


Sus scrofa  [简体中文](#) [正體中文](#)

System: Terrestrial

| Kingdom | Phylum | Class | Order | Family |
|----------|----------|----------|--------------|--------|
| Animalia | Chordata | Mammalia | Artiodactyla | Suidae |

Common name pig (English), Wildschwein (German), razorback (English), te poaka (Maori), kuhukuhu (Maori), poretere (Maori), petapeta (Maori), kune-kune (Maori, New Zealand)

Synonym

Similar species

Summary *Sus scrofa* (feral pigs) are escaped or released domestic animals which have been introduced to many parts of the world. They damage crops, stock and property, and transmit many diseases such as Leptospirosis and Foot and Mouth disease. Rooting pigs dig up large areas of native vegetation and spread weeds, disrupting ecological processes such as succession and species composition. *Sus scrofa* are omnivorous and their diet can include juvenile land tortoises, sea turtles, sea birds, endemic reptiles and macro-invertebrates. Management of *Sus scrofa* is complicated by the fact that complete eradication is often not acceptable to communities that value feral pigs for hunting and food.



[view this species on IUCN Red List](#)

Species Description

Pigs are large omnivorous mammals with powerful bodies and coarse hairy coats. Their thick necks, wedge-shaped heads and mobile snouts are used in feeding to uproot the ground and find prey or plant material. Feral pigs are easily distinguished from domestic pigs via a smaller leaner and more muscular stature, shorter hind quarters, longer snouts and tusks. Older boars usually develop a thick keratinous shield over their shoulders, which provides some protection during fights with other boars. Feral pig hair is longer and coarser than a domestic pigs and sometimes forms in a tuft along their back (hence, the name razorback). The tails of feral pigs are not curly as in domestic pigs, they are instead long and straight with a bushy tip.

Ecological characteristics of feral pig activity, group size and home range size should be considered in any management strategy aimed to control pig numbers or reduce their negative impact. Feral pig activity varies between different habitats and climates. High activity has been reported to occur in early morning and late afternoon in tropical climates (Diong 1982). However, in India pigs have been reported to feed nocturnally to raid croplands (Sekhar 1998, in Wolf and Conover 2003). On Santa Cruz Island (California) the milder weather of fall and late winter causes pigs to be more active in the morning and evening, while the short cool and often rainy days of winter causes midday activity. Pigs on the island were active at night mostly when conditions were warm and dry (Van Vuren 1984, in Wolf and Conover 2003).

In terms of group structure, in North-western Australia mob sizes are generally about 12 or less, although occasionally mobs of 30 pigs are seen. Adult boars are mostly solitary.. In South Carolina the average home range of boars is 226 hectares, while the average for sows is 181 hectares (Wood and Brenneman 1980, in Wolf and Conover 2003).Whereas in Austrailia average home range can vary from 140 hectares for a boar in Namagdi National park , Australian capital territory (McIlroy and Saillard 1989), to 430 hectares for a boar in Western New South Wale (Giles 1980).

Feral pigs are polyoestrous, adult sows have a 21 day oestrous cycle and a gestation period of 112-114 days (Choquenot et al.1996). Estimated litter size is 4.5-6.3 viable young per sow (Twigg et al. 2005, Choquenot et al. 1996) but in good conditions 10 piglets can be born to one sow.

Lifecycle Stages

Pigs are normally social animals but adult boars over 18 months old are invariably solitary (McIlroy 1990).

Uses

Captain Cook used the pig in trading with the natives as early as 1777. \"A small pig of 10 or 12 pounds\" was traded for a spike but a \"hog\" was exchanged for a hatchet (Cook 1784, in Diong 1982).

In central Europe the false spruce webworm (*Cephalcia abietis*) causes defoliation of Norway spruce trees; high densities of boars are able to cause high mortality to insect larvae by up to 70%, however they also cause damage to tree roots making the perceived benefit negligible (Fuhrer and Fischer 1991, in Wolf and Conover 2003).

In many highland areas of New Guinea pigs are deliberately placed into gardens at the end of a harvest sequence and prior to gardening to remove remaining sweet potato tubers and to assist in turning and aerating the soil before replanting (Westermann 1968, Paglau 1982, Wood and Humphreys 1982, Tucker 1986, Kohun in hide 2003).

