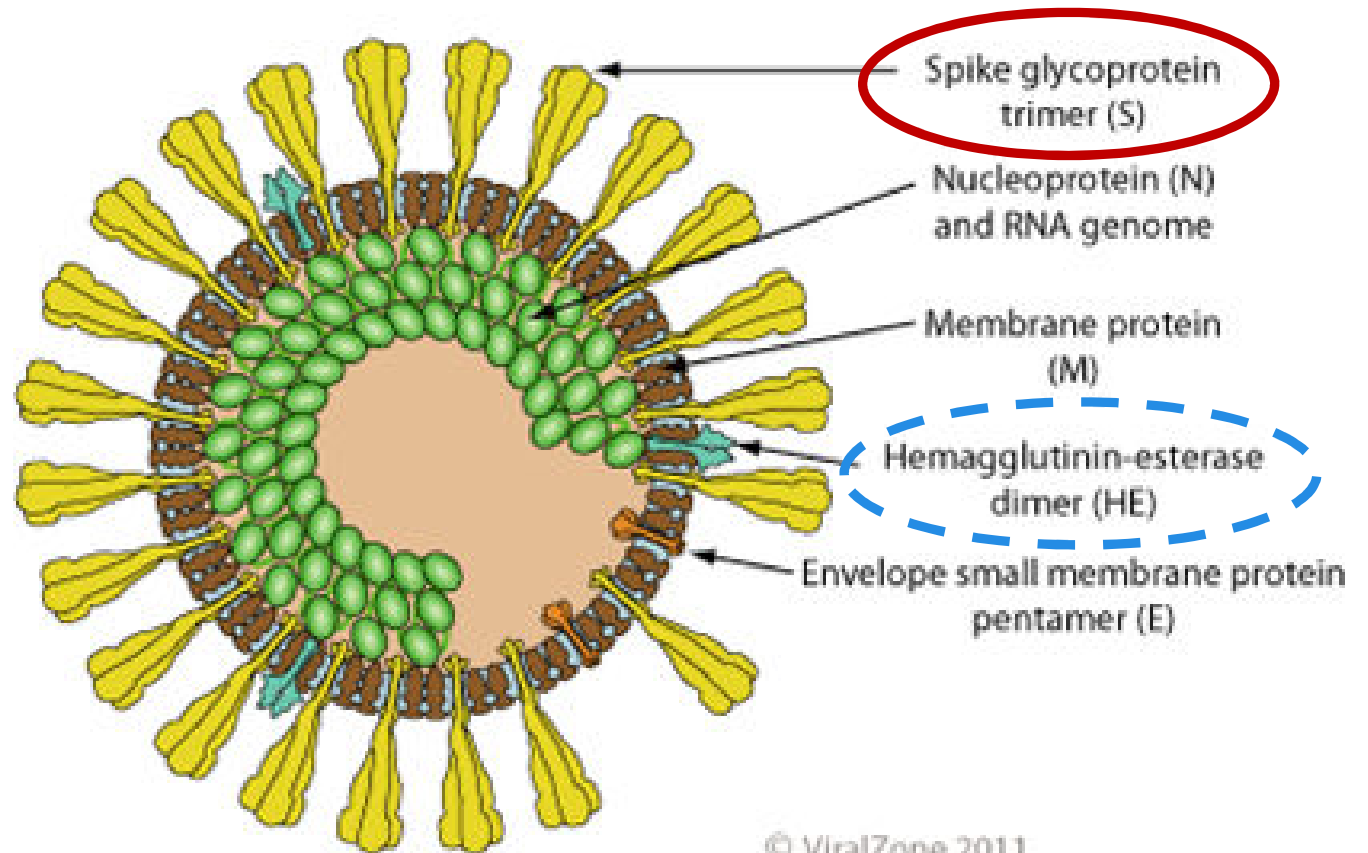


Grandi: 100-160 nm  
per lo più sferici

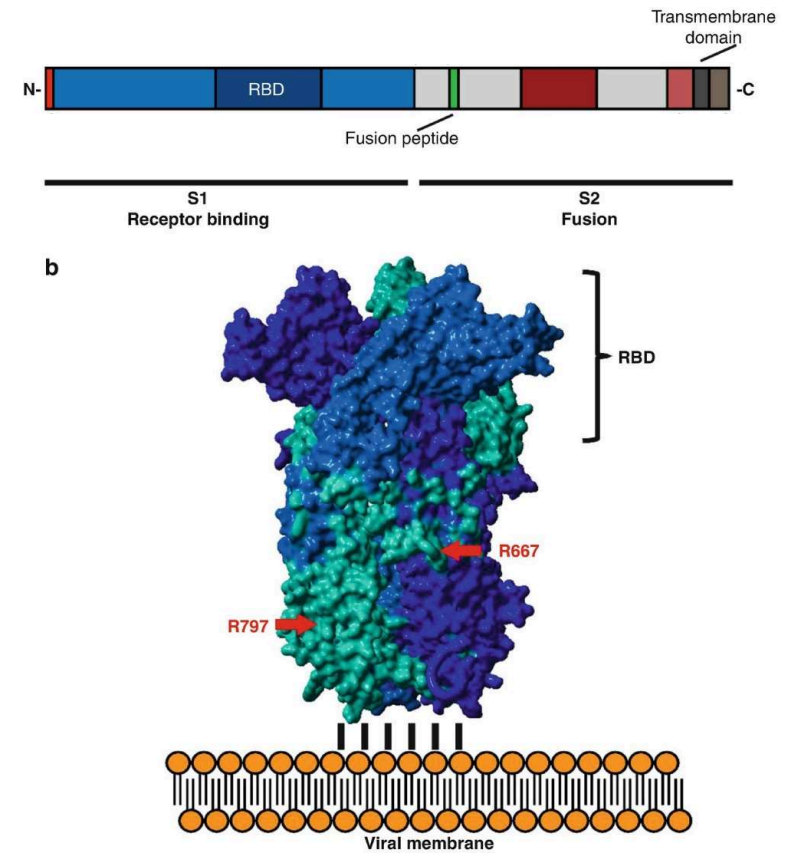
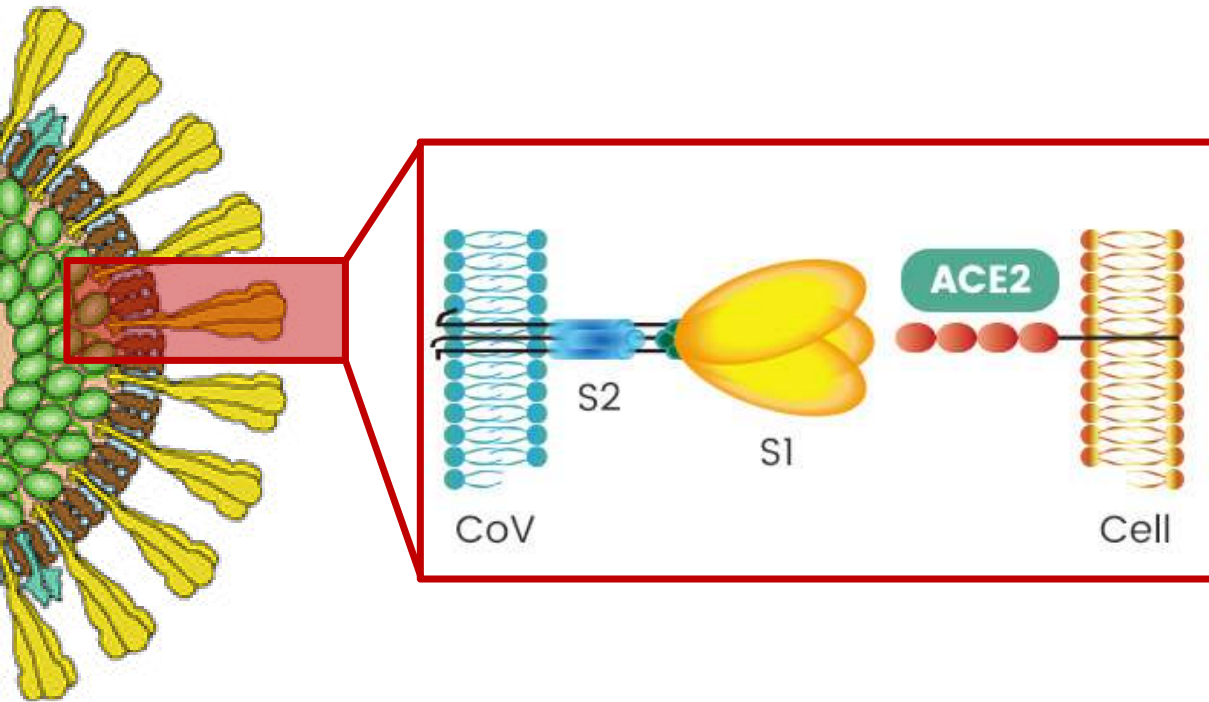
ssRNA + lineare  
26-32 Kb

