

## Supplementary Information

### COVID-19 sudden outbreak of mystery case transmissions in Victoria Australia, May-June 2021 : Strong evidence of tropospheric transport of human passaged infective virions from the Indian epidemic

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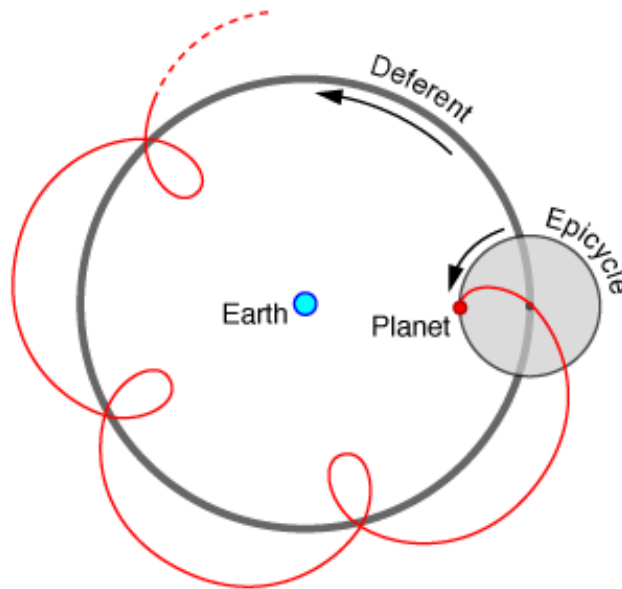
We address here issues as Supplementary Information to assist understanding of the main text. For some computer systems the entire URL link may need to be copied and pasted into Search bar to obtain link.

- A. Fragility of paradigms- Ptolemaic epicycles just prior to the first Copernican revolution from the 16<sup>th</sup> Century
- B. COVID-19 Cases per Day in Australia (Victoria), India, Sri Lanka, Maldives, Kenya, Madagascar, South Africa, Chile
- C. Distribution of Cases and Clusters in Greater Melbourne Victoria from May – June 2021
- D. Recent Indian PANGO variants *NCBI Virus* Page 2/ 2855 pages- Screen Shots as 6 June 2021
- E. Newspaper and Media Reports – all significant relevant coverage
- F. Indian ‘delta’ variant (B.1.617.2) now going global as June 19 2021

#### A. Figure shows Ptolemaic epicycles just prior to the first Copernican revolution from the 16<sup>th</sup> Century

See also Wickramasinghe, Steele, Gorczynski et al (2020) *Virology Current Research*  
On the Fragility of Empires and Paradigms *Virology Current Research* Volume 4:1,2020  
DOI: 10.37421/Virol Curr Res.2020.4.112

<https://www.hilarispublisher.com/open-access/on-the-fragility-of-empires-and-paradigms.pdf>



#### B. COVID-19 Cases per Day in Australia (Victoria), India, Sri Lanka, Maldives, Kenya, Madagascar, South Africa, Chile

Google: “Coronavirus disease statistics” URL is

[https://www.google.com.au/search?hl=en&ei=vWxyX7ipM4-](https://www.google.com.au/search?hl=en&ei=vWxyX7ipM4-m9QP18If4CQ&q=Coronavirus+disease+statistics&oq=Coronavirus+disease+statistics&gs_lcp=CgZwc3ktYWlQAzICCAAYAggAOgQIABBHOGcIABCxAXBDOgQIABBDULZUWPh1YJF7aABwAXgAgAH2AYgBvA6SAQYwLjEwLjGYAQCgAQGgAQQnd3Mtd2l6yAEGwAEB&scient=psy-ab&ved=0ahUKEwj4-47e-4zsAhUPU30KHXX4AZ8Q4dUDCAw&uact=5)

[m9QP18If4CQ&q=Coronavirus+disease+statistics&oq=Coronavirus+disease+statistics&gs\\_lcp=CgZwc3ktYWlQAzICCAAYAggAOgQIABBHOGcIABCxAXBDOgQIABBDULZUWPh1YJF7aABwAXgAgAH2AYgBvA6SAQYwLjEwLjGYAQCgAQGgAQQnd3Mtd2l6yAEGwAEB&scient=psy-ab&ved=0ahUKEwj4-47e-4zsAhUPU30KHXX4AZ8Q4dUDCAw&uact=5](https://www.google.com.au/search?hl=en&ei=vWxyX7ipM4-m9QP18If4CQ&q=Coronavirus+disease+statistics&oq=Coronavirus+disease+statistics&gs_lcp=CgZwc3ktYWlQAzICCAAYAggAOgQIABBHOGcIABCxAXBDOgQIABBDULZUWPh1YJF7aABwAXgAgAH2AYgBvA6SAQYwLjEwLjGYAQCgAQGgAQQnd3Mtd2l6yAEGwAEB&scient=psy-ab&ved=0ahUKEwj4-47e-4zsAhUPU30KHXX4AZ8Q4dUDCAw&uact=5)

This gives you the “Australia” Victoria dashboard (from there you can choose your country in the menu bar scroll)