Habitat Description

The feral pig adapts to a variety of environments from Mediterranean oak woodland forests to the semi-arid rangelands of Eastern Australia, from the flood plains, billabongs and grassland savannas of tropical North-western Australia to the gray beech forests of the Smoky Mountains in America and from the wetland and lowland evergreen monsoon forests of Australia to the fresh water marshes and brackish water marshes of South Carolina (Wood and Brenneman 1980, in Wolf and Conover 2003). Wild pigs are rarely found over 1650m (Bulmer and Bulmer 1964, in Hide 2003), but are known to be found at altitudes as high as 3000m in New Guinea (Flannery 1995, in Hide 2003).

Home ranges of pigs are smaller during the dry season than during the wet season. During the dry season on Santa Catalina pigs preferred cool moist canyon bottoms due to a physiological need for free water. Dense vegetation was more actively sought after than open areas such as grasslands (Baber and Coblenz 1986, in Wolf and Conover 2003).

The presence of crops in the near area (for example palm dates or oat hay cultivations) provide a food supplement and may greatly increase feral pig density; the close location of cereal crops in one study increased the density of feral pigs almost four-fold (Caley 1993, in Wolf and Conover 2003). Similarly the presence of adjacent palm cultivations in Malaysia was found to increase pigs density by 10 to 100 times (Ickes Paciorek and Thomas 2005).

High densities of pigs may also be attributed to water availability. The recent expansion in feral pig distribution in Australia has been attributed to the increase in suitable habitats, in particular, an increase in water availability from farm dams and developing forest industries (Spencer and Hampton 2005).

Reproduction

Feral pigs are polyoestrus: adult females have a 21-day oestrus cycle and a gestation period of about 112-114 days. In New Zealand they probably breed throughout the year, though mainly in spring and summer (Wodzicki 1950; J. McIlroy unpublished). Their litter size is usually between 6 and 10 piglets, but usually only half this number survives. They reach breeding age at between 10 and 12 months (Wodzicki 1950).

In one study females were found to have about 5 young every 0.86 years with some females having two litters per year. In this study fertility continued to increase with age until it peaked at two to three years of age. 58% of piglets died before weaning (Baber and Coblenz 1986, in Wolf and Conover 2003).

Nutrition

Pigs lack the multiple stomachs found in ruminants such as cattle and goats. Feral pigs are omnivores with an opportunistic diet, including high-fibre (> 25%) low-protein grasses, legumes, herbs and roots. They readily feed on crops, fallen fruits, seeds and small animals (McIlroy 1990). Pigs regularly root the ground in search of roots, fungus, nuts, seeds and grubs (Frederick 1998, Sicuro 2002, in Wolf and Conover 2003). In their native Mediterranean woodland the wild boar compensates for the reduced supply of acorns in the spring by raiding underground hoards of acorns collected and buried by small mammals (the availability of acorns is critical to female boars as they need the extra nutrition for lactation) (Focardi Capizzi and Monetti 2000, in Wolf and Conover 2003).

Pigs adapt their diet to best utilise local resources. In the semi-arid rangelands of eastern Australia and in New Guinea feral pigs will regularly hunt and devour lambs (particularly twin lambs (which are weaker) (Choquenot, Lukins and Curran 1997, in Wolf and Conover 2003; Hide 2003). On Horn Island, Mississippi, hogs take advantage of high seasonal abundances of insects, crabs and dead fish (Baron 1982, in Wolf and Conover 2003). On Santa Cruz Island, California, acorns and new growth of grasses and forbs are major components of the feral pig's diet (Van Vuren 1984, in Wolf and Conover 2003).

In South Carolina fruits, especially acorns are the most common food type consumed in fall and winter; herbage and foliage are most common in the spring; roots are most common in the summer. Invertebrates and vertebrates are also consumed, though they were not as important. The consumption of woody plants may be underestimated in stomach contents surveys as the starches and sap obtained from the roots of such plants go undetected (Wood and Roark 1980, in Wolf and Conover 2003).