Alcuni emoagglutinanti



© ViralZone 2011  
Swiss Institute of Bioinformatics

# PROTEINA dello SPIKE



— Realm: *Riboviria*

— Order: *Nidovirales*

— Suborder: *Cornidovirineae*



— Family: *Coronaviridae*

— Subfamily: *Letovirinae*

+ Genus: *Alphaletovirus*

— Subfamily: *Orthocoronavirinae*

+ Genus: *Alphacoronavirus*

+ Genus: *Betacoronavirus*

+ Genus: *Deltacoronavirus*

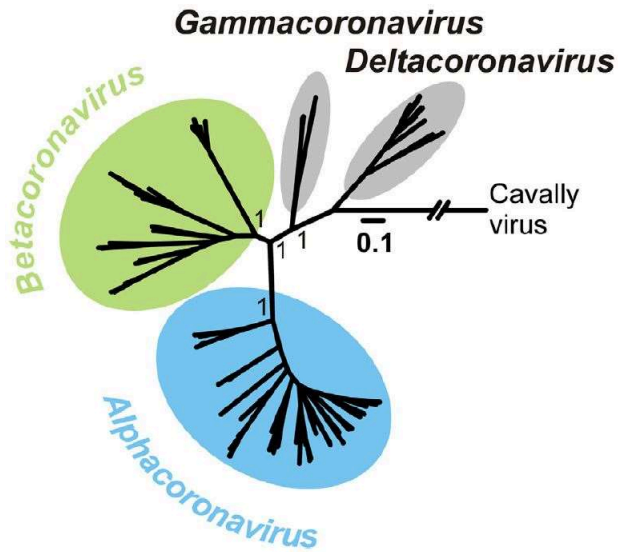
+ Genus: *Gammacoronavirus*

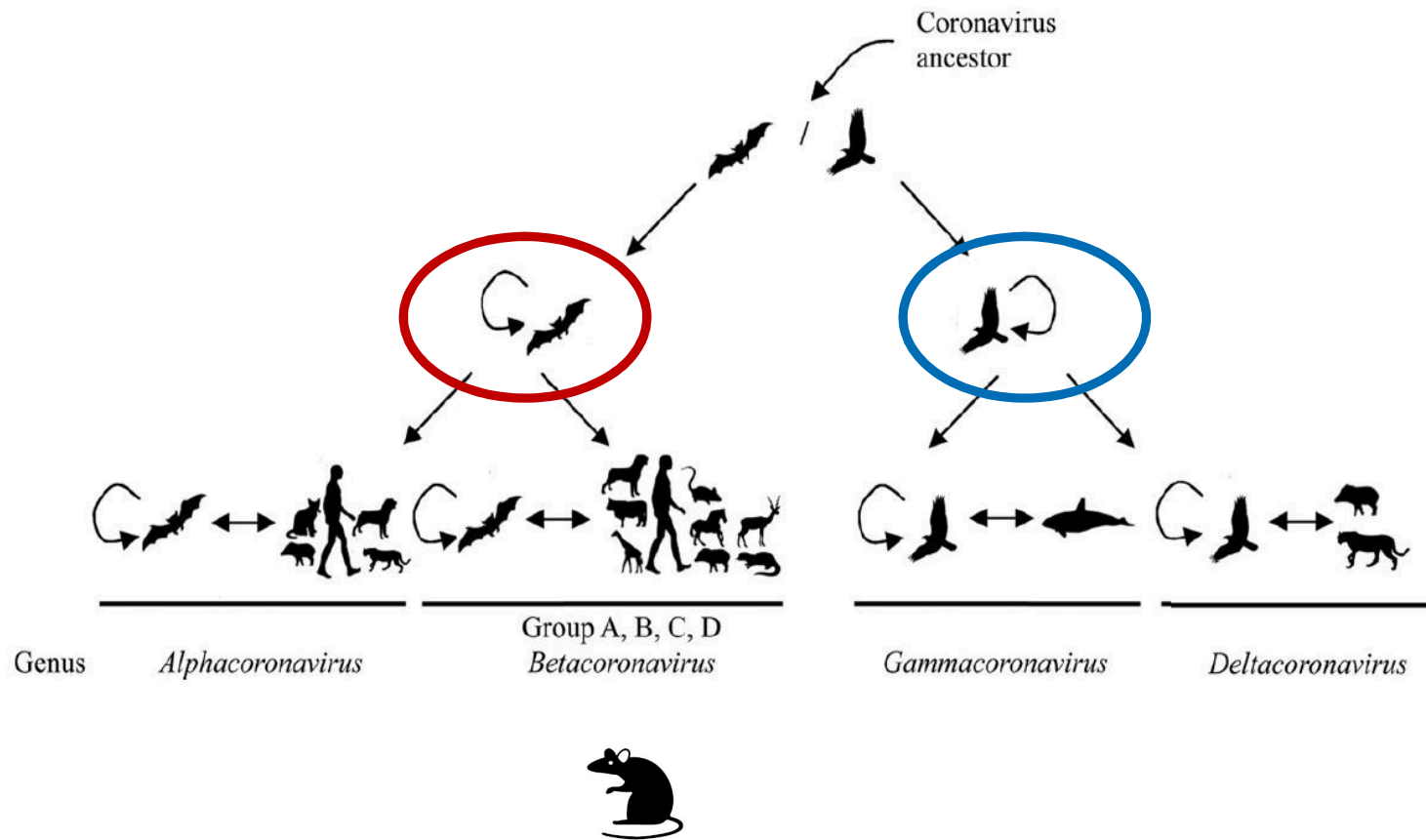
mammiferi



uccelli e

alcuni mammiferi





PEDV



TGEV e PRCV



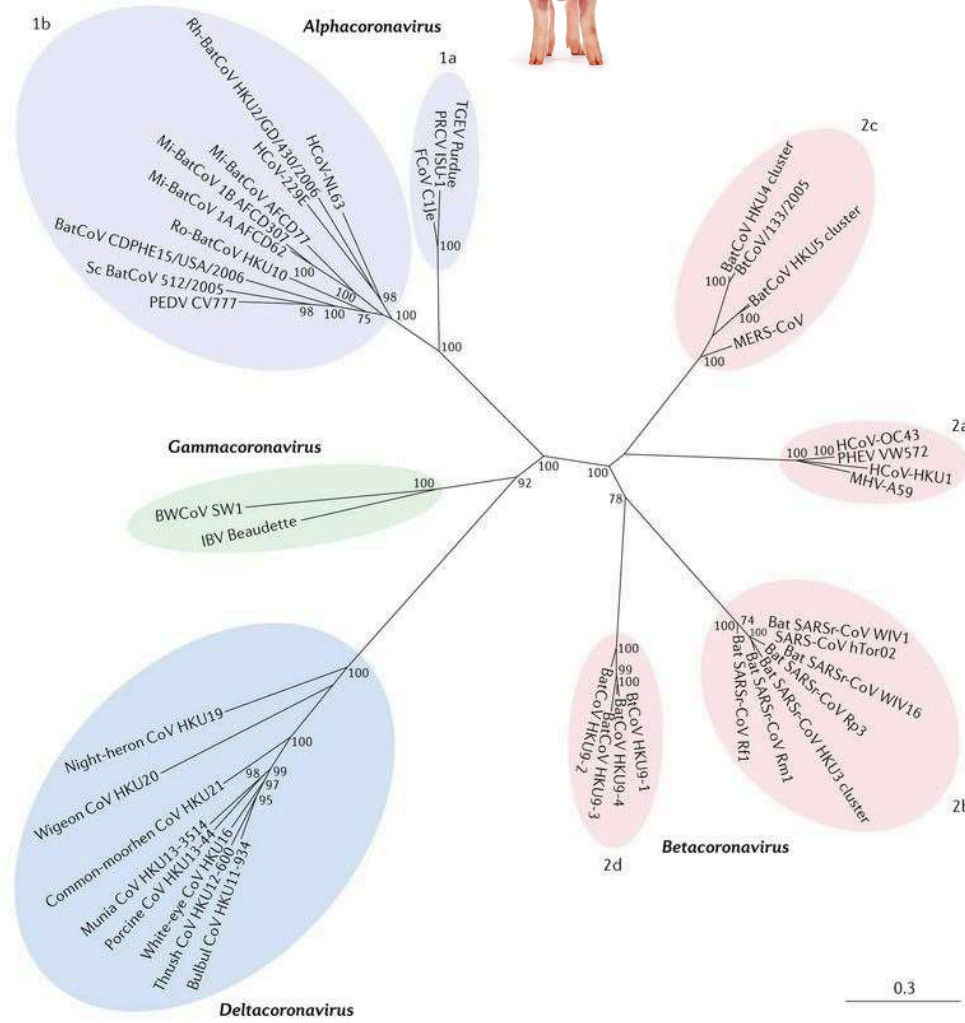
SADS-CoV

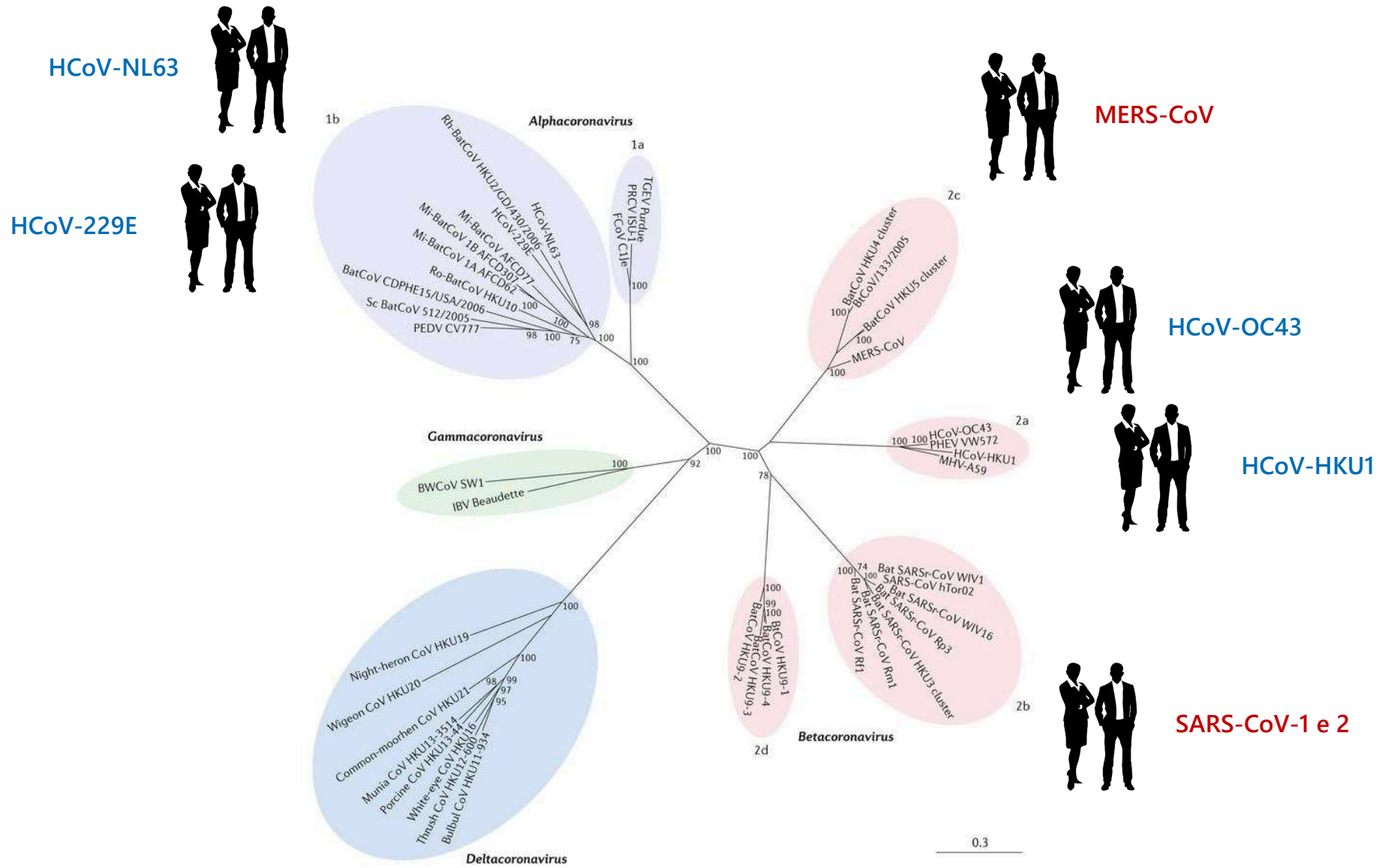


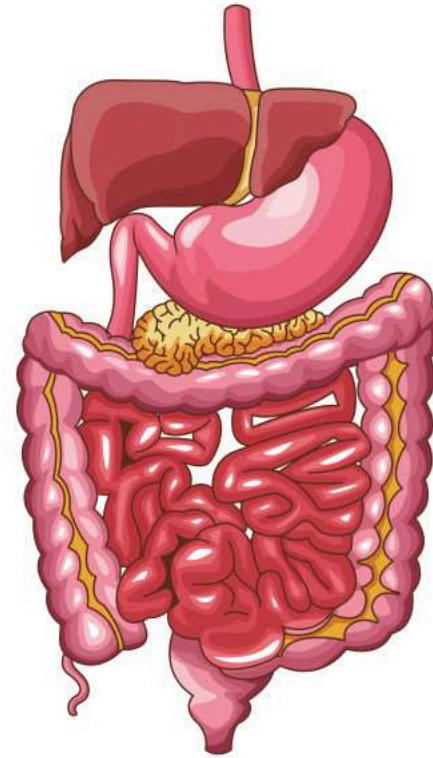
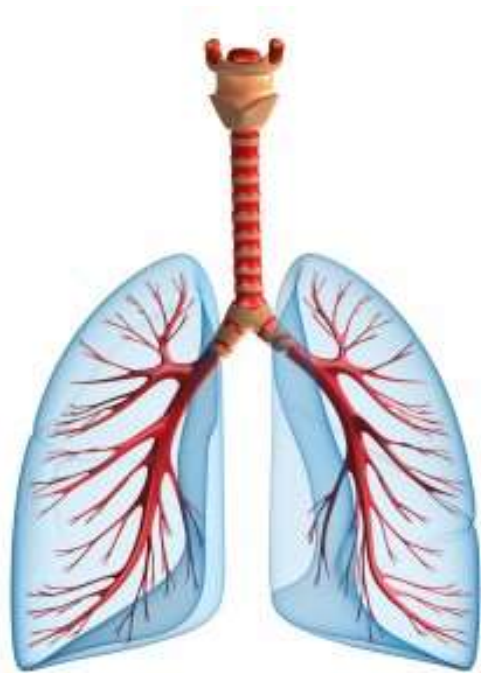
PHEV



