

The megapode action plan 1995 - 1999 halfway down the road

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Megapodes: an action plan for their conservation 1995 - 1999, a collaborative effort of members of the Megapode Specialist Group and the World Pheasant Association, was published in 1995. It summarizes the conservation status of all megapode taxa and indicates the needs of those species under threat. The Action Plan was intended to be a stimulus for conservation orientated studies and to generate funds more easily.

An overview is given of studies (1990 - present) in which these threatened taxa were involved. The status of these and other taxa are reassessed according to the finalized IUCN threat categories (which supercede the Mace-Lande threat categories originally used in the Action Plan) as a preparation for the megapode action plan 2000 - 2004.

Introduction

Megapodes: an action plan for their conservation 1995 - 1999 (Dekker & McGowan, 1995) was published by the Species Survival Commission (SSC) of the International Union for the Conservation of Nature (IUCN) in 1995 following a Conservation Assessment Management Plan (CAMP) meeting on galliforms held in Antwerp, Belgium, in February 1993. The megapode action plan, soon followed by action plans for partridges, quails, francolins, snowcocks and guineafowl (McGowan et al., 1995) and pheasants (McGowan & Garson, 1995), was the first avian action plan published by the IUCN in their series of conservation action plans. Its purpose is to make information available to conservation planners and others in a position to take action. For a detailed account see McGowan et al. (1998).

The conservation status of the species in the action plan was assigned to threat categories according to the criteria proposed by Mace and Lande (1991). These criteria were widely known as the 'Mace-Lande criteria' and were subsequently treated as version 1.0 in the process to revise the IUCN Red List categories and criteria. As such they were a forerunner of the new and now widely accepted threat categories and criteria (version 2.3) which were adopted by the IUCN in November 1994 (IUCN Species Survival Commission 1994).

The III International Megapode Symposium held in Nhill, Australia, in December 1997 was an excellent opportunity to: 1) list conservation initiatives which had been underway since the publication of the megapode action plan 1995 – 1999; 2) reassess the status of the species using recent information gathered up to and including 1997 and using the finalized IUCN threat categories; and 3) prepare for the next edition of the megapode action plan, which will cover the period 2000 - 2004. These are reported on here.

Projects and publications from 1990 - present

In chapter 4 of the megapode action plan entitled 'Five year plan of action', projects were outlined for the following taxa:

Scientific name	English name	Status ¹
<i>Aepyopodius bruijnii</i> (Oustalet, 1880)	Bruijn's brush-turkey	Endangered
<i>Leipoa ocellata</i> Gould, 1840	Malleefowl	Vulnerable
<i>Macrocephalon maleo</i> S. Müller, 1846	Maleo	Endangered
<i>Eulipoa wallacei</i> (G.R. Gray, 1860)	Moluccan megapode	Critical
<i>Megapodius pritchardii</i> G.R. Gray, 1864	Polynesian megapode	Endangered
<i>Megapodius l. laperoisei</i> Gaimard, 1823	Micronesian megapode	Endangered
<i>Megapodius n. nicobariensis</i> Blyth, 1846	Nicobar megapode	Vulnerable
<i>Megapodius n. abbotti</i> Oberholser, 1919	Nicobar megapode	Vulnerable
<i>Megapodius tenimberensis</i> Sclater, 1883	Tanimbar megapode	Vulnerable
<i>Megapodius geelvinkianus</i> A.B. Meyer, 1874	Biak megapode	Endangered
<i>Megapodius layardi</i> Tristram, 1879	Vanuatu megapode	Vulnerable

¹ The status in the action plan was assigned according to the Mace-Lande criteria (Mace & Lande, 1991).

A summary of fieldwork and papers published between 1990 and 1997 for the above mentioned taxa is given below with reference to the original Mace-Lande (version 1.0) threat categories. The conservation status is reassessed by using this recent information and using the new threat categories. Importantly, the criteria under which the taxon qualifies for each threat category is given so that it is clear why the taxon is considered threatened.

Through the activities of the Megapode Specialist Group and from information published in the Megapode Newsletter, a summary could be made of conservation projects executed since 1990, with reference to published information.

Bruijn's brush-turkey (*Aepyopodius bruijnii* (Oustalet))

Fieldwork: 1993, Dekker & Argeloo, Waigeo.

Publications: Dekker & Argeloo (1993).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Endangered.

Conservation status new (1994 IUCN threat categories): Vulnerable/B1+2c, D1.