In the western South Texas Plains (introduced range) feral pigs have a spring-summer diet that consists mainly of vegetation, while acorns are their winter food source. Their autumn diet consists of roots and corn. Animal matter consisting of deer, morning doves, reptiles and other birds represents a small portion of the hog's diet. Of these, reptiles were the most susceptible to predation (Taylor and Hellgren 1997, in Wolf and Conover 2003). In one study conducted in Hawaii by Diong 1982, food habits were characterised by (1) an omnivorous diet consisting mainly of plant matter, (2) a staple of tree ferns, (3) a seasonal switch from tree ferns to strawberry guava, and (4) a strong reliance of earthworms as a source of animal protein. The dietary range covered 40 plant species (63% herbaceous species, 33% trees and woody vine). Tree ferns were the most concentrated source of sugar and starch.

General Impacts

Please follow this link for details on the [general impacts of *S. scrofa* compiled by the ISSG](#).

Management Info

Poisoning with sodium monofluoroacetate (1080) is the most popular method used to control feral pigs. Most pigs vomit within four hours of ingestion. This may be potentially hazardous to nontarget organisms and may result in the survival of the pig. The use of anti-emetics such as metoclopramide, thiethylperazine and prochlorperazine may prevent vomiting at high doses (O'Brien *et al.* 1986, in Wolf and Conover 2003).

A vaccine for pseudorabies and swine brucellosis in fish meal bait may be used in late summer (when natural food supplies are low) to control these diseases (Fletcher *et al.* 1990, in Wolf and Conover 2003).

In the mid 1900s New Zealand conservation practitioners applied mainland hunting techniques to eradicate feral pig populations from small islands (<200 ha, Veitch and Bell, 1990, in Cruz *et al.* 2005). More recently poisoning techniques have been developed to control or eradicate feral pig populations (Choquenot *et al.*, 1990; O'Brien and Lukins, 1990, in Cruz *et al.* 2005). Hunting and poisoning techniques used in combination, now facilitate pig eradication efforts on larger islands (Lombardo and Faulkner, 2000, Schuyler *et al.*, 2002, Veitch and Bell, 1990, in Cruz *et al.* 2005).

In Hawaii, snaring has been used to control pigs within 600–800 km² fenced enclosures located in remote areas of rain forest in the Haleakala National Park (Maui) (Anderson and Stone 1993). Many people place a high cultural value on pigs (ie: using them as a food convenient food source) so that removing them from designated areas may not be acceptable without a clear idea of the benefits. Snaring would not always be an acceptable method of control. In addition, the fact that pigs are highly mobile means it is uneconomic for an individual landowners or controlling agency to control them (as pigs as they quickly move in from adjacent properties to replace the removed ones).

Much wisdom and insight can be gained from the case study of pig removal from Santiago Island in the Galapagos Archipelago (off the coast of Ecuador). Factors that proved critical to the successful eradication of the feral pig on the island were: (1) a sustained effort, (2) an effective poisoning campaign, (3) a hunting program, (4) access to animals by cutting more trails and, (5) an intensive monitoring program. Throughout the 1970s and 1980s, hunting effort was low (<500 hunter-days/year), while in the early 1990s effort increased but fluctuated. In contrast, the revised campaign in the mid-1990s resulted in a continuous, minimum annual effort of 1500 hunter-days/year. Hunter access to pigs was critical. Extra trails were cut and goats were not hunted in order to keep vegetation suppressed (allowing hunters and dogs access to all areas of the island). Motivating hunters was a continual challenge, especially when pigs were at low densities. However, social, moral boosting events and financial incentives maintained hunter motivation. While the poisoning campaign killed relatively few pigs compared to hunting, the low cost of the poisoning made such efforts especially cost-effective. The compounds used were toxic to most species, and thus the pros of using them for eradication had to be balanced with the potential impact on non-target species (Donlan *et al.*, 2003a, in Cruz *et al.* 2005). In 2000, six months after the last pig was shot, the last pig was poisoned following an intensive monitoring effort. A sustained monitoring effort was critical to successful eradication. The lack of such an effort is responsible for many eradication failures (Campbell *et al.*, 2004, in Cruz *et al.* 2005).

Pathway

Expansion into new areas can result from transport for hunting, escape from confined facilities, dispersal of wild populations and escape of domestic swine from free ranging commercial ranches (Gipson Hlavachick And Berger 1998, in Wolf and Conover 2003). Released as food.

