

File No: 2002/06522
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Mr Quinton Clements
Inquiry Secretary
Joint Standing Committee on the
National Capital and External Territories
Suite R1-119
Parliament House
CANBERRA ACT 2600

14 April 2003

Dear Mr Clements

The Australian Heritage Commission (the Commission) appeared before the Joint Standing Committee on the National Capital and External Territories on 28 March 2003. It undertook to provide answers to questions on notice.

Answers to the Committee's Public Hearing questions on notice are below:

NCET 176-7 Senator Scullion: *The (four) busts (of Clunies Ross) and the proclamation board are a significant part of that heritage-in-context situation. I would certainly like to hear of some ways that we could perhaps give him some assurance that they can be returned to the house at some stage. I think he is asking us – whether or not it is appropriate – to take some action on this. I would certainly appreciate if you could get back to us.*

The Commission supports the Burra Charter principle that movable cultural heritage should be retained *in situ*. In its advice to the Department of Transport and Regional Services the Commission expressed concern about the removal of items, especially the Proclamation Board from Oceania House and recommended that the Conservation Management Plan be revised prior to resolving the proposed removal of objects from the House. The revised Plan recommended that the movable objects be removed from the site prior to its change in ownership, that significant items be recorded, an inventory be prepared and kept in a secure and accessible location.

The Commission supports retention of the movable items from Oceania House in Commonwealth ownership. However if the present owner of Oceania House is willing to securely house some items and ensure that they are regularly accessible for public viewing, the Commission would encourage discussion between the owner, the Christmas Island Shire Council and other stakeholders to enable a long term loan to be agreed upon. Any agreement should be legally binding on all parties and include provisions to ensure public accessibility, security, maintenance and monitoring.

NCET 178 Mr Snowden. *Could you describe the geographical limits to the Malay Kampong Group Settlement, Christmas Island*

The Malay Kampong Group is entered in the Register of the National Estate (RNE) (File No: 9/03/001/0008) It comprises Jalan Panyai, Flying Fish Cove, 0.5km south of Settlement, Christmas Island, comprising: Malay Club, Mosque, Malay Quarters and adjacent Malay School, sheep pens to north of Malay Club and original Malay Cemetery 300m south-west of Mosque.

The Malay Kampong Precinct is entered in the RNE (File No: 9/03/001/0008), being an extension of the Malay Kampong Group. It comprises about 8ha, 1km south of Settlement, off Jalan Pantai, being an area bounded by Jalan Pantai in the north-west, 30m ASL in the south-east, latitude 10deg 25' 48"S in the south, and latitude 10deg 25' 37"S in the north.

NCET 179 Mr Snowden *If you could provide us with the geographical limits of all the sites on Christmas Island.*

Ten places on Christmas Island are entered in RNE. A list of the places, the individual place reports which include the location/boundaries, and maps are at Attachment A.

NCET 178 Mr Snowden *Could you provide us with advice on whether or not it is appropriate for the Commonwealth to deal with third parties who might want to do something to that estate?*

The Commission provides advice to Commonwealth ministers, departments and authorities that are proposing to take actions which may affect a place in the Register of the National Estate. The Commission may deal with parties in pursuance of its functions to encourage public interest in, and understanding of, issues relevant to the national estate. The Commission may also, for example, provide advice to consultants who are acting on behalf of Commonwealth authorities.

NCET 186 Question (5) on notice from Senator Stott Despoja.

Could you please provide information on the steps being made to protect the heritage values of the Kingston Historic Area from the impacts of residential development in surrounding areas?

The Kingston and Arthur's Value Historic Area is entered in the Register of the National Estate and is currently protected by section 30 of the *Australian Heritage Commission Act 1975*. Section 30 provides that Commonwealth ministers, departments and authorities shall not take any action that adversely affects, as part of the national estate, a place that is in the Register unless satisfied that there is no feasible or prudent alternative to the taking of that action and that all measures that can reasonably be taken to minimise the adverse effect will be taken.

The *Environment Protection and Biodiversity Conservation Act 1999* also protects the environment on the parts of KAVHA that are Commonwealth land from actions taken on or outside that land that are likely to have a significant impact. That Act also controls actions by the Commonwealth, or actions on Commonwealth land, that are likely to have a significant impact on the environment. The three heritage bills before

the Parliament to amend the EPBC Act 1999, will strengthen protection from actions that will significantly impact the environment on Commonwealth land. Also, National Heritage will become a matter of national environmental significance.