Malleefowl (*Leipoa ocellata* Gould)

Fieldwork: 1985 - present, Priddel, Wheeler *et al.*, Australia; 1984 - present, Benshemesh, Australia; 1990's - present, Donnellan *et al.*, Australia.

Publications: Benshemesh (1991, 1992a, 1992b, 1994a, 1994b, 1995); Benshemesh & Emison (1996); Donnellan, Dubach & Birrell (1994); Harlen & Priddel (1996); King, Kirkpatrick & McGrath (1996); Priddel (1990); Priddel & Wheeler (1994, 1995, 1996, 1997).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Vulnerable.

(Note: National protection status in Australia: Endangered).

Conservation status new (1994 IUCN threat categories): Vulnerable/A1+2ce, C2a.

Maleo (*Macrocephalon maleo* S. Müller)

Fieldwork: 1990 - 1991, Argeloo, North Sulawesi; 1991, Addin, Buton; 1993 - 1994, O'Brien *et al.*, North Sulawesi.

Publications: Addin (1992); Argeloo (1992a, 1992b, 1994); Argeloo & Dekker (1996); Dekker & Argeloo (1992); Indrawan (1992); Kobayashi & Gurmaya (1993); O'Brien & Kinnaird (1996); Sinclair, Kinnaird & O'Brien (1996).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Endangered.

Conservation status new (1994 IUCN threat categories): Vulnerable/A1acd+2cd, C1+2a.

Moluccan megapode (*Eulipoa wallacei* (G.R. Gray))

Fieldwork: 1991-1993 (3 visits), Dekker & Argeloo, Haruku (Kailolo); 1994 - 1996, Heij, Haruku (Kailolo) and elsewhere; 1995, Tuhamuri, Haruku (Kailolo); 1996 - 1997, Baker, Halmahera (Galela).

Publications: Anonymous (1995a, 1995b); Argeloo & Dekker (1996); Baker (1997a, 1997b, 1997c); Dekker (1991); Dekker, Argeloo & Jepson (1995); Heij (1995a, 1995b); Heij & Rompas (1997a, 1997b); Heij, Rompas & Moeliker (1997); Tuhamuri (1996).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Critical.

Conservation status new (1994 IUCN threat categories): Endangered/B1+2bcd.

Polynesian megapode (*Megapodius pritchardii* G.R. Gray)

Fieldwork: 1990 - 1994, Rinke, Niuafou'; 1991 - 1993, Göth & Vogel, Niuafou'.

Publications: Anonymous (1994); Göth (1995); Göth & Vogel (1995, 1997); Rinke (1993a, 1993b, 1993c, 1994a, 1994b, 1995); Rinke, Soakai & Usback (1993); Vogel (1995).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Endangered.

Conservation status new (1994 IUCN threat categories): Endangered/B1+2e, C2a.

Micronesian megapode (*Megapodius laperouse laperouse* Gaimard)

Fieldwork: 1990 - present, Glass, Stinson & USFW, Mariana Islands.

Publications: Stinson & Glass (1992); U.S. Fish and Wildlife Service (1997).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Endangered.

Conservation status new (1994 IUCN threat categories): Endangered/C2a.

Nicobar megapode (*Megapodius nicobariensis* Blyth)

Fieldwork: 1992, Dekker, Great Nicobar; 1992 - present, Sankaran & Sivakumar, All Nicobar islands.

Publications: Dekker (1992); Sankaran (1993, 1995a, 1995b); Sivakumar & Sankaran (1996).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Vulnerable.

Conservation status new (1994 IUCN threat categories): Vulnerable/C2a.

Tanimbar megapode (*Megapodius tenimberensis* Sclater)

Fieldwork: 1996, Dekker, Tanimbar.

Publications: -

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Vulnerable.

Conservation status new (1994 IUCN threat categories): Vulnerable/B1+2c.

Biak megapode (*Megapodius geelvinkianus* A.B. Meyer)

Fieldwork: -

Publications: -

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Endangered.

Conservation status new (1994 IUCN threat categories): Vulnerable/B1+2c, C2a.

Vanuatu megapode (*Megapodius layardi* Tristram)

Fieldwork: 1995, Bowen, Ambrym, Vanuatu; 1996, Foster, Ambrym, Vanuatu; 1996, Birks, Ambrym, Vanuatu.

Publications: Birks (1996); Bowen (1996a, 1996b).

