Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Research brief

Treatment for MERS-CoV?
For more on interferon alfa-2b and ribavirin in rhesus macaques see Nat Med 2013; published online Sept 8. DOI:10.1038/nm.3362

For more on viral diversity in mammals see Mbio 2013; published online Sept 8. DOI:10.1128/mbio.00598-13

For more on antibiotic resistance-modifying agents see Nat Genet 2013; published online Sept 14. DOI:10.1038/nature12566

For more on parkin and resistance to intracellular pathogens see Nature 2013; published online Sept 14. DOI:10.1038/nature12566

For more on genes associated with drug resistance in M tuberculosis see Nat Genet 2013; published online Sept 1. DOI:10.1038/ng.2735

For more on genes under positive selection in drug-resistant M tuberculosis see Nat Genet 2013; published online Sept 1. DOI:10.1038/ng.2747

For more on evolution of ethambutol-resistant tuberculosis see Nat Genet 2013; published online Sept 1. DOI:10.1038/ng.2743

For more on the evolutionary history of M tuberculosis see Nat Genet 2013; published online Sept 1. DOI:10.1038/ng.2744

For more on transmission of C gattii hypervirulence traits see PloS Pathog 2013; published online. e1003771. http://www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1003771

For more on tuberculosis resistance-modifying reagents with other modes of action, researchers have synthesised and screened 120 polycyclic indole alkaloids—indole alkaloids are structurally diverse natural products, often isolated from medicinal plants. Of1, a tricyclic indoline, potentiates the activity of β-lactams against several strains of MRSA but not against meticillin-sensitive S aureus, they report. Further development of Of1 could provide a new strategy for the treatment of antibiotic-resistant bacteria.

Viral diversity in mammals
Most emerging infectious diseases are zoonoses that originate in wildlife and many are caused by viruses. But how many unknown (and potentially pathogenic) viruses are lurking in the undergrowth? By repeatedly sampling the Indian flying fox (Pteropus giganteus), a mammalian wildlife host that is known to harbour emerging zoonotic pathogens, researchers have discovered and analysed the occurrence patterns of 55 viruses from nine viral families in this one species. Extrapolating from this finding, the researchers estimate that there are at least 320 000 mammalian viruses awaiting discovery in these nine viral families.

Resensitisation to antibiotics
Resistance-modifying agents such as β-lactamase inhibitors restore the activity of β-lactam antibiotics against meticillin-resistant Staphylococcus aureus (MRSA) and other drug-resistant bacteria. To discover resistance-modifying reagents with other modes of action, researchers have synthesised and screened 120 polycyclic indole alkaloids—indole alkaloids are structurally diverse natural products, often isolated from medicinal plants. Of1, a tricyclic indoline, potentiates the activity of β-lactams against several strains of MRSA but not against meticillin-sensitive S aureus, they report. Further development of Of1 could provide a new strategy for the treatment of antibiotic-resistant bacteria.

Fungal hypervirulence
A lineage of Cryptococcus gattii—a fungal pathogen that causes less than 1% of human cryptococcosis cases—that emerged in Canada and northwest America in 1999 is responsible for the largest recorded outbreak of a life-threatening fungal infection in a healthy population. To find out whether the hypervirulence traits associated with this outbreak could spread to other lineages through genetic reassortment and hybridisation, researchers have interbred different strains of the fungus. Hypervirulence traits present were readily transmitted between closely related strains, they report, but infrequently transmitted to distant strains.

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