The new Commonwealth heritage framework will operate through the establishment of a list of places of National Heritage significance and the establishment of a Commonwealth Heritage List. Commonwealth agencies that own or lease heritage places will have a range of obligations to protect their heritage values.

I note that in the *Hansard* record the attribution of questions on NCET 179 to Mr Hicks should be to Mr Leaver. You may want to confirm whether the transcript is an accurate record.

If there is further information that the Commission can assist with, please contact Dr Ken Heffernan on 62742124.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'B Leaver', with a long horizontal stroke extending to the right.

Bruce Leaver
Executive Director

**Australian Heritage Commission
Register of the National Estate Database**

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Christmas Island RNE listed places

DB No	File No	Status	Name of Place	Nearest Town
006143	9/03/001/0001	03-60	Christmas Island Natural Areas	Settlement
018509	9/03/001/0004	03-60	Settlement Christmas Island	Settlement
016715	9/03/001/0003	06-91	Christmas Island Railway System	Christmas Island
018575	9/03/001/0011	03-60	Bungalow 702	Drumsite
018572	9/03/001/0007	03-60	Industrial and Administrative Group	Settlement
018573	9/03/001/0008	03-60	Malay Kampong Group	Settlement
013658	9/03/001/0002	03-60	Administrators House Precinct	Settlement
018571	9/03/001/0005	03-60	Drumsite Industrial Area	Drumsite
018574	9/03/001/0006	03-60	Poon Saan Group	Poon Saan
018577	9/03/001/0009	03-60	Phosphate Hill Historic Area	Poon Saan
102524	9/03/001/0008	03-60	Malay Kampong Precinct	Settlement

11 items printed

••• End Of Report •••

Register of the National Estate Database Place Report

Item 1

Page 1

Identification

Name of Place: Christmas Island Natural Areas
Other Names:
Database No: 006143
File No: 9/03/001/0001
Principal Group: Vegetation communities

Status

Legal Status: 15/05/1990 — Registered
Admin Status: 15/05/1990 — Registered

Location

Nearest Town: Settlement
Distance (km):
Direction from town:
Area (ha): 12200.00
Address: , Settlement EXT 6798
Local authorities: Christmas Island

Property Information

Location/Boundaries

Approximately 12,200ha above Low Water and 3,600ha below Low Water, located in the Indian Ocean 1,500km north-west of Exmouth, comprising the whole of Christmas Island and surrounding ocean and sea floor within 500m of Low Water Mark on the island, excluding: 1) an area in the southern-most part of the island bounded by a line commencing on the eastern side of a track at latitude 10deg31'18"S and approximate longitude 105deg39'08"E (all features and co-ordinates are as depicted on AUSLIG 1:25,000 scale map Christmas Island, 1988); then proceeding directly to the eastern side of another track at latitude 10deg31'33"S and approximate longitude 105deg39'29"E; then due east for approximately 240m to 310m above sea level (ASL); then southerly at this constant altitude to latitude 10deg32'28"S; then directly westerly for 930m to a track at 10deg32'34"S; then southerly via the eastern edge of that track to 260m ASL; then south-easterly then north-easterly at this constant altitude to 10deg32'30"S; then directly south-easterly to co-ordinates 10deg32'39"S 105deg39'28"E; then directly south-easterly for 300m to 200m ASL at 10deg32'41"S; then southerly, westerly and northerly at that constant altitude, around the mined area, to latitude 10deg33'S; then directly to a track at coordinates 10deg32'56"S 105deg38'47"E; then northerly via that track to 240m ASL at latitude 10deg32'34"S; then northerly at that constant altitude to 10deg31'53"S; then via straight lines joining the following co-ordinates sequentially: 10deg31'44"S 105deg38'36"E, 10deg31'46"S 105deg38'41"E, 10deg31'58"S 105deg38'41"E, then directly to the intersection of two tracks at approximate co-ordinates 10deg32'18"S 105deg38'45"E; then north-easterly via the track to the commencement point; 2) An area surrounding the airport bounded by a line commencing the intersection of two tracks at coordinates 10deg25'34"S 105deg41'40"E; then proceeding southerly directly to an intersection of