Conservation status in the Action Plan (1991 Mace-Lande threat categories): Vulnerable.

Conservation status new (1994 IUCN threat categories): Vulnerable/A2cd.

Conservation status of other megapodes

The 'old' Mace-Lande and 'new' IUCN conservation status is given below for the remaining species, some to subspecies level.

Scientific name	English name	Status (1991 Mace-Lande)	Status (1994 IUCN)
<i>Alectura lathami</i> J.E. Gray, 1831	Australian brush-turkey	Safe	Lower risk - least concern
<i>Aepyopodium a. arfakianus</i> (Salvadori, 1877)	Wattled brush-turkey	Safe	Lower risk - least concern
<i>Aepyopodium a. misoliensis</i> Ripley, 1957	Wattled brush-turkey	Vulnerable	Data deficient
<i>Talegalla cuvieri</i> Lesson, 1828	Red-billed talegalla	Vulnerable	Lower risk - near threatened
<i>Talegalla fuscirostris</i> Salvadori, 1877	Black-billed talegalla	Safe	Lower risk - least concern
<i>Talegalla jobiensis</i> A.B. Meyer, 1874	Brown-collared talegalla	Safe	Lower risk - least concern
<i>Megapodius laperouse senex</i> Hartlaub, 1867	Micronesian megapode	Vulnerable	Vulnerable/C2a
<i>Megapodius cumingii</i> Dillwyn, 1853	Philippine megapode	Vulnerable	Lower risk - least concern
<i>Megapodius bernsteinii</i> Schlegel, 1866	Sula megapode	Vulnerable	Lower risk - near threatened
<i>Megapodius freycinet</i> Gaimard, 1823	Dusky megapode	Safe	Lower risk - least concern
<i>Megapodius forstenii</i> G.R. Gray, 1847	Forsten's megapode	Safe	Lower risk - least concern
<i>Megapodius eremita</i> Hartlaub, 1867	Melanesian megapode	Safe	Lower risk - least concern
<i>Megapodius decollatus*</i> Oustalet, 1878	New Guinea megapode	Safe	Lower risk - least concern
<i>Megapodius reinwardtii</i> Dumont, 1823	Orange-footed megapode	Safe	Lower risk - least concern

* synonymous with *Megapodius affinis* A.B. Meyer, 1874 in the action plan (for explanation, see Jones et al., 1995).

Conclusions

- 1) In Chapter 4 of the megapode action plan 11 field projects were suggested for the action plan period 1995 - 1999. In late 1997, halfway down the road, all threatened megapode taxa with the exception of the Biak Megapode had been subject to surveys, ecological studies or long-term conservation initiatives.
- 2) Several threatened megapodes are downlisted from 'endangered' to 'vulnerable' or from 'vulnerable' to 'lower risk - near threatened' or 'lower-risk - least concern', by using the finalized IUCN threat categories (version 2.3) instead of the Mace-Lande threat categories (version 1.0) which were used in the action plan. Though in some instances this downlisting is due to additional information collected since the publication of the megapode action plan (e.g. the discovery of more active nesting grounds of the Moluccan megapode and thus a larger population of mature birds), part of it is due to the interpretation and use of the finalized IUCN threat categories.
- 3) Though the threat status of all except one species as assessed in this publication is similar to the status as it is given in the IUCN Red List of Endangered Animals, the criteria or subcriteria which were used to come to these decisions sometimes differ. These differences are either due to information which became recently available or to differences in interpretation of the (sub)criteria.

The status of the Moluccan megapode is given as 'Vulnerable/A2cd, C1' in the IUCN Red List of Endangered Animals, but is given as 'Endangered/B1+2bcd' in this publication.

- 4) All threatened taxa listed in Chapter 4 of the megapode action plan 1995 - 1999 require a continuation of the conservation projects that were outlined in the action plan.