PDCoV







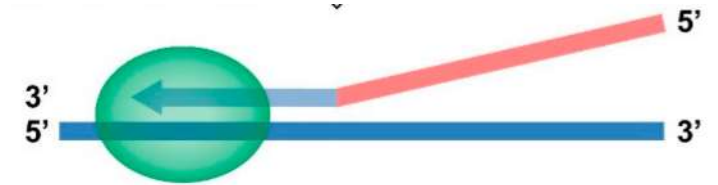


# EVOLUZIONE

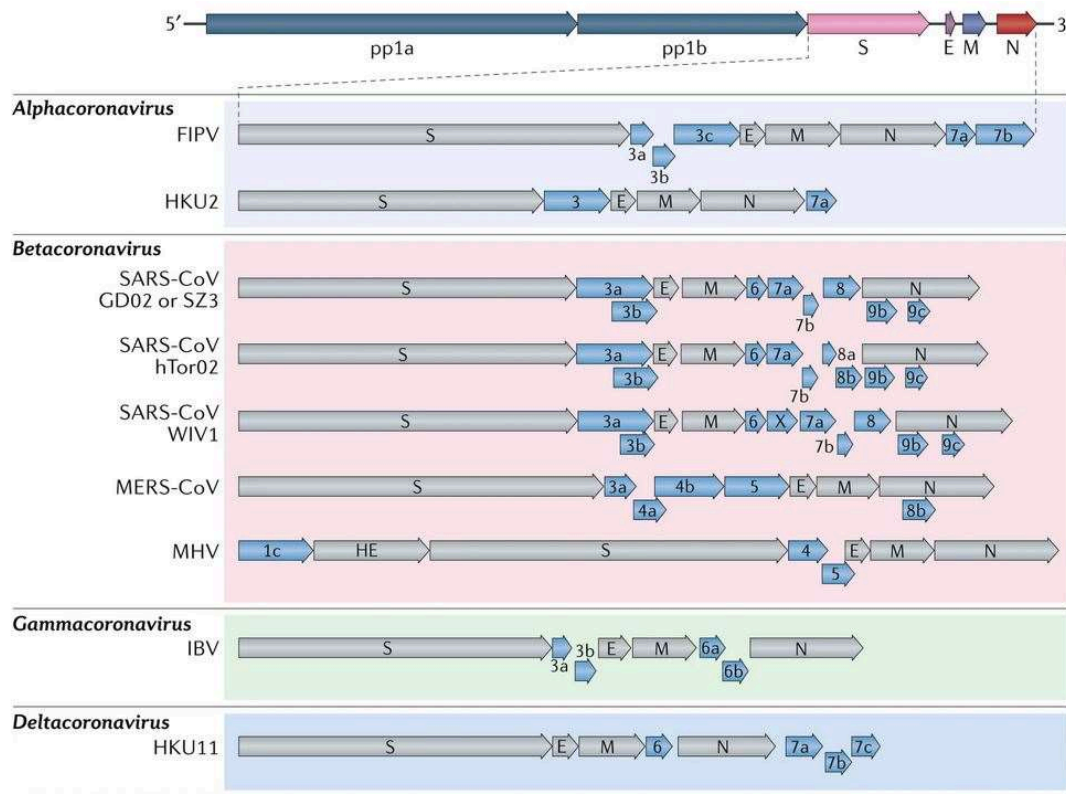
## MUTAZIONI



## RICOMBINAZIONI



# EVOLUZIONE



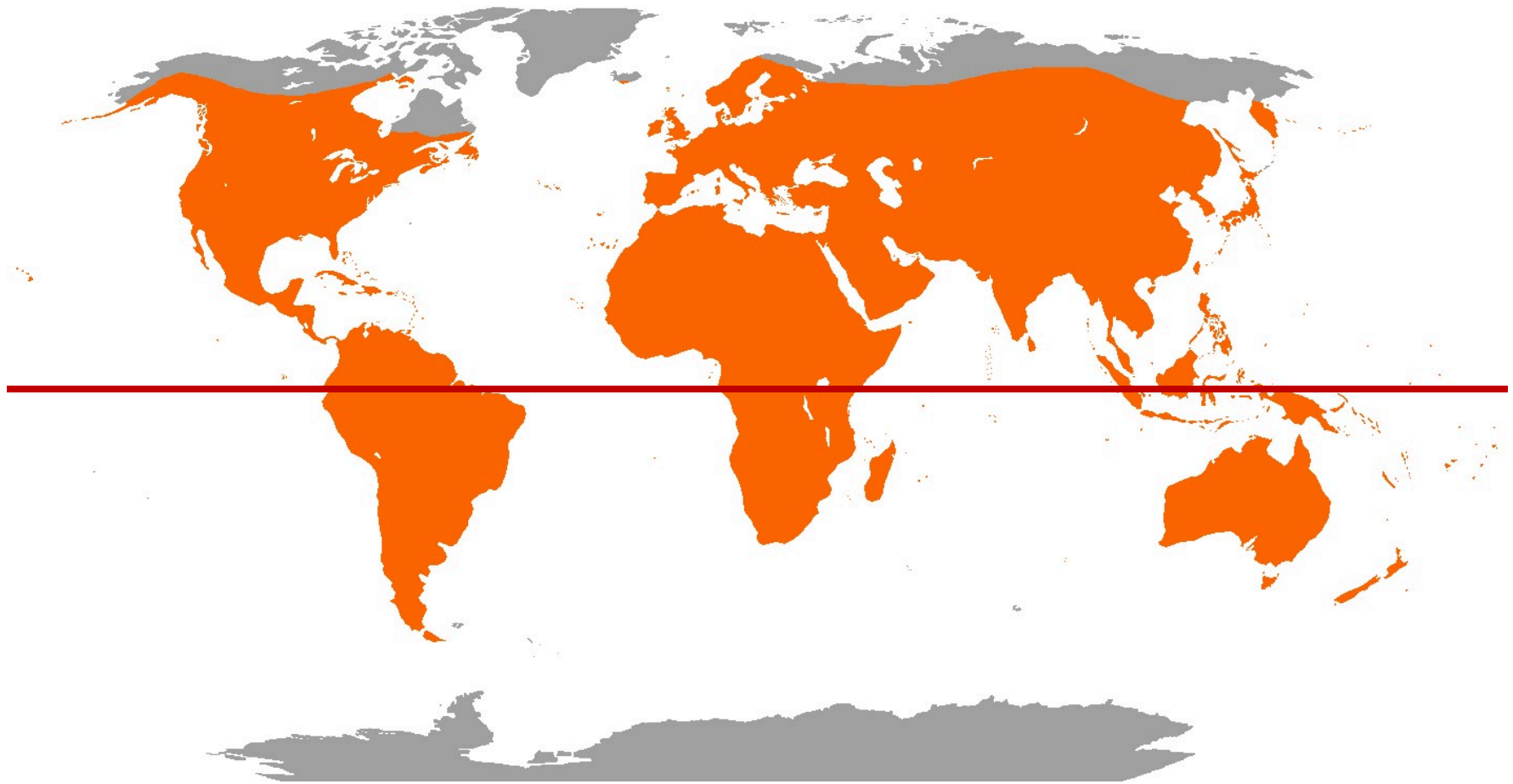
- Elusione risposta immunitaria
- Variazione della patogenicità
- Modifica dello spettro d'ospite

# PIPISTRELLI



<i>Order</i>	<i>Suborder</i>	<i>Family</i>
Chiroptera	Megachiroptera	Pteropodidae