## Statistics

### New cases and deaths

From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago

New cases ▾ Australia ▾ Victoria ▾ All time ▾

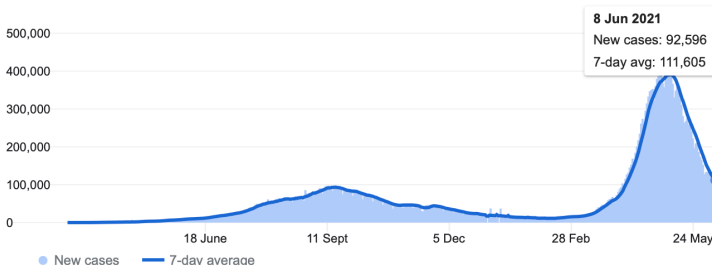


## Statistics

### New cases and deaths

From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago

New cases ▾ India ▾ All regions ▾ All time ▾

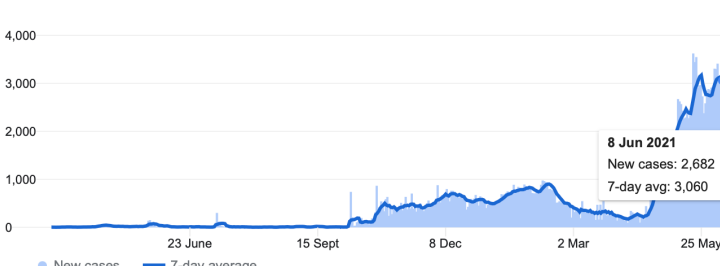


## Statistics

### New cases and deaths

From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago

New cases ▾ Sri Lanka ▾ All time ▾

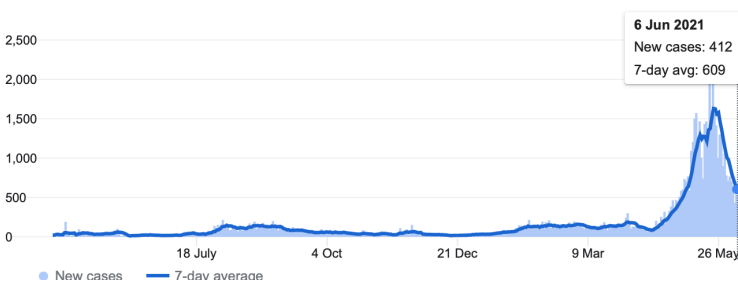


## Statistics

### New cases and deaths

From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago

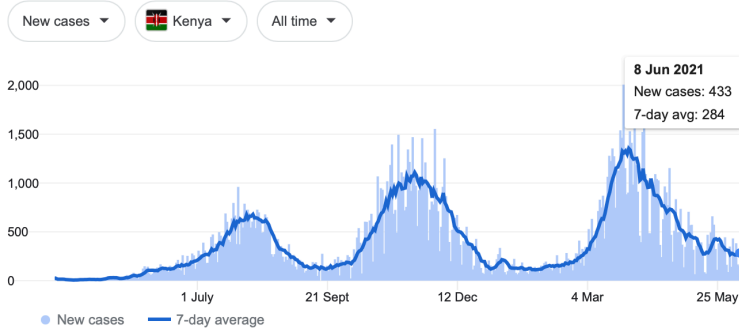
New cases ▾ Maldives ▾ All time ▾



## Statistics

### New cases and deaths

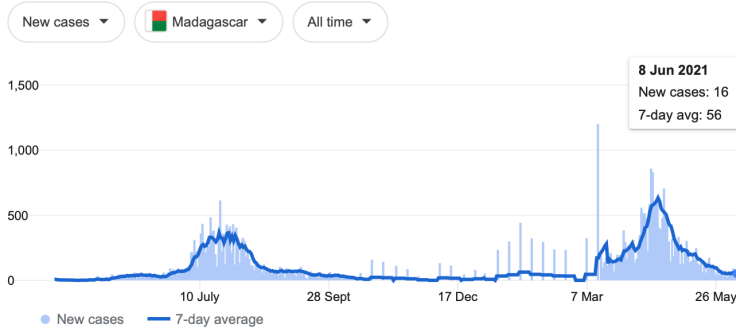
From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago



## Statistics

### New cases and deaths

From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago

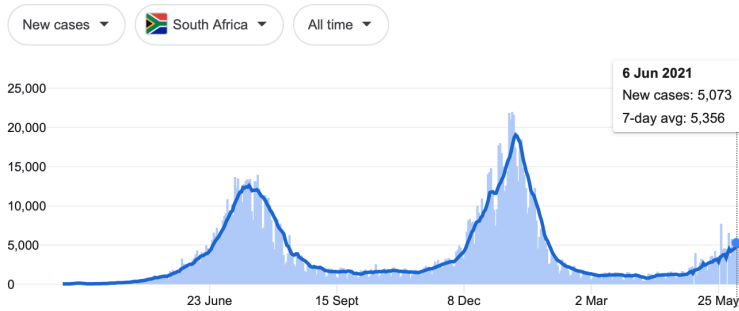


Each day shows new cases reported since the previous day · [About this data](#)