Principal source:

Compiler: IUCN SSC Invasive Species Specialist Group

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Review:

Publication date: 2010-05-18

ALIEN RANGE

| | |
|---------------------------------|-------------------------------------|
| [1] AMERICAN SAMOA | [1] ARGENTINA |
| [7] AUSTRALIA | [1] BAHAMAS |
| [1] BRAZIL | [1] CHILE |
| [7] COOK ISLANDS | [1] CURACAO |
| [1] DOMINICA | [1] DOMINICAN REPUBLIC |
| [2] ECUADOR | [4] FIJI |
| [1] FRANCE | [8] FRENCH POLYNESIA |
| [1] FRENCH SOUTHERN TERRITORIES | [1] GUAM |
| [1] INDIA | [1] JAMAICA |
| [9] KIRIBATI | [1] MARSHALL ISLANDS |
| [2] MAURITIUS | [1] MAYOTTE |
| [1] MEXICO | [3] MICRONESIA, FEDERATED STATES OF |
| [1] MONTSERRAT | [1] NAURU |
| [7] NEW CALEDONIA | [1] NEW GUINEA |
| [8] NEW ZEALAND | [1] NIUE |
| [4] NORTHERN MARIANA ISLANDS | [1] PAKISTAN |
| [1] PALAU | [13] PAPUA NEW GUINEA |
| [1] PITCAIRN | [1] PUERTO RICO |
| [1] REUNION | [1] SAINT LUCIA |
| [2] SAMOA | [8] SOLOMON ISLANDS |
| [1] SOUTH AMERICA | [1] TONGA |
| [22] UNITED STATES | [1] VIRGIN ISLANDS, U.S. |
| [1] WALLIS AND FUTUNA | |

Red List assessed species 281: EX = 7; EW = 5; CR = 109; EN = 81; VU = 54; LR/nt = 1; NT = 14; DD = 1; LC = 9;

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|---|--|
| Abutilon sandwicense CR | Acacia koaia VU |
| Alectryon macrococcus CR | Alphitonia ponderosa VU |
| Alsinidendron lychnoides CR | Alsinidendron obovatum CR |
| Alsinidendron trinerve CR | Alsinidendron viscosum CR |
| Anas aucklandica VU | Anas wyvilliana EN |
| Aphelocoma insularis NT | Apteryx haastii VU |
| Araucaria hunsteinii LR/nt | Argyroxiphium kauense CR |
| Argyroxiphium sandwicense VU | Astelia waialealae CR |
| Bidens conjuncta VU | Bidens cosmoides EN |
| Bidens populifolia VU | Bobeia sandwicensis VU |
| Bonamia menziesii CR | Branta sandwicensis VU |
| Bulimulus darwini VU | Buteo solitarius NT |
| Calamagrostis expansa VU | Calamagrostis hillebrandii EN |
| Callerya neocaledonica CR | Camarhynchus pauper CR |
| Canavalia molokaiensis CR | Caretta caretta EN |
| Casuarius bennetti NT | Cenchrus agrimonoides CR |
| Chamaesyce deppeana CR | Chamaesyce halemanui CR |
| Chamaesyce remyi CR | Chamaesyce rockii CR |
| Chamaesyce sparsiflora VU | Charpentiera densiflora CR |
| Cheirodendron dominii EN | Chelonia mydas EN |
| Christella boydiae EN | Clermontia calophylla EN |
| Clermontia drepanomorpha EN | Clermontia hawaiiensis VU |
| Clermontia lindseyana EN | Clermontia peleana EW |
| Clermontia pyricularia CR | Clermontia tuberculata EN |
| Clermontia waimeae EN | Coccyzus ferrugineus VU |
| Coenocorypha aucklandica NT | Colubrina oppositifolia CR |