	Microchiroptera	Vespertilionidae Phyllostomidae Rhinolophidae Hipposideridae Molossidae Emballonuridae Nycteridae Mormoopidae Megadermatidae Natalidae Rhinopomatidae Thyropteridae Mystacinidae Furipteridae Noctilionidae Craseonycteridae Myzopodidae

## DISTRIBUZIONE GEOGRAFICA





## VOLO e MIGRAZIONE

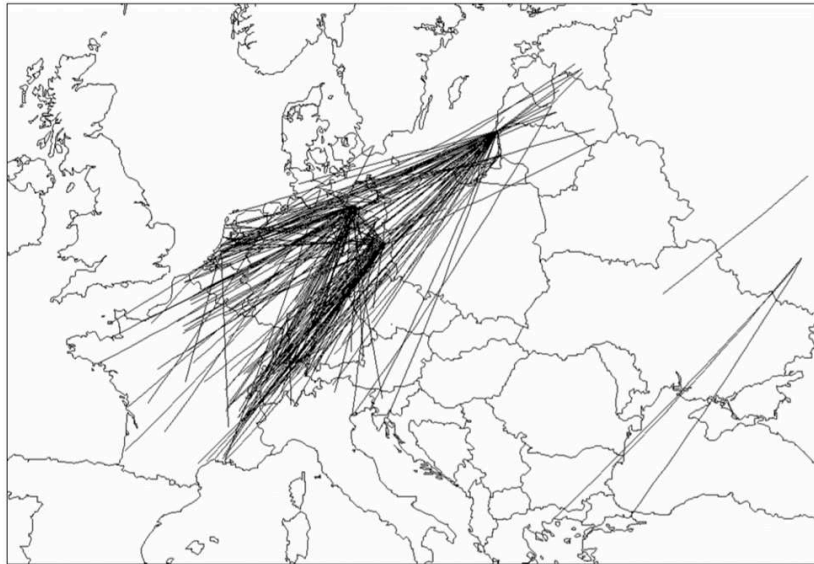
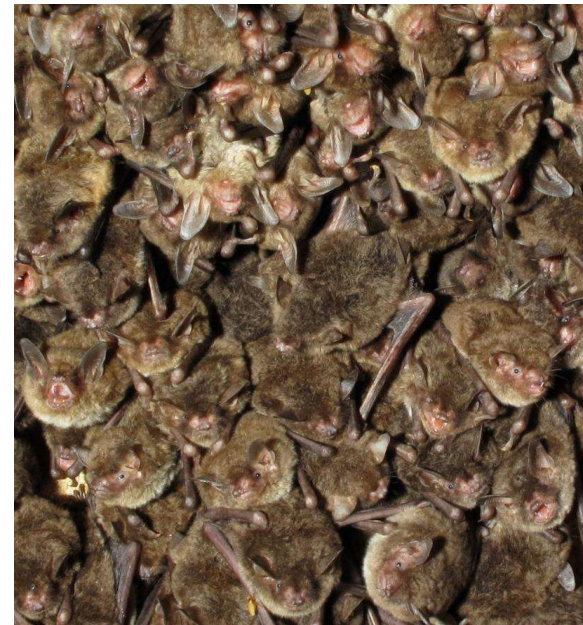