## Statistics

### New cases and deaths

From [JHU CSSE COVID-19 Data](#) · Last updated: 2 days ago



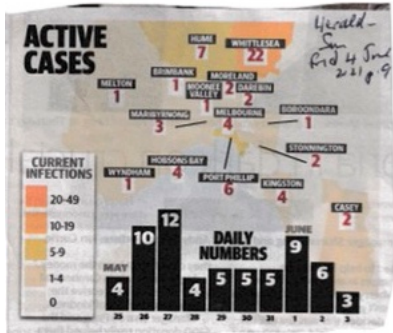
## Statistics

### New cases and deaths

From [Wikipedia](#) · Last updated: 9 hours ago



### C. Distribution of Cases and Clusters in Greater Melbourne Victoria from May – June 2021



Source : *The Herald-Sun* 4 June 2021

### D. Recent Indian PANGO variants *NCBI Virus* Page 2/ 2855 pages- Screen Shots as 6 June 2021

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ317887</a>	Lemieux,J,...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29680	USA: Rhode Islar
<input type="checkbox"/>	<a href="#">MZ317890</a>	Sharma,S, ...	2021-06-01	B.1.351	Severe acute respiratory s...	ssRNA(+)	29784	India
<input type="checkbox"/>	<a href="#">MZ317891</a>	Saiyed,Z, e...	2021-06-01	B.1.351	Severe acute respiratory s...	ssRNA(+)	29784	India
<input type="checkbox"/>	<a href="#">MZ317892</a>	Raval,J, et al.	2021-06-01	B.1.351	Severe acute respiratory s...	ssRNA(+)	29784	India
<input type="checkbox"/>	<a href="#">MZ317893</a>	Pandit,R, e...	2021-06-01	B.1.351	Severe acute respiratory s...	ssRNA(+)	29784	India
<input type="checkbox"/>	<a href="#">MZ317894</a>	Savaliya,N,...	2021-06-01	B.1.36	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ317905</a>	Widera,M, ...	2021-06-01	B.1.427	Severe acute respiratory s...	ssRNA(+)	29782	Germany: Frankf
<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ317896</a>	Widera,M, ...	2021-06-01	B.1.429	Severe acute respiratory s...	ssRNA(+)	29782	Germany: Frankf
<input type="checkbox"/>	<a href="#">MZ317905</a>	Saiyed,Z, e...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317906</a>	Soni,T, et al.	2021-06-01	B.1.36.10	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ317907</a>	Sharma,S, ...	2021-06-01	B.1	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ317908</a>	Kumar,D, e...	2021-06-01	B.1.351	Severe acute respiratory s...	ssRNA(+)	29784	India
<input type="checkbox"/>	<a href="#">MZ317915</a>	Pandit,R, e...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317916</a>	Raval,J, et al.	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317917</a>	Kumar,D, e...	2021-06-01	B.1.36	Severe acute respiratory s...	ssRNA(+)	29793	India
<input type="checkbox"/>	<a href="#">MZ317918</a>	Savaliya,N,...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317919</a>	Patel,Z, et al.	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ317919</a>	Patel,Z, et al.	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317920</a>	Saiyed,Z, e...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317921</a>	Sharma,S, ...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ317922</a>	Soni,T, et al.	2021-06-01	B.1.36	Severe acute respiratory s...	ssRNA(+)	29793	India
<input type="checkbox"/>	<a href="#">MZ318037</a>	Pandit,R, e...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ318038</a>	Kumar,D, e...	2021-06-01	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29783	India
<input type="checkbox"/>	<a href="#">MZ318159</a>	Kanani,A, ...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318160</a>	Saiyed,Z, e...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29775	India
<input type="checkbox"/>	<a href="#">MZ318161</a>	Kanani,A, ...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318201</a>	Patel,Z, et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29792	India

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ318161</a>	Kanani,A, ...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318201</a>	Patel,Z., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29792	India
<input type="checkbox"/>	<a href="#">MZ318202</a>	Raval,J., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318243</a>	Pandit,R, e...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318244</a>	Savaliya,N,...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29792	India
<input type="checkbox"/>	<a href="#">MZ318245</a>	Kumar,D, e...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318246</a>	Soni,T, et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318253</a>	Pandit,R, e...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29794	India
<input type="checkbox"/>	<a href="#">MZ318254</a>	Waghela,B...	2021-06-01	B.1.617.2	Severe acute respiratory s... <small>Severe acute respiratory syndrome-related coronavirus</small>	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318255</a>	Waghela,B...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ318267</a>	Patel,Z., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318268</a>	Raval,J., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ318270</a>	Prajapati,B...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29797	India
<input type="checkbox"/>	<a href="#">MZ318271</a>	Savaliya,N,...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ318277</a>	Prajapati,B...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29797	India
<input type="checkbox"/>	<a href="#">MZ318279</a>	Purohit,T, ...	2021-06-01	B.1.617.2	Severe acu <small>Severe acute respiratory syndrome-related coronavirus</small>	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318282</a>	Purohit,T, ...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318283</a>	Raval,J., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ318284</a>	Patel,Z., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29791	India

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ318357</a>	Soni,T, et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318358</a>	Savaliya,N,...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318359</a>	Kumar,D, e...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318364</a>	Goswami,K...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29792	India
<input type="checkbox"/>	<a href="#">MZ318365</a>	Patel,N., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29797	India
<input type="checkbox"/>	<a href="#">MZ318366</a>	Patel,N., et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29797	India
<input type="checkbox"/>	<a href="#">MZ318377</a>	Patel,A, et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318378</a>	Goswami,K...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29792	India
<input type="checkbox"/>	<a href="#">MZ318383</a>	Patel,A, et al.	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29796	India
<input type="checkbox"/>	<a href="#">MZ318426</a>	Sharma,S, ...	2021-06-01	B.1.617.2	Severe acute respiratory s...	ssRNA(+)	29799	India

# PANGO variants in India screen shots *NCBI Virus* page.201of 2855 pages as 7 June 2021

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<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ310507</a>	Sharma,S., et al.	2021-05-28	B.1	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ310508</a>	Saiyed,Z., et al.	2021-05-28	B.1.1.216	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ310509</a>	Raval,J., et al.	2021-05-28	B.1.36	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ310510</a>	Soni,T., et al.	2021-05-28	B.1.36	Severe acute respiratory s...	ssRNA(+)	29799	India
<input type="checkbox"/>	<a href="#">MZ310511</a>	Sharma,S., et al.	2021-05-28	B.1.36	Severe acute respiratory s...	ssRNA(+)	29799	India
<input type="checkbox"/>	<a href="#">MZ310512</a>	Saiyed,Z., et al.	2021-05-28	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ310579</a>	Pandit,R., et al.	2021-05-28	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29802	India
<input type="checkbox"/>	<a href="#">MZ310580</a>	Raval,J., et al.	2021-05-28	B.1.617.1	Severe acute respiratory s...	ssRNA(+)	29801	India

