### Accepted Manuscript

Title: Toward an understanding of the neural mechanisms underlying dual-task performance: Contribution of comparative approaches using animal models.

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 PII:
 S0149-7634(17)30116-1

 DOI:
 http://dx.doi.org/10.1016/j.neubiorev.2017.08.008

 Reference:
 NBR 2912

To appear in:

 Received date:
 1-2-2017

 Revised date:
 9-8-2017

 Accepted date:
 11-8-2017

Please cite this article as: Watanabe, Kei, Funahashi, Shintaro, Toward an understanding of the neural mechanisms underlying dual-task performance: Contribution of comparative approaches using animal models.Neuroscience and Biobehavioral Reviews http://dx.doi.org/10.1016/j.neubiorev.2017.08.008

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## ACCEPTED MANUSCRIPT

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#### Highlights

- The dual-task paradigm has been widely used to study higher-order cognitive functions in humans.
- Human studies have been unable to answer many key questions regarding the neural basis of dual-tasking.
- Animals (rats, pigeons, monkeys) possess sufficient cognitive capability to perform dual tasks.
- We provide a comprehensive review of behavioral and neurobiological dual-task experiments in animals.
- Cross-species similarities in dual-task performance make animals good models for neurobiological investigations.

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