf litter beneath low coastal pohutukawa (*Metrosideros excelsa*), and dead specimens have been collected from the grass *Chionochloa bromoides* (Sherley et al. 1994).

Threats: Introduction of rodents or fire poses the greatest threat. Lizards are present on the island, and whilst they will prey on the beetle are not considered a threat to its survival. Long term climatic change, specifically an increase in temperature resulting in a drying out of habitat is also a possible threat (C. Green pers.comm. 1999).



Male. Drawing: Des Helmore.
 Permission: Landcare Research (NZ) Ltd.

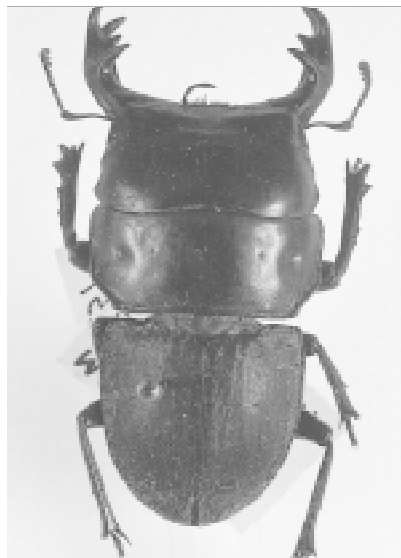


Photo: Andrew Townsend.

Work Undertaken to Date: Lizard Island, Burgess Island, "Flax" Island,

Sphinx Rocks, Groper Rock, and Stacks B, D, E, and G searched but no sign of *G.ithaginis* found (Sherley et al. 1994). An estimation of population size, and information on the habitat requirements and life history is currently in progress. Nine specimens is the maximum observed in recent times. The north-west islets of the Hen and Chicken group have also been surveyed, no specimens were found (C.Green pers.comm. 1999).

Priority Research, Survey, and Monitoring: 1) Keep an eye out for large stag beetles on Hen & Chicken, Mokohinau and islands in the Poor Knights Islands group (C.Green pers.comm. 1999).

Management Needs: 1) Maintain habitat, and monitor for rodents (C.Green pers.comm. 1999).

Contacts: Chris Green, Greg Sherley, Beverley Holloway.

Order: Coleoptera
Family: Lucanidae
Taxonomic Name: *Geodorcus* sp. "Moehau"
Common Names: Moehau stag beetle
Synonyms: -
M&D Category: A
Conservancy Office: WK

Area Office: Hauraki

Description: A large flightless stag beetle, 23.5 - 27 mm long including mandibles (20 - 23 mm long excluding mandibles), and about 8.5 - 11 mm wide (Sherley et al. 1994). The head margin behind the eyes has a large, almost truncate, horizontal lobe in males, and a very small rounded projection in females (B. Holloway pers. comm. 2000).

Type Locality: Not described.

Specimen Holdings: AMNZ, NZAC.

Distribution: Mt Moehau, Coromandel Peninsula (Sherley et al. 1994).

Habitat: Have been found in moist microhabitats under rocks, and under decaying rata (*Metrosideros* spp.) or kaikawaka (*Libocedrus bidwilli*) logs, in the interface of the dark red-brown humus layer and the timber of the log (Sherley et al. 1994). Specimens have been collected between 683 and 820 m (Sherley et al. 1994; J. Roxburgh pers. comm. 1999).

Threats: Rodents and possibly pigs may threaten this species, through both direct predation and habitat destruction.

Work Undertaken to Date: Surveyed Mt Moehau in 1992, about 120 person hours (Sherley et al. 1994) plus additional searches post 1992 (C. Green pers. comm. 1999). Moehau Range undergoing intensive pest control (C. Green pers. comm. 1999). Possum and goat control has been undertaken at Mt Moehau since the mid 1980s. Rat indexing is occurring at Moehau every 6 weeks over the 1999/2000 financial year (J. Roxburgh pers. comm. 1999).

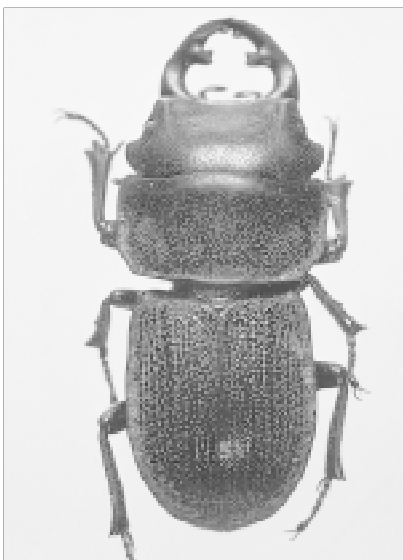
Priority Research, Survey, and Monitoring: 1) Survey Mt Moehau and surrounding areas to obtain information on the distribution and abundance of this species (C. Green pers. comm. 1999).

Management Needs: -

Contacts: Chris Green, Greg Sherley, Beverley Holloway.