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References

- Addin, A., 1992. Karakteristik mikro habitat tempat bertelur burung Maleo (*Macrocephalon maleo* Sal. Müller 1846) pada habitat alami dalam upaya penangkaran di suaka margasatwa Buton Utara, Sulawesi Tenggara: 1-105.— Rep., Institut Pertanian Bogor, Fakultas Kehutanan, Bogor.
- Anonymous, 1994. Der Vogel, der aus der Erde kam/The translocation of Tongan Megapodes.— Zum Fliegen geboren/Flying Free (Newsl. Brehm Fund Int. Bird Conserv.) 12 (1/2): 2-3.
- Anonymous, 1995a. Major nesting ground of the Moluccan Megapode *Eulipoa wallacei* rediscovered.— Megapode Newsl. 9 (1): 1-2.
- Anonymous, 1995b. Sand-sational discovery.— Wld Birdw. 17 (1): 5.
- Argeloo, M., 1992a. Maleo Conservation Project. Phase II: 1-44.— Rep., Institute of Taxonomic Zoology, University of Amsterdam.
- Argeloo, M., 1992b. Problems of Maleo on Sulawesi.— Dutch Birding 14: 54-55.
- Argeloo, M., 1994. The Maleo *Macrocephalon maleo*: new information on the distribution and status of Sulawesi's endemic megapode.— Bird Conserv. Int. 4: 383-393.
- Argeloo, M. & R.W.R.J. Dekker, 1996. Exploitation of megapodes eggs in Indonesia: the role of traditional methods in the conservation of megapodes.— Oryx 30: 59-64.

- Baker, G., 1997a. Birds of the Spice Islands: Moluccan Megapodes in Halmahera.— *Megapode Newsl.* 11 (1): 3-4.
- Baker, G., 1997b. The Moluccan Megapode: Bird of the Spice Islands.— *Wld Pheasant Assoc. J.* 53: 21-24.
- Baker, G., 1997c. Birds of the Spice Islands. Moluccan Megapode Conservation Project. An expedition from the University of Sussex in association with the Indonesian Department of Forestry (PHPA). November 1996 - January 1997. Final Report: 1-43.— Rep., University of Sussex, Brighton.
- Benshemesh, J., 1991. Evaluation of thermal sensing for locating Malleefowl nests: 1-10.— Draft paper. (subtitle: A report on the feasibility of remote-sensing active Malleefowl nests using an air-born scanner operating in thermal wavelengths).
- Benshemesh, J., 1992a. Further investigations into the feasibility of surveying Malleefowl populations using airborne thermal scanners: 1-51.— Rep., Department of Conservation and Environment, Victoria.
- Benshemesh, J., 1992b. The conservation ecology of Malleefowl, with particular regard to fire: 1-224.— Thesis, Monash University, Clayton.
- Benshemesh, J., 1994a. The fire-ecology and conservation of Malleefowl.— In: J. Dittami, W. Bock, M. Taborsky, R. van den Elzen & E. Vogel-Millesi, eds. *Research Notes on Avian Biology 1994: Selected Contributions from the 21st International Ornithological Congress*.— J. Om. 135 (Sonderh.): 229.
- Benshemesh, J., 1994b. Surveying Malleefowl by thermal scanning - a summary of recent research.— *Megapode Newsl.* 8 (1): 2-5.
- Benshemesh, J., 1995. Surveying Malleefowl by thermal scanning - a summary of recent research: 94-98.— In: D. Jenkins, ed. *Ann. Rev. Wld Pheasant Assoc. 1993/94*. Reading.
- Benshemesh, J.S. & W.B. Emison, 1996. Surveying breeding densities of Malleefowl using an airborne thermal scanner.— *Wildl. Res.* 23: 121-142.
- Birks, S., 1996. In search of the Vanuatu Megapode: impressions from Vanuatu.— *Megapode Newsl.* 10 (2): 19-20.
- Bowen, J., 1996a. The Vanuatu Megapode *Megapodius layardi* on Ambrym.— *Megapode Newsl.* 10 (1): 1-3.
- Bowen, J., 1996b. Notes on the Vanuatu Megapode *Megapodius layardi* on Ambrym, Vanuatu.— *Bird Conserv. Int.* 1996 (6): 401-408.
- Dekker, R.W.R.J., 1991. The Moluccan Megapode *Eulipoa wallacei* 'rediscovered'.— *Megapode Newsl.* 5: 12.
- Dekker, R.W.R.J. 1992. Status and breeding of the Nicobar Megapode *Megapodius nicobariensis abbotti* on Great Nicobar, India: 1-20. — Rep., Nat. Mus. nat. Hist., Leiden.
- Dekker, R. & M. Argeloo, 1992. New Maleo nesting-grounds.— *Megapode Newsl.* 6: 6.
- Dekker, R. & M. Argeloo, 1993. Bruijn's Brush-turkey *Aepyypodium bruijnii* remains a mystery.— *Megapode Newsl.* 7 (2): 15-17.
- Dekker, R.W.R.J., M. Argeloo & P. Jepson, 1995. Notes on the Moluccan Megapode *Eulipoa wallacei* (G.R. Gray, 1860) following the rediscovery of two major nesting grounds.— *Zool. Meded.* 69 (15-29): 251-260.
- Dekker, R.W.R.J. & P.J.K. McGowan, 1995. Megapodes - an action plan for their conservation 1995-1999: 1-41.— Gland.
- Donnellan, S.C., J. Dubach & J. Birrell, 1994. Conservation genetics of the Malleefowl *Leipoa ocellata*.— *Megapode Newsl.* 8 (1): 6-7.
- Göth, A., 1995. Zur Ontogenese des Polynesischen Grossfussuhuhnes (*Megapodius pritchardii*, Megapodiidae): 1-63.— Rep., Leopold-Franzens-Universität, Innsbruck.
- Göth, A. & U. Vogel, 1995. Status of the Polynesian Megapode *Megapodius pritchardii* on Niuao'ou (Tonga).— *Bird Conserv. Int.* 5: 117-128.
- Göth, A. & U. Vogel, 1997. Egg laying and incubation of the Polynesian megapode: 43-54.— In: K.C.R. Howman, ed. *Ann. Rev. W.P.A. 1996/97*.
- Harlen, R. & D. Priddel, 1996. Potential food resources available to malleefowl *Leipoa ocellata* in marginal mallee lands during drought.— *Austr. J. Ecol.* 21: 418-428.