Location/Boundaries (continued)

tracks at 10deg26'42"S 105deg41'49"E; then southerly, via the more easterly track, for approximately 540m, to 220m ASL; then southerly at that constant elevation to 10deg27'41"S; then due south for 200m; then westerly via straight lines joining the following coordinates sequentially: 10deg27'48"S 105deg41'32"E, 10deg28'01"S 105deg41'27"E, 10deg28'11"S 105deg41'09"E, 10deg27'34"S 105deg41'12"E, 10deg27'25"S 105deg40'57"E and 10deg27'22"S 105deg40'40"E, then directly to a track at latitude 10deg27'11"S and approximate longitude 105deg40'36"E; then north-easterly via that track to Irvine Road; then north-westerly via that road to longitude 105deg40'16"; then directly to 10deg26'10"S 105deg40'28"E; then directly to commencement point; 3) An area, including settlement, Silver City, Poon Saan and Drumsite townships and associated industrial areas, bounded by a line commencing at low water at longitude 105deg41'E on the northern side of the Island, then proceeding due south to an altitude of 30m ASL; then westerly at that constant elevation to latitude 10deg25'12"S then directly to 10deg25'11"S 105deg41'08"E; then due south to 220m ASL; then westerly at that constant elevation to latitude 10deg27'S; then directly to 10deg26'54"S 105deg39'37"E; then directly to 10deg26'28"S 105deg40'E; then directly to 170m ASL at longitude 105deg40'04" and approximate latitude 10deg25'56"; then easterly at that constant elevation to longitude 105deg40'40"E; then directly to 50m ASL at latitude 10deg25'19'S and approximate longitude 105deg40'25"E; then westerly at that constant elevation to longitude 105deg39'48"E; then due north to low water mark; then easterly via low water to the commencement point.

AHC Official Statement of Significance

Christmas Island is a classic example of a tectonically uplifted coral atoll with its characteristic steep series of rainforest-covered terraces and sheer limestone cliffs. The island's geological formations are significant in illustrating the evolution of the Christmas Rise due to tectonic and volcanic action and the collision of the Asian and Australian plates.

The evolutionary significance of Christmas Island is demonstrated both by its high level of endemism and by its unique assemblage of plant and animal species.

The dominance of the land crabs is a striking feature of the island's fauna. The island has thirteen of the twenty species known worldwide and one of the highest land crab densities known in the Indian Ocean. The land crabs of Christmas Island are remarkable for their variety and numbers and for the role they play in the ecology of the rainforest. The endemic red land crab (*GECARCOIDEA NATALIS*) is numerically the most notable of this crab assemblage with an estimated population of approximately 120 million crabs. The threatened robber or coconut crab (*BIRGUS LATRO*), with a population estimated at one million individuals is one of the largest remaining in the world.

Christmas Island is famous for its spectacular annual red crab migrations from the plateau rainforest to the sea during the wet season. The migrating population has been estimated at numbering 30-45 million adult crabs.

The rainforests of Christmas Island are biogeographically significant; species have evolved from being either shoreline forest or early rainforest succession species to those that fill a tall climax rainforest role. The Island contains unique plant communities of high conservation and scientific interest including a variety of elevated and relict cycad and back-mangrove communities of international significance.

The presence of seventeen endemic plant species in the climax rainforest community contributes to the place's significance for understanding evolutionary relationships. Notable examples include a rare fern *ASPENIUM LISTERI*, a tall tree-like pandanus *PANDANUS ELATUS* and a palm *ARENKA LISTERI*. The island's rich endemic fauna includes three mammal species, ten bird species, five reptile species, one crab species, two insects, three marine fish species and several marine sponges species. The island is recognised as an internationally significant Endemic Bird Area. The well-developed karst landscape of Christmas Island contains an internationally

AHC Official Statement of Significance (continued)

significant cave fauna with twelve endemic invertebrate species.

The island is also one of the world's most significant seabird islands, both for the variety and numbers of sea-birds, with over one hundred species of bird having been recorded, including eight species which breed on the island. The island rainforest provides significant habitat for two endemics the nationally endangered Abbott's booby (*PAPASULA ABBOTTI*) and the nationally vulnerable Christmas Island frigate bird (*FREGETA ANDREWSI*).