Body length: 23 mm



Permission: Landcare Research (NZ) Ltd.
Photo: J.F. Goulstone.

Order: Coleoptera
Family: Lucanidae
Taxonomic Name: *Paralissotes mangonuiensis* (Brookes, 1927)
Common Names: -
Synonyms: *Lissotes mangonuiensis* (Holloway 1961, 1996)
M&D Category: I
Conservancy Office: NL
Area Office: Kaitaia, Kerikeri


Body length: 10.6 mm

Description: A flightless, dark brownish-black, glossy, stag beetle. The body is uniformly covered with moderately fine, dense, circular punctures, containing minute, barely discernible, erect scales. The male is 11.6 mm long including mandibles (or 10.6 mm excluding mandibles) and 4.8 mm wide. The female is 11.5 mm long including mandibles (or 10.8 mm excluding mandibles), and 4.6 mm wide (Holloway 1961).

Type Locality: Oruru, Mangonui (North Auckland), New Zealand (Brookes 1927; Holloway 1961).

Specimen Holdings: NZAC.

Distribution: Oruru, Mangonui (Holloway 1961); Punurulu Stream, Russell State Forest; Waima; Shag, Bay, Tawhiti Rahi, Poor Knights Islands; Waimamaku, Hokianga, Yakas Track, Waipoua State Forest; Cape Brett (information from Maddison 1991; S. Thorpe pers. comm. to A. Booth; S. Thorpe pers. comm. 2000).

Habitat: In rotten logs in forest (Brook 1999b).

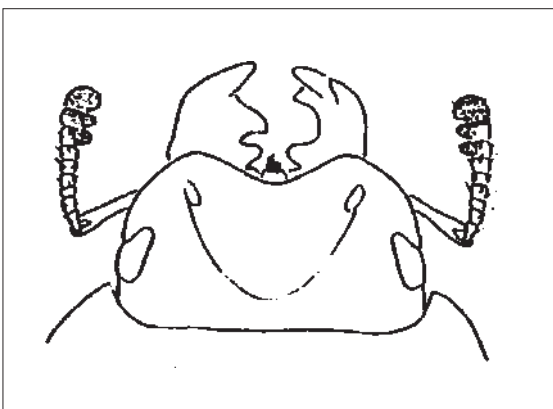
Threats: Not known.

Work Undertaken to Date: -

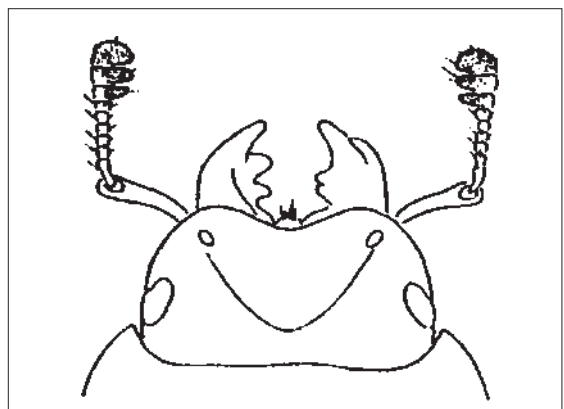
Priority Research, Survey, and Monitoring: 1) Survey to obtain an estimate of distribution and abundance, and determine whether this species is of conservation concern.

Management Needs: -

Contacts: Beverley Holloway.



Head and part of pronotum of male.



*Head and part of pronotum of female.
 Permission: Museum of New Zealand Te Papa Tongarewa.
 Holloway 1961, p. 117, Figs. 60, 61.*

Family: Rhysodidae

Common name: Heraldic beetles

Order: Coleoptera
Family: Rhysodidae
Taxonomic Name: *Tangarona pensus* (Broun, 1880)
Common Names: -
Synonyms: *Rhysodes pensus* (Broun 1880), *Tangaroa pensus* (Bell & Bell 1978)
M&D Category: I
Conservancy Office: NL,AU,WK,BP
Area Office: Whangarei, Warkworth, Hauraki, Tauranga



Body length: 9 mm

Description: A rhysodid beetle, with lines of regularly spaced, puncture-like depressions on the wing case. The body is 7.1 - 9.0 mm long (Watt 1980).

Type Locality: Vicinity of Whangarei Harbour (Broun 1880).

Specimen Holdings: -

Distribution: Confined to the North Island (Bell & Bell 1978). Has been collected from Whangarei; Wairoa, south of Auckland (Broun 1880); Little Barrier Island (Molloy & Davis 1994); ?Pukerui Hills, Whangarei; Kopu Rd, Coromandel Ranges; and possibly Te Aroha; and Waikare, Bay of Islands (NZAC).

Habitat: Has been collected from bush and rotting wood (NZAC).

Threats: Not known.

Work Undertaken to Date: -

Priority Research, Survey, and Monitoring: 1) Check pitfall trap collections from Little Barrier Island for records of this species (C. Green pers. comm. 2000).

Management Needs: -

Contacts: -