- Heij, K., 1995a. Het Wallace Grootpoothoen.— *Avicultura* 109 (7/8): 68-73.
- Heij, K., 1995b. The biology of the Moluccan megapode *Eulipoa wallacei* (Aves, Galliformes, Megapodiidae) on Haruku and other Moluccan Islands; part I: scope of the study and preliminary results.— *Deinsea* 2: 145-155.
- Heij, C.J. & C.F.E. Rompas, 1997a. The Moluccan Scrubfowl *Eulipoa wallacei*.— Orient. Bird Club Bull. 25: 50-52.
- Heij, C.J. & C.F.E. Rompas, 1997b. Ekologi Megapoda Maluku (Burung Momoa, *Eulipoa wallacei*) di Pulau Haruku dan beberapa pulau di Maluku, Indonesia: 1-160.— Rotterdam/Ambon.
- Heij, C.J., C.F.E. Rompas & C.W. Moeliker, 1997. The biology of the Moluccan megapode *Eulipoa wallacei* (Aves, Galliformes, Megapodiidae) on Haruku and other Moluccan Islands; part 2: final report.— *Deinsea* 3: 1-124.
- Indrawan, M., 1992. News on the Maleo colony at Bakiriang, eastern Sulawesi, Indonesia.— *Megapode Newsl.* 6 (2): 13-14.
- IUCN Species Survival Commission, 1994. IUCN Red List Categories: 1-21.— Gland.
- King, D.R., W.E. Kirkpatrick & M. McGrath, 1996. The tolerance of Malleefowl *Leipoa ocellata* to 1080.— *Emu* 96: 198-202.
- Kobayashi, H. & K.J. Gurmaya, 1993. A new breeding site of the Maleo in Central Sulawesi.— *Kukila* 6 (2): 131.
- Mace, G.M. & R. Lande. 1991. Assessing extinction threats: towards a re-evaluation of IUCN threatened species categories.— *Conserv. Biol.* 5: 148-157.
- McGowan, P.J.K. & P.J. Garson. 1995. Pheasants: status survey and conservation action plan 1995 - 1999.— Gland.
- McGowan, P.J.K., S.D. Dowell, J.P. Carroll & N.J. Aebischer. 1995. Status survey and conservation action plan 1995 - 1999 Partridges, Quails, Francolins, Snowcocks and Guineafowl: 1-101.— Gland.
- McGowan, P., R.W.R.J. Dekker, S. Dowell & P. Garson. 1998. The making of conservation Action Plans for the Galliformes.— *Bird Conserv. Int.* 8: 173-184.
- O'Brien, T.G. & M.F. Kinnaird, 1996. Changing populations of birds and mammals in North Sulawesi.— *Oryx* 30: 150-156.
- Priddel, D., 1990. Conservation of the Malleefowl in New South Wales: an experimental management strategy: 71-76.— In: J.C. Noble, P.J. Joss & G.K. Jones, eds. Mallee lands: a conservation perspective. Melbourne.
- Priddel, D. & R. Wheeler, 1994. Mortality of captive-raised Malleefowl, *Leipoa ocellata*, released into a mallee remnant within the wheat-belt of New South Wales.— *Wildl. Res.* 21: 543-552.
- Priddel, D. & R. Wheeler, 1995. The biology and management of the Malleefowl (*Leipoa ocellata*) in NSW. Species Mgmt Rep. 19. 1-42.— Hurstville.
- Priddel, D. & R. Wheeler, 1996. Effect of age at release on susceptibility of captive-reared Malleefowl *Leipoa ocellata* to predation by the introduced fox *Vulpes vulpes*.— *Emu* 96: 32-41.
- Priddel, D. & R. Wheeler, 1997. Efficacy of fox control in reducing the mortality of released captive-reared Malleefowl, *Leipoa ocellata*.— *Wildl. Res.* 24: 469-482.
- Rinke, D., 1993a. Refugees on remote volcanoes.— *Pacific Islands* (Apr. '93): 34-35.
- Rinke, D., 1993b. Safe islands for the Malau.— *Orn. Soc. New Zealand News* 69 (Dec. '93): 1.
- Rinke, D.R., 1993c. Progress report from the Brehm Fund Malau Conservation Project.— *Megapode Newsl.* 7 (2): 10-12.
- Rinke, D., 1994a. The Malau or Polynesian Megapode *Megapodius pritchardii*: report from first expeditions after translocations.— *Megapode Newsl.* 8 (2): 10-11.
- Rinke, D., 1994b. The Malau on Fonualei in northern Tonga.— *Wld Pheasant Assoc. News* 44: 7-8.
- Rinke, D., 1995. Red Data Bird. Niuafo'ou Megapode.— *Wld Birdw.* 17 (4): 20-21.
- Rinke, D.R., L.H. Soakai & A. Usback, 1993. Koe Malau. Life and future of the Malau: 1-20.— Brehm Fund Int. Bird Conserv., Bonn, Germany and Nuku'alofa, Kingdom of Tonga.
- Sankaran, R., 1993. The Status and Conservation of the Nicobar Scrubfowl *Megapodius nicobariensis*: 1-65.— Rep., Salim Ali Centre Orn. nat. Hist., Coimbatore.