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ310587</a>	Kumar,D., et al.	2021-05-28	B.1.617.1	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ310588</a>	Savaliya,N., et al.	2021-05-28	B.1.617.1	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ310589</a>	Patel,Z., et al.	2021-05-28	B.1.367	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ310590</a>	Soni,T., et al.	2021-05-28	B.1.617.1	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ310591</a>	Sharma,S., et al.	2021-05-28	B.1.367	Severe acute respiratory s...	ssRNA(+)	29801	India

<a href="#">MZ292126</a>	Sharma,S., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292127</a>	Soni,T., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292128</a>	Pandit,R., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292129</a>	Raval,J., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292130</a>	Kumar,D., et al.	2021-05-26	B.1.1.216	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292131</a>	Soni,T., et al.	2021-05-26	B.1.1.216	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292132</a>	Saiyed,Z., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292133</a>	Pandit,R., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292134</a>	Raval,J., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292135</a>	Savaliya,N., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<a href="#">MZ292136</a>	Patel,Z., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ292137</a>	Sharma,S., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292138</a>	Soni,T., et al.	2021-05-26	B.1.1.7	Severe acute respiratory s...	ssRNA(+)	29790	India
<input type="checkbox"/>	<a href="#">MZ292145</a>	Saiyed,Z., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292146</a>	Pandit,R., et al.	2021-05-26	B.1.1	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292147</a>	Patel,Z., et al.	2021-05-26	B.1.1	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292148</a>	Savaliya,N., et al.	2021-05-26	B.1.1.306	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292150</a>	Soni,T., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292151</a>	Kumar,D., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292152</a>	Pandit,R., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29788	India
<input type="checkbox"/>	<a href="#">MZ292153</a>	Saiyed,Z., et al.	2021-05-26	B.1.36	Severe acute respiratory s...	ssRNA(+)	29801	India

<input type="checkbox"/>	Accession	Submitters	Release Date	Pangolin	Species	Molecule type	Length	Geo Location
<input type="checkbox"/>	<a href="#">MZ292154</a>	Sharma,S., et al.	2021-05-26	B.1.36.8	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292155</a>	Raval,J., et al.	2021-05-26	B.1.36.17	Severe acute respiratory s...	ssRNA(+)	29788	India
<input type="checkbox"/>	<a href="#">MZ292157</a>	Savaliya,N., et al.	2021-05-26	B.1.1	Severe acute respiratory s...	ssRNA(+)	29801	India
<input type="checkbox"/>	<a href="#">MZ292158</a>	Patel,Z., et al.	2021-05-26	B.1.1	Severe acute respiratory s...	ssRNA(+)	29801	India

## E. Newspaper and Media Reports – all significant relevant coverage

Use Google Maps if need be to locate the suburbs and regions identified in Melbourne, Victoria , Australia. The main suburbs and areas are Wollert, Whittlesea, Altona North, North Melbourne and Reservoir. Other specific details are in the media reports, although text of key articles is included here.

### a. COVID-19 PCR fragments in waste-water catchments during April 2021

- “Two new wastewater COVID-19 viral fragment detections in Daylesford and Benalla “ Government advice from early April 2021

<https://www.dhhs.vic.gov.au/wastewater-testing-covid-19>

Advice:

“Viral fragments of COVID-19 have been detected in wastewater samples recently taken from the inlet to wastewater treatment plants at Daylesford and Benalla.

This follows the detection of viral fragments in Moonee Ponds Main and Ringwood South Branch sewer catchments announced earlier this week.

Given the prolonged period of no community transmission in Victoria and absence of local cases in these areas, these are most likely due to a person or people who are not infectious but are shedding the virus.

Victoria’s wastewater testing program is designed to provide early warning of COVID-19, and the possibility that someone is in the early phase of the virus cannot be ruled out.

People who live in or have visited the Daylesford area from 10 to 12 April, or the Benalla area from 10 to 15 April, should monitor for symptoms of COVID-19 and get tested if any develop. “

- *The Australian online* 29.4.21 at 9.45PM by Remy Varga 3 hours ago posted at 6.30 PM

### Hundreds told to isolate in Melbourne

Brief:

Hundreds of people in Melbourne’s west and northwest have been asked to isolate after “strong” coronavirus fragments were detected in waste water.

A total of 246 people had been contacted as a precaution after a positive case travelled from Western Australia, A Victorian Health Department spokesperson said on Thursday.

“This additional action is being taken due to the strength of the wastewater detection and because a known positive COVID-19 case, from flight QF778, has been in Victoria in the past 14 days,” the spokesperson said. “The 246 people who have been contacted today include four primary close contacts of that case and 242 recently returned red and orange zone travel permit holders.

“All of these primary close contacts have recently been tested and have returned negative results. All of the 246 people are being asked to test again out of an abundance of caution.”

And it is region wide in arc from West to North and some in east. The official waste water detection methods at: <https://www.dhhs.vic.gov.au/wastewater-testing-covid-19>

“ New Detections:

**Northwestern suburbs**

April 20-27: Glenroy, Hadfield, Oak Park, Pascoe Vale

April 10-15 and 20-26 (repeat detections): Benalla

**Western suburbs**

April 20-27: Altona, Altona North, Brooklyn, Newport, South Kingsville, Williamstown, Williamstown North

**Northern suburbs**

April 20-27: Briar Hill, Bundoora, Diamond Creek, Greensborough, Lower Plenty, Macleod, Mill Park, Montmorency, Plenty, South Morang, St Helena, Viewbank, Watsonia, Watsonia North, Yallambie, Yarrambat

**Outer eastern suburbs**

April 20-26: Chirnside Park, Coldstream, Kalorama, Lilydale, Montrose, Mooroolbark, Mount Dandenong, Mount Evelyn, Olinda, Yarra Glen, Yering

Active detections

**Western suburbs catchment**

April 18-26: Persons visiting or residing in Albanvale, Burnside, Burnside Heights, Cairnlea, Caroline Springs, Deer Park, Delahey, Hillside (Melton), Keilor Downs, Kings Park, Plumpton, Ravenhall, Sydenham, Taylors Hill or Taylors Lakes.