Fig. 24. Documented long-distance movements of *Pipistrellus nathusii* in Europe (n=307).





## NUMEROSITÀ e COLONIE



Pinterest - ClimateChangeVI.org / Merlin D. Tuttle, Bat Conservation International / Christian Ziegler / Bat Conservation International / Pinterest - jo wheeldon



# PREDATORI e PREDE

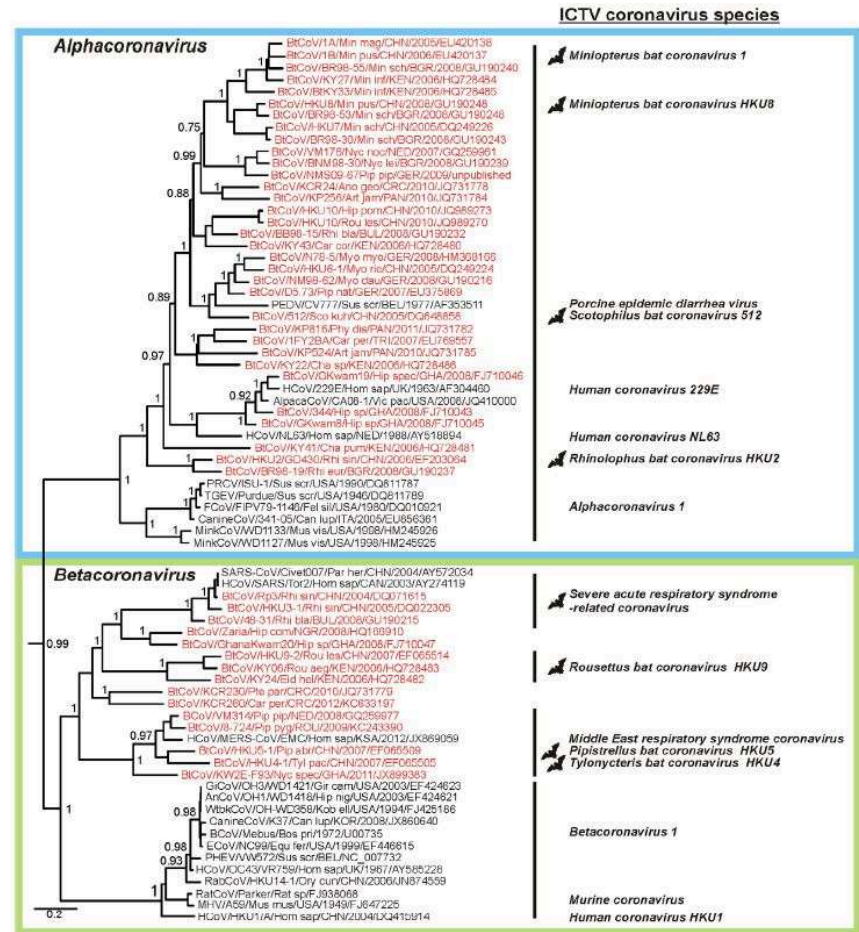
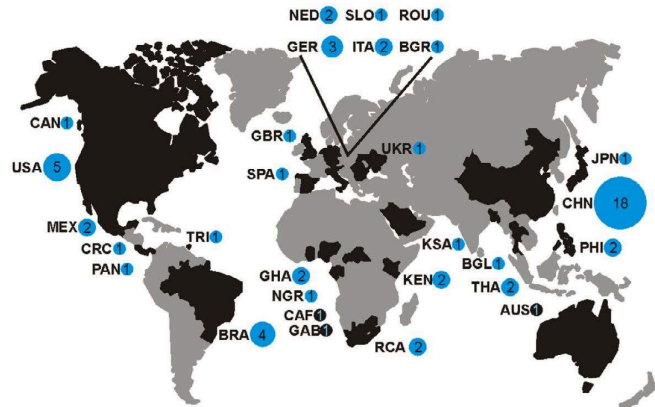


Fernando Belmar / Pinterest - 楊逸鴻 / Pinterest / Youtube screenshot

# PIPISTRELLI e CORONAVIRUS

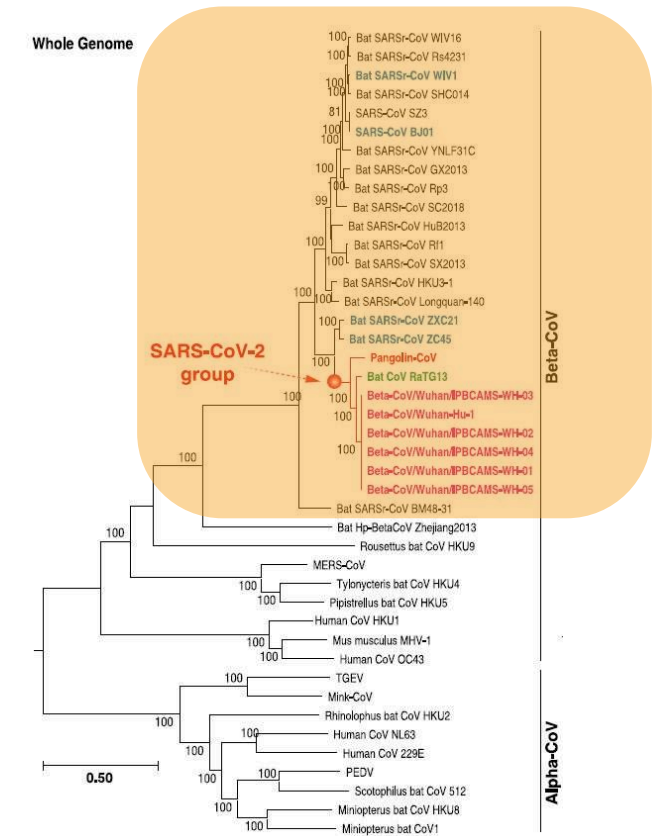
**AlphaCoV** – 17 specie infettanti mammiferi  
 10 infettano primariamente pipistrelli