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|---|----|--|----|
| Ctenitis squamigera | CR | Cyanea acuminata | CR |
| Cyanea asarifolia | CR | Cyanea asplenifolia | CR |
| Cyanea crispa | CR | Cyanea dunbariae | CR |
| Cyanea eleeleensis | CR | Cyanea glabra | CR |
| Cyanea horrida | CR | Cyanea pinnatifida | EW |
| Cyanea st-johnii | CR | Cyanea superba | EW |
| Cyanea truncata | EW | Cyclura collei | CR |
| Cyclura cornuta | VU | Cyclura stejnegeri | EN |
| Cyrtandra giffardii | EN | Cyrtandra kaulantha | CR |
| Cyrtandra polyantha | CR | Cyrtandra waiolani | EW |
| Dasyornis brachypterus | EN | Dermochelys coriacea | CR |
| Diomedea antipodensis | VU | Diomedea dabbenena | CR |
| Diomedea epomophora | VU | Diploglossus montisserrati | CR |
| Ducula galeata | EN | Emoia adspersa | EN |
| Engaeus martigener | EN | Engaeus urostrictus | VU |
| Engaewa similis | LC | Engaewa walpolea | EN |
| Epicrates monensis | EN | Eretmochelys imbricata | CR |
| Erythrura gouldiae | EN | Euastacus armatus | DD |
| Euastacus australasiensis | LC | Euastacus balanesis | EN |
| Euastacus bidawalis | EN | Euastacus bindal | CR |
| Euastacus brachythorax | EN | Euastacus clarkae | CR |
| Euastacus claytoni | EN | Euastacus crassus | EN |
| Euastacus dalagarbe | CR | Euastacus dharawalus | CR |
| Euastacus diversus | EN | Euastacus eungella | CR |
| Euastacus fleckeri | EN | Euastacus gamilaroi | CR |
| Euastacus girurmulayn | CR | Euastacus gumar | EN |
| Euastacus guruhgi | CR | Euastacus guwinus | CR |
| Euastacus hirsutus | EN | Euastacus hystricosus | EN |
| Euastacus jagabar | CR | Euastacus jagara | CR |
| Euastacus maccai | EN | Euastacus maidae | CR |
| Euastacus mirangudjin | CR | Euastacus monteithorum | CR |
| Euastacus pilosus | EN | Euastacus polysetosus | EN |
| Euastacus rieki | EN | Euastacus robertsi | CR |
| Euastacus setosus | CR | Euastacus simplex | VU |
| Euastacus spinichelatus | EN | Euastacus sulcatus | VU |
| Euastacus suttoni | VU | Euastacus urospinosus | EN |
| Euastacus valentulus | LC | Euastacus wiowuru | NT |
| Euastacus yanga | LC | Euastacus yarreansis | VU |
| Euastacus yigara | CR | Eugenia koolauensis | EN |
| Euphorbia haeleeleana | EN | Gallicolumba salamonis | EX |
| Gallicolumba sanctaerucis | EN | Gallinula nesiotis | VU |
| Gallinula pacifica | CR | Gallirallus lafresnayanus | CR |
| Gallirallus sylvestris | EN | Gardenia mannii | CR |
| Geocrinia vitellina | VU | Gouania vitifolia | CR |
| Gymnomyza aubryana | CR | Hemignathus lucidus | CR |
| Hemignathus parvus | VU | Hesperomannia arborescens | CR |
| Hesperomannia arbuscula | CR | Hibiscadelphus woodii | CR |
| Hibiscus clayi | CR | Himantoglossum adriaticum | LC |
| Hypericum corsicum | LC | Icterus oberi | CR |
| Labordia cyrtandrae | CR | Laterallus spilonotus | VU |
| Leptodactylus fallax | CR | Lewinia muelleri | VU |
| Lioscincus steindachneri | EN | Litoria dayi | EN |
| Litoria lorica | CR | Litoria nannotis | EN |
| Litoria nyakalensis | CR | Litoria pearsoniana | NT |