**Northwestern suburbs catchment**

April 18-26: Persons visiting or residing in Avondale Heights, Calder Park, Hillside (Melton), Kealba, Keilor, Keilor Downs, Keilor East, Keilor Lodge, Keilor North, Keilor Park, Sydenham or Taylors Lakes.

**Eastern suburbs catchment**

April 20-24: Persons visiting or residing in Balwyn, Balwyn North, Blackburn, Blackburn North, Box Hill, Box Hill North, Bulleen, Doncaster, Doncaster East, Donvale, Mitcham, Mont Albert, Mont Albert North, Nunawading or Templestowe Lower.

**Outer northern suburbs catchment**

April 17-22: Persons visiting or residing in Epping, South Morang or Wollert.

Comment:

Given the wide spread Melbourne and regions “waste water” detections ( which would be open to the air, that there have been in-falls with all that pre-winter rain recently early April. Officials are trying to locate source to infected travellers. But the wide spread nature, the large dilution factors and the “strong positive PCR “ detections suggest a region wide in-fall of at least 1000Km<sup>2</sup>. But no reported community transmissions or mystery cases at this stage , first is “Wollert Man” on May 11.

- *Herald-Sun* Sunday 6 June 2021 by Laura Placella p.9 “ Covid found in suburbs’ sewage’.

**b. Wollert Man**

- In *The Australian* online 25.5.21

**Melbourne's May Cluster as 25.5.21**

**May 4:** Man in his 30s returns to his Wollert home, on Melbourne's northern outskirts, having contracted coronavirus in an Adelaide quarantine hotel.

**May 6-9:** The man is believed to have been infectious during this period, having developed symptoms on May 8, and got tested on May 10. His exposure sites during his infectious period were listed as the Epping



Woolworths, a CBD restaurant, Friday night trains between Craigieburn and the city which were packed with footy crowds, an Indian spice shop in Epping, and a warehouse in Altona North.

**May 11:** The Wollert man's case becomes public. No further cases are identified among his three household contacts and more than 100 other close contacts.

**May 21:** Victoria's Health Department reveals it incorrectly listed Epping Woolworths as an exposure site for the Wollert man, due to electronic banking records and the supermarket's proximity to the Indian spice shop the man also visited. In fact the man visited Woolworths Epping North. The department also confirms it has detected strong positive results for coronavirus in sewage from the Wollert and Epping areas. All staff at the Epping North Woolworths have since tested negative.

**May 24:** Four family members spread across three households test positive for coronavirus. All live in the Whittlesea local government area, which takes in Wollert and Epping. Case One of the four is a man in his 30s, with a man and a woman in their 70s and a preschool aged child also infected. A list of exposure sites for the four, for dates spanning May 19 to 23, includes the Epping North Woolworths, a swim school Bundoora, Victoria's third-largest shopping centre Highpoint in the western suburb of Maribyrnong, a stadium in Brunswick, a service station and soccer field in Reservoir, and several other shops and food outlets in Epping and Epping North.

**May 25:** A fifth case is confirmed in a man in his 60s, who had a business appointment with Case One on May 18. Health authorities say the fifth case developed symptoms earlier than the other four cases, who are believed to have caught the virus via him. Genomic sequencing confirms the five latest cases are closely linked to that of the Wollert man, but no direct links have yet been established.

- How Wollert Man may have caught B.1.617.1 at Adelaide Quarantine hotel

*The Australian* May 28 2021 9.33AM by Stephen Lunn “ The 18-second Adelaide hotel Covid-19 breach that brought misery and despair to seven million Victorians”. Full text is

“It was the sliding doors moment that left nearly seven million Victorians facing another soul-crushing lockdown.

Just 18 seconds in duration. On May 3 in the Playford Hotel in Adelaide’s CBD, the door to the room of a man known as Case A was opened for a couple of seconds. Just enough time for the 30-something to collect a meal placed outside.

Case A, as SA Health has dubbed him in its investigation into how the virus spread inside the hotel, was near the end of his 14-day quarantine after returning from India. He was tested for Covid-19 on day one, five and 13, returning a negative result each time.

But unfortunately for Case A, and now for Victoria, he was in a room adjacent to Case B.

In what should have been a red flag given previous incidents of hotel quarantine infections, their rooms were at the end of a corridor.

SA Health’s report released late Wednesday revealed that twice on May 3 Case A opened his door to collect a meal, but so too did Case B. He hadn’t been diagnosed with Covid at the time, only starting to show symptoms

“On one occasion, Case B opened his room door to collect his meal, then 18 seconds later Case A opened his door to collect his meal,” the report says. “This was during the time Case B was infectious but prior to staff knowing his positive Covid-19 status. A similar situation was observed again on the same day with a time lapse of less than 12 minutes.

“Case B opening their door could have resulted in potentially contaminated corridor air either directly exposing Case A or forcing contaminated air into his room, particularly given Case B’s room was situated at the end of a corridor and the intervening time period may not have allowed exchange of fresh air to have occurred despite adequate ventilation levels in the corridor.”

It was potentially the 18-second window that saw Covid-19 pass from one hotel room to another, then, as we now know from genomic testing, to a northern Melbourne suburb, then across the city into workplaces, nightclubs and football stadiums.

### **Spreading far and wide**

Since then, infected people have spent time in Bendigo and in Cohuna near the NSW border. A netball match in Cohuna against a team from the Riverina in NSW has led to people across the border being urged to get tested. More than 100 people linked to exposure sites who have since returned to South Australia and a number in Western Australia are being urged to isolate and test.