- Sankaran, R., 1995a. The Nicobar Megapode and other endemic Avifauna of the Nicobar Islands. Status and Conservation: 1-44.— SACON Techn. Rep. 2. Sálim Ali Centre Orn. nat. Hist., Coimbatore.
- Sankaran, R., 1995b. The distribution, status and conservation of the Nicobar Megapode *Megapodius nicobariensis*.— Biol. Conserv. 72: 17-25.
- Sinclair, R., M. Kinnaird & T. O'Brien, 1996. A summary of some recent research on the Philippine Megapode (*Megapodius cumingii*) and the Maleo (*Macrocephalon maleo*) in the Tangkoko-Dua Saudara Nature Reserve, North Sulawesi, Indonesia.— Megapode Newsl. 10 (2): 15-19.
- Sivakumar, K. & R. Sankaran, 1996. Incubation mounds and mound use patterns in the Nicobar Megapode. Abstract.— In: Proc. Ist Pan-Asian Orn. Congr. & 13th BirdLife Asia Conf. 93. Coimbatore.
- Stinson, D.W. & P.O. Glass. 1992. The Micronesian megapode *Megapodius laperouse*: conservation and research needs.— In: R.W.R.J. Dekker & D.N. Jones, eds, Proceedings of the First International Megapode Symposium, Christchurch, New Zealand, December 1990. Zool. Verh., Leiden 278: 53-55.
- Tuhumuri, E., 1996. Studi konservasi *Eulipoa wallacei* G.R. Gray 1860 di Desa Kailolo, Kecamatan Pulau Haruku, Kabupaten Maluku Tengah, Maluku: 1-94.— Rep., Universitas Padjadjaran, Fakultas Matematika dan Ilmu Pengetahuan Alam, Bandung.
- U.S. Fish and Wildlife Service. 1997. Technical/Agency Draft Recovery Plan for the Micronesian Megapode: 1-73.— U.S. Fish and Wildlife Service. Portland, OR.
- Vogel, U., 1995. Beobachtungen zum Verhalten und zur Sozialstruktur des Polynesischen Grossfussuhns (*Megapodius pritchardii*, Megapodiidae): 1-68.— Rep., Ruhr-Universität, Bochum.

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