**BetaCoV** – 12 specie infettanti mammiferi  
 5 infettano primariamente pipistrelli





# RINOLOFO e SARS-related-CoV



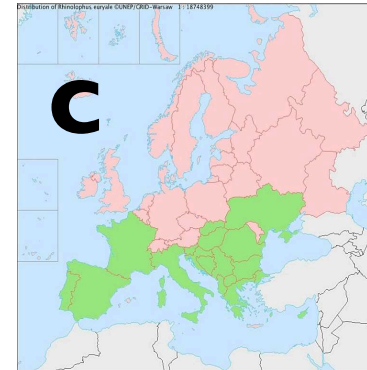
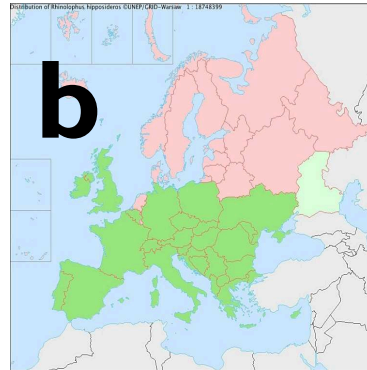
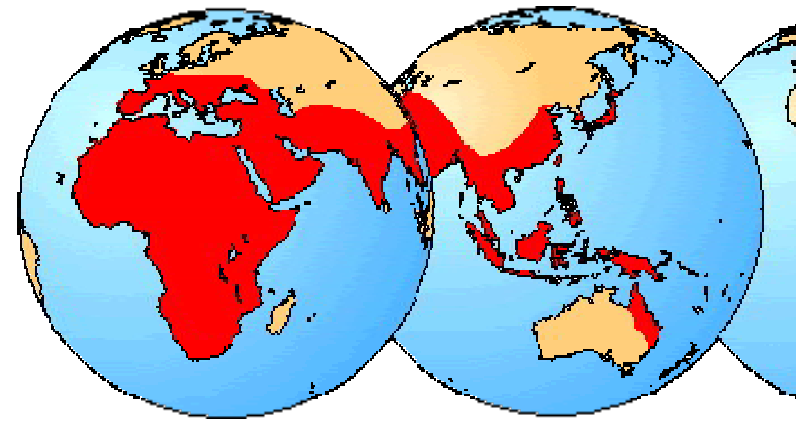
Zhang T et al. Curr Biol. 2020  
 Taylor et al. PLoS One. 2012. doi:10.1371/journal.pone.0041744.g00  
 Fletcher & Baylis/Science Photo Library

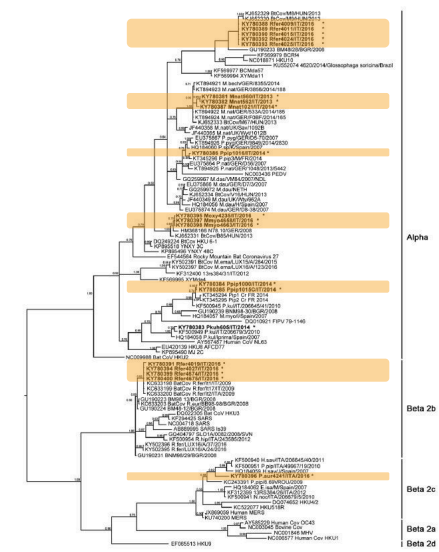
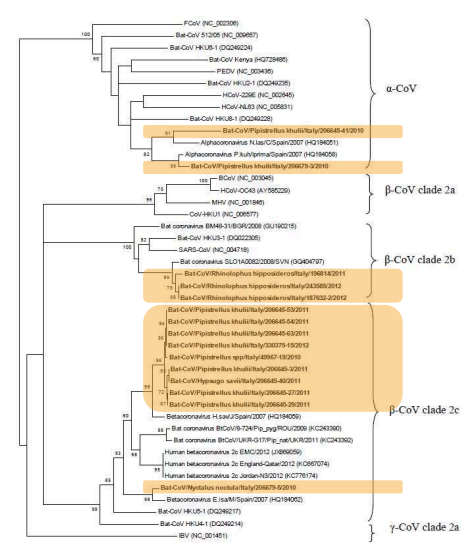
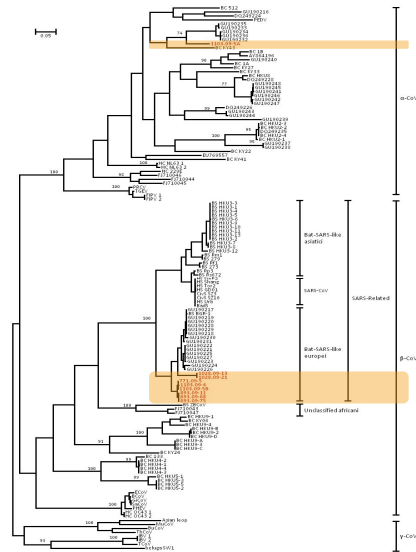
# RINOLOFO e SARS-related-CoV

## *Rhinolophus* spp.

- a) *R. ferrumequinum*
- b) *R. hipposideros*
- c) *R. euryale*
- d) *R. blasii*
- e) *R. mehelyi*

**Verde scuro:** presente  
**Verde chiaro:** in dubbio  
**Rosso:** assente  
[www.faunaeur.org](http://www.faunaeur.org)





## AlphaCoV e BetaCoV

*Plecotus auritus*

*Nyctalus noctula*

*Pipistrellus kuhlii* e *P. pipistrellus*

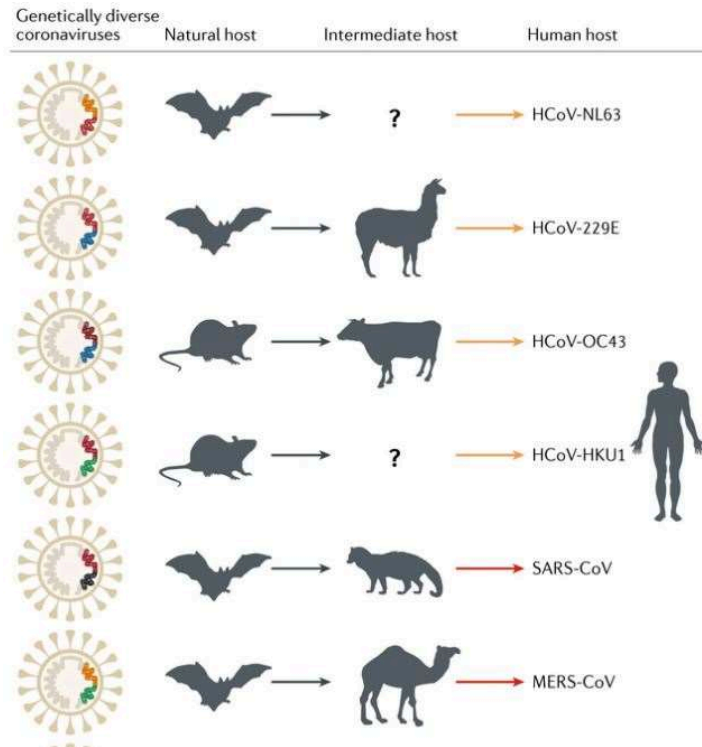
*Rhinolophus ferrumequinum* e *R. hipposideros*