What’s it all mean? Small businesses smashed. Again. Melbourne’s CBD ghostly quiet. Again. Families denied access to loved ones in hospitals and nursing homes. Again. Parents dealing with children’s remote learning. Again. Anxiety and stress. Again.

Part of the anxiety is the unknown. Though Victorian Acting Premier James Merlino and Health Minister Martin Foley say they take some comfort in that the 26 Covid cases identified so far are genomically linked, two concerns stand out.

### **Filling in the gaps**

First is a gap in the chain of transmission. Case A was released from hotel quarantine on May 4 and returned to the north Melbourne suburb of Wollert. He felt unwell and tested for the virus on May 8, receiving confirmation of his positive status on May 11.

While there has been a genomic link established between Case A and the new Covid cases in Melbourne, no direct connection has been identified. Only the most general geographic link — that Case A and the so-called “index case” in the new Melbourne cluster live nearby in the Whittlesea area — has been established.

Second is the pace of the spread. Consider this. The index case, labelled by Victorian health authorities as Case 5 (the fifth positive case identified in this outbreak), is a man in his 60s. He tested positive on Tuesday, but was believed to be infectious since May 15 and had symptoms on May 17.

He had a business meeting with Case 1, a man in his 30s, on May 18. Case 1 tested positive on Monday, as did three of his relatives, including a preschool-aged child.

Four of Case 5’s relatives have also tested positive, one of whom works in Stratton Finance, a large financial firm in Port Melbourne. Five work colleagues have tested positive.

It is understood one of those five spent much of last Saturday evening hopping between nightclubs in the Melbourne party zone of Prahran and South Yarra.

Others among the cases identified so far had been to two AFL games. The area of the MCG named as an exposure site following Sunday’s Collingwood-Port Adelaide game included the Port cheer squad.

In short, since Case 1 was identified as Covid-positive on Monday, 14,000 primary and secondary contacts have been identified by contact tracers. And more than 150 potential exposure sites, public and private, have been found.

### **Question of quarantine**

Amid the blizzard of numbers is a bleak reminder of Covid's considerable dangers. Of the 26 cases in this cluster, one elderly person is in intensive care. Merlino said the person was "not in a very good way".

Victorians, again the pariahs of the nation, are now wondering if this fourth lockdown could have been avoided.

Certainly the state's chief health officer, Brett Sutton, was blunt when asked on Thursday about the genesis of the outbreak, another case of airborne transmission inside hotel quarantine.

"We have seen it too many times. It happens when doors open in quick succession," he said. "That is something we have tried to mitigate in Victoria as much as possible with filtered air purifiers in corridors. That said, hotels are not the ideal structural environment to keep people (in quarantine)."

### **c. Whittlesea Cluster**

Above timeline and

- *The Australian* online 29.5.21 by Rhiannon Down 6 hours ago 4.35 PM  
"Complex web of connections behind Covid outbreak"

### **d. Arcare Facility Cluster, Maidstone**

- Reported on ABC news online  
<https://www.abc.net.au/news/2021-05-30/victoria-records-five-new-local-covid-cases/100176658>

- *The Australian* online May 30 2021 post ed 11.20 PM "Coronavirus: mystery case hits lockdown plan" by Rebecca Urban, Remy Varga, ( also reported *Herald-Sun* June 1 2021 p.4-5).

The mystery case of a Melbourne aged care employee who worked for two days while potentially infectious with Covid-19 has emerged as a priority for contact tracers and a risk to Victoria ending its seven-day lockdown.

The healthcare worker, a woman aged in her 50s who tested positive on Saturday, has no known link to other cases in the state's latest outbreak, which has spread to 40 after five new infections emerged on Sunday.

Victoria's Covid-19 response commander Jeroen Weimar said the aged care case was an "extreme concern" due to both the work setting and unknown acquisition source.

Contact tracers were working hard to identify potential exposures within the facility but also the wider community, he said.

"This is the first mystery case we have seen in this particular outbreak," Mr Weimar said.

"I am concerned that at this point in time we don't have an original acquisition source.

"It is our most vulnerable and sensitive setting ... and that is why we have put such an important response into this since late last night."

Acting Premier James Merlino described the case as a "very, very serious matter" and declined to be drawn on whether lockdown restrictions would be eased on Friday as initially scheduled.

It was a day-by-day proposition, he warned.

"We are three days into a seven-day lockdown," Mr Merlino said.

“Today we’re talking about a mystery case. Today we’re talking about aged care.

“There’s a lot of work to do.”

Mr Merlino said health officials were working at an “unbelievable rate” and a majority of more than 4000 primary close contacts across all exposure sites had been tested, with about 70 per cent returning negative tests so far.

More than 45,000 Victorians were tested on Saturday. A testing blitz was under way on Sunday at Arcare Aged Care Maidstone, which bills itself as a “five-star” private facility in Melbourne’s west, where residents have now been subjected to hard lockdown and confined to their rooms.

Staff were provided with upgraded “tier three” personal protection equipment and additional cleaners were also deployed to the centre, which has recorded seven positive cases throughout the pandemic – all of which were employees – but no deaths

- *The Australian* online by Angelica Snowden 6 June 2021 posted 12.30PM “Two more cases confirmed in Melbourne aged care”

- *The Australian* online May 31 2021 posted 9.52 AM by Rachel Baxendale “Second Melbourne aged care worker test positive”

Brief:

“A second staff member at a second Victorian aged care facility has tested positive for coronavirus.

BlueCross Western Gardens in the western Melbourne suburb of Sunshine have confirmed a staff member tested negative on their last day of work, before returning a positive result on Sunday night.

The news comes after a staff member at the Arcare facility in Maidstone, also in Melbourne’s west, tested positive on Saturday, with at least one Arcare resident since infected.

Contact tracers are yet to link the Maidstone case to the Whittlesea cluster of at least 40 coronavirus cases.