The island's relatively simple fringing reefs and adjacent waters support a rich diversity of marine species typical of Indian Ocean tropical reefs. The island also provides habitat for two nationally vulnerable species of turtle, the green (*CHELONIA MYDAS*) and hawksbill (*ERETOCHELYS IMBRICATA*), which nest on two of the Island's beaches and two nationally vulnerable shark species. Christmas Island is one of the most scientifically documented oceanic islands in the world. Island ecosystems have been historically critical in the development of evolutionary theory as they highlight natural selection, speciation and niche filling. Christmas Island correspondingly is a significant location for scientific research. The unique ecosystems of the Island present special opportunities for the study of evolution of species in relative isolation and the adaptation of migrant species to new environments. These species have often evolved to fit different ecological niches to which they are usually associated and the rainforests on the island exhibit species with many of these characteristics.

Christmas Island provides habitat for four nationally endangered and six nationally vulnerable fauna species, and one nationally vulnerable plant species.

There are a number of places of cultural heritage value included within or adjacent to this area that are included in the Register of the National Estate (see Register database). It is possible that additional cultural heritage values exist within the area that are yet to be identified.

Description

Christmas Island is an isolated seamount of volcanic origin with a discontinuous capping of limestone. It rises from ocean depths of 4,500 metres and reaches a maximum altitude of 357 metres above sea level at Murray Hill. From the undulating central upper plateau the land descends to the sea in an alternating series of steep slopes or cliffs and relatively level terraces. A 10-20 metre wave-cut sea cliff is continuous around the island except for a few small beach areas and at Flying Fish Cove where the main settlement and port is located and acts a significant barrier to landing from the sea.

The island's phosphate-rich soils were historically thought to have been derived from the decomposition of avian guano over the centuries but are now thought to have resulted from weathering of marine lagoonal sediment deposits, which date from the time the island was still a coral atoll. However the geochemistry of their formation is still unclear.

The limestone covering of the island is riddled with karst formations including caves and sinkholes, the more extensive systems following fault lines. As the island is predominantly porous limestone there is little surface water except where it collects at the interface between the limestone and relatively impervious underlying basalt. These surface springs are significant ecologically for moisture loving species, which include relict mangrove stands and the island's distinct blue crabs. Also associated with the extensive cave system of the island is a group of internationally significant cave invertebrates, which live both in cave waters (stygo fauna) and in the air filled passages (troglo fauna). Christmas Island is subject to the influence of northwest monsoons with strong prevailing winds and heavy rains and swells occurring during the summer months of December to April. Due to the seasonality of the island's rainfall, the wet season is the real period of productive plant growth. The island's animals are similarly adapted and an example includes the spectacular annual summer migration of the endemic red crab to breed.

Description (continued)

In common with all oceanic islands, Christmas Island has a distinct biota, which include an unusual assemblage of plants and animals. These species have adapted to the island's seasonal climate, phosphate-rich soils and karst-dominated environment. This biota is both rich and diverse and includes a significant variety and number of seabirds. Because of the distance of the island from any landmass, there is notable endemism in the plants and animals, the result of evolution in isolation. Christmas Island is situated within the overlap of the Australian and Malaysian regions and has representatives of the flora and fauna from both regions. A significant example is the Christmas Island shrew (*CROCIDURA ATTENUATA TRICHURA*), which is Australia's only shrew. As a forested oceanic island with access to a rich nutrient oceanic upwelling near Java it provides an important breeding environment for many sea birds. The island is relatively undisturbed when compared to other Indian Ocean islands. The island has three notable endemic seabirds, which include the endangered Abbott's booby (*PAPASULA ABBOTTI*), which is now recognised as the oldest of the sulids and belongs to its own genus. The other two notable endemic seabirds are the vulnerable Christmas Island frigate bird (*FREGETA ANDREWSI*) and a sub-species the golden bosun or white-tailed tropicbird (*PHAETHON LEPTURUS FULVUS*). The island also has seven endemic land birds, which fill a variety ecological niches on the island, including two raptors, two rainforest fruit eaters and a cave dweller. Many migratory birds also live on or visit the Island, including birds from Japan and China, and are covered by the migratory provisions of the Environment Protection and Biodiversity Conservation (EPBC) Act. These migratory species include the Abbott's booby, Christmas Island frigate bird, white-tailed tropicbird, greater frigate bird (*FREGETA MINOR*), red-footed booby (*SULA SULA*) and the endangered Christmas Island goshawk (*ACCIPTER FASCIATUS NATALIS*). Vagrant species from Asia and Australia also visit the island.