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|--|----|--|----|
| Litoria rheocola | EN | Lonchura stygia | NT |
| Loxops coccineus | EN | Marmorosphax boulinda | VU |
| Marmorosphax kaala | CR | Marmorosphax montana | VU |
| Marmorosphax taom | CR | Marmorosphax tricolor | LC |
| Mastacomys fuscus | NT | Masticophis anthonyi | CR |
| Megacrex inepta | NT | Megalurus albolimbatus | VU |
| Megapodius laperouse | EN | Megapodius pritchardii | EN |
| Melamprosops phaeosoma | CR | Melicope balloui | EN |
| Melicope saint-johnii | EN | Mergus australis | EX |
| Metrosideros bartlettii | EN | Mimus macdonaldi | VU |
| Mimus trifasciatus | CR | Mixophyes fleayi | EN |
| Moho bishopi | EX | Moho braccatus | EX |
| Myadestes lanaiensis | CR | Myadestes myadestinus | EX |
| Myadestes obscurus | VU | Myadestes palmeri | CR |
| Nannoscincus garrulus | EN | Nannoscincus hanchisteus | CR |
| Nannoscincus manauae | CR | Nannoscincus rankini | VU |
| Nesotriccus ridgwayi | VU | Nothoecetrum peltatum | CR |
| Numenius tahitiensis | VU | Oedodera marmorata | CR |
| Oreomystis bairdi | CR | Oreomystis mana | EN |
| Palmeria dolei | CR | Paroreomyza montana | EN |
| Pelagodoxa henryana | CR | Phaeognathus hubrichti | EN |
| Phalacrocorax colensoi | VU | Phalacrocorax featherstoni | EN |
| Phalacrocorax onslowi | CR | Phalanger alexandrae | EN |
| Phlegmariurus nutans | CR | Phylloscopus amoenus | VU |
| Phyllostegia kaalaensis | CR | Phyllostegia mollis | CR |
| Pinaroloxias inornata | VU | Potamon fluviatile | NT |
| Potorous longipes | EN | Pritchardia affinis | CR |
| Pritchardia glabrata | EN | Pritchardia kaalae | CR |
| Pritchardia lanaiensis | EN | Pritchardia lanigera | EN |
| Pritchardia limahuliensis | CR | Pritchardia napaliensis | CR |
| Pritchardia perlmanii | EN | Pritchardia viscosa | CR |
| Procellaria conspicillata | VU | Procellaria parkinsoni | VU |
| Psephotus chrysoterygius | EN | Pseudobulweria rostrata | NT |
| Pseudonestor xanthophrys | CR | Pseudophryne pengilleyi | EN |
| Psittacula eques | EN | Psittirostra psittacea | CR |
| Pteralyxia kauaiensis | EN | Pterodroma arminjoniana | VU |
| Pterodroma axillaris | EN | Pterodroma brevipes | VU |
| Pterodroma caribbaea | CR | Pterodroma hasitata | EN |
| Pterodroma leucoptera | VU | Pterodroma magentae | CR |
| Pterodroma phaeopygia | CR | Pterodroma sandwichensis | VU |
| Pterodroma solandri | VU | Pteropus mariannus | EN |
| Puffinus auricularis | CR | Puffinus bulleri | VU |
| Puffinus huttoni | EN | Puffinus newelli | EN |
| Rhacodactylus auriculatus | LC | Rheobatrachus silus | EX |
| Rhionaeschna galapagoensis | EN | Rhynchomeles prattorum | EN |
| Rhynchotus jubatus | EN | Schiedea kaalae | CR |
| Setonix brachyurus | VU | Simiscincus aurantiacus | VU |
| Sus cebifrons | CR | Sus oliveri | EN |
| Sus philippensis | VU | Sylvilagus graysoni | EN |
| Tacheocampylaea cyrniaca | EN | Tacheocampylaea raspailii | VU |
| Tacheocampylaea romagnolii | CR | Taudactylus acutirostris | CR |
| Taudactylus diurnus | EX | Taudactylus pleione | CR |
| Taudactylus rheophilus | CR | Tetraplasandra gymnocarpa | CR |
| Thalassarche steadi | NT | Thylogale calabyi | EN |

[Tinostoma smaragditi](#) EN
[Todiramphus godeffroyi](#) CR
[Trigonostemon cherrieri](#) CR
[Typhlops biminensis](#) NT
[Urosaurus clarionensis](#) VU
[Vini ultramarina](#) EN
[Xylosma crenatum](#) CR

[Todiramphus farquhari](#) NT
[Todiramphus ruficollaris](#) VU
[Turnix melanogaster](#) VU
[Urera kaalae](#) CR
[Vestiarina coccinea](#) VU
[Xantusia riversiana](#) LC

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Summary: This report reviews available information on the adverse effects of 14 alien vertebrates considered to be significant invasive species on islands of the South Pacific and Hawaii, supplementing the authors' experience with that of other workers.

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