At least two other aged care facilities have gone into lockdown after staff worked across multiple centres.”

#### **e. Delta Cluster variant, North Melbourne**

- *The Australian* online 4 June 2021 at 9.30PM by Rachel Baxendale posted at 8.45 PM “Breakdown cluster sparks hunt for source”

Health authorities in multiple states are checking genomic sequencing data for all known Delta variant cases of coronavirus in Australia, as mystery surrounds the origins of a cluster of seven cases linked to a West Melbourne family who spent six days in NSW.

The revelation that the seven cases are unrelated to Melbourne’s other community-acquired cases came amid confusion over the Andrews government’s handling of two false positive cases revealed late on Thursday, which contributed to Wednesday’s decision to extend Melbourne’s lockdown.

Business groups and the state opposition called for the lockdown to end as soon as possible, as Victoria recorded four new cases, all of which were in quarantine and close contacts of existing cases.

Of 67 community-acquired cases diagnosed in Victoria since a man in his 30s caught the virus in an Adelaide quarantine hotel and returned to the outer northern Melbourne suburb of Wollert on May 4, 54 are linked to the

main Whittlesea cluster across Melbourne's northern suburbs and an associated workplace in Port Melbourne, while five are associated with a cluster linked to the Arcare aged-care facility in Maidstone in Melbourne's west.

- *The Australian* online as 4 June 2021 posted 2.39PM PM by Rachel Baxendale "Timeline: what we know about west Melbourne outbreak"

#### **May 19-24:**

- Family of four from West Melbourne begin the first day of their holiday, driving from Melbourne to the Green Patch Campground at Booderee National Park near Jervis Bay on the NSW South Coast.
- It's not known where they stopped in Victoria, but their NSW stops include a cafe, craft centre and antique shop in Gundagai and the Shell Coles Express Big Merino service station in Goulburn.
- On Friday May 21 they visited a cafe and bric-a-brac store in Huskisson, and a Coles in Vincentia, and on Sunday May 23 they visited a cafe in Hyams Beach and revisited the Vincentia Coles.
- On Monday May 24 they travelled back to Melbourne, via a bakery and the Big Merino service station in Goulburn, as well as BP truck stops in Glenrowan, Euroa and Wallan in the Victorian side of the border.

#### **May 25:**

- Adult male family member develops symptoms.
- He works at GTA Consultants, on Levels 24 & 25 of 55 Collins St in Melbourne on this day.
- Authorities in NSW and Victoria initially consider the man and his family to have likely been infectious from May 23, two days before the onset of symptoms, but extend the period back to May 19 when other family members later test positive.

#### **May 26-31:**

- Family members visit a range of sites in Melbourne's CBD and inner north and west while likely infectious, including North Melbourne Primary School, Joeys Scouts Carlton, Flagstaff Gardens, Officeworks QV, Coles Spencer St, male public toilets at 225 Bourke St, and Costco Docklands.

#### **Tuesday, June 1:**

- Authorities in NSW and Victoria confirm the adult male family member has tested positive for coronavirus. Initially he is assumed to be part of the wider Melbourne cluster linked to Adelaide hotel quarantine, pending confirmation from genomic sequencing.

#### **Wednesday, June 2:**

Three more family members test positive, including an adult female and two children.

#### **Friday, June 4:**

- Positive results are received for two adults and a child, understood to be a Grade Five student at North Melbourne Primary School. It's believed the Grade Five caught the virus from a classmate, who is a member of the West Melbourne family.
- An inconclusive result is received for a second child.
- There are now seven confirmed positive cases linked to the West Melbourne cluster.

- Chief health officer Brett Sutton reveals genomic sequencing has found the family have the Indian B.1.617.2 or Delta strain of the virus, as opposed to the Indian B.1.617.1 Kappa strain found in members of Melbourne's other current clusters.
- While the Delta strain has been detected in hotel quarantine cases up and down Australia's eastern seaboard, none of these cases is a genetic match for the virus found in the West Melbourne family.
- Sutton says it is possible, given the timing of the onset of symptoms, that the family caught the virus in NSW.

• *The Australian* online 5 June 2021 posted 12.40PM by Rhiannon Down “Delta variant cluster now at nine cases”

Victorian testing commander Jeroen Weimar has confirmed that two of today’s five new Covid-19 cases are part of a cluster of the Delta variant.

Mr Weimar confirmed the cluster, which was first detected in one family from West Melbourne who spent six days in NSW last month, had grown to nine cases.

“Then of course, our new cluster, the Delta variant cluster that we are most concerned about,” he said.

“Nine active cases, that is an increase of two from yesterday.

Mr Weimar said one of the cases was in a child belonging to the second family in the cluster, who have already had one child test positive.

“One of those is a second child of the second family,” he said.

“So we have two families of four, both active with Covid, and then one where the primary close contact, a workplace colleague of the first case that was identified a few days ago.

“We have identified some exposure size for that individual.”

• *The Australian* online 8 June 2021 by Rachel Baxendale posted 9.30 PM  
“Delta dawned from yet another hotel breach”

Link to such a breach is tenuous and unclear see

<https://www.abc.net.au/news/2021-06-10/victoria-new-covid-cases-melbourne-lockdown-restrictions/100203632>

#### **f. Reservoir Cluster, in northern suburbs**

• Outline on ABC news at

<https://www.abc.net.au/news/2021-06-10/victoria-new-covid-cases-melbourne-lockdown-restrictions/100203632>

• *The Australian* online 10 June 2021 by Rachel Baxendale posted at 6.12PM “Household cluster sounds new alarm”

A new mystery cluster of four cases in a household in Melbourne's north has spooked Victorian health authorities, prompting a backflip on plans to ease rules governing the wearing of masks outdoors.