The flora comprises about 385 documented species of flowering plants and ferns of which seventeen species are endemic. Plateau and terrace rainforest formations determine the two broad subdivisions of vegetation types on the Island.

The plateau rainforest is floristically simple in structure and carries a well-preserved and tall primary rainforest, between 30-40 metres in height, with a sparse understorey and the predominantly litter bare floor, a result of crabs scavenging leaf litter and other vegetative material. Dominant tree species include *PLANCHONELLA NITIDA*, *SYZIGIUM NERVOSUM*, and *INOCARPUS FAGIFER*, which have tall boles and are elaborately buttressed. The island's plateau rainforest is also notable as it lacks the dense understorey normally associated with their related Indo-Malaysian rainforests and instead have a aesthetically pleasing clean open forest floor which is in part due to the dominant grazing pressure of the island's abundant land crabs.

The island's terrace vegetation is more diverse, due to the variability of the habitats from sea cliffs to shore terraces to the margins of the deeper soiled plateau. The marginal rainforests are more diverse species-wise, more open and with lower canopies of 20-30 metres. The sea cliffs have salt tolerant species (*PANDANUS* thickets and heaths), and grade through to vine thickets and open forests on the shore terrace to marginal rainforests. The marginal rainforest includes both evergreen and deciduous species including *TERMINALIA CATAPPA*, *MACARANGA TENARIUS* and *CELTIS TIMORENSIS*. In some areas tree species become dominant. Examples include an *ARENGA LISTERI* palm stand on basaltic soil near Great Beach and shore terrace stands of *PISONIA GRANDIS* and *BARRINGTONIA RACEMOSA*. Areas with surface water are often the habitat of a cycad *CYCAS RUMPII* and also back-mangrove species, such as the Ramsar convention listed Wetland of International Importance sited at Hosnie's Spring. This internationally significant locality comprises a freshwater spring with an unusually tall *BRUGIERA* species mangrove stand and is located 37 metres above sea level. This stand is estimated to be have been stranded by an uplift of the island around 120,000 years ago. Another two remnant stands of back-mangroves occur and are comprised of the two species *HERITIERA LITTORALIS* and

Description (continued)**CYNOMETRA RAMIFLORA.**

In 1991 an Australian botanist Tracy recognised two structural groups in the plateau rainforest; one as semi-deciduous mesophyll vine forest (SDMVF) and the other as a complex mesophyll vine forest (CMVF) of a floristically simpler form when compared to similar rainforests elsewhere. Tracey also classified the terrace rainforest as SDMVF or as deciduous vine forest and observed that its tree species were shared with Australia's tropical coast but that they were unusually tall on Christmas Island.

The islands diverse land crab assemblage is ecologically important, and includes members of the widespread tropical genus's *GECARCINUS*, *BIRGUS* and *COENOBITA*. These land crabs dominate the scavenging role usually occupied by small mammals and ground birds and exert an ecologically significant selective pressure on the recruitment and distribution of the island's rainforest plant species and so are partially responsible for the simple structure of the islands plateau rainforest. Fourteen species of land crab are present and include the notably abundant and endemic red crab (*GECARCOIDEA NATALIS*) whose spectacular migration in large numbers from the plateau rainforest to the sea during the wet season to breed is a well known feature of the Island. Another land crab, Jackson's crab (*SESARMA JACKSONI*) is yet to be confirmed as an additional endemic species but information sources indicate that it is yet to be recorded anywhere else. The blue crab (*CARDISOMA HIRTIPES*) only occurs in its blue form on the Island, however further genetic investigations may show it to be endemic sub-species. Notably the whale shark (*RHINIODIN TYPUS*), which is a plankton feeder, is thought to time its visits to the island to coincide with the summer red crab larvae bloom. Another plankton feeder observed in the island waters is the manta ray (*MANTA BIROSTRIS*).