*Myotis myotis*, *M. nattereri*, *M. daubentonii* e *M. oxygnathus*

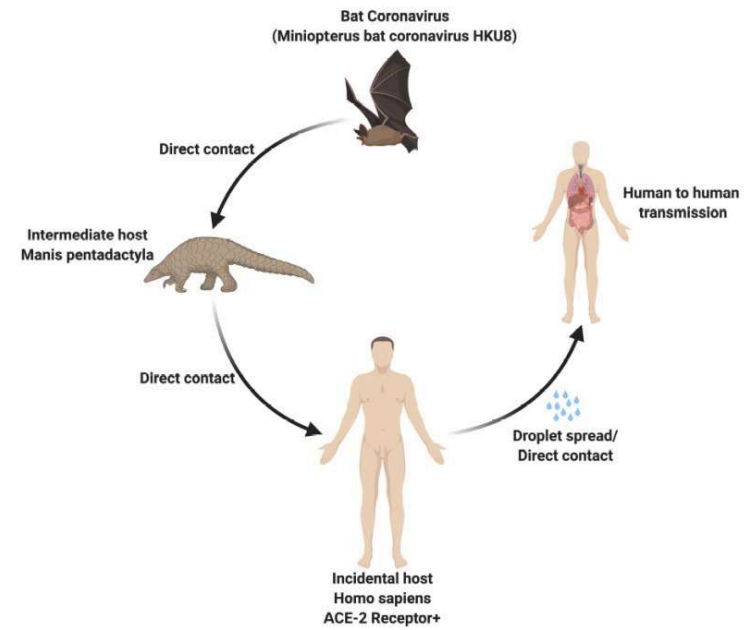
- Balboni et al. Epidemiol Infect. 2011
- Balboni et al. ScientificWorldJournal. 2012
- Muth et al. Sci Rep. 2018
- Lelli et al. Viruses. 2013
- Rizzo et al. BMC Vet Res. 2017

# SALTO DI SPECIE

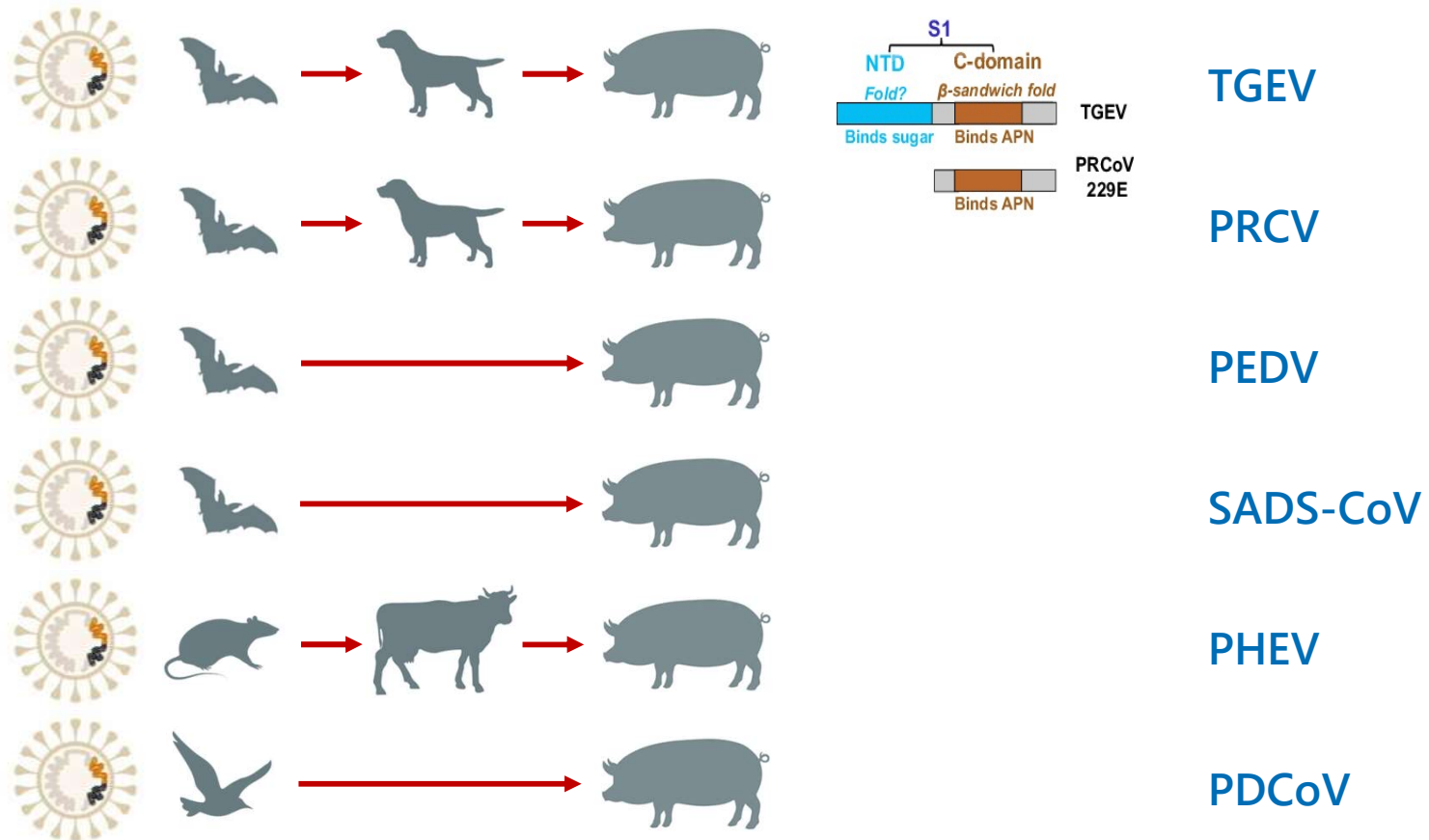




### Transmission Cycle of SARS CoV 2



# SUINO e CORONAVIRUS



# EMERGENZA DI UNA PANDEMIA