The about-face came despite an admission from Victoria's Covid logistics chief, Jeroen Weimar, that there has been no evidence of outdoor transmission of the virus this year.

Victoria's health department is also investigating a possible link between a coronavirus-positive couple who left the outer northwestern suburb of Melton on June 1 and travelled through NSW to Queensland, and a shopping centre in Melbourne's outer north visited by nine other cases.

Victoria's latest cases include a man in his 80s, a woman in her 70s, a man in his 50s and a man in his 20s who all live in the same household in Reservoir in Melbourne's northern suburbs.

How they caught the virus remained a mystery on Thursday, with the man in his 80s the first to return a positive test result on Wednesday, followed by the others. Victoria's health department said authorities had also tested "a number of high-risk primary close contacts of the cases outside of the household" and all had returned negative results, although no detail was provided on the nature of the "high-risk".

Exposure sites visited by household members included a shopping centre in Bundoora and a service station in Thomastown on Monday, and a grocery store in Reservoir and Bunnings in Thomastown on Tuesday.

Ahead of an easing of Melbourne's lockdown on Thursday night, Acting Premier James Merlino warned Victoria remained on "high alert" for undetected community transmission.

"I can confirm the easing of restrictions that we announced yesterday will proceed as planned from 11.59pm tonight with one small exception for Melbourne: masks will continue to be required to be worn outdoors in all circumstances," he said.

Mr Weimar was asked if there had been any recent examples of coronavirus being transmitted outdoors in Victoria. "No. We have no evidence that we have seen in this ... outbreak or the most recent ones, of outdoor transmission," he conceded.

Acting deputy chief health officer Allen Cheng said instances of outdoor transmission had been confirmed during Victoria's second wave of coronavirus last year.

"They're not very common but they do occur. When there are active cases in the community, I think it's a small thing to ask for people to continue to wear masks at all times when outside of home," Professor Cheng said.

He said Victoria's public health team estimated "perhaps 5 per cent" of cases in the second wave had been transmitted outdoors "but, again, it can be very difficult to tell".

More than 24 hours after Queensland broke news of a positive test from a traveller from Victoria, and NSW issued a list of sites visited in that state, Victoria was yet to release details of any exposure sites.

The state's health department said a contact tracing interview was ongoing late on Thursday.

The first member of the couple to test positive, a 44-year-old woman, is believed to have been infectious when they left home on June 1 and developed symptoms on June 3.

Contact tracers are investigating a potential link to the Craigieburn Central shopping centre, where one of the couple checked in on May 23, given nine other cases have visited the site during the current outbreak.

**g. Summary of all Mysteries in *The Australian* 13 June 2021**

*The Australian* Online 13.6.21 Rachel Baxendale posted at 4.30PM

**The six missing links in Victoria's Covid clusters**

There have now been six coronavirus cases among Victoria's two current outbreaks where authorities have been unable to identify a source of infection, including three this week:

1. The first mystery case emerged on May 24. While the initial May 24 case was linked back to at least one prior case, the path of transmission has not been established between what has become known as the Whittlesea cluster and the genomically linked Kappa strain case of a man who returned to the northern suburb of Wollert on May 4 after contracting coronavirus in an Adelaide quarantine hotel. The Port Melbourne cluster is a directly linked offshoot of the Whittlesea cluster, sparked by a close contact who worked at Stratton Finance in Port Melbourne. The Whittlesea cluster and the Port Melbourne cluster each comprise 32 cases, with an overlap of one case which fits into both clusters.
2. The Arcare cluster of 11 cases, the first of which emerged on May 31, is genomically linked to the Kappa strain outbreak. The direct source of acquisition has not been identified.
3. The West Melbourne outbreak of 15 cases are linked to a genomically distinct Delta cluster sparked by a man in his 40s who arrived in Melbourne from Sri Lanka on May 8. The direct link has not been established between the man and the cluster - which comprises two families and their close contacts and first emerged on June 1.
4. Two cases identified on Wednesday and Thursday in a couple from Melton, in Melbourne's outer northwest who tested positive in Queensland. While the cases have been genomically linked to the Kappa outbreak, the direct source has not been identified.
5. Thursday's new case in four members of a Reservoir household in Melbourne's north. While this case has been genomically linked to the Kappa outbreak, the direct source has not been identified. Exposure sites include locations is Reservoir, Thomastown, Epping and Bundoora, all in the northern suburbs.
6. Saturday's single new case in a City of Melbourne resident. Victorian Covid-19 logistics chief Jeroen Weimar said on Sunday authorities were expecting to receive genomic sequencing of the case late on Sunday night or on Monday. The genomic sequencing is expected to confirm whether or not the case is linked to either current Melbourne cluster. "We're seeing a number of close linkages we're exploring between that particular case and other parts of the Kappa outbreak," Mr Weimar said. Exposure sites for the case include locations in Docklands, Southbank, Thornbury, Reservoir and North Geelong.

Note : Through to June 19 2021 number increased a little in each cluster by P-to-P spreads but all clusters were unlinked to each other – missing links not definitively found as documented in this paper.



## **F. Indian ‘delta’ variant (B.1.617.2) now going global as June 19 2021**

As this paper was being submitted it seems that the southern Chinese city of Guangzhou may be engaged in a sudden tropospheric strike of variants from India.

<https://www.news.com.au/world/coronavirus/global/china-hit-by-devastating-covid-outbreak-in-the-city-of-guangzhou/news-story/42a8ac41bd27d3a24620e1888671e08e>

Further many other Northern Hemisphere countries (Russia, UK, USA) are also reporting the sudden spread of the Indian delta variant on real population wide scale.

<https://www.news.com.au/world/coronavirus/global/highly-infectious-delta-variant-quickly-taking-over-the-world/news-story/5325efa0d41c14856a728d92ee597a91>