There are few inhabited oceanic islands at similar latitudes that have a similar ecological integrity as exhibited by Christmas Island and this is in part due to the understorey grazing and predation pressure exerted by the island's land crabs.

Eight species of terrestrial reptile have been reported from the Island, and it provides important habitat for two of these, the blue tailed skink (*CRYPTOBLEPHARUS EGERIAE*) and the tree gecko (*LEPIDODACTYLUS LISTERI*) as both have respectively had a reduction in range or numbers in recent times.

In addition to reptiles the island provides important habitat for a depauperate mammal fauna. The endemic fruit bat (*PTEROPUS NATALIS*) is plentiful, and another endemic the insectivorous bat (*PIPISTRELLUS MURRAYI*) is now nationally endangered. The nationally endangered endemic shrew was thought to be extinct until specimens were found in the mid-80's and the island also historically had two endemic rats which are now extinct due to the introduction of exotic rats. These two endemics may have allowed the island's endemic birds to adapt to coexisting with rats and so may have minimised the impacts of the introduction of exotic rat species, which have decimated other oceanic island's bird assemblages elsewhere in the Indian Ocean.

The islands recorded marine species diversity include five hundred and seventy five fish species and eighty eight coral species and over three hundred molluscs, ninety echinoderms and two hundred decapod crustacean species. The fringing reef platform abounds with living corals, particularly *ACROPORA* and provides an important source of food for terns and tropic birds. Reef waters offshore are clear with good coral formation on the narrow coastal shelf which ends abruptly in a steep seaward slope, often with a spectacular vertical edged drop-off.

Christmas Island has been referred to in a variety of ecological and geological papers. Ridley (1930) used Christmas Island's distinct plant ecology in a treatise on 'The Dispersal of Plants around the World' and Carlquist (1965) highlighted the importance of islands such as Christmas Island in highlighting evolutionary processes.

The Island has also historic connections with the birth of oceanography. Sir John Murray, of "Challenger" fame, was the first to recognise the importance of the Island's phosphate deposits and

Description (continued)

lobbied for their exploitation. Murray was both the founder of the settlement and also the sponsor of a classic comprehensive natural history survey of the island, which was conducted prior to phosphate mining being started on the island

Condition

Approximately one fifth of the Island has been cleared for mining purposes. Rehabilitation of mined areas has been minimal, though some areas mined after 1975 have had some rehabilitative work carried out. Approximately sixty percent of the Island is now included in the National Park which stretches from the western side of the Island, through a substantial portion of the central plateau and to parts of the island's east and north coasts. The National Park was extended in various stages (1986, 1989) from the south-western corner of the island (the initial park area was declared in 1980) to include much of the Island. This was done to incorporate most of the remaining undisturbed forest, areas of unique vegetation and habitat for species such as Abbott's booby (*PAPASULA ABBOTTI*), Christmas Island frigate bird (*FREGETA ANDREWSI*) and red crabs (*GECARCOIDEA NATALIS*).

Recently the yellow crazy ant (*ANOPLOLEPSIS LONGIPES*) has had a population explosion, after fifty years of low level presence. These ants pose a significant threat to the millions of red crabs which migrate each November or so to the coast to spawn. Areas with the ant are noticeably devoid of red crabs as supercolonies block many of the migration paths and have caused massive mortalities during the last few seasons' migrations (as of December 2000). This ant population explosion is thought to be partially due to El Nino related dry spells, which concentrate sap in the island's trees thus attracting sap-sucking scale insects. The crazy ants tend the scale insects, through carrying them about and defending them and in turn feed off the honeydew excreted by the scale insects, so forming a mutually beneficial or symbiotic relationship. The crazy ants now occupy an estimated thirteen percent of the island (as at December 2000), and the scale is stressing the forest canopy and causing forest dieback. These infestations have implications for the island's birdlife, especially the nestlings of the Abbot's Booby and hollow dwellers such as the Christmas Island hawk owl (*NINOX NATALIS*).

The outbreak has triggered a series of detailed studies by Parks North staff and Monash University researchers, both of the ant and its impacts on the ecology of the island and potential means of control. A major baiting program has been underway since 2000 to clear the red crab migration paths and is being closely monitored.

Condition assessed: (August 2001)

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